ORACLE
Primavera

Unifier Administration Guide
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Contents

Getting Started with Administration Mode

Within our documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Primavera Unifier has two modes of operation.

- **User mode**

  Users spend most of their time in the **User** mode. The User mode allows users perform the day-to-day activities, collaborate through business processes and Mailbox, maintain, for example, the Cost Manager, Schedule Manager, and Document Manager, and run reports.

  The *Unifier User Guide* explains how to use the options that are available in the *user* mode of operation.

- **Admin** (Administration) **mode**

  Company administrators work in **Admin** mode to set up, for example, company, program, and project or shell properties, user permissions, templates for major Unifier features, data structures, and configure and set up business process (BP) workflows.

You can switch between modes using the mode icon.

> **Note**: This option is not available in **Home** page because Home page does not support the Admin mode.

Access to Unifier functionality is granted through Permissions. The ability to utilize a specific function in Unifier depends on permissions settings (accessed in **Admin** mode).

The *Unifier Administration Guide* explains how to use the options that are available in the *administration* mode of operation.

In This Section

Security Considerations in Unifier

For any company that deals with sensitive data, keeping it secure is crucial to success. While hosting Unifier data on the Oracle Cloud provides security measures, it cannot do everything. For example, it cannot prevent phishing attempts or other attacks that exploit gaps in its users' security awareness. That is why it is important for everyone who works with Oracle Primavera Unifier, whether hosted on-premises or on the Oracle Cloud, to understand what they can do to keep data secure.

Who this information is for

This guide (the *Unifier Administration Guide*) and the *Unifier Integration Interface Guide* contain comprehensive information on administrative features, including those related to security.

This chapter is for anyone who uses, manages, or is just interested in Unifier. If you are a security expert or administrator, this is a good place to start. It should help you see the big security picture and understand the most important guidelines related to security in Unifier.

For further information on configuring your on-premises Unifier environment securely, refer to the *Unifier Security Guide for On-Premises*.

Some Security Basics

We use the term administrator to refer to anyone who is responsible for managing a company's data and who can access that data. For our purposes, administrators includes a wide variety of IT professionals, from those who define roles in the Primavera Unifier application to those who manage company servers.

An end user is anyone who uses Primavera Unifier to do their job. This includes project managers, subcontractors, general contractors, and everyone else who logs into Primavera Unifier from an office or jobsite to get their work done.

Administrators

- Set up Single Sign-On (SSO) and enable multi-factor authentication to minimize the number of passwords that users have to remember and to consolidate risk.
- Educate users on how they can avoid unwittingly helping hackers. One of the best ways application administrators and security advocates can help users is by helping them to prevent security breaches.
- Use a VPN to encrypt data being sent over the internet.
- Stay up-to-date about security trends and best practices.

End users

- Follow security guidelines created by their companies and the administrators of any network applications they use.
- Use strong passwords. The more random-looking the better, and avoid reusing passwords.

- Learn to recognize phishing. Phishing is when someone disguises an email or some other transmission as a legitimate message in an attempt to get a user to reveal sensitive information. For example, a hacker may send you an email disguised to look like an email from your employer requesting login information. These attacks are becoming more sophisticated, but you can still protect yourself by making sure any emails you receive or websites you visit are legitimate before using them to share sensitive information.

In This Section

Authentication: How Users Sign On

Authentication refers to the way users sign on. If Primavera Unifier is configured to use Oracle Identity Cloud Service (IDCS), administrators can—and should—implement Single Sign-On (SSO). SSO reduces the number of passwords users have to remember. It can also be used to enable multi-factor login, which is when users are asked to provide some verification in addition to their passwords, like a code that they receive via text or email.

If your Unifier Cloud environment is provisioned in Oracle Cloud Infrastructure (OCI), it comes with IDCS. Otherwise, you can configure some authentication settings on the Application Settings page.

> **Note**: Unifier does not support integration with IDCS for Unifier On-Premises customers.

To learn how to change the authentication settings, refer to the "Authentication Options for Primavera Unifier" section of the *Unifier Security Guide for On-Premises*.

Authorization: What Users Can Access

Authorization refers to what users can access. Authorization to use the Unifier application is based on permissions. You also have super-user, the Administrator. Grant authorization carefully to all appropriate Primavera Unifier users.

Administrators: There are different types, or levels, of Administrators in Unifier, their responsibility vary from (but not limited to) end-to-end administration of the Unifier to administration the company functions. See ***Administrators in Unifier*** (on page 37).

Permissions: Unifier offers a flexible yet powerful permission-based security system, as opposed to role-based security. Role-based security by definition limits the user to a fixed set of functions or tasks. With permission-based security, access to all modules, functions and tasks in Unifier is controlled by granting each user any combination of permissions. These permissions consist of the ability to access specific Unifier tasks, and to perform specific actions within those tasks, such as create, modify, and view. See ***Permission-Based Security in Unifier*** (on page 39) and ***Managing permissions and access control*** (on page 207).

Groups: Security groups make it easier for administrators to assign permission sets to multiple users at the same time. User groups can be used to group users who will be using the same functionality in Primavera Unifier and assigned the same Permissions. Anytime a new person comes onto the project or shell, administrator can assign them to the appropriate groups and their permissions will be set automatically. See ***User Administration*** (on page 165).

For more information on user authorization, refer to the *Unifier Security Guide for On-Premises*.

Endpoint Security

From laptops to cellphones, organizations have to keep track of data on more devices than ever, and more devices means more risk. It is important to implement Enterprise Mobility Management (EMM) tools and policies.

Inherent Risks and Practical Policies

No automated security system or protocol can make a system fully secure if those with legitimate access exploit it for illegitimate purposes or if a device falls into the wrong hands. Here are some general "common sense" guidelines you should follow when it comes to endpoint security:

Use good mobile device management (MDM) software.

> MDM systems can help your organization secure the devices where its sensitive data might end up.

Grant security permission conservatively.

> Do not give everyone permission to everything just to avoid perceived complexity. Remember, one breach can be many times more costly and time consuming than setting and following standard security protocols.

Organize permission sets and credentials so they can be edited quickly.

> Keep user groups and their permissions organized and easy to manage. Use descriptive names for permission sets, and organize them logically to make it easier for you or anyone else to manage them quickly and confidently.

Keep up with organizational changes.

> If a user no longer needs access to a part of the app, for whatever reason, update that user's permissions accordingly.

Use timeout settings.

> Administrators can limit how long mobile apps and APIs remain connected to the server after a user signs in. For more information:

See ***Unifier Mobile Application*** (on page 899).

Refer to the *Unifier Security Guide for On-Premises*.

Confidentiality for Primavera Unifier

Confidentiality ensures that only the authorized users see the stored and transmitted information. In addition to the documentation included with other applications and hardware components, follow the Primavera Unifier-specific guidance below.

- For data in transit, use SSL/TLS to protect network connections among modules. If you use SSO authentication, ensure that you use LDAPS to connect to the directory server.
- For data at rest, refer to the documentation included with the database server for instructions on securing the database.

See ***Managing Personally Identifiable Information in Unifier*** (on page 883).

Integration with Other Applications

The ability to connect and exchange information with other apps is powerful, but it also presents some potential security issues that administrators must manage. It is important to understand which data flows between applications to ensure compliance with policies and regulations related to security and privacy.

For more information on integration, refer to the *Unifier Integration Interface Guide*.

Security for Developers - API Security

With APIs, developers can use some of the data and functionality of Primavera Unifier outside of the limitations—and relative safety—of the Primavera Unifier environment. This opens many possibilities. But as with any situation where data can move in potentially unpredictable ways, it presents risk. For more information on integration, refer to the *Unifier Integration Interface Guide*.

Establishing Security Contacts

While the apps used by your organization may have some security features of their own, most security issues ultimately come down to the people who use them. When your company establishes its security procedures, it's important to also establish in-house security experts to whom other members can turn when they have security questions. Security points of contact should be continuously learning about security trends and how they can educate users to keep their data and network secure. Security contacts should also routinely update and maintain protocols that suit the security needs of their organizations.

Companies in Unifier

The following is a list, and description of, company types in Unifier:

- Owner Company (also referred to as the Sponsor Company)
- Partner Company
- Member Company

The following explains each company type in detail.

Owner Company (Sponsor Company)

The entity that engages in business and has the complete control (or ownership) of the Unifier application with all its rights and privileges. An Owner Company (Sponsor Company), commissions projects or shells. Projects and shells are created in Unifier under the Owner Company, as projects and shells.

> **Note**: Projects and shells are a collaboration space allowing users to collaborate and coordinate efforts during the execution of a project.

A Sponsor Company may have one, many, or no partners.

Partner Company

A Partner Company is a consultant, a contractor, or a vendor company which is associated with a Sponsor Company. A Partner Company may work with the Sponsor Company on all, or only some, of the Sponsor Company projects or shells.

Member Company

When a Partner Company participates in a project or shell, the Partner Company becomes a Member Company in that project or shell, and the Partner Company users that are added to the project or shell become the Member Company users.

> **Note**: Project and shell access is limited to Unifier users (including Sponsor Company users or Member Company users) who are chosen for the project or shell and permissions are configurable for each company.

Unifier allows adding Partner Company/ Member Company to enable project users to collaborate on (and coordinate) the execution of a project.

To access the **User Administration** node, go to **Company Workspace** > **Admin** mode > **User Administration**. The following explains each sub-node in details.

Administrators in Unifier

> **Note**: The following information is based on the default settings and typical use of Unifier.

There are different types, or levels, of Administrators in Unifier and they include:

- Site Administrator (also referred to as the System Administrator)
- Company Administrator
- Project Administrator or Shell Administrator (Project/Shell Administrator)

The following explains each administrator type in detail.

Site Administrator (also referred to as the System Administrator)

A Site Administrator is responsible for the end-to-end administration of the Unifier.

> **Note**: For cloud customers, the Oracle Primavera Technical Team performs the Site Administrator function. For on-premises customers, the customer performs the Site Administrator function.

The Site Administrator's tasks include:

- Loading modules.
- Loading certain system reports.
- Managing the License Manager.
- Performing basic system administration tasks, including unlocking locked user accounts.
- Performing Company Administrator and Project/Shell Administrator functions, if requested.
- Changing the Authentication Key.

Company Administrator

Generally, a Company Administrators administers the Owner Company (Sponsor Company) functions. The Company Administrator can perform user tasks, also.

> **Note**: Except where noted, the Company Administrator cannot perform tasks designated for the Site Administrator.

Depending on the permission a Company Administrator typically performs the following tasks:

- Creating multiple partner companies in the Owner Company.
- Creating users for each partner companies in the Owner Company.
- Modifying the company properties, including Company Workspace
- Managing company details such as contact information.
- Managing company-level users, groups, and granting permissions.
- Managing Partner Company (or Member Company) status.
- Managing Partner Company (or Member Company) users.
- Creating cross-project or cross-Shell reports.
- Creating, and maintaining, Data Definitions (DDs) and Data Elements (DEs).

- Activating a Business Process schema.
- Defining record numbering scheme.
- Defining the company exchange rate and currencies.
- Creating programs, projects, and shells.
- Managing project organization (categories) and shell organization (types).
- Setting up templates.
- Setting up and managing data structure.
- Configuring the User mode Navigator (the setup of the left-hand Navigator in User mode: **Company Workspace** > **Admin** mode > **Configuration** > **User Mode Navigator**).

In Unifier, you can have multiple company administrators.

The Company Administrator group, which can contain multiple company administrators, is automatically created when the Owner Company (Sponsor Company) is created in Unifier, by the Site Administrator.

This Company Administrator group has preset permissions. These permissions can be changed as needed.

Examples

- If new business processes are added.
- If new modules are added.
- If the Company Administrator assists in administration of other modules such as projects or shells.

Project Administrator or Shell Administrator (Project/Shell Administrator)

Project/Shell Administrators manage project-level or shell-level administration tasks, and may also administer programs for projects. A project or shell administrator will add existing Unifier users to projects and/or project/shell groups, restrict access within specific projects, set up the project or shell cost/funding/Schedule of Value (SOV)/schedule sheets, and set up business processes. Project or Shell Administrators typically:

- Administer projects or shells they are a member of
- Add Project or Shell Users, create Groups and grant Permissions
- Create and modify the Cost Sheet
- Create Business Process Setups and define workflows
- May also manage programs as a Program Administrator (for projects only)

To access company administration functions see ***Company Landing Page (Admin)*** (on page 41).

Permission-Based Security in Unifier

Unifier offers a flexible yet powerful permission-based security system, as opposed to role-based security. Role-based security by definition limits the user to a fixed set of functions or tasks. With permission-based security, access to all modules, functions and tasks in Unifier is controlled by granting each user any combination of permissions. These permissions consist of the ability to access specific Unifier tasks, and to perform specific actions within those tasks, such as create, modify, and view.

For ease of use, permissions can be set for both individuals and for groups of users. You can even copy permissions from one user to another, and then make modifications.

A user may belong to any (or all) of the administration groups and perform functions as a company, program, or project or shell administrator. Company Administrators generally have program and project or shell permissions, and may or may not work within the specific projects or shells. You may want a project, shell, or program administrator to have the ability to perform some company administrator functions, such as creating a project or shell. Creating different types of user permission templates will help you to more easily grant access to different staff members, whether they are administrative staff, engineers or architects, managers, vendors or subcontractors, IT personnel, etc.

Use default permissions as a guideline, but your users' actual permission settings will depend on your organizations needs.

Company Landing Page (Admin)

When you (a user or an administrator) sign in to Unifier, the system is in the user mode, by default.

You can switch between modes using the mode icon (User mode Admin mode).

> **Note**: This option is not available in the **Home** page because **Home** page does not support the **Admin** mode.

To access your company landing page (Admin):

1) Click your company tab (**Company Workspace**) to open it.
2) Switch to **Admin** mode.
3) From the left-hand Navigator, on the very top, click your company name (for example: Construction Inc - ...).

The company landing page has the following elements:

Left-hand Navigator	Right-hand Pane
▸ Company name ▸ License Manager ▸ Consent Notice ▸ Partner Companies ▸ uDesigner ▸ Data Structure Setup ▸ Access Control ▸ User Administration ▸ Gateway ▸ Configuration ▸ Standards & Libraries ▸ Company Workspace ▸ Templates ▸ Programs ▸ Company Sponsored Projects (Standard) ▸ Company Sponsored Shells ▸ Analytics ▸ Custom Dashboard ▸ Background Jobs ▸ Event Notifications ▸ System Reports ▸ Configuration Package Management	On the top: ▸ Tab name: Company Workspace ▸ Menu options (File, Edit, View, and Help) ▸ Toolbar options (New, Open, and Find) Below the top, on the left, company general information: ▸ Company name ▸ Description ▸ Administrator (click on the link to view contact details for the company administrator contact.) ▸ Home Page URL (links to the company web site, which opens in another browser window. This optional link is defined by the Company Administrator.) ▸ Help URL (links to an internal source of supporting information, such as a company intranet site. This optional link is defined by the Company Administrator.) Below the top, on the right: ▸ Company Addresses: the right side of the window displays a list of all addresses that have been entered in the system for the company, such as the main office, billing and shipping address, etc. ▸ Partner Companies: any consultants, contractors or vendors that are associated with projects or shells that the Sponsor Company commissions.

For more information refer to the "Unifier Interface" topic in the *Unifier General User Guide*.

Program Landing Page (Admin)

To access your program landing page (Admin):

1) Click your program tab to open it.
2) Switch to **Admin** mode.
3) From the left-hand Navigator, on the very top, click your program name (for example: 

).

The program landing page has the following elements:

- Left-hand pane (Navigator) which contains the following nodes (modules):
  - Program name
  - Summary
  - Other nodes (such as Cost Manager, Schedule Manager, etc.)
  - Reports
- Right-hand pane which contains:
  - On the top:
    - Tab name
    - Menu options (File, Edit, View, and Help)
    - Toolbar options (New, Open, and Find)
  - Below the top, on the left, program general information:
    - Program name
    - Program Number
    - Location
    - Email Address
    - Description
  - Below the top, on the right:
    - Links

Shell Landing Page (Admin)

Once you create a shell, it is available for use. To access your shell landing page:

1) Click the shell tab to open it.
2) Switch to **Admin** mode.
3) From the left-hand Navigator, click your shell name (for example: 

) on top.

The top section of the landing page contains the Shell Dashboard.

By default, the shell dashboard contains the following blocks:

- **Tasks**
- **Notifications**
- **Mail**
- **Image**
- **Details**
- **Links**

The bottom section of the shell landing page displays a log of all sub-shells that have been created under the currently selected shell. For example, if you select the sub-shell South Bay, and then the further sub-shell Mathilda Northwest, this landing page displays.

By default, the following two tabs are displayed.

- **Summary**
- **Workspaces**

You can change the layout of the tabs, in My Dashboard or other custom dashboard.

Example

Block Length: 2 units

Block Height: 2 units

The following explains the various informational blocks in the Summary tab:

- **Tasks**

  This block lists the total tasks belonging to the shell. When you click on Tasks you go to the Task log directly. You will be able to add this block in all tabs (in all dashboards) by using the data-source "Items Requiring Attention" in the Standard block. Also, you can remove the block from My Dashboard.
- **Notifications**

  This block lists the total notifications belonging to the shell. When you click on Notifications you go to the Notifications log directly. You will be able to add this block in all tabs (in all dashboards) by using the data-source "Items Requiring Attention" in the Standard block. Also, you can remove the block from My Dashboard.
- **Mails**

This block lists the total mails belonging to the shell. When you click on Mails you go to the Inbox log directly. You will be able to add this block in all tabs (in all dashboards) by using the data-source "Items Requiring Attention" in the Standard block. Also, you can remove the block from My Dashboard.

- **Project Image**

  This block displays an image, if available; otherwise, the block will be blank.

- **Details**

  This block is displayed with either custom fields or default fields based on the configuration of the details block that is designed in uDesigner, shell manager. In the latest version of Unifier, the shell home landing page displays the custom fields; otherwise, the shell home landing page displays the default fields, only.

  You can edit the details block using the pen icon or through Edit dashboard option. This capability applies to block information, or to the fields that must be displayed in the block.

- **Links**

  If links have been added to the shell details, then those links are displayed in this block.

- **Sub-shell log**

  This block displays the sub-shells of parent shell, based on the view that you have selected. You can hide Workspaces in other dashboards.

  The user-created dashboards support all of the existing functionalities, except the sub-shell log.

  You cannot delete Workspaces tab in any Dashboard.

  You cannot hide the Workspaces tab in My Dashboard. As a result, you cannot deselect the Show checkbox for Workspaces.

  14. User will be able to hide Workspaces Tab in all user-defined Dashboards and will be able to un-check the 'Show' checkbox for Workspaces.

Important Information

The **Tasks**, **Notification**, and **Mails** can be added or removed. Individual tiles cannot be added/removed.

The block will get displayed back, post removal, by navigating to Add Block > Standard and selecting Data Type as "Items Requiring Your Attention." When you save the Standard Block, the block will be added automatically to the dashboard.

The following explains the various informational blocks in the **Workspaces** tab:

The **Workspaces** tab is available when geo-code server details are configured in Unifier, only.

- If there are no geo-location present in the sub-shells, Unifier displays a map without location markers.
- If there is a geo-location present in the sub-shells, Unifier displays a map with location markers.

When you hover over the location markers on the map, you can see the details for the location marker based on available information.

When you right-click on the location marker, you can open the shell (for that location) in a new tab, in Unifier.

The **My Dashboard** sub-menu (the three dots) enables you to:

- Access additional dashboards for the shell, if available.
- Edit Dashboard

  To open the editing mode of the current dashboard.
- Details

  To view the shell details, as overlay. The details include: Shell Name, Shell Number, and the following tabs:
  - General
  - Currency
  - Options
  - Links
  - Calendar
  - Integration
- Audit Log

  To open the audit log, as overlay.

The **Workspaces** tab has the following toolbar options:

- View

  For example, Buildings, Cities, Shells, Projects, Regions.
- Actions
  - Get Activity Sheet Data

    All Shells

    Selected Shells

    Filtered Shells

    History
  - Send Activity Sheet Data

    All Shells

    Selected Shells

    Filtered Shells

    History
- Search
- Find on page
- Expand All Groups

The columns the Workspaces tab sub-shell log are not hard-coded. The fields defined in Shell Detail form (in uDesigner) are added as columns in the Sub-shell log.

- Name
- Shell Number
- Shell Name
- Description
- Status

- Administrator
- Location
- User-Defined Text

The right-hand pane displays the map that shows the regions.

Project Landing Page (Admin)

To access your project landing page (Admin):

1) Click your project tab to open it.
2) Switch to **Admin** mode.
3) From the left-hand Navigator, on the very top, click your project name (for example: 

)

The project landing page has the following elements:

- Left-hand pane (Navigator) which contains the following nodes (modules):
  - Project name
  - Member Companies
  - Access Control
  - User Administration
  - Setup
  - Rules
- Right-hand pane which contains:
  - On the top:
    - Tab name: Company Workspace
    - Menu options (File, Edit, View, and Help)
    - Toolbar options (New, Open, and Find)
  - Below the top, on the left, project general information:
    - Project name
    - Description
    - Number
    - Address
    - City
    - State
    - Country
    - Phone
    - Fax
    - Email Address
  - Below the top, on the right:
    - Progress
    - Links

Queries

You will be using queries to extract data from the database for reports and data pickers, and to set up auto-creation with creator elements.

A query is a data mining tool—a method for retrieving information from a database. A query filters the information returned from the database according to restrictions or conditions you specify. The Unifier queries can:

- Filter or narrow the data being retrieved for use in reports and manager sheets
- Set up conditions or triggers to make something happen automatically in Unifier
- Filter or narrow the data being retrieved for use in a data picker element

In This Section

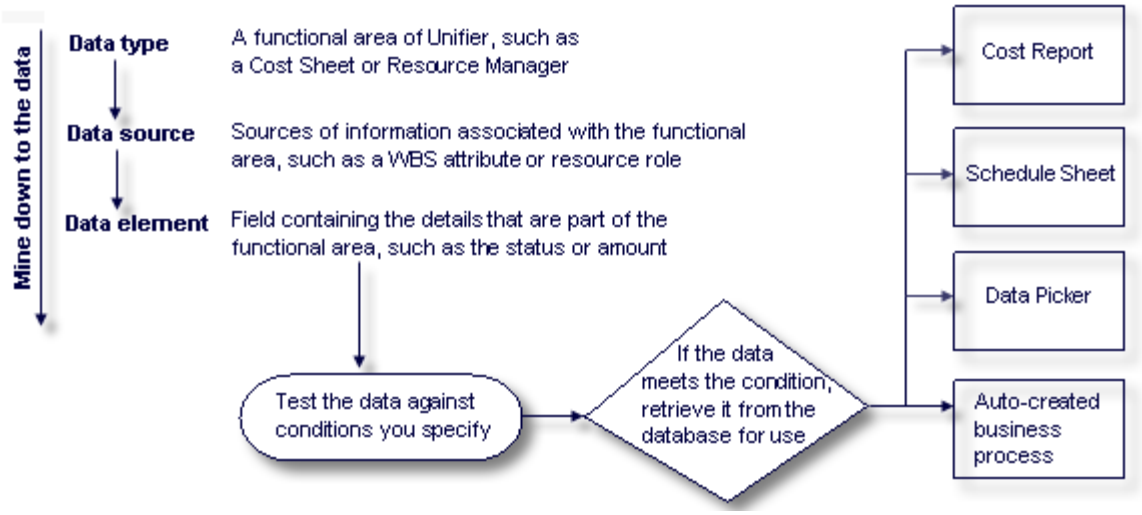
How Queries Work

The way queries work in Unifier is as follows:

- You mine down to the information you want by choosing an element (field) in the database on which to base the query.
- You test the data against conditions and values you specify.

  A condition is a state or restriction the value in the data element (field) must meet. A condition of the value might be that it must be equal to a certain number (maybe 10) or that it must contain a certain string of letters (such as "due date of").

- When (or if) the data meets the condition you specify, Unifier retrieves if from the database for use in a report, manager sheet, auto-creation, data picker, etc.



Using Formulas or Conditions in Queries

For queries, you can evaluate the data before retrieving it from the database to determine whether or not to include the value in the report, manager sheet, or data picker, or to spawn an auto-creation. To evaluate the data, you can use a formula or a condition.

In formulas, multiple fields can be calculated to arrive at a certain value that the data must meet before it will be used. The value can be one that you enter, or a value from another field.

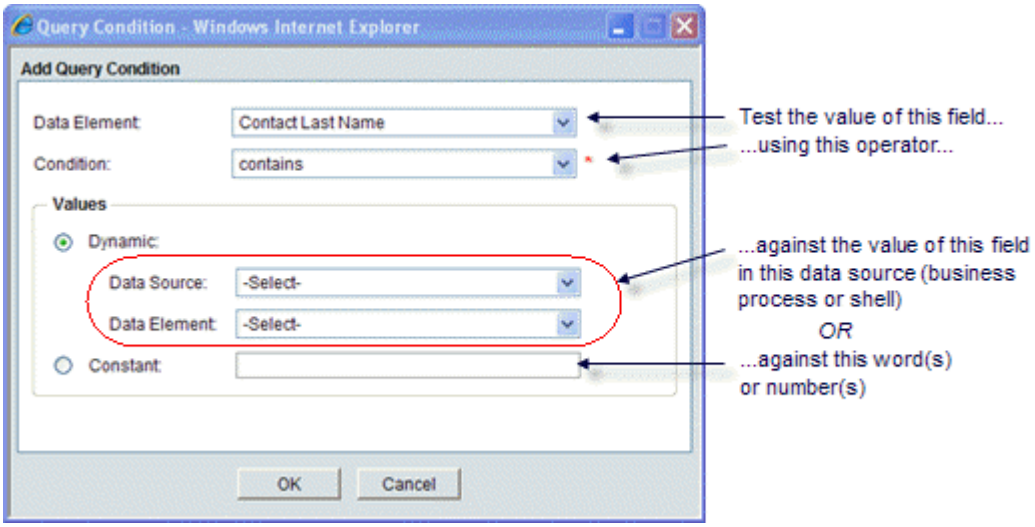
You can include formulas in conditions.

In the **Condition** field, select the condition the value in the field must meet.

The following explains the formulas you can use in a query.

Field Value Comparison

The formula for field value comparison produces data that meets a field value (string or numeric) from the form of a business process or a shell in a hierarchy, or a constant. Used to populate a data picker.

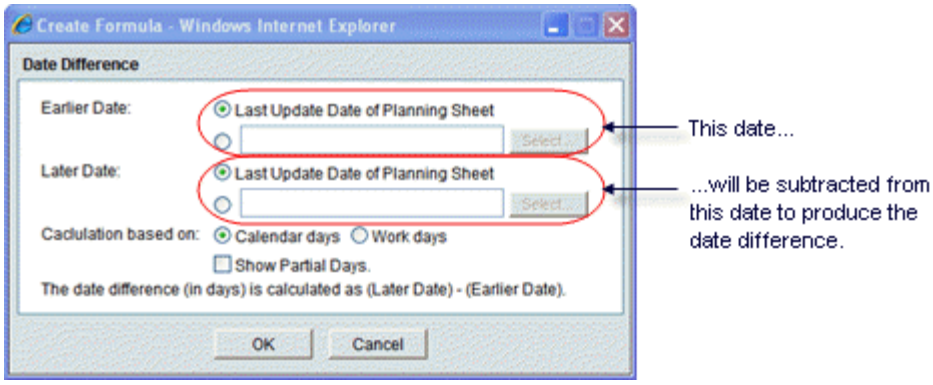


Date Plus or Minus

The formula for date adds or subtracts a value to or from a date.

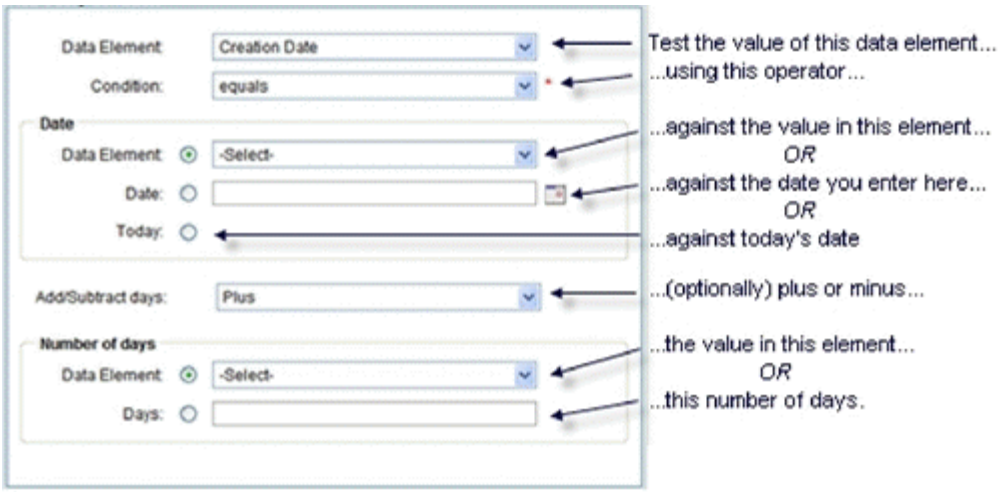
Date Difference

The formula for date difference subtracts one date from another to give you the number of days between the dates.



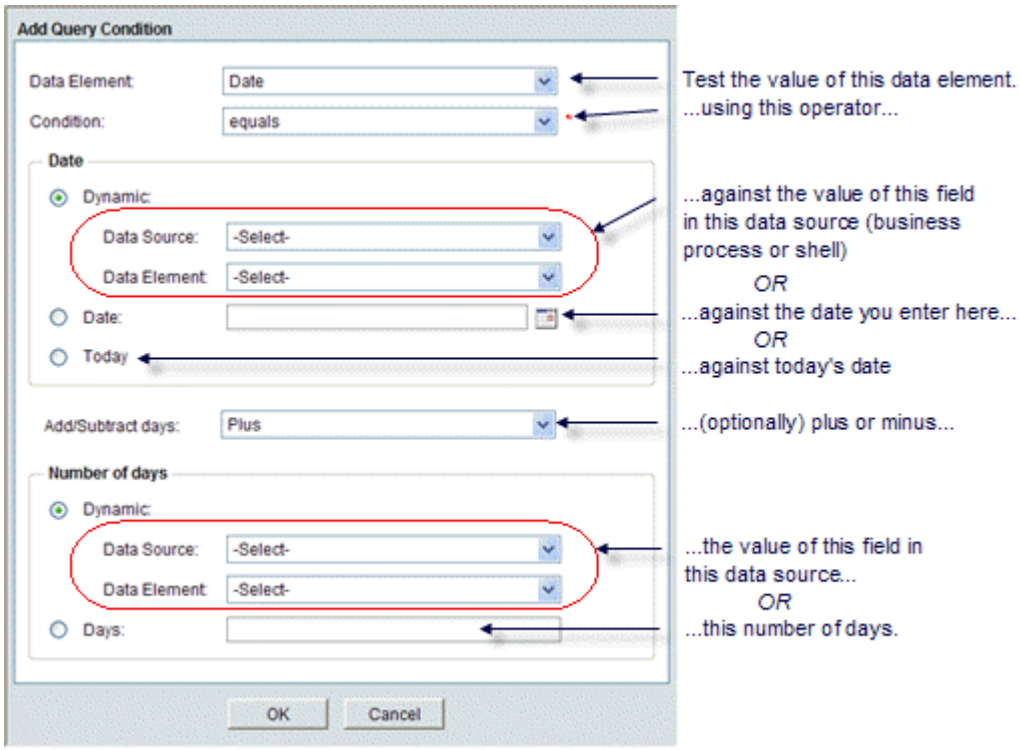
Compare Date Fields

You can also compare date fields as part of a query.



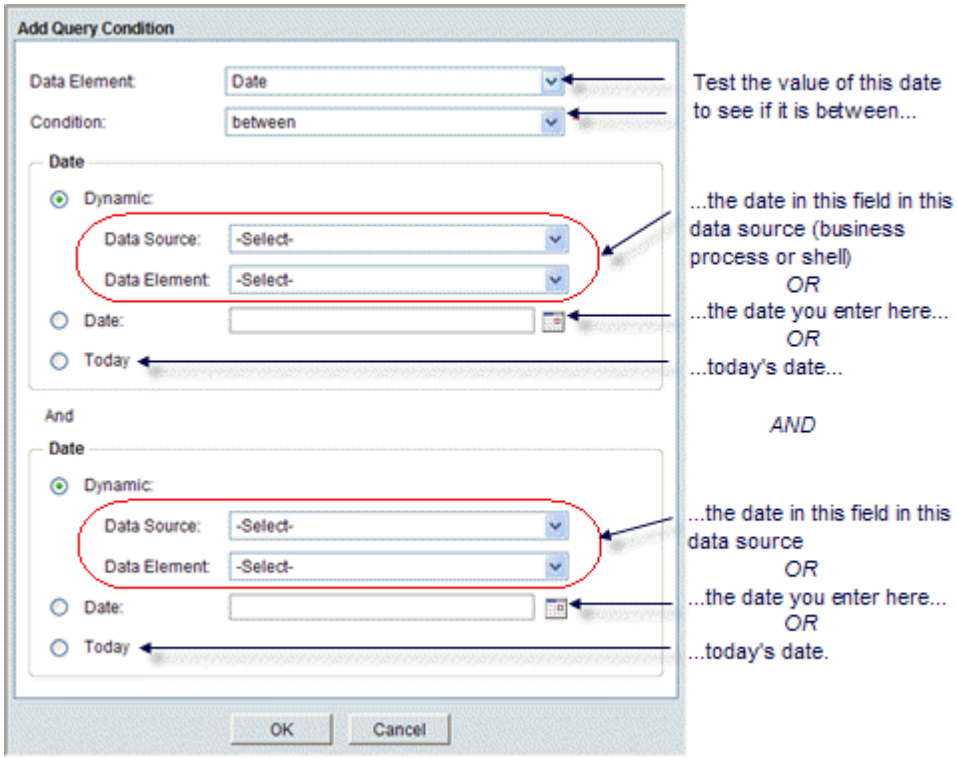
Dynamic Date Value

You can compare a date field value with a date field from the form of a business process or a shell in a hierarchy, a specific date, or today's date, and also add or subtract days to the result. Used to populate a data picker.



Between Dates

You can compare a date field value to see if it falls between two dates. Used to populate a data picker.



Assignee Filter Query Condition

When you are setting up a business process, you can filter the condition for the *assignee* according to:

- Contains
- Does not contain
- Exists in
- Does not exist in
- Equals
- Does not equal
- is empty
- is not empty

The following is an example of query evaluation. The workflow setup follows these policies for selecting users.

Assignee	Query Field (Role as defined in the User Attribute Form)
A	Approver

Assignee	Query Field (Role as defined in the User Attribute Form)
B	Reviewer
C	Controller-Approver
D	Controller
E	Reviewer-Submitter
F	Submitter
G	Approver

The following shows examples with condition/operator:

Condition/Operator	Business Process Form (Field value) Example of the data source used.	Filtered List of Assignees
exists in	Controller-Approver	A, C, D, G
	Reviewer	B
does not exist in	Controller	A, B, C, E, F, G

Note: If the workflow setup has any of the new operators, the list of *assignees* that the user sees at runtime honors the stated query parameters.

The following shows examples with value, condition/operator, and result:

Value 1	Condition/Operator	Value 2	Result
ABC	exists in	ABC, BCD, CDE	True
XYZ	exists in	ABC, BCD, CDE	False
ABC	does not exist in	ABC, BCD, CDE	False
XYZ	does not exist in	ABC, BCD, CDE	True
ABC, BCD, CDE	contains	ABC	True
ABC, BCD, CDE	contains	XYZ	False
ABC, BCD, CDE	does not contain	ABC	False
ABC, BCD, CDE	does not contain	XYZ	True

Query Based Data Element (QBDE)

In Unifier, a Query Based Data Element (QBDE) enables you to view data from the Upper Form or Detail form of a Business Process. QBDE also enables you to view data from:

- Other Business Processes
- Sheets
- Cash Flow

The QBDEs are based on the “SYS Numeric Query Based” Data Definition (DD), and the query for these QBDEs is set in the Business Process Configuration setup. See the "Configure a Query for a Query Based Data Element on a BP" for additional details.

In addition to the Web interface (Unifier Application in the browser), the system evaluates QBDE in the following areas:

- CSV import for record creation
- CSV import for Line Item creation
- Web Service methods for record creation along with Line items
- Web Service methods for Line Item creation
- Web Service methods for record updates
- Bulk Edit
- Bulk Update
- Creating BP records using BP Template

Evaluating Query Setups of Data Picker Data Elements

Unifier supports many types of Data Picker DEs. The Administrator can set up Query conditions on these Data Picker DEs to filter the results. When a Data Picker DE is launched in the Web interface (Unifier Application in the browser), the system executes the query and displays the records based on the queries defined in uDesigner. The system evaluates the data picker query conditions in the following areas, as well:

- CSV import for record creation
- CSV import for Line Item creation
- Web Service methods for record creation along with Line items
- Web Service methods for Line Item creation
- Web Service methods for record updates

The following is a list of the supported Data Pickers:

- BP Data Picker
- Shell Data Picker
- User Data Picker
- CM Data Picker
- Role Data Picker

See the "Importing Configuration Packages" section for more information about importing data.

Creating a Record from the Query Based Tab

When creating a record from the Query Based tab of another BP (that auto-populates data to the record being created), the Data Element (DE) of type “SYS Numeric Query Based” Data Definition (any DE of this type) *is not updated*, unless the user manually changes the trigger element.

Defining the Format of the Currency for QBDE

You can use the QBDE to get the count of records. As a result, you can format the DEs that are query-based to hide the currency symbol. That is to say, you have the option to hide the currency symbol, at the data element level. As a result, when viewing the value in a query-based DE, Unifier displays the correct format so that the number makes meaningful sense.

Example

A Budget Change BP may have the 'Count of Change orders' QBDE (defined as a DE of SYS Numeric Query type) associated with the BP. On the same BP, there may be another QBDE 'Sum of All Change Orders' which needs the formatting of a Currency DE. You can choose whether or not to display the currency symbol for these DEs at runtime.

In the **Admin** mode, you define the Data Element (DE) that is query-based, add it to the BP form, and set up the query. In the **User** mode, you can see the results in the run-time (for example, displaying or not displaying the currency symbol).

The Data Element properties tab of SYS Numeric Query Based Data definition contains a checkbox option for hiding currency symbol in Cost type BP. By default, this option will be unchecked.

> **Note**: When the same DE is placed in non-Cost BPs, this option will be ignored since these BPs do not display currency symbol for data definition with Input type of Currency Amount at runtime.

Go to: **Company Workspace** (**Admin** mode) > **Data Structure Setup** > **Data Elements** to find the DEs that are query-based.

Click **Find** and enter "qbde" in the Search for field box to find the DEs.

When you open a query-based DE (**Modify Data Element** window), you have the option to select, or deselect, the Hide Currency Symbol in Cost type Business Process option.

Depending on your selection, Unifier displays, or hides, the currency symbol for the query-based DE.

Configuration Package

The format set in the Data element must be included in the bundle.

Dashboards in Unifier

In Unifier, the following types of dashboards are available.

My Dashboard (end user-defined dashboard): By default, all shells have a dashboard that the end user can configure if they have configure permissions. The dashboard is the user's personal dashboard, with their personally configured view of shell data. My Dashboard can be configured by end users in User Mode using the Edit Dashboard window, but is often configured for each user by the Administrator. Users can select this type of dashboard to view from the View Dashboard drop-down list on each shell. This dashboard is recommended if the user wants a personalized dashboard to view data that they specifically need to see regarding the shell.

Shell dashboards: These dashboards allow users to view information specific to the shell for which the dashboard was created. This differs from My Dashboard in that it is a shell view of the shell for all users to use. My Dashboard is a personalized view for a specific user, therefore displaying only the information that the user wants to see. The shell instance dashboard is a general view of specific shell data, and is not specific to any one user view of data. Administrators can create multiple shell instance dashboards per shell instance. Users can select this type of dashboard to view from the View Dashboard drop-down list on each shell. These dashboards are maintained at the shell level and are available to any user to view (but not edit) provided the user has permissions.

Custom Dashboard. This is a dashboard someone created externally using a dashboard creation software that generates SWF (Small Web Format) files. An Administrator can upload a SWF file into the Custom Dashboard for use within Unifier. Users cannot modify these dashboards. You can use this dashboard as your default dashboard.

Self-Service Portal

The Self-Service Portal enables users to sign in and work with specifically-enabled business processes. For example, Oracle Primavera customers use Unifier for corrective work order management. These work requests are usually generated from project participants who do not use Unifier. These participants can use the Self-Service Portal, which allows request submittals through a web-based tool. Users can use the Self-Service Portal to submit requests and to view the status of these requests, and to collaborate on submitted requests.

In uDesigner, you can enable certain business processes to be accessed through the Self-Service Portal. The business processes that you can enable to be accessed through the Self-Service Portal must have the following characteristics:

- Simple
- Company level
- Non-workflow
- Multi-record

The actions users can take through the Self-Service Portal are:

- Create a business process
- Modify a business process
- Add or remove business process attachments
- Add General Comments to a business process

Before you begin, design the Landing Page in terms of the text and graphics that you want it to contain. Then:

Step 1: Set Landing Page permission.

Step 2: Configure and activate the Landing Page.

Step 3: Specify users that receive portal-specific notifications. See ***Setting Up a Non-Workflow Business Process*** (on page 537) for details.

Setting Up a Self-Service Portal Landing Page

> **Note:** You must have Configure permission to be able to configure a Portal Landing page.

To set Landing Page permissions:

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Configuration > All > Landing Page**.
4) Set the permission as needed: **Configure:** Administrators can configure Self-Service Portal Landing Pages.

Configuring and Activating a Portal Landing page

If you have the Configure permission for the Self-Service Portal Landing Page, you can use an HTML editor to set up a Landing Page. After you configure and activate the Portal Landing Page, users signing in to the Self-Service Portal will see this landing page. You can configure one Landing Page, and activate this page for use.

> **Note**: If no Landing Page is configured, a user sign in to the Self-Service Portal will see the Unifier **Announcement** page.

To configure and activate a Portal Landing page:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Landing Page** in the left Navigator.
3) Click **New**.
4) Enter the **Setup Name** of the Landing Page, and an optional **Description** of the page. The default initial status of the page is **Inactive.** You can change this status after you complete the page.
5) Click the **Layout** tab.
6) Use the **HTML** editor to add text, and perform other editing functions.
7) Click the **Insert Image** button (second button from the right in the toolbar) to insert an image into your Landing Page. Browse for the image, and click **OK**, and **Close** after the upload is complete.
8) Click **OK**.

To activate a Portal Landing page:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Landing Page** in the left Navigator.
3) Select the Landing Page in the log.
4) Choose **Status > Active**. You can inactivate the Landing Page by choosing **Status > Inactive**. When a Landing Page is inactive, the user who signs in the Self-Service Portal sees the Unifier **Announcement** page. If no active Landing Page is set up, the portal user sees a default Landing Page.

Access Control and AutoVue Stamps

The following permissions are available:

- Create

  The user will be able to perform all the operations on a stamp (Import, Download, Create, Delete, and Edit) along with changing the Stamp data elements selection.
- Modify or Delete

  The user will not be able to create or import stamps into Unifier, but the user will be able to perform the rest of the operations on the stamp.
- View

  The user will not be able to edit or delete stamps, but the user will be able to open and download the stamp.

Including Stamps in Configuration Package

Multiple stamps can be included in the Configuration Package:

1) Go to **Company Workspace** > **Admin** mode > **Configuration Package Management** > **Component List**.
2) Click **Create**.
3) Go to **Company Workspace** > **Configuration Stamps**.
4) Select your stamp.
5) Enter a value in the **Name** field (top left).
6) (Optional) Click **Error Check** to see if there are any dependencies.
7) Click **Save**.

> **Note**: You can use the **Save As** option if you want to copy the component list.

8) Go to **Company Workspace** > **Admin** mode > **Configuration Package Management** > **Configuration Packages** (to create a configuration package).
9) Click **Create**.
10) Enter values in the **Package Name**, **File name** (zip file name), and **Components Lists**.
11) Select the component list related to your selected report.
12) In the **New Configuration Package** window click **Next**. The window displays a preview of your reports.
13) Click **Next**. In case of errors, you will see messages, if no errors are detected, then respond to the following:
    - Do you want to publish this package for production?
    - Download package after creation.
14) Click **Create** to create the configuration package.

When the Configuration Package is exported into the next environment, the system adds the data elements in to the list of data elements that are available in the stamp.

The **Stamp Elements** option enables you to see the **Element Label** and **Element Name** of a selected stamp.

You can use the gear icon ( ) or the **Actions** option to **Delete** or **Download** a selected stamp. The **Download** option enables you to download a zip file containing the image file and the "`dmstamps.ini`" file.

> **Note**: To select more than one item, click one row, then hold the Control (Windows), or Command (Mac), key and select each of the other rows you wish to include. To select a continuous list of items, click one row, hold the Shift key, and click the last row.

Managing Public Searches

A public search is any set of criteria a user has specified to search a log for specific records and has saved for future use as a search. Users can specify search criteria, give the criteria a name, and save it. The search then becomes available on their Tasks and business process log pages under the **Filtered By** button. In addition, users can make searches available to other users by making them public. Administrators with "Manage Public Searches" permissions can delete, change status, and transfer ownership of public searches created by any user.

In This Section

Setting Public Search Permissions

To set public search permissions:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access** > **Data Structure Setup** > **Public Searches** to open the **Module Permission Settings** window.
4) Set the permissions as needed:
   - To modify the Manage Public Searches permission for an existing user/group, click to select the user/group, click **Modify**, and under **Permission Settings** click to select **Manage Public Searches** option.
   - To permit a user/group to have access to public search, click **Add** to open the **Permission/Access Control** window. Click **Add Users/Groups** and follow the prompts to add the new user/group. When finished, under **Permission Settings**, click to select **Manage Public Searches** option.

Managing Public Searches

The Company Administrator can delete, change status, and transfer ownership of public searches.

To delete public searches

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Data Structure Setup** > **Public Searches** in the left Navigator to open the **Public Searches** log. This log lists only searches that have the status of "public."
3) Click to select a public search from the log.
4) Click **Delete**. The search is deleted from all **Filtered by** lists on **Tasks** logs and business process logs, and is no longer available to any users to use for searches.

To change the status of a public search

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Data Structure Setup** > **Public Searches** in the left Navigator. The Public Searches log opens.
3) Click to select a public search from the log.
4) Choose or **Status** > **Private**.

> **Note**: When you change the status of a public search to private, it no longer appears on the Public Searches log.

To transfer the ownership of a public search

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Data Structure Setup** > **Public Searches** in the left Navigator. The Public Searches log opens.
3) Click to select a public search from the log.
4) Click **Transfer Ownership**.
5) Select a user to whom you want to transfer ownership and click **OK.**

Setting up Data Structure Setup Node

This section explains how to set up the information in the Data Structure Setup node. These include:

System Modules

Unifier functionality is loaded into the system through various Modules. Only the Site Administrator can load new modules.

Application Modules

Unifier Applications are deployed into the system through the Application Modules node.

Data Cube Definitions

A data cube definition is a query tool you can use to extract data and display it on a block of a configurable dashboard.

Data Definitions

Data definitions describe how data is entered into Unifier and stored. The definition consists of the data type (whether it is an alphabetical string or a number), the data size (in number of characters for strings), and the input method (from a text box, pull-down menu, radio button, or check box).

Notes:

- Users can translate custom defined strings into various supported languages. The Internationalization module (under the Configuration node in the left Navigator) contains a list of custom strings developed by the user, which provides the necessary details for translators.
- The numeric fields support international number formats (standards).
- Unifier displays all available currencies and their respective symbols

You must create data definitions before you specify the data elements for forms. For information on creating new data definitions, refer to the *Unifier uDesigner User Guide*. The data definitions dictate how the data element will enter and store the information in Unifier. A data definition can belong to one of the following categories:

- **Basic**: Predefined or user-defined Data Definitions that contain all Data Definitions except the Cost Code definitions.

  For the SYS User Date Format Data Definition, the data set supports the 24-hour time format. In the User Preferences form, under the **Regions** tab, the field **Date Format** uses SYS User Date Format Data Definition.
- **Line Item Data Picker**: This is a system-defined Basic data definition.
- **Cost Codes**: Displays the type of cost code (fields that define the structure of the Cost Codes) specified in uDesigner for the project. The type of cost code available for Projects (Standard) is CBS.
- **Data Picker**: Data pickers work with master business process logs, shells, and configurable managers that function across a shell hierarchy. The purpose of a data picker is to make it easier for users to choose records:

- From a master business process log
- From a class in a configurable manager that operates across shells
- For auto-creation across shells

  A data picker usually displays an extra navigation structure that makes it easier for users to choose records to work with. In operation, a data picker navigates to a specific business process, shell, or configurable manager and then extracts the records to display on the list by using a query the Unifier Administrator sets up.

Data Elements

Data elements combine a “Data Definitions” with a field label to become what users see on the forms in Unifier. The fields on the forms the users see are filled by data elements. A data element can be a text box, where the user types in information; a pull-down menu of choices (also known as a picker), such as dates or names; radio buttons, where the user must select one of the options presented; or a check box, where the user has the option of choosing something or not. Data elements are the name and form label only—the element is essentially an empty “shell” that will not contain values until they are specified in Unifier. For information on creating new data elements, refer the *uDesigner User Guide*.

Data Indexes

Allows the creation of user-defined database indexes that speed up the performance of large data sets. The database index name is constructed by a fixed prefix, UUU, plus internal row_id, followed by _ and a user-defined suffix and description.

Data Views

Provides a view of Unifier data obtained via SQL query. It allows access to all Unifier database tables in a company registry (registry dependency ensures data security). Data Views enable administrators to design and deploy custom reports (program- and shell-level), create user-defined reports (UDRs), and utilize data as a source for Data Cube Definitions (used to display live, or cached data in a custom company or shell dashboards).

Dynamic Data Sets

A dynamic data set is comprised of a "set" of data elements that includes a master data element and dependent data elements, which can be pull-down menus or radio buttons. You set up the elements and behavior of the set.

Public Searches

A public search is any set of criteria that was specified to search a log for specific records.

Reports

The System and Logs report modules are loaded by the Site Administrator.

Statuses

Statuses are created in the Data Structure Setup node and indicate the position of an asset, line item, record, and tag at any point in the business process, such as “approved,” “pending,” or “closed.” The status is what drives the workflow from one step to the next.

- **Assets Statuses**: An asset status controls which assets are displayed on an Asset class sheet, instead of impacting the disposition of a business process or line item like other statuses.

- **Line Item Statuses**: A line item status is part of the form that moves through the workflow, but it is not a *visible* part of a workflow.
- **Record Statuses**: At each transaction, the Unifier user must apply a status to the record. Each business process produces at least one, and sometimes many, transaction records during its workflow.

ER Views

Provides a tabular view of Data Elements and Data Definitions used in modules.

In This Section

Working with System and Configurable Modules

Unifier functionality is loaded into the system through various modules. For example, the Cost Manager and Schedule Manager are system modules that provide cost and scheduling functionality. Also, your system might contain various configurable modules created in uDesigner. Only the Site Administrator can load new modules.

Some modules can be customized with "custom attributes," which are customized data fields, described later in this section.

View Available System and Configurable modules

To view the System Modules log

1) Go to the **Company Workspace** tab and switch to **Administration Mode**.
2) Click **Data Structure Setup > System Modules** in the left Navigator. The modules log opens, showing all the modules and Unifier functions that have been loaded into your environment.

Add Custom Attributes to the Project/Shell SponsorshipModule

Custom Attributes are customized data fields that can be created and added to the Project/Shell Sponsorship module. For example, you can use Custom Attributes to:

- Add a Region designation to a Project (accessed in the **Custom** tab of the Project or Shell window)
- Add a Division or Building designation to a Project/Shell User or Group (accessed in the **Custom** tab of the User or Group window in project user administration)

You can modify, delete, or change the order of custom attributes, as long as they have not yet been deployed. Once deployed, custom attributes cannot be deleted; form labels and the list order can be modified as needed.

To add custom attributes to the Project/Shell Sponsorship module

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup > System Modules** in the left Navigator. The Modules log opens.
3) Click **Project/Shell Sponsorship** in the left Navigator and click **Open**. The Custom Attributes window opens.
4) Click the **Project, Shell**, **Project/Shell User** or **Project/Shell Group** tab.
5) Click **Add**. The New Custom Attribute window opens. Complete the window fields as described in the table below.
6) Click **OK**.

In this field:	Do this:
Attribute Name	Enter a name for the custom attribute, with no spaces (an underscore _ can be used). The Attribute Name appears on the Basic Data Definitions Log but does not appear on the form.
Data Definition Source	Select a Data Definition from the drop-down list.
Form Label	Enter the label that will be displayed on the form.
Number of Lines	This field appears for multi-line text fields. Enter the number of lines to display and make available to users to enter text. This affects the display of the text field only (for example, entering "4" will allow the first four lines of text to display). Additional lines of text may still be added, depending on the character size of the field, and can be accessed with a scroll bar on the text field.
Append a Line Separator	Select the checkbox if you want to create a separator line on the form as each Custom Attribute is added.

To modify or delete custom attributes

From the Custom Attribute window, select the data definition and click the **Modify** button to make changes, or **Remove** to delete.

To change the list order

In the Custom Attribute window, select an attribute and click **Move Up** or **Move Down**.

To preview custom attributes

Click the **Preview** button from the Custom Attribute window.

To deploy the custom attributes

From the Custom Attribute window, select the data definition and click the **Deploy** button. The data definition will be available for use within Unifier.

> **Note**: Once a data definition is deployed, it cannot be deleted or renamed.

Working with Data Definitions

Data definitions define the data type and input type of a data element. Data elements are created from data definitions.

There are two types of Data Definitions: Basic and Cost Codes data definitions.

- **Basic**: allow a company to provide values for certain types of data fields where a list of available choices is desired, for example, *Project Phase*, or to make data entry fields reportable
- **Cost Codes**: structure used for CBS Codes on the cost sheet and cost business processes

> **Note**: Data definitions are defined under the Data Structure Setup node in Unifier.

About data definition properties

Data definitions can be of the following Data Types:

- **String**: Any alphanumeric character or special character like * or #
- **Integer**: A non-decimal number. Can be used for pull-down menu, radio button or checkbox fields
- **Date**: For date fields
- **Float**: This is applicable to currency amounts only
- **Input**: This determines how data is entered or displayed in the field

This input method:	Does this:
Check box	Provides an option that the user can select ("check") or not. "Not checked" is the default value.
Multi-line text area	Use this element for multiple text lines for entries up to 4000 characters long, such as descriptions or remarks.
Multi-select Input	Allows the user to make multiple selections from a list.
Picker	Allows users to choose from lists of items. Unifier and uDesigner are shipped with a number of predefined pickers. Pickers are system-defined in uDesigner, and cannot be created in Unifier. A Picker can be added to a uDesigner BP and allows

	users to cross reference another Unifier record. Pickers include BP Picker, BPO Picker, User Picker, Company Picker, Line Item Picker, SOV Picker, Fund Picker, Asset Picker, Project Picker, Shell Picker, and more.
Pull-down menu	Provides a list of items the user can choose from but cannot change (e.g., a date picker).
Radio buttons	Use where two values are possible and one must be selected.
Text box	A text box is usually used for smaller text (1 to 64 characters), but could be longer.
Dynamic Data Set	A dynamic data set allows one data element on the form to control both values and behavior of other data elements on the same form. (In this example, choosing *Yes* in the Single Project field activated the Project Picker field below it.)

Data definitions from uDesigner

The Data Definitions provide the structure for fields used on forms created in uDesigner. In uDesigner, the Data Elements are created to build fields to put on the forms. The Data Elements use the Data Definitions in uDesigner as the structure for the data.

The Data Definitions used are added to the list of Basic Data Definitions and the data values are added to the Data Definitions in Basic Data Definitions.

> **Note**: All Basic or Cost Code Data Definitions must be created in uDesigner. This enables the user to distinguish between Data Definitions created in uDesigner, and the Data Definitions created in Unifier. Refer to the *Unifier uDesigner User Guide* for a full description of creating Data Definitions and Data Elements in uDesigner.

View Basic data definitions

Basic Data Definitions enable Unifier to provide fields, such as Phase, in which a company can enter their own data values. This enables companies to customize the values presented in some fields in Unifier.

Several data definitions are predefined in Unifier. Basic Data Definitions are found in the Basic Data Definitions log.

> **Note**: New data definitions must be deployed before use. Data definitions that have not been deployed will show **Not deployed** in the **Status** column.

To access Basic Data Definitions

1) Go to the **Company Workspace** tab and switch to Admin mode.

2) Click **Data Structure Setup > Data Definitions > Basic** in the left Navigator. The Basic Data Definitions log opens. The system-generated data definitions are listed as Company or System in the Category field.

Field	Description
Name	Descriptive name for the data definition. This is the database name, and accepts alphanumeric characters, spaces, - (dash) and _ (underline).
Category	General: Defaults to Company Cost Code: Defaults to CBS Code
Data Type	String or Integer ▸ String: Any alphanumeric character or special character like * or # ▸ Integer: Non-decimal numbers
Data Size	This is available for text entry fields. Displays the number of characters that the data definition will accept. Note: The maximum limit for the Data Size is determined by the database being used with your installation. Check with your Site Administrator for the actual maximum allowable characters in a field.
Input Type	Select one of the options. This determines how data is entered or displayed in the field: **Pull-down Menu**: users can choose a value from a selection list **Text Box**: for short text entries **Multi-line Text Area**: for longer text entries **Radio Buttons**: users select one of multiple options presented **Checkbox**: users have the option of selecting or not **Multi-select Input**: users can choose one or more values from a selection list
Default Value	Available for text entry fields. You may enter an optional default value to the field.
Separator	For multi-select input, where users can select one or more values to enter into a field. The separate (for example, a comma) is used to separate the values.

View Cost Code data definitions

Cost Code Data Definitions are used in the Cost Manager to build the identifier for a row of cost data. Your company may refer to these as Account Codes, Cost Codes or CBS Codes. For example, these could link costs on a project or shell to the General Ledger for Finance.

CBS Codes can be built with one to a maximum of 10 cost code segments. Each segment is defined by a different data definition, so a five-segment CBS Code would require five cost code data definitions.

Cost Code values may be entered one at a time or imported from a CSV file.

To access Cost Code Data Definitions

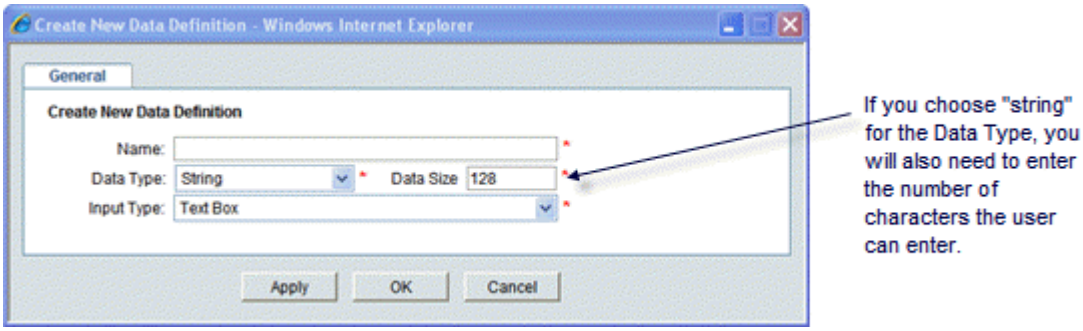
1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup** > **Data Definitions** > **Cost Codes** in the left Navigator. The **Cost Code Data Definitions** log opens.

Add a Basic data definition

The following procedures describe how to add a new Basic data definition to Unifier.

To create a basic data definition

1) Click the **Company Workspace** tab and switch to the **Admin** mode.
2) In the left Navigator, click **Data Structure Setup > Data Definitions > Basic**.
3) Click the **New** button. The **Create New Data Definition** window opens.
4) In the **Name** field, enter a unique name for the data definition.
   - The name can include alphanumeric characters, spaces, dashes, and underlines.
   - The name is case-sensitive.
   - The name cannot begin the name with a prefix reserved by Oracle Primavera: SYS, UUU, or Picker.
5) In the **Data Type** field, specify whether the definition will be a string or integer data type.
   When you specify the data type, Unifier displays an additional field, **Input Type**.



6) In the **Input Type** field, select the method the user will use to enter the data.
7) Click **Apply** to open the data set tab, or **OK** to close the Create New Data Definition window.

Add a Cost Code Definition

To create a cost code data definition

1) Click the **Company Workspace** tab and switch to **Administration Mode**.
2) In the left Navigator, click **Data Structure Setup > Data Definitions > Cost Codes**.
3) Click the **New** button. The **Create New Data Definition** window opens.
4) Enter a unique name for the cost code.

The Category field is read only.

5) Enter a Label for the cost code.
6) Select an input type: either Text Box or Pull-down Menu.
7) Click **OK**.

Adding and Managing Data Sets

Data Set Values are applicable to data definitions that provide the user with a set of values from which to choose, for example, pull-down menus, radio buttons, and multi-select types. Some data definitions have been supplied with data set values; others must be entered. Data Set values can be added, removed or changed.

Some examples of Data Definitions for which data sets must be defined:

- Project/Shell Type, Project/Shell Site and Project/Shell Phase
- Discipline (for example, Architectural or Engineering; appears on some business process forms)
- Unit of Measure (appears for Line Item entry)
- Spend Category (for certain Cost-type business processes)

Add data set values to a pull-down (drop-down) menu or radio button

You can add or import data set values for data definitions that require data sets. These values are used to populate the available choices on pull-down menu fields, radio buttons, or checkboxes on a form or attribute form.

> **Note**: The default values (in a drop-down list) are populated only on creation form of the business process.

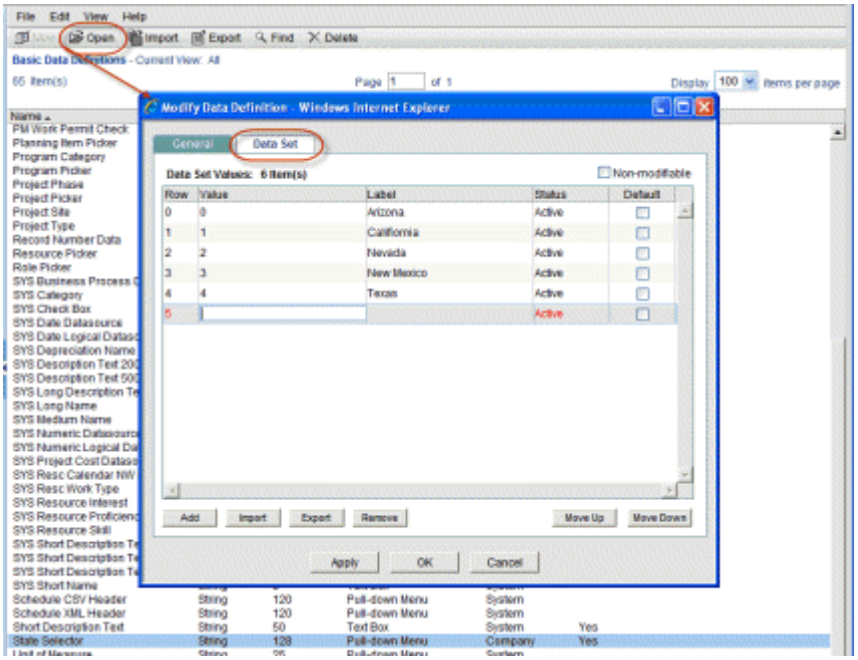
A couple of things to take note of:

- You cannot set a default cost code value.
- If the data definition is an integer type, and will be used in a formula, the value will be used in the formula, not the label. For integer data definitions, use care when assigning the value.
- Avoid semicolons and commas in data set values, as this can cause problems in the selection list.

To add data set values to a Data Definition (all except Multi-select Input)

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Data Definitions>Basic** or **Cost Codes** in the left Navigator.
3) Select a data definition and click **Open**. The Modify Data Definition window opens.

4) Click the **Data Set** tab.



5) Click **Add**. An editable row appears on the window. You can press the **Tab** key to move from one field to the next, or click inside a field.

6) Enter a **Value**. This value is the data that is stored in the database. This value will appear on the form if you do not enter a label.

7) Enter an optional **Label**. This is what is presented to the user as a pull-down menu or radio button option. This can be different from the value.

8) In the **Status** field, enter **Active** or **Inactive**. The default is **Active**. If you want the value to remain on the data set but not show up for users at runtime, you can Inactivate it, rather than remove it.

9) You can select the **Default** checkbox for *one* of the values on the data set list. This will display in the field at runtime. Selecting a default value is optional.

10) To add another row, click **Add**.

- To insert a data set value in the middle of the list, select a value and click **Add**. The new row will be added above your selection.
- To add a new value to the bottom of the list, be sure a row is not selected, and click **Add**. (Or, press the **Tab** key and tab through the fields of the last row, until the **Add** button is highlighted.)

11) If you want the data set list to be non-editable, then select the **Non-Modifiable** checkbox.

Select this if you do want other users to be able to alter the list. Use caution before selecting **Non-Modifiable**. Once you select this you will be able to rearrange the order and select a different default value but you will not be able to modify or remove values from the data set.

If this option is selected by a user with create permissions, other users cannot modify the data set value list. If it is selected by a user with modify permissions, the option cannot be deselected again, except by a user with create permissions.

12) Click **Apply** to save your entries, or **OK** to save and exit.

Add data set values to a multi-select Input data definition

Multi-select input type data definitions allow users at runtime to select more than one value to enter into the field at runtime. In the field, the values the user selected are separated with the Separator displayed on the **General** tab of the Data Definition window (such as a comma).

> **Note**: Do not use an apostrophe (‘) in the data for a multi-select input type data definition. This can result in blank data in the selector. You cannot set a default value for this input type.

To add data set values to a Multi-select Input data definition

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Data Definitions>Basic** in the left Navigator. The Modify Data Definition window opens.
3) Click the **Data Set** tab.
4) Click **Add**. An editable row appears on the window. You can press the **Tab** key to move from one field to the next, or click inside a field.
5) Enter a **Value** (128 character limit). This value will appear on the form. Values can contain spaces, but cannot contain the separate value (displayed on the General tab, for example, comma).
6) In the **Status** field, enter **Active** or **Inactive**. The default is Active. If you want the value to remain on the data set but not show up for users at runtime, you can Inactivate it, rather than remove it.
7) To add another row, click **Add**. (Or press the **Tab** key and tab through the fields of the last row, until the **Add** button is selected.)
8) If you want the data set list to be non-editable, then select the **Non-Modifiable** checkbox.

   Select this if you do want other users to be able to alter the list. Use caution before selecting **Non-Modifiable**. Once you select this you will be able to rearrange the order and select a different default value but you will not be able to modify or remove values from the data set.

   If this option is selected by a user with create permissions, other users cannot modify the data set value list. If it is selected by a user with modify permissions, the option cannot be deselected again, except by a user with create permissions.
9) Click **Apply** to save your entries, or **OK** to save and exit.

Import data set values

If you have a large number of data set values to enter (for example, if you want to populate a State pull-down menu with all 50 U.S. states), you can use a CSV file to import the values. This can be done for any data definition that uses a Data Set.

Importing data set values consists of the following:

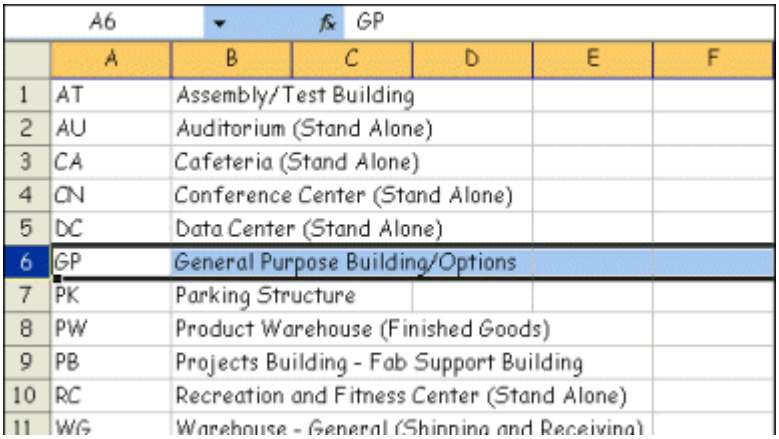
Step 1: Export the CSV template file

a. Open the Data Definition and click the **Data Set** tab.
b. Click the **Export** button.

c. Save the file to your local drive. The file will contain any values that have already been entered for the data set.

Step 2: Complete the CSV file

a. Open the CSV template file.



	A	B	C	D	E	F
1	AT	Assembly/Test Building				
2	AU	Auditorium (Stand Alone)				
3	CA	Cafeteria (Stand Alone)				
4	CN	Conference Center (Stand Alone)				
5	DC	Data Center (Stand Alone)				
6	GP	General Purpose Building/Options				
7	PK	Parking Structure				
8	PW	Product Warehouse (Finished Goods)				
9	PB	Projects Building - Fab Support Building				
10	RC	Recreation and Fitness Center (Stand Alone)				
11	WG	Warehouse - General (Shipping and Receiving)				

Note there are no column headers in the template. Start at the top left corner of the file. The first column of the CSV file is the Value and the second column is the Label.

b. Delete any existing values. There cannot be duplicate values in a data set.

c. For each row, enter the Value and the Label. Include only two columns, and do not include a header row in the file. Do not add a status column; the status will be Active by default upon import.

d. Save the CSV file.

Step 3: Import the CSV file

a. Click the **Import** button.

b. Browse to the completed CSV file and click **OK**.

New rows are appended to any existing entries. Unifier performs validation of the import file to ensure that valid CSV format is used. Duplicate entries are not allowed. After importing, you can rearrange the order of the rows if necessary.

c. If you see an error message after importing, proceed to Step 4 below.

Step 4: View the import validation error file (if applicable)

a. If an error occurs during import and you are presented with an error message, click Yes. You can then choose Open to open the file or Save to save the file to your local machine before opening.

b. Open the error file, which is a CSV file. Error messages are listed next to the row in which the error occurred (for example, if you have a duplicate row).

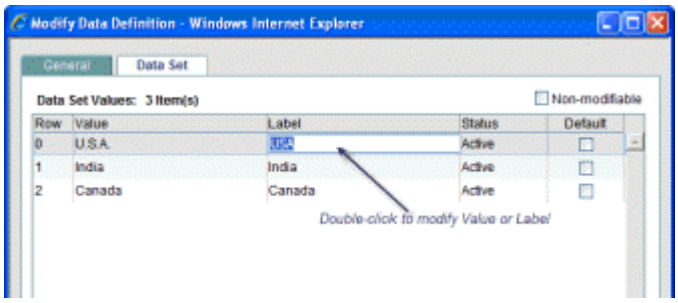
c. You can use fix the errors in this file (for example, remove duplicate rows) and re-import it after fixing the listed errors. Be sure to remove all extraneous text, including the error messages, before importing.

Modify or remove data set values

You can edit or remove values in data set lists. When you modify an existing data set, the new values will become available when new records are created that use the field (for example, create a new business processes).

To edit a data set value

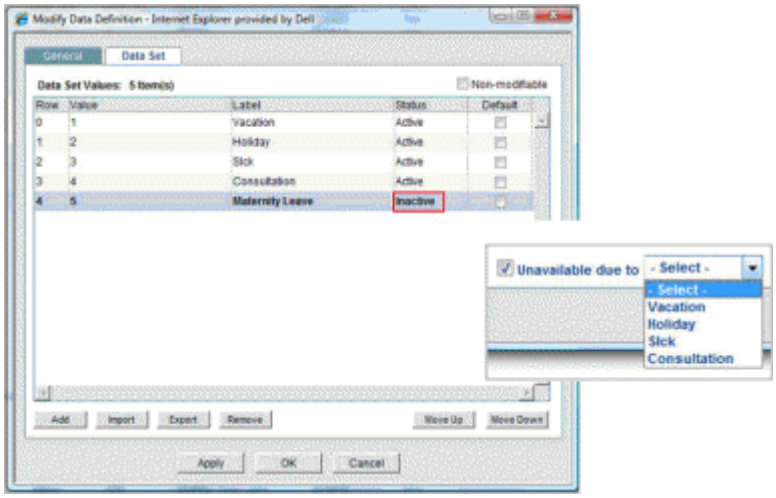
1) Open a **Data Definition** and click the **Data Set** tab.
2) Double-click the value or label to modify. The field becomes editable. Edit the field as needed and click **OK**.



To activate or deactivate a data set value

1) Open a **Data Definition** and click the **Data Set** tab.
2) Click the **Status** pull-down menu and choose Active to activate, or Inactive to deactivate. Click **OK**.

   Inactive values do not appear on the list at runtime.



Active and Inactive data set values

To remove a data set value from the data definition drop-down list

1) Open a **Data Definition** and click the **Data Set** tab.
2) Do one of the following:
   - To permanently remove a value, select it form the list and click **Remove**.

- To remove the value from the data definition drop-down selection list that the user is presented with, but retain it in the data set value list, click **Inactive**.

3) Click **OK**.

Reorder data set values

You can rearrange the order of data set lists. When you modify an existing data set, the new values will become available when new records are created that use the field (for example, create a new business processes).

To rearrange the order of the data set value list

Once you have added the data set values, you can rearrange the order of their appearance on drop-down lists, multi-select input fields, and radio buttons. You can do this in two ways:

- Using the **Move Up** and **Move Down** keys
- Changing the order of the rows by editing the **Row** column

To rearrange the order using the Move Up/Move Down keys

1) Open the **Status Definition** window and click the **Data Set** tab.
2) On the **Data Set** tab, highlight the data element and click the **Move Up** or **Move Down** key until the element is in the order you want.
3) Click **OK**.

To rearrange the order by Editing the Row column:

1) Open the **Status Definition** window and click the **Data Set** tab.
2) On the **Data Set** tab, highlight (or double-click) the row number of the element you want to reorder.
3) Enter the new row number the element should occupy.
4) Repeat step **2** for any other data elements you want to reorder.
5) Click the **Update Order** button; click **OK** to save the change and close the window.

Row numbering follows a relative numerical progression

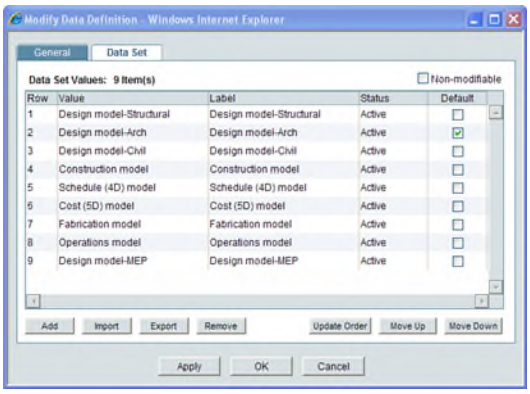
Row numbers on the list start at 1. When you change the order of the rows, you can enter just about any number; even positive, negative, and duplicate numbers. uDesigner will re-sort the rows by honoring the relative order of the numbers you enter.

If you enter:

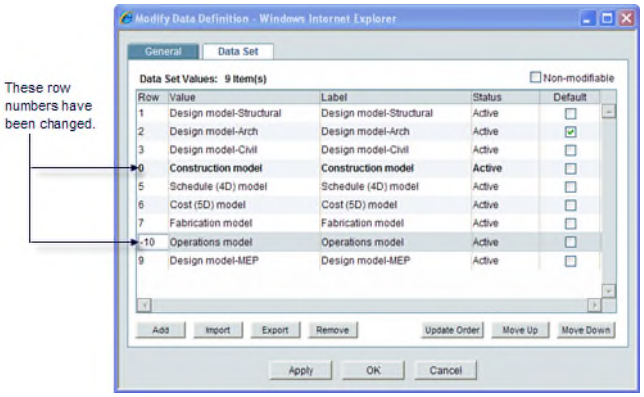
- A negative number (e.g., -100): The row will move to the top, becoming row 1. If you enter two negative numbers, the "most negative" number becomes row 1, and the "next negative" number becomes row 2.
- Zero (0): The row will move to the top, becoming row 1 (or the row following any negative number you entered).
- A number greater than the existing number of rows (e.g., 100 when there are only 50 rows): The row will move to the end, becoming row 50. If you enter two numbers greater than the existing number of rows (e.g., 100 and 101), the sort will honor the order of the numbers. In this example, 100 and 101 will become rows 49 and 50.

- A duplicate number (i.e., the same number for two or more different rows): The duplicate-numbered rows will become adjacent rows (in no specific order).

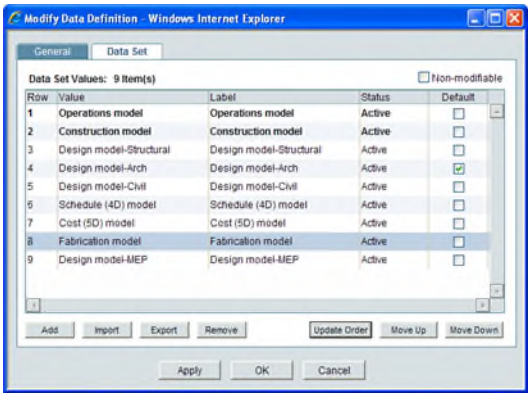
Example of row numbers **before** sorting:



Edited row numbers:



Row numbers after sorting:



Working with Data Elements

A data element is a data field on a business process. Data Elements are defined by Data Definitions. The data element properties are defined by the Data Definitions.

You can use a Data Definition to define the properties of more than one data element. Data Elements are defined under the Data Structure Setup node as well as the Attribute forms in Unifier.

You can export a CSV file listing specific data elements.

You can also view the usage of each data element, that is, the list of specific business processes where the data element is used.

Access Data Elements

To access the Data Elements log

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Data Structure Setup > Data Elements** in the left Navigator. The **Data Elements** log opens.

   The log lists the data elements used for your company. For each data element, the log displays the Data Definition on which it is based, the Form Label, which is how the data element appears on a form, and Usage.

Export Data Elements

You can create a CSV file containing the current list of data elements. This can be useful if you need to create different combinations of data set values for Dynamic Data Sets, taking from different sources of data definition data set values.

To export data elements

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup > Data Elements** in the left Navigator. The **Data Elements** log opens.
3) From the **Data Elements** log, click the **Export** button. You may Open the file to preview it or Save it to your local drive.
4) Name the file and click **Save**.

View Data Element Usage

The Usage button in the Data Elements allows you to view the business processes or attribute forms that the data element is being used.

To view data element usage

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup > Data Elements** in the left Navigator. The **Data Elements** log opens.
3) From the **Data Elements** log, select a data element and click **Usage**. The Usage window displays the forms that use the data element.

Modify Data Element

When you open a Data Element in the **Data Elements** log, the **Modify Data Element** window opens. The following fields are available in this window:

- Data Element Name
- Data Definition Source
- Form label
- Description
- Tooltip

  You can enter the system-level tooltip in the field.

  Upper Forms

  Navigate to **Company Workspace** > **Admin** mode > **uDesigner** node > **Business Processes** node. Click to select a BP > Click **Upper Forms** to open the **Forms** log. In the **Forms** log, the **Tooltip** toolbar option enables you to see the list of Data Elements of the combined **Upper Forms**.

  Detail Forms

  Navigate to **Company Workspace** > **Admin** mode > **uDesigner** node > **Business Processes** node. Click to select a BP > Click **Detail Form** to open the **Detail Form** log. In the **Detail Form** log, the **Tooltip** toolbar option enables you to see the list of Data Elements of the combined **Detail Form**.

  RFB Business Process

  There are four types of tooltip:

  - **Requestor** > **Upper Forms**
  - **Requestor** > **Detail Form**
  - **Bidder** > **Upper Forms**
  - **Bidder** > **Detail Form**

  Other Business Processes

  There are two types of tooltip:

  - **Upper Forms**
  - **Detail Form**

  In the **Tooltip** window, click the Data Element (for example, status), click **Update from Data Element Properties** (system-level) to open the **Edit Tooltip** window, enter the text in the field. Use the arrows (<< or >>) to move to the next Data Element (for example, title) and enter the text in the field.

  You can perform bulk update from Data Element properties. In the **Tooltip** window click **Update from Data Element Properties** to open the **Update tooltip Description** window. Ctrl+click on multiple data elements to select and click **Update**.

Internationalization and Tooltips

All the tooltips are extracted as custom strings.

Go to **Company Workspace** (**Admin** mode) > **Configuration** > **Internationalization**.

Click **Find** to open the **Find** window.

Select **uDesigner** in the **Source Type equals** field.

Enter "tooltip" in the **String contains** field.

Configuring Dynamic Data Sets

This flexible uDesigner option can be used on business processes and attributes forms. It allows one data element on the form to the control both *values* and *behavior* of other data elements on the same form.

A dynamic data set is comprised of a "set" of data elements that includes a master data element and dependent data elements, which can be pull-down menus or radio buttons. The values that are available to users at runtime for the dependent fields are dependent on the selection the user makes for the master data element field. A dynamic data set can be used on business processes and attributes forms, and allows one data element on the form to the control both values and behavior of other data elements on the same form.

For example, you can define a dynamic data set that includes a Country, State, City, Postal Code and Zip Code data elements that function as pull-down menus on a form. The Country field is a master data element. The set can be configured so that, at runtime, the user must select a value for Country, which dynamically controls the values that are available to be chosen for State. The user then selects a State, which drives the choices available for City.

Field behavior (such as required, or read-only) can also be controlled by the dynamic data set. For example, a dynamic data set might include data elements for Country, Zip Code and Postal Code. At runtime, depending on the selected value for the Country, the Zip code field may get become enabled and a required field, while the Postal Code field becomes disabled.

How to set up a dynamic data set

Dynamic data sets are imported automatically when you import a business process or attribute form that has the dynamic data set on it.

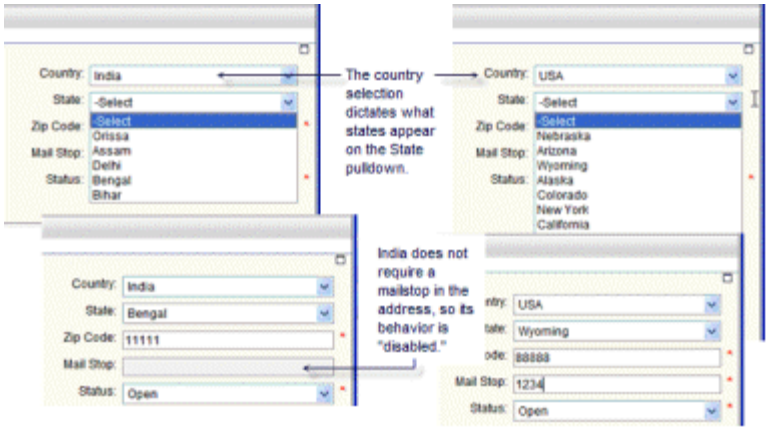
Setting up a dynamic data set consists of the following:

1) **Prepare elements and data set values**. View dynamic data set properties to identify elements of the dynamic data set:
   - Master Data Element, which drives the behavior of the set.
   - Value Set, which lists the data elements whose values will be controlled by the master element (for example, if the master element is Country, then the value set might include a pull-down data element State, the values of which will change depending on the country chosen).
   - Behavior Set, listing elements whose behavior is controlled by the master element (for example, a field that becomes Required, Disabled, or Disabled and Clear depending on the value chosen for the master element (for example, the Country chosen might dictate whether the Postal Code or Zip Code field is enabled for the user).

Verify that data definition data sets are populated. The data elements that can be part of a dynamic data set can be pull-down menus or radio buttons. The values for the selections are maintained in the Data Set tab of the data definition properties. Be sure that the individual data definitions have valid data sets. (For example, if you have a State pull-down data element, the data set corresponding to the data definition for the State field must be populated with the state options you wish to make available to users.

2) **Define the Value Set and Behavior Set**. The value set consists of the fields whose values will be controlled by the master data element selection at runtime. The Master data element is the first element on the list. You will define the values that display at runtime.

   The behavior set contains the fields whose behavior (Required, Disabled, Disabled and Clear) will be controlled by the master data element selection at runtime. While **Required** contains a required text field and **Disabled** changes the field to read-only, **Disabled and Clear** clears any previous values in the field and then disables the field, making it read-only. With selecting Disabled and Clear, you avoid entering invalid data and therefore improve data entry.



Access dynamic data sets

Dynamic data sets are imported into Unifier when a business process or attribute form on which they appear are imported.

To access dynamic data sets

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Dynamic Data Sets** in the left Navigator. The Dynamic Data Sets log opens.

View dynamic data set properties

The dynamic data set properties and data elements are designed in uDesigner. The properties window identifies:

- Master Data Element, which drives the behavior of the set.

- Value Set, which lists the data elements whose values will be controlled by the master element (for example, if the master element is Country, then the value set might include a pull-down data element State, the values of which will change depending on the country chosen.
- Behavior Set, listing elements whose behavior is controlled by the master element (for example, a field that becomes Required or Disabled depending on the value chosen for the master element (for example, the Country chosen might dictate whether the Postal Code or Zip Code field is enabled for the user).

To view dynamic data set properties

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Dynamic Data Sets** in the left Navigator. The Dynamic Data Sets log opens.
3) Select the dynamic data set to edit and click **Properties**. The Properties window opens. The Properties window is view-only.
4) The **General** tab displays the general information about the dynamic data set:
   - Name and Description
   - Master Data Element: the data element that serves as the master data element for the set
   - Data Definition: the data definition corresponding to the master data element. The data definition will be a pull-down menu or radio buttons. The values available for the master data element are entered in the Data Set tab for the data definition.
   - Form Label: the form label of the master data element
5) Click the **Value Set** tab. This tab displays the data elements of the value set, which are the fields whose values will be controlled by the master data element selection at runtime. The Master data element is the first element on the list. Values of each data element are based on the data set values defined under base Data Definition.
6) Click the **Behavior Set** tab. This tab displays the data elements of the behavior set, whose behavior (Required, Disabled) will be controlled by the master data element selection at runtime.

Define the value set and behavior set values

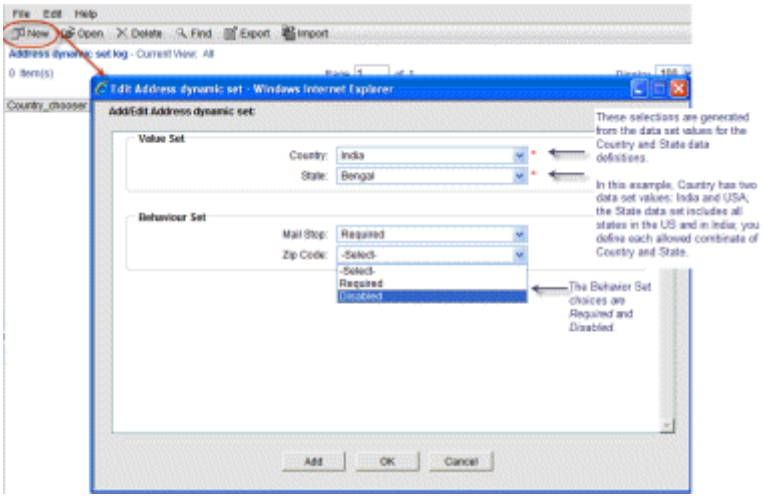
You can add values to dynamic data sets manually one a time, or by importing multiple values from a CSV file. The following describes adding dynamic data set values manually.

Fields defined with a Value Set have values limited by the master data element. For example, a Country master data element can control the values that display for a State field.

To define the value set and behavior set combination

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup** > **Dynamic Data Sets** in the left Navigator. The **Dynamic Data Sets** log opens.
3) Select the dynamic data set and click **Open**. The dynamic data set log opens for the selected set.

4) Click **New**. The Add/Edit <set name> window opens.



5) Complete the window. The fields on the window will depend on how the dynamic data set was designed. It may include a *value set*, a *behavior set*, or both:

- **Value Set:** These are the data elements that will be controlled by master data element selection at runtime. The Master data element is the first element on the list.

Click the drop-down list and select a value for each data element. The drop-down list values are based on the data set values defined under the base data definition.

In the example in the following figure, the value set is Country and State. At runtime on the form, when the user selects a Country, the State field will populate with the states that are associated with that country. These value sets determine the combinations of Country-State that display.

- **Behavior Set**: The behavior of these data elements (Required, Disabled, Disabled and Clear) will be controlled by the master data element selection at runtime.

Click the drop-down and select **Required** (Field displays a *), **Disabled** (Field is read-only), or **Disabled and Clear** (Field is cleared and disabled, becoming read-only). If you leave the selection blank (or "Select" on the drop-down), there will be no change in behavior for the element.

In the example in the following figure, the behavior set is Mail Stop and Zip Code. In this case, at runtime, depending on the Country chosen, either Mail Stop or Zip Code will become a required field, or will be disabled.

6) To add another Value Set and Behavior Set combination, click **Add**, which will save the combination you just entered and allow you to add another.

7) When you are done adding combinations, click **OK**. The set displays on the dynamic data set log.

Data Elements that can be set as Disabled and Clear

The behavior set fields of all data types can be set as Disabled and Clear. Exceptions are mentioned below:

- Status
- Due_Date
- Creator_ID
- Record_No
- Data elements starting with “uuu”
- Data definitions starting with “SYS,” and the ones not of the following input types:
  - Text
  - Textarea
  - Picker
  - Date Picker
  - Date Only Picker
  - Bitemid

Import dynamic data set values

Importing dynamic data set values consists of:

Step 1: Export the CSV template file

a) Click the **Export** button.

b) Save the file to your local drive.

Step 2: Complete the CSV file

a) Open the CSV template file.

b) Enter values for each column as applicable:

- **Value set**: The columns correspond to the date elements that make up the value set. The values you enter here must match values in the data set for the data definition.
- **Behavior set**: The behavior set column is labeled with a (B). Valid values are **Required** (makes the data element a required field), **Disabled** (the data element is read-only), **Disabled and Clear** (Field is cleared and disabled, becoming read-only), or you can leave it blank.

c) Save the CSV file.

Notes:

- When using a CSV template file, the following header is displayed: "For data elements that are required, enter **Required** as a value. To disable a data element, enter **Disabled** as a value. To disable and

clear any previous value, enter **Disabled and Clear**. Do not enter any value if there is no behavior change needed."

- If the CSV template has restricted DEs in the behavior set and the value of **Disabled and Clear** has been set for the restricted DEs, then the system prevents the import and an alert is seen.

Step 3: Import the CSV file

a) Click the **Import** button.

b) Browse to the completed CSV file and click **OK**.

c) To download a CSV file containing status details of the import, click **Yes** at the prompt.

The rows that you completed in the CSV file are appended to existing entries. Duplicate entries are allowed.

Delete a dynamic data set combination

You can delete a dynamic data set combination (value set and behavior set). This removes the combination from use with the dynamic data set.

To delete a dynamic data set combination

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Dynamic Data Sets** in the left Navigator. The Dynamic Data Sets log opens.
3) Select the dynamic data set and click **Open**. The dynamic data set log opens for the selected set.
4) Select an entry and click **Delete**. Click **Yes** to confirm.

Edit a dynamic data set combination

When you edit a dynamic data set, any changes you make will not reflect in forms. The data element must be deleted from the form and added again in uDesigner, and the form re-imported.

To edit a dynamic data set

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Dynamic Data Sets** in the left Navigator. The Dynamic Data Sets log opens.
3) Select the dynamic data set and click **Open**. The dynamic data set log opens for the selected set.
4) Select an entry and click **Open**, or double-click to open.
5) Make modifications to Value Set or Behavior Set as necessary and save.

View dynamic data set usage

You can view the forms on which a dynamic data set is used.

To view dynamic data set usage

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup>Dynamic Data Sets** in the left Navigator. The Dynamic Data Sets log opens.
3) Select a dynamic data set and click the **Usage** button in the toolbar. The Usage window opens, listing the forms on which the dynamic data set is used.

Creating Data Views

Unifier Data Views use SQL queries that are defined against Unifier system tables and business process tables. Data Views are used in Unifier Custom Reports, User-Defined Reports (UDRs), and Shell dashboards.

> **Note**: The User-Defined Reports (UDRs) can be created at Company, Shell, or Project levels.

Data views must contain project_id in the SQL query for the data view to be displayed in a Project/Shell level UDR data type list.

> **Note**: Data views published prior to the Primavera Unifier 9.5 release must be republished (i.e., set to draft status and then reset to published status) before they show up in the UDR data type list.

Before you begin: Define your reporting requirements first. Collaboration between business users and technical development teams helps identify the data you need to collect and how to present that data so report recipients will have an easy-to-read, useful report.

Step 1: Set permissions for data view creation. See ***Grant Permissions for Data View Creation*** (on page 94).

Step 2: Create data views. See ***Create and Publish Data Views and Metadata*** (on page 94).

- Data views must be published (as indicated by the Publish Date) before you can use them as data sources in UDRs, data cubes, or custom reports.
- Test your data view SQL queries in the Unifier **Development**/**Test** environment before deploying them in the Unifier **Production** environment because only by testing can you be sure the query is valid and returns the desired data. Oracle recommends that you test your SQL queries in the **Development** environment prior to deploying them in the **Test** environment or **Production** environment.

> **Note**: See the ***Internationalizing Unifier Environments*** (on page 898) section for translation information.

Step 3: View data and metadata. See ***View data (query results) and metadata (columns) in the view*** (on page 97).

Step 4: Export data. See ***Export data (query results)*** (on page 98).

The Data Views are included in:

- Custom Report that are using Data Views and ready for **Production** environment.
- Data Cube that are using Data Views and ready for **Production** environment.
- User-Defined Report (UDR) that are using Data Views and ready for **Production** environment.

In This Section

Grant Permissions for Data View Creation

To grant permission for data view creation

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Data Structure Setup > Data Views**. The Permission Settings window opens. Here you can add, modify, or remove permission settings.
4) Click the **Add** button. Another window called Permission Settings opens.
5) Click the **Add Users/Groups** button. The Users/Groups window opens.
6) Select the intended users and/or groups and click the **Add** button
7) Click the **OK** button to return to the Permission Settings window.
8) Select the users or groups in Select Users/Groups, located in the upper portion of the window, and select the appropriate level of access for the user or group in Permissions Settings, located in the lower portion of the window.

   View: allows users and groups to see the data view settings

   Create/Modify, allows users and groups to define or change data view settings. This setting includes View permission.
9) Click the **OK** button.
10) Click the **Apply** button to save changes and keep the window open, or the OK button to save changes and close the window.

Create and Publish Data Views and Metadata

After you create a data view, you must publish it to be able to use it in user-defined reports, data cubes, or custom reports. There are two things to know about using data views in user-defined reports:

- Data views must contain project_id in the SQL query for the data view to show up in a project or shell-level UDR data type list
- Data views published prior to the Primavera Unifier 9.5 release, must be republished (i.e., set to draft status and then reset to published status) before they show up in the UDR data type list

Depending on the data elements you choose, you might need to publish the metadata associated with the data view. For example, if the selected data element has a data definition type of pull-down Menu, you will have to publish the metadata to see the actual label of the pull-down rather than the value. In the case where a data element is defined as *Actual Value?* based on a Yes/No data element, with 0= No and 1=Yes, if *Actual Value?* is used in the data view, then you need to publish the metadata of *Actual Value?* to get the Yes or No value rather than 0 or 1.

To create Data Views

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Data Structure Setup > Data Views** in the left Navigator. The User-Defined Data Views log opens.
3) Click **New**. The User-defined View window opens.
4) The Prefix is auto-populated with the company short name. Enter the name of the Data View, the label, an optional description, and the SQL query for the Data View. For further details on how to create SQL queries used in the creation and management of Data Views, please consult the Oracle Consulting Services team.
5) Click **OK**.

> **Note**: When creating data views, the column naming convention must follow the Oracle DB guidelines. Do not use the Oracle-reserved words such as "(", ")" and so forth to name the column. For details, refer to Oracle DB guidelines.

To publish Data Views

1) Go to **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click Data Structure Setup > Data Views. The User-Defined Data Views log opens.
3) Select an unpublished Data View.
4) Click the **Status** button.
5) Select **Published**.
6) Click **OK**.

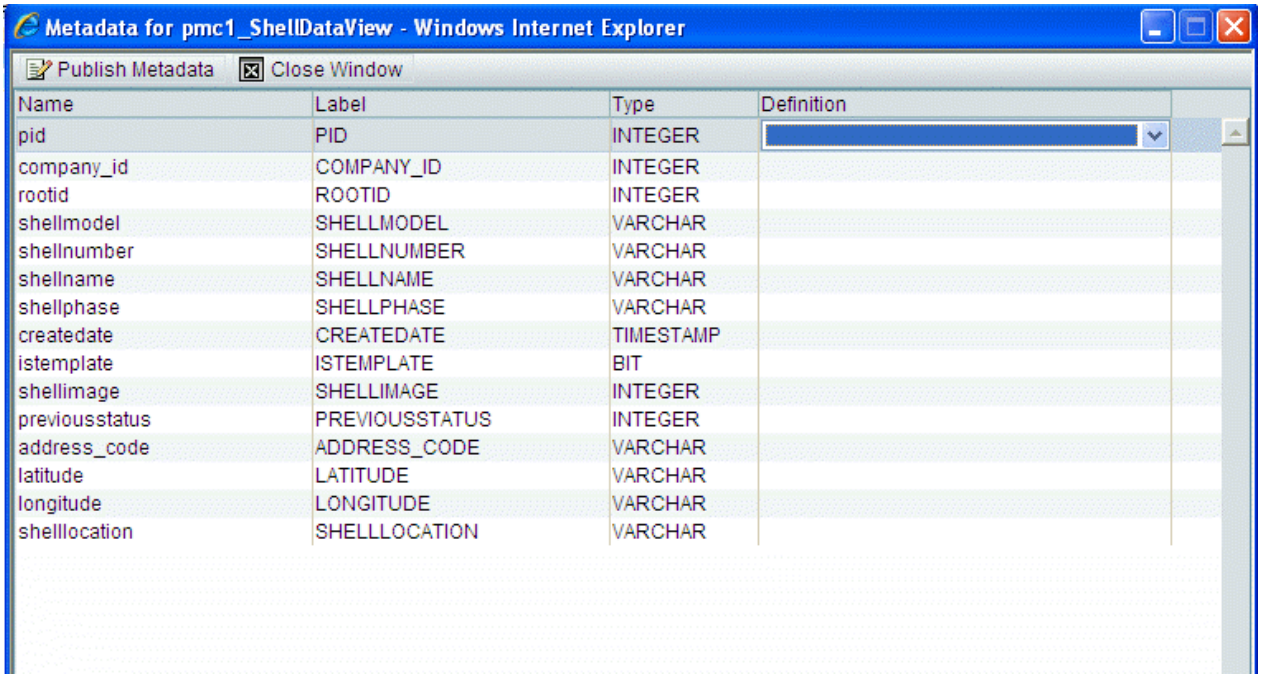
To publish metadata

You can associate metadata with its Unifier data set for both labels and values. Data views tend to contain technical shorthand from system and SQL abbreviations. While clear to the technical person who wrote the data view, report consumers will appreciate seeing the same field labels and field value selections they see in their business processes and managers.

For example, in your data view you might include the data element "year_pd," which represents a pull down menu with selections for different years assigned to its data set. In your user-defined report, you might want to see the label "Year" instead of "year_pd;" and you might want to query on meaningful values, such as 1999, 2001, 2002, etc., instead of the numeric values of the data definition, 1,2,3, etc.

1) In the User-Defined Data Views log, select a published Data View.

2) Click the **Metadata** button.
3) Double-click in the **Definition** field for each data element and select the data definition for the selected element. The data definitions available for selection are filtered by the data elements used.



Name	Label	Type	Definition
pid	PID	INTEGER	
company_id	COMPANY_ID	INTEGER	
rootid	ROOTID	INTEGER	
shellmodel	SHELLMODEL	VARCHAR	
shellnumber	SHELLNUMBER	VARCHAR	
shellname	SHELLNAME	VARCHAR	
shellphase	SHELLPHASE	VARCHAR	
createdate	CREATEDATE	TIMESTAMP	
istemplate	ISTEMPLATE	BIT	
shellimage	SHELLIMAGE	INTEGER	
previousstatus	PREVIOUSSTATUS	INTEGER	
address_code	ADDRESS_CODE	VARCHAR	
latitude	LATITUDE	VARCHAR	
longitude	LONGITUDE	VARCHAR	
shelllocation	SHELLLOCATION	VARCHAR	

4) Double-click the **Label** field for each element you want to use in the UDR. Rename it to whatever you want to see in the report.
5) Click **Publish Metadata**.

Tips

The SQL definition will consist of the SQL query used to populate the report with specific data based on the desired output.

> **Note**: If using the data view as a Main view in a Project level report, you must have a column named **project_id**. If using the data view in a Program level report, you must have a column named **program_id**.

For example, a Project level data view for a company registry "companyReg" can be like this below:

```
SELECT    pu.PID as PROJECT_ID,
          p.PROJECTNUMBER as PROJECTNUMBER,
          c.COMPANYNAME as COMPANY_NAME,
          c.SHORTNAME as COMPANY_SHORT_NAME,
          c.DESCRIPTION as COMPANY_DESCRIPTION,
          c.CONTACTNAME as COMPANY_CONTACT_NAME,
```

```
        u.FULLNAME as USER_FULL_NAME,
        u.USERID as USER_ID,
        u.USERNAME as USER_NAME,
        u.EMAIL as USER_EMAIL
FROM    companyReg_SYS_USER_INFO_VIEW u,
        companyReg_SYS_COMPANY_INFO c,
        companyReg_SYS_PROJECT_INFO p,
        companyReg_SYS_PROJECTUSER pu
WHERE   c.COMPANYID = p.COMPANYID
  AND   p.PID = pu.PID
  AND   u.userid = pu.userid
```

View data (query results) and metadata (columns) in the view

The **Data** button will return the query results of the view (essentially, a preview of the report results, without any user entered parameters).

The **Metadata** button will return all of the columns in the view. The Metadata button will return the definition of the columns: names, type and labels of the columns used in the view. For example:

Name	Type	Label
project_id	INTEGER	PROJECT_ID

To view query results

1) In Administration Mode, go to the **Company Workspace** tab and click **Company > Data Structure Setup > Data Views** in the left Navigator. The User-Defined Data Views log opens.
2) Select a view in the User-Defined Data Views log.
3) Click the **Data** button. The results window will display the query results.

To view columns

1) Select a view in the User-Defined Data Views log.
2) Click the **Metadata** button. The results window will return all of the columns in the view.

If the Data View is in Draft status, then the metadata that you see will be based on the last Published data. If the Data View has not been published before, then no data is displayed.

You can delete a Data View that was included in the configuration package, indirectly.

> **Note**: Although deletion of a Data View is possible, if a Data View has been used in a UDR, Custom BI Publisher report, or Data Cube that was included in a configuration package, then the configuration package creation will fail because of the missing data views.

Export data (query results)

The results of the data query can be exported as CSV or SQL files.

To export data as CSV

1) Select a view in the User-Defined Data Views log and click the **Data** button. The results window will display the query results.
2) Click the **Export As CSV** button.
3) At the prompt, you can choose to Open or Save the resulting CSV file to your local drive.

The CSV file will contain the data that is displayed on the results log window. By default, the first 100 lines will be displayed. You can click the Display drop-down (in the upper right corner of the results log window) and choose 200 to display the first 200 lines. When you click Export As CSV, the CSV file will contain the 100 (or 200) lines displayed in the window.

Only the 100 or 200 rows will be exported at a time. You cannot export the entire result of the view (for example, if there are more than 200 rows) in one click. You must export in groups of 200 rows at the maximum and then manually combine the exported results.

To export data as SQL

1) Select a view in the User-Defined Data Views log and click the **Data** button. The results window will display the query results.
2) Click the **Export As SQL** button.
3) At the prompt, you can choose to **Open** or **Save** the resulting SQL file to your local drive.

   This will export your SQL script to create the table required for the data view and the data itself.

Notes on Working with the Oracle Database

- Only the 100 or 200 rows will be exported at a time. You cannot export the entire result of the view (for example, if there are more than 200 rows) in one click. You must export in groups of 200 rows at the maximum and then manually combine the exported results.
- Note that SQL export files have the .sql extension and work best with the Oracle database as the field types used in the creation of the data view are of Oracle type (for example, VARCHAR). If the exported SQL file is to be used in a database other than Oracle, you must manually modify that file to replace the field types with the types that work with the non-Oracle database.
- Unifier uses a field type called TIMESTAMP for all date or time fields, so you must modify the session date format to match the timestamp used in Unifier. For example, you can run the following statement for an Oracle database: ALTER SESSION SET NLS_DATE_FORMAT = 'YYYY-MM-DD HH24:MI:SS';
- If you are building multiple data views based on other data views, changes a data view in the lower hierarchy (example adding a new data element) will necessitate the dependent views to be refreshed by changing them to Draft and then republish the data views to

incorporate the changes. For example, if Dataview 2 is based on Dataview 1, and you add a new field to Dataview 1 and then republish it. You must then change Dataview 2 to Draft and then republish it so that it will contain the change you made in Dataview 1.

- Additional cleaning of the data (in case of export to SQL file) might be needed if there are (‘) apostrophes in the values of some fields, or if there are ampersands (&). This will result in inconsistent values between the results in Unifier and the result in the local database after import.

View Data View Usage in Reports and Data Cubes

To view reports and data cubes in which a Data View is used

1) Select a view in the User-Defined Data Views log.
2) Click the **Usage** button. The Usage window opens, listing the reports and data cubes in which the data view is used.

Edit data views

Data views must be in draft mode to edit.

To edit data views

1) In Administration Mode, go to the **Company Workspace** tab and click **Data Structure Setup > Data Views** in the left Navigator. The user defined Data Views log opens.
2) Select a data view in the User-Defined Data Views log.
3) Click **Status** and select **Draft**.
4) Click the **Open** button to access the SQL statement.
5) Edit the SQL statement and click **Apply** or **OK** to save changes.
6) Highlight the data view and click **Status**.
7) Select **Publish** to make the data view available for use in user defined reports, data cubes, and custom reports.

Delete Data Views

To delete Data Views

1) Select a view in the User-Defined Data Views log.
2) Click the **Delete** button. You will receive a confirmation message that you want to delete the selected Data View.

Notes:

- You cannot delete Published Data Views. You must change the Status to Draft to be able to delete a Data View.
- Although deletion of a Data View is possible (when in Draft status), if a Data View has been used in a UDR, Custom BI Publisher report, or Data Cube that was included in a configuration package, then the configuration package creation will fail because of the missing data views.

Review Unifier Database Table Structure

Before building your SQL statement, review the Unifier database table structure.

You can find the Unifier database table name in two ways:

1) **Using Entity Reference (ER) Views**
   1. Sign in to **Unifier** as a Company Administrator and go to the **Company** tab (Company Workspace), ensure that you are in Administration mode > **Data Structure Setup** > **ER Views**.
   2. Open **Business Processes View**.
   3. Use your browser search function and search for a BP you want to report against (for example, Invoices).
   4. The name of the table appears under the BP Name, in blue (for example, `UNIFIER_UI`. The word "unifier" is the prefix and common to all BP tables. The UI is the ID of the Invoices BP).
2) **Using BP IDs**
   1. Sign in to **Unifier** as a Company Administrator and go to the **Company** tab (Company Workspace), ensure that you are in Administration mode > **uDesigner** > **Business Processes**.
   2. Locate the BPs that you want to use in the report and find the IDs (first column).
   3. Add your deployment prefix and add an underscore (_) to get the table name (for example, `UNIFIER_UI`).

      Note: To access the Line Items of a BP, add `_LINEITEM` to the table name (for example, `UNIFIER_UI_LINEITEM`).

The following lists the column names:

- Field Name
- Definition
- SQL Type
- Label
- Description

Creating Data Cubes

Data cubes comprise data that you can use to render a variety of charts (bar, area, column, line, and table) in a custom dashboard (either at company-level or shell-level), or in a custom data block of a shell dashboard. In this way you can visually compare aspects of your data set.

Data cubes are either company level or shell level. The data source for data cubes can be from a business process or a manager attribute form, or from a data base query. Unifier does not limit the number of data cubes you can create.

Creating a data cube requires that you:

- ***Granting permissions for Data Cube*** (on page 104) to create a data cube
- ***Defining a Data Cube*** (on page 101) a new data cube, which includes
  - Selecting the data source for the data cube
  - Completing the data cube properties
- Publishing the data cube
- ***Granting permissions for Data Cube*** (on page 104) so they can view the data cube composition in Data Cube Definitions

In This Section

Defining a Data Cube

To define a data cube

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup > Data Cube Definitions** in the left Navigator. The Data Cubes log window opens.
3) Click either **New > Shell Data Cube** or **New > Company Data Cube**. The Create Data Cube window opens.
4) Select **Data Type** or **Data View**.
   - A data type comprises business process and manager attribute forms
   - A data view comprises results from a data base query

   Note: When creating data cubes, data views are only seen when you select Data View as the source. This is different from UDR creation when data views are listed with data types.

5) Click **OK**. The Data Cube window opens.

6) Complete the General tab.

   Name: enter a unique name for the data cube

   Description: this field is optional

   Data Type: this read-only field is automatically completed with the data type selection

   Type: this read-only field is automatically completed with the level selection

7) Click the **Data Source** tab. On this tab you can add the data sources you want to include in the data cube, for example, a business process, workflow, or shell.

8) Click the **Add** button. The Data Sources window opens listing all available data sources for this data cube.

9) Select at least one data source. You cannot move to the next tab or save the data cube without a data source selection. You can add as many data sources as are available.

10) Click the **Data Elements** tab.

11) Select at least one data element. You cannot save the data cube without a data element selection. You can add as many data elements as are available.

    The selected data elements are arranged in the Data Elements pane in a grid; the table below describes the columns.

Field	Description
Data Source	The data element data source.
Label	The data element label. You can modify this label.
Name	The data element name.
Type	The data element type.
Group	Click to define whether the data element can be used as a Grouping element when the data cube is used.
Summary	Click to define whether the data element can be used as a Summary type.

    On this pane you have the option to add functions. To do so, click **Add Functions**. Select a function type: Formula, Date Difference, Date Add, Date Function.

    - For **Formula** click **Create**. Create a formula and click **OK**. The data source available for the formula are based on the data sources you selected in the Data Sources tab.
    - For **Date Difference** enter a column heading name, specify the dates, and whether to show partial days. Click **OK**.
    - For **Date Add** enter a column heading name, specify the date and the add function. Click **OK**.
    - For **Date Function** enter a column heading name and specify the date. Click **OK**.

    To modify a data element, select the data element and click the **Modify** button.

    To remove a data element, select the data element and click the **Remove** button.

    Use the **Move Up** or **Move Down** buttons to reorder the listed data elements.

12. Click the Query tab if you want to add one or more queries to the data cube. See ***Define report queries (query condition)*** (on page 869).

Data Cubes and Configuration Package

Data Cubes are used for creating Shell dashboards. Data Cubes defined in the **Development/Test** environment can be transferred to the **Production** environment.

You can pick and choose which Data Cubes to transfer by including the needed Data Cubes in the Component List and creating a Configuration Package by using the list.

The Data Cubes log window contains the following columns:

- Name
- Description
- Type
- Source
- Last Modified
- Published Date
- Last Published By

When the configuration package is created, the system will check to ensure that the Data Cubes that have been included are in Publish status or not. If the Data Cubes that have been included are not in Publish status, then an error message is displayed at the time of creating the configuration package.

Selecting data sources

To select data sources for data cubes:

1) Click the **Data Sources** tab. This tab lists the available data sources for the data cube.
2) Click **Add** to add a data source. The Data Sources window opens.
3) Select one data source or multiple data sources and click **OK**.
4) To remove a data source, select a data source and click the **Remove** button.
5) Next, define data elements in the Data Elements tab, as described in the following procedure.

Adding data elements

To add data elements for data cubes

1) Click the **Data Elements** tab where you will see the fields listed in the table below these directions.
2) Click **Add Elements**.
3) Select one data element or multiple data elements and click **OK**.
4) Click **Add Functions**. Select a function type:
   - **Formula**: Click **Create a formula** and click **OK**. The data source available for the formula are based on the data sources you selected in the Data Sources tab **Date Difference**: Enter a column heading name, specify the dates, and whether to show partial days. Click **OK**.

- **Date Add**: Enter a column heading name, specify the date and the add function. Click **OK**.
- **Date Function**: Enter a column heading name and specify the date. Click **OK**.

Field	Description
Data Source	The data element data source.
Label	The data element label. You can modify this label.
Name	The data element name.
Type	The data element type.
Group	Click to define whether the data element can be used as a **Grouping** element when the data cube is used.
Summary	Click to define whether the data element can be used as a **Summary** type.

Additional actions you can take

- Modify a data element by selecting the data element and clicking the **Modify** button.
- Remove a data element by selecting the data element and clicking the **Remove** button.
- Reorder the listed data element by using the **Move Up** or **Move Down** buttons.

Defining queries

To define queries for data cubes

1) Click the **Queries** tab.
2) Build a query. See ***Define report queries (query condition)*** (on page 869) for details on creating queries.
3) When you have finished working with the Data Cube window tabs, click **OK**.

Granting permissions for Data Cube

To grant permission for data cube creation, modification, or viewing

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Data Structure Setup > Data Cube Definitions**. The Permission Settings window opens. Here you can add, modify, or remove permission settings.
4) Click the **Add** button. Another window called Permission Settings opens.
5) Click the **Add Users/Groups** button. The Users/Groups window opens.
6) Select the intended users and/or groups and click the Add button
7) Click the **OK** button to return to the Permission Settings window.

8) Select the users or groups in Select Users/Groups, located in the upper portion of the window, and select the appropriate level of access for the user or group in Permissions Settings, located in the lower portion of the window.

   Create/Modify: You must have Create/View permission to create or define or change data cubes. This setting includes View permission.

   View: You can use this setting to allow users and groups to see the data cubes.

9) Click the **OK** button.

10) Click the **Apply** button to save changes and keep the window open, or the OK button to save changes and close the window.

Publishing Data Cube

You must publish data cubes to make them available for use in the configurable dashboard.

To publish data cubes

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Data Structure Setup > Data Cube Definitions** in the left Navigator. The Data Cubes log window opens.
3) Select a data cube and click the **Publish** button.

> **Note**: You can modify a published data cube, but you must republish it to make the changes available to users.

Configuring and Publishing BI Publisher Custom Templates (Custom Prints and Reports)

Unifier integrates with BI Publisher to deliver on-demand web-based reporting through Unifier.

Custom Reports, built in BI Publisher, enable the Company Administrator (or power user) to build visually stunning, detailed reports. For example:

- A report that combines information from multiple (and possibly non-linked) Business Processes (BPs)
- A report that needs professional looking graphics, charts, images, or clip art

The following sections explain the steps you need to take for creating Custom Reports in Unifier with BI Publisher.

The following sections explain how to configure custom prints and custom reports in the BI Publisher (Oracle Business Intelligence (BI) Publisher or BIP).

To *publish* custom prints and custom reports:

1) Prepare the custom print or custom report
2) Click **Status**
3) Select **Publish**

Note: Oracle supports the delivery of BI Publisher reports in PDF format by way of email, only.

In This Section

Custom Templates (Custom Prints and Reports) Overview

To access Custom Prints and Reports sub-node: Open **Unifier** > **Company Workspace** > **Admin** mode > **Configuration** > **Custom Templates**.

Note: To run custom reports, access Reports node: Open **Unifier** > **Company Workspace** > **User** mode > **Reports**. Data views are required for creating custom reports.

The **New** option of the **Custom Templates** log window (or **File** > **New**) enables you to create the following:

Option	Description
Custom Print with Internal Data Model	When the user clicks **New** > **Custom Print** > **Custom Print with Internal Data Model**, the print template window displays the **Data Model Type** set as **Internal Multiple**.

Option	Description
	Any new custom print templates will be of data model **Internal Multiple** and can be used for bulk printing and single-record printing. Existing custom print templates of data model type **Internal** can still be used for single-record printing. The tags generated for the XML data in the **Sample data** tab are grouped differently for data model type of **Internal Multiple**, and the template designers must use the new XML data structure and create layout templates.
Custom Print with External Data Model	External data models can be created outside of the Unifier system. They can include links to multiple tables and pull data from multiple Business Processes. These data models can be used to create custom print templates. You can create a Custom Print template based on an external data model. The concept of creating a Custom Print template based on an external data model is similar to the concept of creating a Custom Print template based on an internal data model, except that the user creates, uploads, and maintains the data model needed for creating Custom Print template based on an external data model. When the user clicks **New** > **Custom Print** > **Custom Print with External Data Model**, the print template window displays the **Data Model Type** set as **External Multiple**. Any new custom print templates will be of data model **External Multiple** and can be used for bulk printing and single-record printing. Existing custom print templates of data model type **External** can still be used for single-record printing. The external data model must contain parameters that support printing of multiple records. The **Record ID**s pass as comma separated value.
Report with Internal Data Model	Create a new BI Publisher Custom Report based on the standard data model, which is generated and maintained internally by Unifier. When you save the BI Publisher Custom Report, Unifier saves changes applied to the following in the data model: ▸ Data views ▸ Data links ▸ Query parameters ▸ Additional parameters The **Custom Report** window contains the following tabs and fields: **General** ▸ Name ▸ Description ▸ Data Model Type The value for the **Data Model Type** field in the **General** tab is set

Option	Description
	to **Internal** (read-only). ▸ Report Level ▸ Main View **Views** Your selected values for the Report Level and Main View fields (**General** tab) determines the fields in the **Views** tab. ▸ Description ▸ Data Model Type The value for the **Data Model Type** field in the **General** tab is set to **Internal** (read-only). ▸ Report Level ▸ Main View - The Main View is no longer a mandatory field while creating the Report with External Data Model. - Users can add the Main View to a Report with External Data Model if they want to add query parameters for the report. **Query** **Parameters**
Report with External Data Model	Create a new BI Publisher Custom Report to upload the custom data model file created using BI Publisher. Unifier will not maintain the data model file. You can generate sample data for external model based report provided that the external model based report is published at least once. To do this, you have to externally modify the .XDM file either manually or by using the BI Publisher data model editor, then re-upload the report. This option has the same tabs as the **Report with Internal Data Model** option. The value for **Data Model Type** field in the **General** tab is set to **External** (read-only). The value for **Main View** depends on the following conditions: ▸ If an External Data Model was generated by converting an Internal Data Model report, then the value for **Main View** will be set according to the Internal Data Model report. ▸ The user will be allowed to deselect the value for **Main View** and save the report only if there are no Query parameters defined for the converted report. ▸ The user will be able to generate sample data as before. Generation of sample data will be possible after the report has been published at least once.
Custom Email	Customize the emails that are sent to bidders who are not a part of

Option	Description

with Internal Data Model	the Unifier system. You can include any of the business process data, and the email-related data, in the notification that you want to sent to the bidder. This option is used to send email notifications for the Request for Bid (RFB) business processes.
	The **Custom Email** window contains the following tab and fields:
	General
	▸ Name
	▸ Description
	▸ Data Source
	Lists the Request for Bid (RFB) business processes to enable you to create the custom email notification.
	▸ Data Model Type
	The value for the **Data Model Type** field in the **General** tab is set to **Internal** (read-only).
	▸ Email Type
	  ▸ Login Information
	  ▸ Bid Invitation
	  ▸ Due Date Change
	Once finished, click **Apply** to set the values for your template and sample data in the following tabs of the updated **Custom Email** window:
	Template File
	You can upload multiple Rich Text Format (RTF) templates. You can select any template as the default template and change the default when required. Click **Add** to upload a template file that you want to use to customize your email. Unifier uses the parameters set in the **Add Template** window to format the email, using the BI Publisher.
	Sample Data
	After you add a template, go to the Sample Data tab to select a sample data for the custom email. You can generate the sample data xml from the **Sample Data** tab and download the sample data xml in order to create the layout files.
	You can export the published Custom Emails using the Configuration Packages feature.
	All the fields available in the Custom Print version of a Request for Bid (RFB) business processes are available for the Custom Email version. In addition, the following email-specific fields are available as sample data:
	▸ From Requestor: The user who has sent across the Bid invitation.
	▸ Email: Email ID of the requestor.

Option	Description
	▸ Phone: Phone number of the requestor. ▸ Sent for: This field signifies what is the invitation for and has a value of ‘Bid’. ▸ Username: The user name of the Bidder (Email ID of the Bidder) ▸ Password: The password that needs to be sent across to the Bidder (when OIM is not being used). The password notification, when sent from OIM, is translated if the bidder is receiving the custom email. ▸ New Due: The changed value of the Due Date of the Bid. ▸ Bid URL: This is the URL which the bidder needs to use to login into the Bid portal. ▸ Contact First Name(`uuu_contact_first_name`): This is the First Name of the Vendor's Contact. ▸ Contact Last Name(`uuu_contact_last_name`): This is the last Name of the Vendor's Contact. Once you have configured the design of the custom email, you can save your changes and publish your design to the BI Publisher server. The **Notification** tab of the Request for Bid (RFB) business processes will contain all your added options. You must select a notification (Custom Notifications) for: ▸ Bid Invitation ▸ Login Information ▸ Due Date Change Each notification has a list of templates that have been published at least once. When Unifier is integrated with OIM, the option to select the Login Information template would not be available to the users. When Unifier is integrated with OIM, the password will not be sent over via the template even if the user has put in the password field in the template.

When BI Publisher Custom Print templates are created using external data model, Unifier does not generate any additional data models for use in the print template.

If a custom print template of **Internal_Multiple** has been converted, then the resulting data model will be **External_Multiple** and will be available for bulk printing.

Copying a template will copy the data model associated with the source template.

Use the options in **Find** to select the data models **Internal_Multiple** and **External_Multiple**.

Assigning Roles and Permissions to BI Publisher User to Publish and Run Unifier Reports

If you want to publish and run Unifier reports, the following roles and permissions must be assigned to the BI Publisher user (who integrates Unifier and OBIEE):

- BI Consumer: Open
- BI Content Author: Traverse
- BI Service Administrator: Full Control

Creating Data Model (.XDM) File

To create a new .XDM file, you can either:

a. Create the .XDM file from a local BI Publisher server, or
b. Copy any existing .XDM file, from an existing report, and create a new .XDM file.

> **Note**: To create an .XDM file that works with Unifier, you need to make changes in the .XDM file, accordingly.

Custom Templates Windows Log

The following applies to all Custom Prints and Reports (Internal Reports and External Reports).

Users do not need separate set of permissions to access the External Reports in the Custom Prints and Reports log. Users who have permissions to the **Custom Templates** node are able to view the External Reports in the **Admin** mode.

In the **User** mode, since the External Reports appear as a list, the permission settings are the same as those for Internal Custom Reports (View).

The Custom Prints and Reports windows log (**Custom Templates - Current View: All**) displays the following information:

- Name
- Description
- Type
- Location
- Data Model Type
- Key
- Report Level
- status
- Publish/Synch Date
- Last Modified By

Name

- Name of Print template or name of Report.
- For External Reports: This field displays the name of the report populated from the BI Publisher server.

- For Custom Print: The name of the print template, as entered in Unifier.
- For Internal Reports: The name of the report as entered in Unifier.
- The maximum character length in Unifier is 255. After 255, the characters will be truncated.

Description

- Description of Print template or description of Report.
- For External Reports: This field displays the description of the report populated from the BI Publisher server.
- For Custom Print: The description of the print template, as entered in Unifier.
- For Internal Reports: The description of the report, as entered in Unifier.

Type

- Custom Print
- External Reports: The reports that are created in the BI Publisher server, and are displayed here, will have a Type: External Reports.
- Internal Reports: The reports that are created in Unifier will have a Type: Internal Reports.
- Custom Email

Location

- Location of the report in the BI Publisher server relative to the path specified in the Unifier Configurator.
- For the External Reports, the path is relative to the property value for the BIP External Report Folder.
- For the Internal Reports, the path is relative to the property value for the BIP Report Folder.
- This column displays the path of the report in the BI Publisher server. The location plays an important role when there are two reports with the same name.

Data Model Type

Internal or External for both Print and Report.

Key

- System-generated unique ID.
- For External Reports: The key starts with "`uuu_ext`"
- For Print or Internal Report: The key starts with "uuu_"

Report Level

The value is blank for Print and for both Internal and External reports, it shows Project, Program, or Application (for Internal Reports, only).

Status

- Displays whether the report is in one of the following conditions:
- Invalid (only applicable for the External Reports)
- Draft
- Publish

Publish Date/Synch Date

- Date the record was last published, or synchronized, in the BI Publisher server and Unifier. This field will be blank when status is changed to Draft/Invalid.
- For External Reports: The date when the report is synchronized in Unifier (from BI Publisher server to Unifier).
- For Custom Print: The date that the print template was published to the BI Publisher server.
- For Internal Reports: The date the reports was published to the BI Publisher server.

Last Modified By

Name of the user who last synchronized the record.

> **Note**: When transferring Custom Reports by way of configuration package, the Custom Reports name and level must match in both source environment and destination environment.

The toolbar contains the following options:

- New
  - Custom Print with Internal Data Model
  - Custom Print with External Data Model
  - Report with Internal Data Model
  - Report with External Data Model
  - Custom Email with Internal Data Model
- Open
- Copy
- Delete
- Status
- Find
- Synchronize External Reports
- Tag
  - Configuration Package
  - Clear

New

The External Reports are created in the BI Publisher server. The New option enables the user to create Internal Reports and Custom Print templates.

Open

The user uses the Open option to open an External Report.

Copy

This option is disabled if you select a record in the Custom Print, or Reports, logs that is an External Report type.

Delete

For External Reports: The user can use this option to delete External Reports that have "Invalid" status. This option is disabled if the selected External Report is in "Published" status.

For Internal Reports: The user can use this option to delete an Internal Report that has never been Published.

For Custom Prints: The user can use this option to delete a Custom Print that is in "Draft" or "Published" status.

Status

The status for all imported External Reports is "Published." The values for this column are:

- Draft
- Published
- Invalid
  - The "Invalid" status is applicable to External Reports, only. This status does not apply, and is not available, for Internal Reports and Custom Print records.
  - The system assigns the "Invalid" status if a report that has been previously imported to Unifier is no longer in the BI Publisher server.
  - You can delete an External Report that has the status "Invalid" from the log.
  - If the user had the permission to view an External Report at runtime, and the status is now set as "Invalid," then the user cannot view the External Report at runtime.

Find

The Find option, on the toolbar, allows you to search for a particular record in Custom Prints and Reports log. The options for finding a report are:

- Name
- Type
- Location
- Data Model Type
- Last Modified By

Synchronize External Reports

The Synchronize External Reports option, on the toolbar, enables you to synchronize data between the BI Publisher server and Unifier.

This option allows you, the Administrator, to update Unifier with the reports created in the BI Publisher server. When you click Synchronize External Reports, the system connects to BI Publisher server to retrieve reports through Web Services.

You can set the level of the report (Report Level) in the Synchronize External Reports window that opens after you click **Synchronize External Reports**.

Once the synchronization is complete, you can set the permissions, per Report Level, in Unifier. During the runtime, all changes to the report design, such as data model, layout, translation files, and so forth, will be applied.

The following rules apply when you synchronize *external reports*:

- The **Synchronize External Reports** window displays all the new reports that exist in the BI Publisher server.
- Reports that exist in both BI Publisher server and Unifier (same reports in terms of count, name, and location), do not appear in the Synchronize External Reports window.

- When you click **Synchronize External Reports**, the system synchronizes all reports. You cannot select a particular report to be imported into Unifier.
- If you have imported a report to Unifier and the report no longer exists in the BIP server, then when you click Synchronize External Reports the status of the report will be "Invalid" and you cannot see the report at runtime.
- If you change the name of a report in BI Publisher server, the system treats the report as a new report after synchronization.
  - The system sets the original report, in Unifier, as "Invalid" and you cannot see the report at runtime.
- If you change the location of a report in BI Publisher server, the system treats the report as a new report, after synchronization
  - The Synchronize External Reports window displays the report and the report new location, after import.
  - The system sets the original report, in Unifier, as "Invalid" and you cannot see the report at runtime.
- If multiple reports, with same names exist in BI Publisher server, after synchronization, all reports will be imported into Unifier.
- After the reports are synchronized, the system updates the descriptions of the reports. There will be a small delay for this operation.
- If the report parameter (external reports) starts with "`uuu_hidden_`", it will not be available for the user to edit in Unifier.

Synchronize External Reports window

- The Report Name is a read-only field and lists the names in alphabetical order.
- The Location is a read-only field and lists the location of the report in the BI Publisher server.
- The Report Level is drop-down field and contains two values to select from: Project and Program. The default value is Project, and you can modify the Report Level at the time of import, only. Once you import the report, you cannot modify the Report Level. If you select an incorrect Report Level, then the system sets the status of that report as "Invalid." You can select Synchronized External Reports option and set the Report Level in the Edit Report Level window.
- The Description field provides a description for the BI Publisher Report on the BI Publisher server.

BI Publisher Report Levels

There two major levels for BI Publisher report.

- Project level which means the report is running in Project/Shell context.
- Program level which means the report is running in Program context.

For a Project or Program report, respectively, ensure that the following predefined Unifier parameters are applied on the "Where" clause as conditions in the query of the Data Set related to the Main view:

- `:uuu_p_context_project_id`
- `:uuu_p_context_program_id`

The following are examples of the parameters used in a "Where" clause:

- `project_id = nvl(:uuu_p_context_project_id,project_id)`
- `program_id = nvl(:uuu_p_context_program_id,program_id)`

Sample XML Data for Custom Templates (Custom Prints and Reports)

In case of a Custom Print, the sample data contains data elements that will be used in the layout files to capture information about a business process.

Some data elements are specific to the business process selected as they map to the standard and custom elements included in the business process forms.

If you have an image picker Data Element (DE) on your business process form, then the sample data includes the XML element, which provides the data for the ID that corresponds to the image as well as the name of the image.

Example

If the image picker DE "AE_Image" is placed on the business process form, then the generated data XML will have the "AE_Image" DE, which provides value for the uploaded image name, and the "k__AE_Image" DE, which provides value for the uploaded image ID.

You must use the image ID in the BI Publisher template for the custom print of the business process.

There are some data elements present in the sample data for all the business process since they apply to all. These data elements provide information such as record attachments, attachment comments, line item attachments, workflow steps, and so forth.

The following is a list of data elements and their descriptions:

Notes:

- The top level data set, in the Internal Multiple Data Model Type is the project_company_info. This has to be the very first grouping since the Internal Multiple Custom Print template can be selected for multiple business process records, from the Tasks log, Business Processes log, or Master Log pages. These pages display business process records from multiple shells that the user has access to (permission). This data-set has fields providing information of the company and project to which the Business Process record is associated with.
- All other data-sets are children to this data-set.
- Each XML Data Element Group represents a unique data-set in the data model uploaded to the BI Publisher Server and has a field that its value uniquely represents the record.
- The unique field in each data-set is the field to be used as a group-by field on the template for rendering the data grouped under the business process record.
- The unique fields are important to the template designers because of the layout and the data that needs to be displayed on the BI

Publisher Custom Print output.

- The unique field in each data-set can be suffixed by a number. This applies to other data-sets as well as a similar field.
- The number suffix is added automatically to maintain the uniqueness of the field across the datasets. This is used by the BI Publisher for the correct grouping of the data. For example, for multiple ID fields in different datasets, the ID field appears as: <ID_3></ID_3>.
- The following explains the unique field value for the dataset along with a description.

`<li_attachments>`

- Unique Field: `<ID_<<no>>>..</ID_<<no>>>`
- The sub-elements under this provide information about line item attachments for the business process when the business process has line items

`<lic_attachments>`

- Unique Field: `<ID_<<no>>>..</ID_<<no>>>`
- The element is a child of <la_comments> and it's sub-elements provide information about attachments linked to the comment of line-item attachment

`<li_ca>`

- Unique Field: `<ID_<<no>>>..</ID_<<no>>>`
- The element is a sub-element that provides information about cost allocation line item element for Summary Payment Application of SOV type BP

`<la_comments>`

- Unique Field: `<. Unique Field: <COMMENT_ID_<<no>>>..<COMMENT_ID_<<no>>>`
- This element is a child of <li_attachments> and it's sub-elements provide information on the comments associated with the line-item attachment

`<standard_elements>`

- This is applicable to Custom Print of Data Model Type Internal.
- The sub-elements of this group element provide information about company name, project name, project number etc

`<general_comments>`

- Unique Field: `<. Unique Field: <COMMENT_ID_<<no>>>..<COMMENT_ID_<<no>>>`
- The sub-elements of this group element provides information about general comments on the business process

`<gc_attachments>`

The element is a child of <general_comments>and it's sub-elements provide information about attachments linked to the general comment

`<record_attachments>`

- Unique Field: `<ID_<<no>>>..</ID_<<no>>>`

- The sub-elements under this provide information about record attachments for the business process

`<ra_comments>`

- Unique Field: `<COMMENT_ID_<<no>>>..<COMMENT_ID_<<no>>>`
- This element is a child of <record_attachments> and it's sub-elements provide information on the comments associated with the record attachments

`<rac_attachments>`

- Unique Field: `<ID_<<no>>>..</ID_<<no>>>`
- The element is a child of <ra_comments> and it's sub-elements provide information about attachments linked to the comment of record attachment

For a workflow business processes, there are additional elements which provide information about the workflow process and its details. The following is a list of data elements:

Unique Field: `<ID_<<no>>>..</ID_<<no>>>`

`<workflow_steps>`

- `<WF_PROCESS_ID></WF_PROCESS_ID> Process Id`
- `<SOURCE_ID_1></SOURCE_ID_1> BP record Id`
- The sub-element of this element provide information about the workflow steps associated with the business process. Details like step name, step assignees

`<task_assignees>`

- `<WFTEMPLATE_ID></WFTEMPLATE_ID>`
- `<BIP_SOURCE_ID></BIP_SOURCE_ID>`
- `<BIP_WF_PROCESS_ID></BIP_WF_PROCESS_ID>`
- The sub-element of this element provide information about task and assignee details. Information like Task name, Task Status, Assigned From, Assigned To and more

`<workflow_progress>`

- `<WF_PROCESS_ID></WF_PROCESS_ID> Process Id`
- `<SOURCE_ID_1></SOURCE_ID_1>`
- The sub-elements of this element provide information about status of the workflow

`<group_assignment_notes>`

- `<PROCESS_ID></PROCESS_ID>`
- `<STEP_ID></STEP_ID>`
- The sub-elements of this element provide information about the notes sent when a task is assigned to the group in the workflow process

Creating BI Publisher Custom Print

To create a new BI Publisher *custom print* configuration:

1) Open **Unifier**
2) Go to **Company Workspace**

3) Switch to **Admin** mode
4) Click **Configuration** to open the node
5) Click **Custom Templates**
6) From the log window (**Custom Templates - Current View: All**) click **New**
7) Select one of the following options to open the Custom Print window:
   - **Custom Print with Internal Data Model**, or
   - **Custom Print with External Data Model**

> **Note**: To view a BI Publisher *custom print* template, select the template and click **Open**.

See the ***Custom Templates (Custom Prints and Reports) Overview*** (on page 108) section for more details.

Custom Print Window (General tab)

In the **General** tab, you can define the general *custom print* information.

1) Enter and select values in the following fields:

> **Note**: Required fields are marked with an asterisk (*), or a star.

- **Name**

  Enter a unique name for the *custom print*, up to 50 characters (use alphanumeric characters, non-ASCII characters, or spaces).
- **Description**

  (Optional) Enter a brief description about the *custom print* up to 250 characters (use non-ASCII characters)
- **Data Source**

  Select one of the values from the drop-down list. The list contains all the design objects that support *custom print*, such as BP names, Space attribute names, CM attribute names, and so forth.
- **Data Model Type**

  This is pre-populated read-only field, based on the selected *custom print* type. The values, based on the option selected at the time of creating the *custom print,* can be one of the following:

  Internal

  External

  Internal Multiple

  External Multiple

  Internal or External

2) Click **Apply** to continue.

When you click **Apply**, Unifier processes the information that you have provided and prepares the custom print for publication. As a result of this process, two additional tabs are added to the *Custom Print* window that require your input:

- Template File tab

  The Template File tab allows you to upload:
  - Multiple templates for the *custom print* (RTF, PDF, Excel, eText)
  - Data model (.XDM) file (for print with external data model)
- Sample Data tab

  The Sample Data tab allows you to generate the sample XML, which you can use to create layouts for the *custom print*. In the case of an external data model-based report, the report must have been published to the BI Publisher server at least once before the sample XML data can be generated.

See the following topics for details:

- ***Custom Print Window (Template File tab)***
- ***Custom Print Window (Sample Data tab)***

Custom Print Window (Template File tab)

The **Template File** tab contains information about the print layout, along with the corresponding templates and XLIFF translations.

You can build a Rich Text Format (RTF) print template and upload the template to your Custom Print in Unifier.

To create a simple RTF template:

1) Open Microsoft **Word**.

   The application must have the Microsoft Word BI Publisher plug-in installed. See Download and Install BI Publisher Desktop for Microsoft Office.
2) Click the **Word BI Publisher** ribbon.
3) Click **Sample XML** to import your sample data and wait until the data is loaded successfully.

You can use the following option for each template:

- Add
- Modify
- Remove
- Download

Add

Use **Add** to upload the print layout and the translated XLIFF files. The XLIFF files are used for translation purposes. When you click Add, the "Add template and Files" window opens.

The "Add template and Files" window has two sections:

- Template
- Translated XLIFF files for the Template

> **Note**: Required fields are marked with an asterisk (*), or a star.

Template

The Template section contains the following fields:

- **Template Name**: Enter a unique name for the template (use non-ASCII characters).
- **Template Type**: From the drop-down list, select a template type: RTF, PDF, Excel, or eText.

  A Template Type can be changed as long as the template is in Creation stage. Once created, the Template Type cannot be modified, and the custom print designer must create a new template (of the desired type) and remove the one that is no longer required.
- **Layout File**: Browse to find and upload the layout files, based on the template type.

Translated XLIFF files for the Template

If you want to internationalize the product, then the translated XLIFF files can be uploaded, for the corresponding languages, in the Translated XLIFF filed for template section.

> **Note**: The languages listed are the active languages selected in the **Configuration - Internationalization** log window, by the administrator.

Click **Apply** when finished.

When you open an existing Custom Print, the Template File tab lists all available templates. The first template is always marked as Default, but you can change the default template.

Modify

Use Modify to modify the existing print template and XLIFF files. You must select an existing file before your can proceed. When you click Modify, the "Modify Template and Files" window opens.

The "Modify Template and Files" window has two sections:

- Template
- Translated XLIFF files for the Template

> **Note**: Required fields are marked with an asterisk (*), or a star.

Template

The Template section contains the following fields:

- **Template Name**: The unique name for the template.
- **Template Type**: This is pre-populated read-only field, based on the selected Template Type.

  A Template Type can be changed as long as the template is in Creation stage. Once created, the Template Type cannot be modified, and the custom print designer must create a new template (of the desired type) and remove the one that is no longer required.
- **Layout File**: Browse to find and upload the layout files, based on the template type. The original custom print file is displayed.

> **Notes**:
>
> - You can modify a BI Publisher Custom Print template only if the

status is set as "Draft."

- You cannot modify a Data Source of a Custom Print template after the Custom Print template has been created.
- You can modify the contents of the Description field at any time.

Translated XLIFF files for the Template

If you want to internationalize the product, then the translated XLIFF files can be uploaded, for the corresponding languages, in the Translated XLIFF filed for template section.

Click **Apply** when finished.

Remove

To remove a Custom Print template, click to select the template, and click **Remove**.

> **Note**: To delete a Custom Print template, you can select the Custom Print template from the log and click Delete. You can delete a Custom Print template regardless of the Custom Print template status.

Download

The Download option allows you to download the template and the corresponding translated XLIFF files. You must select an existing file before your can proceed.

When you click Download, a zip file is generated. The zip file name format must be:

```
Template_<Numeric part of report key>_<File Type>.zip
```

Example

```
Template_483_PDF.zip
```

You can copy a Custom Print template to use as a base for a new Custom Print template.

> **Note**: After copying a Custom Print template, the term, "Copy of" appears at the beginning of the name of the new Custom Print template.

Custom Print Window (Sample Data tab)

You can use the Custom Print window Sample Data tab to download sample data for designing the custom print template file. You can use the XML data to design the print template file in the BI Publisher.

The XML tags in the sample data are displayed for all the fields that are relevant to the selected data source. The XML tags are grouped according to the XML elements or data sets. The data sets displayed in the Sample Data tab are driven by the data source type. For a Workflow BP, the various elements are the upper forms, line items, workflow details, comments, and so forth.

1) In the Sample Data tab click **Generate**.
2) When finished, click **Download**.
3) Click **Apply**.
4) Click **OK**.

Publishing BI Publisher Custom Print

You must publish the BI Publisher Custom Prints in the BI Publisher Server.

To publish a BI Publisher Custom Print:

1) Prepare the custom print.
2) Click **Status**.

   The status of a BI Publisher Custom Print template is either set as Draft, or the status is set as Published. For either case, in order to print the BI Publisher Custom Print template, you must select Publish.

   You can delete a Custom Print template regardless of the Custom Print template status.
3) Select **Publish**.

   After you publish, the system performs validation and if there are no errors the system publishes the Custom Print template and assigns the new Published Date in the log.

Notes:

- If you remove the data elements from the design of the data source that has been used in the BI Publisher Custom Print template, then you must republish the Custom Print template to the BI Publisher server.
- If you add new data elements to the Upper Form, or Detail Form, of the BP Design, then to be able to see and used these new elements of a data schema in the template you must re-publish the Custom Print template and download a new copy of data schema.
- You can update the Custom Print template layout by regenerating the sample data.
- When the status of a Custom Print changes from "Draft" to "Published," Unifier generates the data model with respect to the current BP Design. As a result, if the BP design has changed between the time of first download of the Sample Data and the publishing of the Custom Print, then the developed report Template must be tested again with the new Data XML.

Parameters for External Multiple Custom Print

The following is a list of parameters for the External Multiple type custom print that you need to use in the data model to ensure that the **Bulk Action** (in Tasks and Business Processes logs) works properly:

Parameter Name	Description	Required	Comma Separated Values
`uuu_p_project_id`	Contains the value of the Project IDs	Yes	Yes

`uuu_p_context_company_id`	Contains the value of the customer's Company ID.	Yes	No
`uuu_p_process_id`	Contains the value of the Workflow Process IDs.	Yes Only for Workflow type business processes.	Yes
`uuu_p_source_id`	Contains the value of the Record IDs.	Yes	Yes
`uuu_p_space_source_id`	Contains the value of the space Record ID	Yes Only for Space type business processes.	Yes
`uuu_p_object_type`	Contains the value of the business process ID, in udesigner	Yes	No

Creating BI Publisher Custom Report

o create a new BI Publisher *custom report* configuration:

1) Open **Unifier**
2) Go to **Company Workspace**
3) Switch to **Admin** mode
4) Click **Configuration** to open the node
5) Click **Custom Prints and Reports**
6) From the log window (Custom Prints and Reports - Current View: All) click **New**
7) Select one of the following options to open the Custom Report window:
   - **Report with Internal Data Model**, or
   - **Report with External Data Model**

See the ***Custom Templates (Custom Prints and Reports) Overview*** (on page 108) section for details.

> **Note**: Oracle supports the delivery of BI Publisher reports from P6 in PDF format by way of email, only.

Custom Report Window (General tab)

In the **General** tab, you can define the general custom report information.

1) Enter and select values in the following fields:

> **Note**: Required fields are marked with an asterisk (*), or a star.

- **Name**

  Enter a unique name for the custom report, up to 50 characters (use alphanumeric characters or spaces).
- **Description**

  (Optional) Enter a brief description about the custom report.
- **Data Model Type**

  This is pre-populated read-only field, based on the selected custom report type. The values can either be Internal or External, based on the option selected at the time of creating the custom report.
- **Report Level**

  A drop-down list that allows you to select *Project* for a project-level custom report, *Program* for a program-level custom report, or *Application* for an application-level custom report.
- **Main View**

  A drop-down list that allows you to select a data view to use as the main view of the custom report. The items in the drop-down list are populated with the data views that have been published.

> **Note**: When you are selecting a Main View, ensure that you select a view that has the level-appropriate ID, as a column, in the view definition. For example, if you are selecting a Main View for a Program (report level), the view must have "program_id", as a column, in the view definition.

2) Click **Apply** to continue.

When you click Apply, Unifier processes the information that you have provided and prepares the custom report for publication. As a result of this process, two additional tabs are added to the Custom Report window that require your input:

- Template File tab

  The Template File tab allows you to upload:
  - Multiple templates for the custom report (RTF, PDF, Excel, eText)
  - Data model (.XDM) file (for report with external data model)
- Sample Data tab

  The Sample Data tab allows you to generate the sample XML data which you can use to create layouts for the *custom report*.

See the following topics for details:

- ***Custom Print Window (Template File tab)***
- ***Custom Report Window (Sample Data tab)***

Custom Report Window (Views tab)

On the Views tab, you can:

- Set the views used as data sets (Views used as data sets)
- Determine data links (Data links)

To set additional views, used as data sets, follow these steps:

1) On the Custom Reports window, click the **Views** tab.
2) In the "Views used as data sets" section click **Add** to add a new row to the Views list.
3) In the "View Name" column, from the drop-down list, select a view. The drop-down list displays the available *published* data views.

   In the "View Type" column, double-click the entry to make the cell editable, and select a view type from the drop-down list. You can select one view as the main view, only. The other views are sub-report views.
4) In the "Data Set Name" column, double-click the cell to make it editable, and enter the name of the data set to which this view should belong.
5) In the "Data Set" Tag column, double-click the cell to make it editable, and enter the tag for the data set.
6) To add another view, repeat steps **1** to **5**.

You can enter any number of data views for a custom report and group them into data sets.

Once you have specified the data views and grouped them into data sets, you can link one data set to another in order to extract related information from multiple sources.

For translation-related information about Oracle Business Intelligence Publisher (BI Publisher or BIP) Reports, see the ***Internationalization (BI Publisher Custom Reports)*** section.

> **Note**: For External Data Model based reports, you cannot add or remove views.

You can create only one link level; that is, you can create one "sub-link." You cannot create another link under a sub-link.

To determine data links, follow these steps:

1) In the Data links section of the window, click **Add** to open the Add Link window.
2) In the Source Data Set field, select the name of the data set you want to link to another set. The selection list shows the data sets you created in the upper section of the Views tab.
3) In the Source Element Name field, select the name of the field on the source data set that you want to map to the target data set.

   The element data type must match the data type of the target element; for example, you must match an integer to an integer, a string to a string.
4) In the Target Data Set field, select the name of the data set the source data set should link to.
5) In the Target Element field, select the name of the field on the target set that the source element field should map to.

6) To add another link, click the **Add** button and repeat steps 2 to 5, or click **OK** to save the links the exit the Add Link window.
7) Click **Apply**, and click **OK** to exit the Custom Report window.

Example for creating a data link:

Row	View Name	View Type	Data Set Name	Data Set Tag
0	Invoices	Main View	inv	inv
1	InvoicesLI	Sub Report View	LineItem	LineItem

At this point, set the relationship between the Main View and the Sub Report View that you have added.

1) Go to the **Data Links** section and click **Add**.
2) Link the ID field, from the Invoices Data View, to the RECORD_ID field, from the Invoices Line Item Data View.

   Example

   ```
   Source Data Set: inv
   Source Element Name: INV_ID
   Target Data Set: LineItem
   Target Element: INV_LI_RECORD_NO
   ```
3) Click **OK** to add to add the link.
4) Click **Apply**.

Custom Report Window (Query tab)

When creating, you can specify two types of parameters before running a report:

- Search Parameters

  Use these to filter the SQL results. Data View result rows that do not match the filter will not be sent from Unifier to BI Publisher.
- Additional Parameters

  Use these to pass additional parameters for BI Publisher to consume at runtime. All values are sent from Unifier to BI Publisher for further operation. See Parameters tab below.

Search Parameters

Search parameters allow the report runner to filter the data that gets sent to BI Publisher. For example, a Contract Report may need to be filtered by Vendor or Contract Type. A Ball-in-court report may be filtered for a specific task assignee, or task type.

At runtime, the report runner can select or multi-select from a list of values based on the search parameters specified in the report configuration. This means that Unifier basically runs the Data View before the report is run to give the report runner a list of the SQL results. He can then select or multi-select values from this initial run to filter what will appear in the report output. For more information on the Search Parameters, see "Add query parameters to custom report (Query tab)" in the Unifier Help.

On this tab, you can add query parameters to the configuration. The query parameters are created on the columns of the main view, selected for the Custom Report. At runtime, these parameters appear in the Search Parameters block.

To add query parameters to the custom report

1) On the Custom Reports window, click the **Query** tab.
2) Click the **Add** button. The Add Query window opens. Complete the window:
   - **Element Name:** Click the drop-down list and choose from the elements (all columns from the main view).
     - **Label:** Enter a label to use for the Element Name. This label appears to the user at runtime.
     - **Operator:** Select the appropriate operator to use for the query. The operators will depend on the data type of the element chosen.
     - **Source Type:** This is the source of the value. Choose one of the following:
     - **Data Definition:** Allows you to choose a data definition. The following field becomes available:
     - **Select Definition:** Select from the drop-down list. The list displays data definitions defined in the company that apply to the type of element chosen. (For example, if you choose a pull-down or radio button, the data set values defined for the data definition will be displayed to the user at runtime.) This allows you to use existing data definition values, rather than entering them manually (see Ad Hoc below).
   - **View:** Allows you to compare columns in your current view against another view chosen here. The following fields become available:
     - **Select View:** Lists all published data views. Choose the view to compare.
     - **Value Column:** Lists the columns for view chosen in Select View. This is the column that will be compared.
     - **Label Column:** What you choose here will be displayed to the user at runtime.
     - **Context Sensitive:** If this checkbox is selected, the results will automatically apply the filter for project_id at runtime (results will be for the current project only).
   - **Ad Hoc:** Allows user to select values in User Mode from selection list. If you choose this option, you must specify the list of values here. This is similar to defining a data definition data set.
     - Click the **Add** button. The Ad Hoc window opens.
     - Click **Add**. A new row is added.
     - Enter a **Value** and **Label**.
3) You can modify the query parameters by doing the following:
   - Delete a row by selecting it and clicking **Remove**.
   - Modify parameter by selecting a row and clicking **Modify**.
   - Change the order of the query parameters (as they appear in User Mode), by selecting a row and clicking **Move Up** or **Move Down**.
4) When done, click **Apply** to save changes. You can click **OK** to save and exit, or click another tab to continue to define the configuration.

Custom Report Window (Parameters tab)

If the report designer has defined a formula using parameters with the same name that was used in the Parameters tab, then it will be displayed on the report at runtime. In User Mode, these parameters appear in the Additional Parameters block.

Additional Parameters

Additional parameters allow the report runner to specify parameters that can be used at report runtime to alter how the data is displayed.

Unlike Search Parameters:

- Additional Parameters only support entering text. You cannot select or multi-select values from Unifier.
- Additional Parameters allow us to specify a default value so that the user only needs to change the value if needed.

A good example of where to use Additional Parameters is for calculations, for example, when you enter a target future exchange rate. You can also use Additional Parameters for conditional highlighting so that only rows over/under a certain value are highlighted.

Note: In the section Conditional Formatting, You need to hard-code a value (for example, 10,000).

To add additional parameters to the custom report:

1) On the Custom Reports window, click the **Parameters** tab.
2) Click **Add** to add a new row. Enter the following information.
   - **Name:** Double-click in the field to make it editable. The Name entered here must match the parameter name used in the BIP report. The behavior and default values for the parameters specified here can be applied automatically to the report at run time.
   - **Editable:** If this checkbox is selected, the field will be editable in User Mode. If not, the field is read-only.
   - **Hidden:** If selected, the field will be hidden in User Mode. The report may still use the parameter at runtime, depending on the design.
   - **Label:** Defines the label of the parameter field in User Mode.
   - **Default:** You can enter a default value that will be used in User Mode.
3) To delete a row, select it and click **Remove**.
4) Click **Apply** to save changes. You can click **OK** to save and exit, or click another tab to continue to define the configuration.

Predefined BI Publisher Parameter Examples

The name for a Parameter is mapped to a BIP parameter based on the format:
`:uuu_p_{Parameter Name}`

Note: Ensure the length of {Parameter Name} is less than 24 characters.

Any parameters created on the Parameters tab also need to be appropriately added into the Parameters tag in the .XDM file.

Predefined Unifier Parameters

Predefined parameters are reserved for Unifier to pass the runtime values to BI Publisher runtime context.

Here is example from a XDM file.

```
<parameters xmlns="http://xmlns.oracle.com/oxp/xmlp">

  …

   <parameter name="uuu_p_context_project_id" dataType="xsd:string"
rowPlacement="7">

     <input label="context project id" size="10"/>

   </parameter>

   <parameter name="uuu_p_context_program_id" dataType="xsd:string"
rowPlacement="8">

     <input label="context program id" size="10"/>

   </parameter>

   <parameter name="uuu_p_reportByF" dataType="xsd:string"
rowPlacement="9">

     <input label="uuu_p_reportByF" size="20"/>

   </parameter>

   <parameter name="uuu_p_timeZoneF" dataType="xsd:string"
rowPlacement="10">

     <input label="uuu_p_timeZoneF" size="20"/>

   </parameter>

   <parameter name="uuu_p_diffMinutesF" defaultValue="0"
dataType="xsd:string" rowPlacement="11">

     <input label="uuu_p_diffMinutesF" size="20"/>

   </parameter>

   <parameter name="uuu_p_sysyTimeZoneID" dataType="xsd:string"
rowPlacement="12">

     <input label="uuu_p_sysyTimeZoneID" size="20"/>

   </parameter>

   <parameter name="uuu_p_searchConditionF" dataType="xsd:string"
rowPlacement="13">

     <input label="uuu_p_searchConditionF" size="50"/>

   </parameter>

   <parameter name="uuu_p_urlF" dataType="xsd:string" rowPlacement="14">

     <input label="uuu_p_urlF" size="40"/>
```

```
   </parameter>
   <parameter name="uuu_p_sessionIdF" dataType="xsd:string"
rowPlacement="15">
     <input label="uuu_p_sessionIdF" size="50"/>
   </parameter>
   <parameter name="uuu_p_companyRegistryF" dataType="xsd:string"
rowPlacement="16">
     <input label="uuu_p_companyRegistryF" size="50"/>
   </parameter>
```

The following is an example for how to use the predefined BI Publisher Parameters to display an image in the Report layout:

1) Create Form fields in the .rtf.
2) In the `HelpText` of the form field, define variable matching the parameter names used in the image URL.
3) Right-click the dummy image and select **Size** (and its **AltText**), then enter the following content:

   ```
   url:{concat($uuu_p_urlF,'companyRegistry=',$uuu_p_companyRegistryF,'
   &sessionId=',$uuu_p_sessionIdF,'&id=',PROJECTIMAGE)}
   ```

   > **Note**: The uuu_p_* are the predefined parameters in the data model. They are also the variable names defined in the RTF form fields. The PROJECTIMAGE is the element for image file ID from Unifier.

   In the `HelpText` of the form field enter:

   ```
   <?variable@begin:uuu_p_urlF;(.//uuu_p_urlF)[1]?>
   ```

Custom Report Window (Template File tab)

The **Template File** tab allows you to upload:

- Multiple templates for the custom report (RTF, PDF, Excel, eText).
- Data model (.XDM) file (for report with external data model)
- XLIFF translation files

Use this tab to add, modify, remove, or download files and click **Apply** when finished.

You can build a Rich Text Format (RTF) report template and upload the template to your Custom Report in Unifier.

To create a simple RTF template:

1) Open Microsoft **Word**.

   The application must have the Microsoft Word BI Publisher plug-in installed. See Download and Install BI Publisher Desktop for Microsoft Office.
2) Click the **Word BI Publisher** ribbon.
3) Click **Sample XML** to import your sample data and wait until the data is loaded successfully.

> **Note**: You may need to complete the **General** tab first and click **Apply** before this tab appears.

Custom Report Window (Sample Data tab)

The Sample Data tab allows you to generate the sample XML data, which you can use to create layouts for the custom report. In the case of an external data model-based report, the report must have been published to the BI Publisher server at least once before the sample XML data can be generated.

> **Note**: Depending on the Report Level that you have selected in the General tab, the fields and selections in this tab changes.

1) In the Sample Data tab select a sample, determine the number of rows that you want to see, and click **Generate**.
2) When finished, click **Download**.
3) Click **Apply**
4) Click **OK**

Download and Install BI Publisher Desktop for Microsoft Office

To download and install BI Publisher desktop for Microsoft Office:

1) Download **Oracle BI Publisher Desktop for Microsoft Office** from: http://www.oracle.com/technetwork/middleware/bi-publisher/downloads/index.html

   Ensure that you choose the BI Publisher Desktop version (32bit vs. 64bit) based on your version of Microsoft Office 32 bit or 64 bit.

   > **Tip**: If your Microsoft Word executable is found at `C:\Program Files (x86)\Microsoft Office\Office12\WINWORD.EXE`, then you have the 32 bit version).

2) Run the installer.

   No additional setup is required after running the installer. To ensure that the installation was successful, check to see that the plug-in has been added to your Microsoft Word user interface. The BI Publisher ribbon appears after launching Microsoft Word.

(Optional) SQL Text Editor

Once you start to write more complex reports, having a text editor that highlights SQL keywords can make a big difference. For your needs, a simple editor such as Notepad++ would suffice. Ensure that you set the Language to SQL. You can copy the queries developed through the text editor and paste them into the Data View window.

(Optional) SQL Developer

You can download Oracle SQL Developer from:
http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html

1) Download the first option in the list: Windows 64-bit - zip file includes the JDK 7
2) Extract the file onto your computer (for example, `C:\Oracle\sqldeveloper\`)
3) Run **sqldeveloper.exe**

Building Report Template (RTF)

You can build a Rich Text Format (RTF) template and upload the template to your Custom Report in Unifier, and generate live reports.

Using Invoice as an example, the following explains how to build a simple RTF template (non-tabular report).

To create a simple RTF template:

1) Open Microsoft **Word**.

   The application must have the Microsoft Word BI Publisher plug-in installed. See Download and Install BI Publisher Desktop for Microsoft Office.
2) Click the **Word BI Publisher** ribbon.
3) Click **Sample XML** to import your sample data and wait until the data is loaded successfully.

> **Note**: Alternatively, you can use a template file (for example, A Word template file from your customer).

4) Click **Repeating Group** to generate a loop on each Invoice. The Repeating Group window opens.
5) In the **For Each** field, enter a value in the Data Set Name for each of the Invoices that you chose, when defining your Custom Report (for example, inv). This does not apply to the Invoices Line Items.
6) In the **Group By** field, select a field for your Invoice loop. Use the `INV_ID` because it is a unique identifier for each Invoice.
7) (Optional) Insert a page break after each Invoice to keep your report formatted.
8) (Optional) Select the Data already sorted option. You can select this option because you have already sorted your data in your SQL statement, using: ORDER BY.
9) Click **OK**.

   The BI Publisher plug-in application adds a code to the document which includes: a start (for-each), a page break (page break), and an end (end) for your Invoice loop.
10) Add a blank line after "for-each" operator to make room for your Invoice information.
11) Click the field icon (**ab|Field**) to open the field browser.

    The field browser window enables you to add fields from you XML sample data file.
12) After each "for-each" operator, double-click **Inv_Record_No** in the field browser.
13) Add a hyphen (–) [n-dash] after the record number.
14) Double-click **Inv_Title** to add the Invoice title.

    Example

    ```
    for-eachINV_RECORD_NO-INV_TITLE
    ```

```
page breakend
```

15) (Optional) Run the report by clicking PDF on the Word BI Publisher Ribbon (Word will prompt you to save your RTF file if you have not, already).

The first report is now ready.

The report only has the Invoice record number and title for each Invoice in your sample XML (the approved and pending ones because: `WHERE inv.STATUS = 'Approved' OR inv.STATUS = 'Pending'` in our SQL statement).

You can continue to build on the generated report by adding additional fields from the Upper Form of the Invoices BP, as well as headers, footers, formatting, and so forth.

Creating a Report with Line Items

You can use the Table Wizard to create a report with all the Line Items.

Using Invoice as an example, the following explains how to create a report with Line Items:

1) Add a blank line after `for-eachINV_RECORD_NO - INV_TITLE` operator and leave your cursor.
2) Click **Table Wizard** on the Word BI Publisher Ribbon.
3) Select **Table** as your Report Format and click **Next**.
4) Select **/DATA_DS/Inv/LineItem** as your Data Set (or the name that you had given your Line Item data set).
5) Select the fields that you want to add to the table. Since this is for the Invoice line items, you must only add fields that are specific to the line items.

   If you need to add a field for "group on" (for example, Inv_Li_Record_No), the grouping process is similar to the process explained in the preceding section. Since you have grouped the records by Invoice in the preceding section, you can leave the value blank.

   The order of the selected columns must match the order that you want in your table, except for the column that you use for grouping, which is outside the table. In the "Which fields do you want to show in your report" window, match the order as shown here:

   `Inv Li Record No` --> In Li Record

   `Inv Li No` -->Inv Li No

   `Inv Li Desc` --> Inv Li Desc

   `Inv Li Unit Price` --> Inv Li Unit Price

   `Inv Li Quality` --> Inv Li Quality

   `Inv Li Amount` --> Inv Li Amount

   `Inv Li Uom` --> Li Uom

   `Code` --> CodeInv

   `Item` --> Item
6) In the "How would you like to group your report" window, leave every option as is because you have already grouped your data by Invoice in the preceding section.

7) In the "Which fields would you like to user to sort the data" window, within each table, sort the lines by Inv_Li_No (Invoice Line Item Number). Specify that this is a Number so that it is sorted correctly.
8) Click **Finish**.

The Table Wizard inserts the table and the necessary code:

```
for-eachINV_RECORD_No - INV_TITLE
```

Inv Li No	Inv Li Desc	Code	Item	Inv Li Quantity	Inv Li Uom	Inv Li Unit Price	Inv Li Amount
F INV_LI_NO	INV_LI_DE SC	CODE	ITEM	INV_LI_QUANTITY	INV_LI_UOM	INV_LI_UNIT_PRICE	INV_LI_AMOUNT E

```
page breakend
```

You must run the report to see what information is generated. While the data is correct, you need to work on formatting the data. See Formatting Data for details.

Formatting Data

To format the data generated:

- Provide a descriptive text (not SQL column names) for Column titles.
- Adjust the Column widths.
- Apply general table coloring (borders and shading, font sizes, cell alignment, etc.).
- Ensure that the "dollar" format is used for the two price columns (for example, $110.00). See the details that follow.
- Add useful information, from the Upper Form of the Invoice, above the table. See the details that follow.
- Provide a "Total" for the amount column. See the details that follow.

Once finished, generate a PDF and repeat the process if necessary.

To change the formatting of the Price & Amount columns (for example, 110.0 > $110.00):

1) Double-click on **INV_LI_UNIT_PRICE** (the code under the Unit Price field) to launch its BI Publisher properties.
2) Change the Formatting Type to **Number**.
3) Set the Formatting Format to **$#,##0.00;($#,##0.00)** (paste in the blue text).
4) Repeat the preceding steps for the Amount column.

To add useful information, from the Upper Form of the Invoice, above the table:

> **Note**: Tables are efficient formatting tool for organizing data from the Upper Form. Include separate columns for the field name (align right) and the field value (align left). You can also hide the borders if you prefer.

1) Create a 4-row and 2-column table and add field names.
2) Place your cursor where the first inserted field value must be entered.
3) Click the field icon (**ab|Field**) to open the field browser and add fields from your XML sample data.
4) Add useful information such as Creator, Email, and Status (or other fields you added to your SQL statement) above our Line Item Table.
5) Double-click on the correct field value from the Field window to add the Title to the report (for example, add Invoice title in the Title field).

To provide a "Total" for the amount column, using Invoice as an example:

1) Right-Click somewhere in the last row of your Invoice Line Item table and select **Insert** > **Insert Rows Below**.
2) Highlight all the columns in the new row, except for the last one, and **Merge** the cells (from the right-click menu).
3) Click in the newly created cell and enter: Total
4) Right-align the cell.
5) Place your cursor into your last column of the new row.
6) Click the field icon (**ab|Field**) to open the field browser and add fields from your XML sample data.
7) Click **Inv_Li_Amount** column to highlight.
8) Set the calculation (at the bottom) to **Sum**.
9) Click **Insert** to add the calculation into the table.
10) (Optional) Select the Total row and make the text bold.

Adding Summary Page to Report

Your report lists details. The Summary page contains a table with a summary of all the details (for example, Invoices) as well as charts to add graphical information.

To add a summary page to your report, using Invoice as an example:

1) Add Project information.

   In preceding sections, you have set your template to loop through each Invoice. In order to create a summary page, you need to include the following information:

   a. Using Word, insert a page break before the "for-each code" at the top of the document. Do not use the page break command in BI Publisher.
   b. Add a title to the Summary page (for example, Invoice Report).
   c. Click the field icon (**ab|Field**) to open the field browser and add information about the project, if you have not done so in your SQL statement.
   d. Add additional information about the Project below the title (in a table) such as the Project number, Project name, Start/End dates and Initial/Revised budgets.

e. Format dollar values as numbers with the formatting **$#,##0.00;($#,##0.00)**. You can format dates as type Date using date formatting options such as: MM/dd/yyyy

2) Add Summary table.

A summary table contains the Invoice data that goes in the report. You can use the Table Wizard, similar to the process in the "Creating a Report with Line Items" section.

a. Place the cursor on a new line under the table on the title page, where you want your table of Invoices to appear.
b. Click **Table Wizard** on the Word BI Publisher Ribbon.
c. Select **Table** as your Report Format and click **Next**.
d. Select **/DATA_DS/Inv** as your Data Set (or the name you used in your Invoice data set).
e. Select the fields that you want to add to the table. Since this is for the Invoice, you must only add fields that are specific to the Invoices and not the Invoices Line Items.

   You do not need to group because your SQL statement provides one line per Invoice.
f. Sort by Invoice Record Number, in the "Which fields would you like to use to sort the data?" window.
g. Click **Finish**. The Table Wizard inserts the table and the necessary code.
h. Format the data. See Formatting Data for details on how to format the data.

Adding a Chart

Using Invoice as an example, you can include a chart in the summary page to demonstrate how the Invoices are split.

There are several chart types available in BI Publisher. The following is for creating a Pie-chart.

To add a pie chart:

1) Place the cursor above the summary table. The goal is to include the chart between the Project summary table and Invoice summary table because the table can get long and expand to the next page.
2) Click **Chart** on the Word BI Publisher Ribbon.
3) Set the **Chart Type** (on the right) to **Pie Chart**.
4) (Optional) Select one of the Chart Styles.
5) Drag **Inv_Amount** from the Data tree to the Values box to ensure that the size of each pie slice is determined by the dollar amount of the Invoice.
6) Drag **Inv_Title** from the Data tree to the Labels box to ensure that the:
   - Pie slices are determined by Invoice
   - Invoice Title appears in the legend
7) (Optional) Click **Preview** (top right corner) to see a preview of the chart and make changes if necessary.
8) (Optional) Use the Properties table on the right side to set Chart Title, Legend properties, and so on.
9) Click **OK**. You change the chart settings by double-clicking the chart in the template.
10) (Optional) Add spacing between the chart and the two tables and center-align the chart.

Adding Headers and Footers

Use a 3-column table in the header and footer of your template to allow for a uniform adjustment of items such as titles, logos, and page numbers. Use Microsoft Help to learn how to add the first page to your document that does not include Header or Footer.

Adding Images from Unifier

> **Note**: Microsoft Word does not support form fields in the header and footer. If need to add an image to the header or footer of your Custom Report and you want the image to repeat on each page, see the "Adding BI Fields to the RTF Header or Footer" section.

To add an image (Examples: Company logo, Shell image, or image picker from a BP record: jpg, gif, or png) from Unifier into your Custom reports, use the Sample XML file (Sample Data) that you have created and exported into Unifier.

> **Note**: Company logo cannot be displayed in Unifier interface. Create a company-level business process to place your Company logo.

The following shows the procedure by using an example:

1) Open the XML file.
2) On top, identify the XML elements that are blank (shown in **bold** in the following code).

```
<?xml version="1.0" encoding="UTF-8"?>
<DATA_DS>
<uuu_p_reportByF></uuu_p_reportByF>
<uuu_p_timeZoneF></uuu_p_timeZoneF>
<uuu_p_diffMinutesF>0</uuu_p_diffMinutesF>
<uuu_p_sysyTimeZoneID></uuu_p_sysyTimeZoneID>
<uuu_p_searchConditionF></uuu_p_searchConditionF>
<uuu_p_urlF></uuu_p_urlF>
<uuu_p_sessionIdF></uuu_p_sessionIdF>
<uuu_p_companyRegistryF></uuu_p_companyRegistryF>
<inv>
  <PROJECT_ID>1012</PROJECT_ID>
  <INV_ID>1</INV_ID>
  <INV_RECORD_NO>INV-001</INV_RECORD_NO>
  <INV_TITLE>Lumber Contract - Initial Invoice</INV_TITLE>
  <INV_STATUS>Approved</INV_STATUS>
```

> **Note**: At runtime, these blank elements are fully populated with information about the Unifier server base URL, the User's session ID, and the Unifier company registry.

3) Using the included parameters, plus the ID of a specific image (the image that you want), construct a URL of the format:

```
<uuu_p_urlF>CompanyRegistry=<uuu_p_companyRegistryF>&sessionId=<uuu_p_sessionIdF>&id=<image_ID>
```

> **Note**: To build a similar URL in your BI Publisher report, ensure that you have the Image ID because the other three parameters have already been identified.

4) Access the Image ID of the image that you want and:

> **Note**: If applicable, you can find the Company logo Image ID in the companylogo column of the table sys_company_info.

   a. JOIN the information into your existing Data Views.

   or

   b. Add the information as a new Data View, which you can add as a Sub-Report View to any Custom Report. The SQL to create a new Data View:

```
SELECT companylogo
FROM sys_company_info
WHERE companyregistry = 'unifier';
```

5) Define the variables:

Once you have an Image ID, you must define the variables needed to build the image URL by hiding the variables in a Data Field:

   a. Add a data field somewhere at the top of your report. This can be any field. You only need a placeholder for your variables.

   b. Double-click on the newly added data field and click the **Advanced** tab. Delete the text in the code box, if any.

   c. Add the following text into the code box:

```
<?variable@begin:uuu_p_urlF;(.//uuu_p_urlF)[1]?>
<?variable@begin:uuu_p_companyRegistryF;(.//uuu_p_companyRegistryF)[1]?>
<?variable@begin:uuu_p_sessionIdF;(.//uuu_p_sessionIdF)[1]?>
<?variable@begin: image;(/DATA_DS/co/COMPANYLOGO)?>
```

Notes:

- If you are adding a Shell image or Image Picker Data Element, you do not need that last line. Add the last line only if you have created a Company log Data View (If applicable, you can find the Company logo Image ID in the companylogo column of the table sys_company_info).
- The example code presumes that you added an unlinked Sub Report View with the Data Set Tag "co" (for Company). You can change the Data Set Tag "co" (for Company) to the value that you have in the last column of Company Logo row in the Views used as data sets table on the Views tab of the Custom Report dialog.
- If you want to insert the Project Shell ID, you must access that variable. Depending on where you are in your grouping, the variable can be: `<?variable@begin:image;(SHELLIMAGE)[1]?>`

To access the Project or Shell Image ID:

1) Go to table: **unifier_shell_info**.
2) Identify the **shellimage** column of the table. The Project or Shell Image ID is in the shellimage column.

You can JOIN this table to your main report view based on the **unifier_shell_info.pid** column, which contains the project ID.

After you defined your variables, you can add an image. The BI Publisher leverages the Alternative Text of an image to dynamically set the image source. For more information, refer to the *BI Publisher Report Designer's Guide*.

To add a dummy image:

1) Create an image (for example, Dummy_Image.jpg) and size it appropriately (for example, 300 x 200 px).
2) Right-click on the image and select Size…
3) Click the Alt Text tab of the Size dialog
4) Paste the following into the Alternative Text box:
```
url:{concat($uuu_p_urlF,'companyRegistry=',$uuu_p_companyRegistryF,'
&sessionId=',$uuu_p_sessionIdF,'&id=',$image)}
```

Note: The last parameter ($image) was set as a variable to either the Company logo or the Project or Shell image. You must adjust the parameter if you want to include both images. Ensure that you use separate variable names for each.

To test an image:

The three parameters that you used to build your URL to the image are not downloaded as part of the sample data:

```
uuu_p_urlF
uuu_p_sessionIdF
```

```
uuu_p_companyRegistry
```

You must upload your RTF template to Unifier, publish the Custom Report, and then run the report to ensure that your image was inserted successfully.

Adding BI Fields to RTF File Header or Footer

Microsoft Word does not support form fields in the header and footer. As a result, you need to populate the headers and footers with text or images from Unifier. Refer to the *BI Publisher Report Designer's Guide* for more details.

To populate the headers and footers with text or images from Unifier, follow these steps:

1) At the top of our RTF template (in the body, not the header), place the following tags:
   `<?template:header?>`
   `<?end header?>`
2) These tags form the start and end of our header. In between them, place the text and images want to include in the report header. Use a 3-column table in the header and footer of your template to allow for a uniform adjustment.
3) Double-click into the header of the document. Ensure that none of the BI Publisher fields are highlighted.
4) Add the text: <? call@:header?> to place everything in the tags added above into the header at report runtime.

Importing Template into Unifier

After you have completed creating your Template, you can upload your template into Unifier.

To upload your template into Unifier:

> **Note**: Invoices is used as an example.

1) Sign in to **Unifier** as a Company Administrator and go to the **Company** tab (Company Workspace), ensure that you are in Administration mode > **Configuration** > **Custom Reports**.
2) Open your Invoices Custom Report.
3) In the **Report File** tab (consisting of Add, Modify, Remove, and Download options)
   a. Click **Add** to open the template window.
   b. Enter information in the following fields: Template Name, Template Type, and Report Layout File.
      - To localize the Custom Report output for different languages, you can provide XLIFF files for RTF-type templates here.
      - The Template Name field accepts spaces and other characters.
   c. Click **Browse** to select the template file for uploading.
   d. Click **OK** to confirm the upload.
4) Click **Browse** and upload the RTF file.
5) Click **OK** to close the window.
6) **Publish** your report by selecting your report from the log and selecting **Status** > **Published** from the toolbar.

Your report is added to list and Users can access the report from Projects, if they have the appropriate permissions.

Adding a Report to Navigator

To add your report to the Navigator:

1) Sign in to **Unifier** as a Company Administrator and go to the **Company** tab (Company Workspace), ensure that you are in Administration mode > **Configuration** > **Navigator** (User mode).
2) Open your Project or Shell Navigator. You must be able to see your Custom Report on the right-hand side. If you do not see your Custom Report ensure that you have published the report. See Importing Template into Unifier.
3) Add your Custom Report to the Reports section on the left-hand side (in the Navigator, you can create a new subfolder under Reports called Advanced Reports).
4) Click **OK** to close the window.
5) Deploy the Navigator by highlighting it and clicking **Deploy** from the toolbar.

Setting Permissions on Report

You must give permissions to users so that they can run the new, custom report.

You can give permissions using a Project template (to distribute the permission to all projects), or do it on case-by-case bases, one project at a time.

To set permissions:

1) Sign in to **Unifier** as a Company Administrator and go to the **Company** tab (Company Workspace), ensure that you are in Administration mode > **Company Sponsored Shells** > **Projects**.
2) Find your Project (the project that you want to add the Custom Report to) and open.
3) Click **Access Control**.
4) Go to the Custom Report, click the report to open the Permission Settings window.
5) Add View access for any Users or Groups that you want to be able to run the Custom Report in your Project.

Repeat the preceding steps if you want to add your Custom Report to other Projects.

Running the Report

To run your Custom Report:

1) Navigate to you Project that has your Custom Report (for example, The Project with Invoice BPs created and in an approved or pending state)
2) Run the report.

Advanced BI Publisher Functions

The following topics explain the advanced functions of the BI Publisher.

Conditional Formatting

With BI Publisher, it is easy to use conditional formatting to highlight table cells or entire table rows using conditional formatting.

Example

Highlight invoices with an amount over $10,000.

Highlighting a Table Cell

1) After you create a table, place the cursor in the cell where want to apply conditional formatting.

> **Note**: The cell must be either text or a Data Field.

2) Click **Conditional Format**. The BI Publisher Properties window open on the Properties tab.
3) From the Data field drop-down list select the data element that you want to evaluate to determine the conditional highlighting. This does not need to be the same data field in the cell that you are trying to highlight.
4) Specify whether that Data Field is a Number or Date/Text Field.
5) Enter the conditions for this Data Field using the pertinent drop-down list.
6) For each condition, specify the formatting that you want to be applied when that condition is met.

Only two conditions can be entered by using this window. If you have more than two conditions, you can click on the Advanced tab and copy/paste the conditions already entered to create additional conditions. Ensure that you copy an entire "if" statement, up to and including the "<?end if?>"

Example

```
<?if:number(INV_AMOUNT)>10000?><?attribute@incontext:background-colo
r;'#FFB9B9'?><?end if?>
```

Highlighting an Entire Table Row

To highlight an entire table row, follow the preceding instructions; however, ensure that you select **Apply to Entire Table Row**.

Publishing BI Publisher Custom Report

To publish a BI Publisher Custom Report:

1) Prepare the custom report
2) Click **Status**
3) Select **Publish**

Making a New Custom Report or Custom Print Appear in Unifier Navigation

To make newly defined reports appear:

1) Go to the **Company Workspace** tab and switch to the **Admin** mode.
2) Navigate to **Configuration** > **User Mode Navigator**.

> **Note:** If the company does not use **User Mode Navigator**, you will be able to see the report name under **Access Control** of the project or program.

3) Open the project/shell **User Mode Navigator**.
4) In the dialog box, find the newly created BIP reports on the right side and move them to the left side under **Reports** > **Custom**.
5) Save the changes and close the window.
6) Select the project/shell **User Mode Navigator** and click the **Deploy** button to ensure the changes take effect.

> **Note**: BI Publisher User Group requirement: To be able to create reports, users must be added to BI Publisher Author user group through IDCS.

Setting Permissions for Custom Reports

To set permissions for Custom Reports:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Access Control** in the left Navigator. In the **Access Control** log window, there are two modules:
   - **Administration Mode Access**
   - **User Mode Access**

   If the reports are at the Program level, in the right pane, select **User Mode Access** > **Programs** > **Reports** > **Custom** > `<report name>`.

   If the reports are at the Project level, in the right pane, select **User Mode Access** > **Shells/Projects (Standard)** > **Reports** > **Custom** > `<Report Name>`.
3) Select the access for the appropriate user.
4) Click **OK**.

> **Notes**:
>
> - A user with the configure permission to the **Custom Report** node, can configure custom print templates. There are no separate permissions for performing actions on the custom print templates.
> - If you have a **User Mode Navigator**, you must include the **Custom Report** in the navigator and redeploy before the user can assign permission through **Access Control**.

Running a Report in Unifier

To run the BI Publisher Report in Primavera Unifier:

1) Sign in to your Unifier environment.
2) Select a Project or Shell.
3) Ensure you are in **User** mode.
4) Under the Project/shell navigation tree, select **Reports**, **Custom node**.
5) Select a report and a dialog box will open.
6) In the dialog box, enter the search conditions and click **Report** to run the report.

Uploading a Template for External Data Model Type Custom Report

To upload a template for External data model type custom report:

1) In the Report file tab click the **Add/Modify** button.
2) Click the **Browse** button, navigate to the .XDM file you want to use for the data model, and click the **Upload** button.

   Unifier uploads the data model for the report to the BI server.
3) (Optional) To modify the data model, you can download it to your local drive by clicking the **Download** button.
4) Click **OK**.

You need to upload the Data Model file (.XDM) from the custom report **Template File** tab, using the following parameters:

- `uuu_p_project_id`

  Project ID
- `uuu_p_context_company_id`

  Company ID
- `uuu_p_process_id`

  Workflow process ID
- `uuu_p_source_id`

  Business process record ID
- `uuu_p_object_type`

  Business process id as in uDesigner
- `uuu_p_hide_task_details`

  To hide the task status if the user does not have permission. The value of 0 is passed if the user does not have permission to view the task statuses
- `uuu_p_hidden_comments`

  To view the hidden comments, if the user has the permission. The value of 1 is passed if the user has the permission to view hidden comments

These parameters are used to pass information from the Unifier runtime to the BI Publisher server (integration at runtime).

Downloading Sample XML Data for Designing New Templates

This part of the **Sample Data** tab is for downloading sample data to use in designing a new report template file. You can download data from a specific project.

To download sample XML data for designing new templates:

1) (Optional) In the **Sample Project** field, select the project or shell data you want to generate.

   If you do not specify a sample project or shell, Unifier will use data from the main view that was specified on the Views tab.
2) In the **Number of rows to return** field, specify the number of rows of data you want to use for designing the template.
3) Click the **Generate** button. This button is disabled in case of external data model report until the report has been published at least once.

   Unifier generates a random sample of the XML from the Sample Project, or the main view of data.
4) Click **OK**.

   You can then use this XML data in BI Publisher to design the template file.

Modifying Existing XDM for Custom Report or Custom Print Configuration

Changes to the Data view, Data Set, Query and Parameters are not applied to the XDM file by Unifier. Users need to apply those changes manually to the XDM file.

Data View

If a data view is changed, it may require a modification in the XDM file. For instance, if a new column is added and it is required in the layout of the report, then the column must be added into the query in the data set in the XDM file.

Main View for Data set

If a main view is changed for the data set, it requires a modification in the XDM file to reflect the change in the From clause of the query of the main data set.

Query Parameter

The Element name for a Query is mapped to a BI Publisher parameter based on the format:

```
:uuu_p_{Element Name}
```

> **Note**: Ensure the length of {Element Name} is less than 24 characters.

Any query parameters created on the elements of the main view on the query tab also need to be appropriately mapped in the Where clause of the main view query in the XDM. Refer to Adding or Modifying Unifier report parameters section of the Unifier Reporting using BI Publisher 11g document.

To modify an existing custom report configuration:

1) Go to the Company Workspace tab and switch to Administration mode.

2) Click **Configuration** > **Custom Templates** in the left Navigator to open the log.
3) Select a custom report and click **Open** to open the custom report window.

> **Note**: The custom report must be in Draft status for modification.

4) Modify the fields as necessary. All fields except the "Report Level" can be modified, as long as the custom report has not yet been published. Once the report has been published, the "Report Name" files also becomes un-editable.

Adding a Dynamic Image in the Custom Print Template

To add images from within Unifier to the Custom Print template:

1) Create form fields in the **.rtf** file, corresponding to the following parameters:
   - `<?variable@begin:uuu_p_urlF;(.//uuu_p_urlF)[1]?>`
   - `<?variable@begin:uuu_p_sessionIdF;(.//uuu_p_sessionIdF)[1]?>`
   - `<?variable@begin:uuu_p_companyRegistryF;(.//uuu_p_companyRegistryF)[1]?>`

> **Note**: The `uuu_p_*` is a predefined parameter in the data model.

1) Right-click the dummy image and select Size and provide the following value in the Description field of the AltText information for the image:

   Description:
   url:{concat($uuu_p_urlF,'companyRegistry=',$uuu_p_companyRegistryF,'&sessionId=',$uuu_p_sessionIdF,'&id=',**BPIMAGE**)}

   For example, you must replace the <**BPIMAGE**> data element, in the above URL value, with the image file ID "k__<image element>" from the sample XML. See ***Sample XML Data for Custom Templates (Custom Prints and Reports)*** (on page 118).

Adding a Dynamic Image in the Custom Report Template

To add images, from within Unifier, to the Custom Report template:

1) Create form fields in the **.rtf** file, corresponding to the following parameters:
   - `<?variable@begin:uuu_p_urlF;(.//uuu_p_urlF)[1]?>`
   - `<?variable@begin:uuu_p_sessionIdF;(.//uuu_p_sessionIdF)[1]?>`
   - `<?variable@begin:uuu_p_companyRegistryF;(.//uuu_p_companyRegistryF)[1]?>`

> **Note**: The `uuu_p_*` is a predefined parameter in the data model.

2) Right-click the dummy image and select Size and provide the following value in the Description field of the AltText information for the image:

   Description:
   url:{concat($uuu_p_urlF,'companyRegistry=',$uuu_p_companyRegistryF,'&sessionId=',$uuu_p_sessionIdF,'&id=',**PROJECTIMAGE**)}

For example, you must replace the <**PROJECTIMAGE**> data element, in the above URL value, with the image element taken from your sample data XML. See ***Sample XML Data for Custom Templates (Custom Prints and Reports)*** (on page 118).

Adding a Dynamic Image in BI Publisher Report

To add a dynamic Unifier image in BI Publisher report, we need to create a new data set in the Data Model (XDM) file, as explained below.

> **Note**: The following instructions apply to reports that are executed on BI Publisher server, directly. The BI Publisher reports run via Unifier does not need to make these changes.

In the .XDM file:

```
<dataSet name="security_token" type="complex">
         <sql>
            <![CDATA[SELECT token_value sec_token from ( SELECT
token_value,expired,ROW_NUMBER() OVER (ORDER BY expired desc) rn FROM
sys_server_token WHERE token_type = 'img') where rn = 1]]>
         </sql>
</dataSet>
<group name="security_token" label="security_token"
source="security_token">
      <element name="SEC_TOKEN" value="SEC_TOKEN" label="SEC_TOKEN"
dataType="xsd:string" breakOrder="" fieldOrder="1"/>
</group>
```

> **Note**: The purpose is to get the server token from database where "expired" is the maximum from all the rows.

In the report template that requires to have the image to be inserted, change the "Alt text" of the image to point to image retrieval URL.

To retrieve a Unifier image, use the URL: `https://unifier-server-address /bluedoor/rest/image/<image_id>/<server_token>`

The report parameter `uuu_p_urlF` can be created in Data Model (XDM) file with a default value, so at the runtime the Unifier server address-part of the URL can be changed appropriately:

```
      <parameter name="uuu_p_urlF"
defaultValue="https://unifier-server-address/bluedoor/rest/image"
dataType="xsd:string" rowPlacement="8">
            <input label="uuu_p_urlF" size="100"/>
        </parameter>
```

The report template uses this URL in the "Alt text" of the image, as in:
`url:{concat($uuu_p_urlF,'/',DATA_IMAGE_ID,'/',//security_token/SEC_TOKEN[1])}`

Where: `uuu_p_urlF` can be the template variable, for example:
`<?variable@begin:uuu_p_urlF;(.//uuu_p_urlF)[1]?>`

The security token, retrieved from DB by the dataset is:
`//security_token/SEC_TOKEN[1]`

The runtime data (image ID) is: `DATA_IMAGE_ID`

Connect to Unifier Database

A direct connections to the Unifier database using SQL Developer is not possible. The creation of SQL queries must be done in Unifier Data Views, or by pulling rows down from Unifier into a local database.

If you need to pull the data into a local database for the purpose of SQL development, Oracle offers Oracle Database 11g Express Edition (XE) free of charge. You can install this lightweight DB on your computer and use it for development purposes.

Download Oracle Database Express Edition (XE). Refer to the XE documentation for instructions on how to install the software and create a local database.

(Optional) Pulling Down the Data

In Unifier, once you know the table names, you can export 200 lines so it can be inserted into your local Database (DB). To pull down the data:

1) Sign in to **Unifier** as a Company Administrator and go to the **Company** tab (Company Workspace), ensure that you are in Administration mode > **Data Structure Setup** > **Data Views**.
2) Click **New** to create a new Data View.
3) Enter a name (for example, Export DV) and a Label (for example, Export Data View).
4) In the SQL Definition field, enter the following for a particular table: `SELECT * FROM <tablename>`
5) Click **OK**.
6) Click the **Status** drop-down list and set the newly created Data View to **Published**.
7) Highlight the Data View you just created and click **Data** on the toolbar.
8) In the window, click **Export as SQL** on the toolbar to save the **.sql** file locally. This SQL file includes the CREATE and INSERT commands required to get your data into your local XE database.

At this point, you can create the table and insert the exported rows into your local XE database using tools like SQL Developer.

Repeat the steps above for any tables that you like to access offline.

> **Note**: You can reuse the same Data View multiple times; however, you need to do find and replace in the downloaded SQL to ensure that the

table names match the names that are in Unifier.

Since you have a subset of the database locally, you can use SQL Developer to write complex queries, offline, before bringing them into Unifier.

Configuring the User Mode Navigator

You (Company administrator) can configure the **User** mode Navigator (**Company Workspace** > **Admin** mode > **Configuration** > **User Mode Navigator**) to better suit the company business needs. The **User Mode Navigator** enables you to modify the appearance and organization of the modules and business processes that are available in the left-hand Navigator for all company users.

This functionality of the **User Mode Navigator** is limited to the collaborative portions of the **User** mode Navigator in the Home, Company Workspace, Programs, Shells, and Projects.

> **Note**: This configuration will affect the **User** mode Navigation for all users in your company. We strongly recommend that you fully test your configurations in the **Development**/**Test** environment.

Within the **User Mode Navigator**, you can create new grouping nodes, rename existing ones, reorder items within the nodes, and even remove unused modules from the Navigator, in order to provide increased flexibility to organize and view Unifier modules and business processes. The configured view will appear for all users.

As always, access to any module or business process is strictly controlled by permission settings. The **User Mode Navigator** feature does not override permission settings in any way; it simply allows you to customize the look and organization of navigator modules that a user has permissions to access. Any changes you make to the **User** mode navigation tree will be reflected in the **Access Control** view.

Example

- If a user has permission to access at least one leaf node under a grouping node, then the grouping node will appear in the user's view of the navigator.
- If the user does not have permission to any leaf nodes under a grouping node, then the grouping node will not appear in the user's Navigator.

The following terminology is used with **User Mode Navigator**:

- **Grouping node**: This is a container "parent" node. Grouping nodes are easy to identify because they have a (+) next to them in the navigation tree. Clicking a grouping node, in the left-hand Navigator, expands the node to display any child nodes below it; the child nodes can be leaf nodes, or another grouping node, for example, Project Logs, Cost Manager, and so forth.
- **Actionable grouping node**: This type of grouping node not only expands to display child nodes underneath it, but also refreshes the right pane and displays an associated log or page, for example, Projects node, which expands to display the project nodes in the Navigator and opens the Project home page, also.
- **Leaf node**: This is a child node that cannot become a grouping node. In the last node of the navigation "tree," no further branching can take place. Clicking a child node refreshes the right-hand Unifier pane to display the associated module or log, for example, Cost Sheet within the Cost Manager, or the individual business process logs under Project Logs.

The configurable navigator allows you to:

- Configure navigation trees for:

- Company Workspace Navigator
- Home Navigator
- Program Navigator
- Project / Shell Navigator

> **Note**: The settings do not take effect in your users' navigators until you deploy them.

The **User Mode Navigator** enables you to:

- Create new grouping nodes (**New**) for:
  - Company Workspace
  - Home
  - Program
  - Project/Shell
- Copy an existing navigator setup (**Copy**)
- Deploy a navigator (**Deploy**)

  The system performs a check to see if there are any other navigators of the same type currently active, or not. If yes, then the system notifies you that the currently deployed navigator will be set to "Inactive" status.
- Undeploy a navigator (**Undeploy**)

  When selecting this option for an **Active** navigator, the navigator (for the type selected) displays system defaults during the runtime.
- Include a navigator for your configuration package
  - To be able to define multiple navigators per object and create configuration packages to suit various out of the box (OOTB) solutions. Each OOTB solution has its own configuration of business processes, reports, and so forth along with the User mode.
  - You can include multiple navigators in the component list and create your configuration package.
  - The status of a navigator does not impact export.
  - When you package a User Mode Navigator setup for the first time, you must include all the designs (on the left-hand side of the navigator) in the package. If you do not include the designs, the configuration package creation will result in an error.
  - For Active navigator setups, the Last Deployed Date must be greater than the Last Saved Date.
  - If the navigator status is set to **Active**, then the system deploys that navigator to the destination environment. If the status is **Inactive**, then the system adds the navigator to the User Mode Navigator list.
  - If a navigator with the same name exists in both the package and the destination server, then the system updates the content at the destination server.
  - If the status of the navigator in the destination server is **Inactive** and the status of the navigator in the package is **Active**, then the system deploys the navigator and changes the status to **Active** in the destination server.

  - If the status of the navigator in the destination server is **Active** and the status of the navigator in the package is **Inactive**, upon import of the configuration package, the system updates the content of the navigator, but the navigator will not be deployed.
  - Custom BI Publisher reports can be a part of the User Mode Navigation setup.
  - Internal BI Publisher reports, included in the setup, must be either a part of the package or exist in the destination server. If the Internal BI Publisher report is in **Draft** status, the import will succeed if the Internal BI Publisher report has been published, in the destination server, at least once.
  - External BI Publisher reports, included in the setup, must be either a part of the package or exist in the destination server. The External BI Publisher report name, location, and report level that exists in the destination server must match the attributes existing in the package.
- Rename new and existing grouping nodes
- Change the icons associated with the nodes
- Move nodes up and down the navigation tree, or from one grouping node to another
- Remove unused modules from the navigator without deleting the modules themselves
- Move business process logs or other modules between new or existing grouping nodes
- Store the following versions of the navigator:
  - Last saved version
  - Last deployed version
  - System default version,
- Restore the navigator to any of the above versions at any time

Note: Configuring navigator is a separate setup. As a result, the new business processes do no appear in the log selected in the configuration. Instead, the new business processes appear in the right-hand pane of the user's configurable navigator window. To place the new business processes inside the corresponding node in the left-hand pane Navigator, and make it available to the users, you must transfer the new business processes manually.

In This Section

Create a New User Mode Navigator Configuration

You can create one configuration for user mode Project, Shell, Program or Company Workspace.

To create a new project, program or company workspace navigator configuration

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Configuration** > **User Mode Navigator**. The **User Mode Navigator** log lists all previously created configurations.
3) Click **New** and choose one of the following:
   - **Home:** configures the navigation node for the **Master Log - Business Processes** node.

     Note: You cannot hide the Tasks, Notifications, Drafts, and Mailbox nodes in the Home page.

   - **Company Workspace**: configures the navigation nodes within the Company Workspace portion of the User Mode navigator
   - **Program**: configures the program level navigation
   - **Project/Shell**: configures the project/shell level navigation

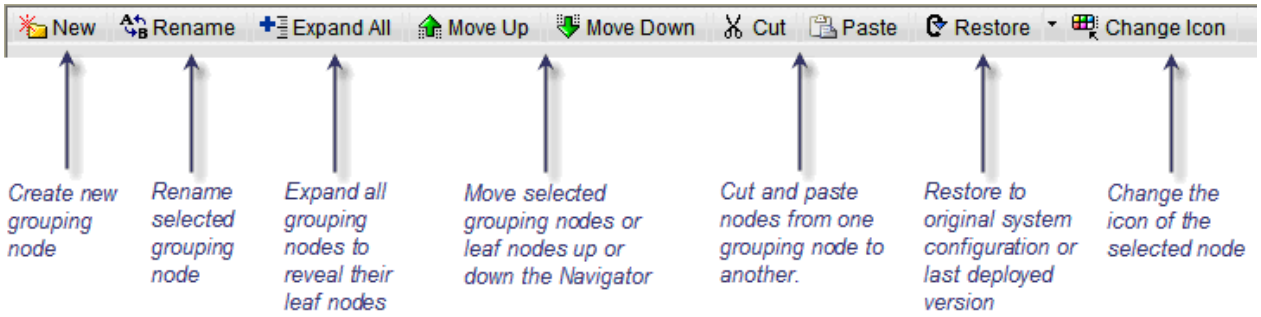
   The Create New Navigator window opens. The left portion of the window displays the navigation as it would appear for users. In the example below, the default navigation is displays, since a new configuration has not been deployed.

   The right pane of the window displays available modules or business process logs that can be added to the navigation on the left.
4) Configure the new navigator configuration as described below.
5) To save the configuration, click **OK**.

   The configuration will be displayed in the log. There can be one configuration each for Project, Shell, Program or Company Workspace. After saving, you must deploy the configuration for it to take effect. See ***Deploying a navigator configuration*** (on page 163).

   You can configure the new project, program or company workspace navigation. After deploying, the configuration will appear in the user mode navigator for all users in your company.

   Use the toolbar to configure the navigation:



To expand all navigator nodes

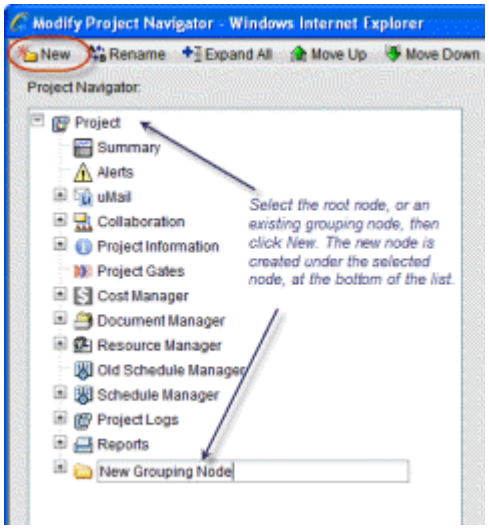
In the navigator window, click the **Expand All** button. This expands all grouping nodes and allows you to view all of the nodes currently present in the navigation. You can contract a grouping node to hide the leaf nodes by clicking the (-) next to the grouping node name.

Create a new grouping node

You can create a grouping node to use to organize modules or business process logs.

To create a new grouping node

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the left Navigator, select a valid parent node. This can be the root node (Company Workspace, Program, Shell, or Project), or any other grouping node in the navigator tree (for example, Cost Manager or Project Logs).
4) Click **New**. The newly created node is created under the selected node. The default name is New Grouping Node, and uses the default icon of a file folder. Grouping nodes can be renamed, moved and given a new icon.



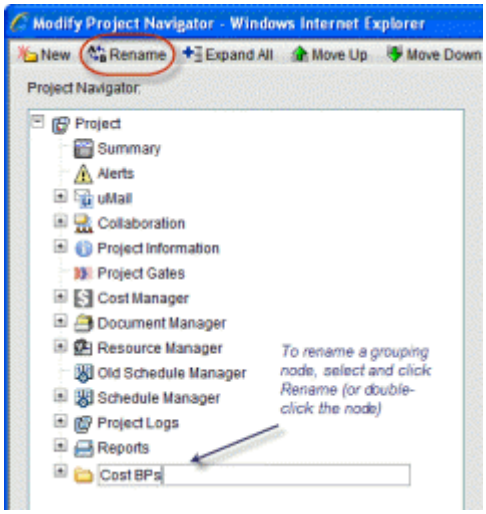
Rename a grouping node

You can rename any new or existing grouping node in the navigator, with the exception of the root node (Project, Shell, Program or Company Workspace). You cannot rename leaf nodes.

To rename a grouping node

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.

3) In the navigator window, double-click the grouping node, or select the node and click the **Rename** button. The field becomes editable.
4) Enter a new name for the field, up to 32 characters. Grouping nodes under same parent node cannot have same name.



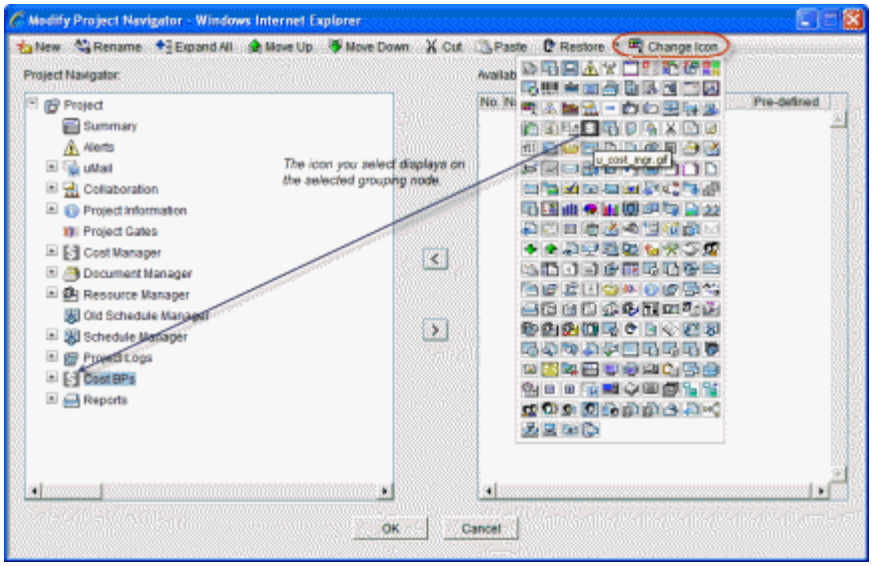
Change the icon of a grouping node

You can change the icon of any grouping node except the root node (Projects, Shells, Programs, Company Workspace).

To change the icon of a grouping node

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the navigator window, select the grouping node and click the **Change Icon** button. The available icons are displayed.

4) Click the new icon. The icon immediately appears on the selected grouping node.



Move nodes within the navigator

You can move any grouping node or leaf node up or down the navigator, either within the original grouping node, or from one grouping node to another. There are three ways to move nodes within the navigator:

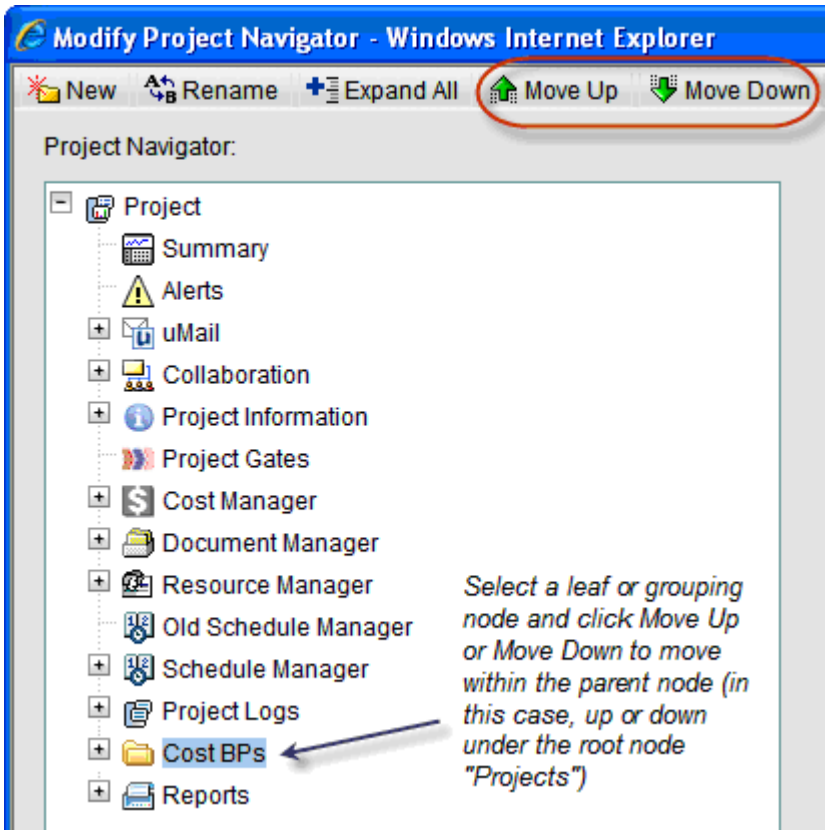
- Move a node up and down the navigation tree within its parent grouping node
- Move a node from one grouping node to another

See the following procedures for more details.

To move a node up or down the navigator

1) Go to the Company Workspace tab and switch to Admin mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the navigator window, select the node to move.

4) Click the **Move Up** or **Move Down** button to move the node up or down within the parent grouping node. If you move a grouping node, all child nodes move with it.

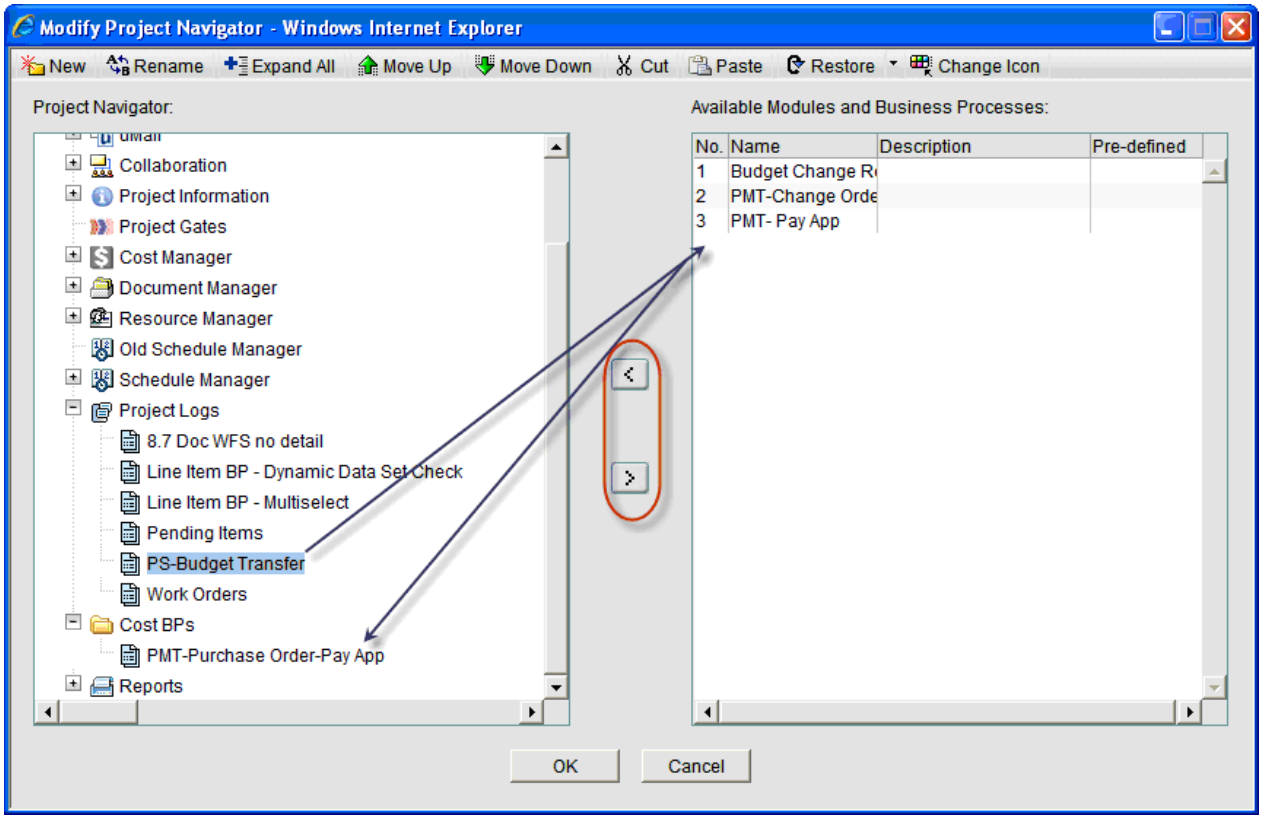


To move a leaf node from one grouping node to another

1) In the navigator window, select the node to move.
2) Click the **>** button to move the node to the right pane. Continue with each node that you want to move.

   Only leaf nodes will be moved. If you select a grouping node, only the leaf nodes underneath it will move to the right pane. The grouping node itself will be deleted.
3) In the left pane, select the destination grouping node into which you want to move the leaf nodes.
4) In the right pane, select the leaf node to move and click the **<** button. The leaf node moves to the grouping node on the left. Repeat as needed with any other leaf nodes to move.

Note: If you leave a leaf node in the right pane and deploy the configuration, that module or business process will not appear on the user mode navigator for users.



To move a node from one grouping node to another by cut and paste

1) In the navigator window, select the node to move. You can select a grouping node or leaf node.
2) Click the **Cut** button. (The selected node will not yet be removed).
3) In the left pane, select the destination grouping node in which to move the selection.
4) Click the **Paste** button. The node will be moved the new location. If you have selected a grouping node, the grouping node and all leaf nodes will be moved.

Remove unused modules from the navigator

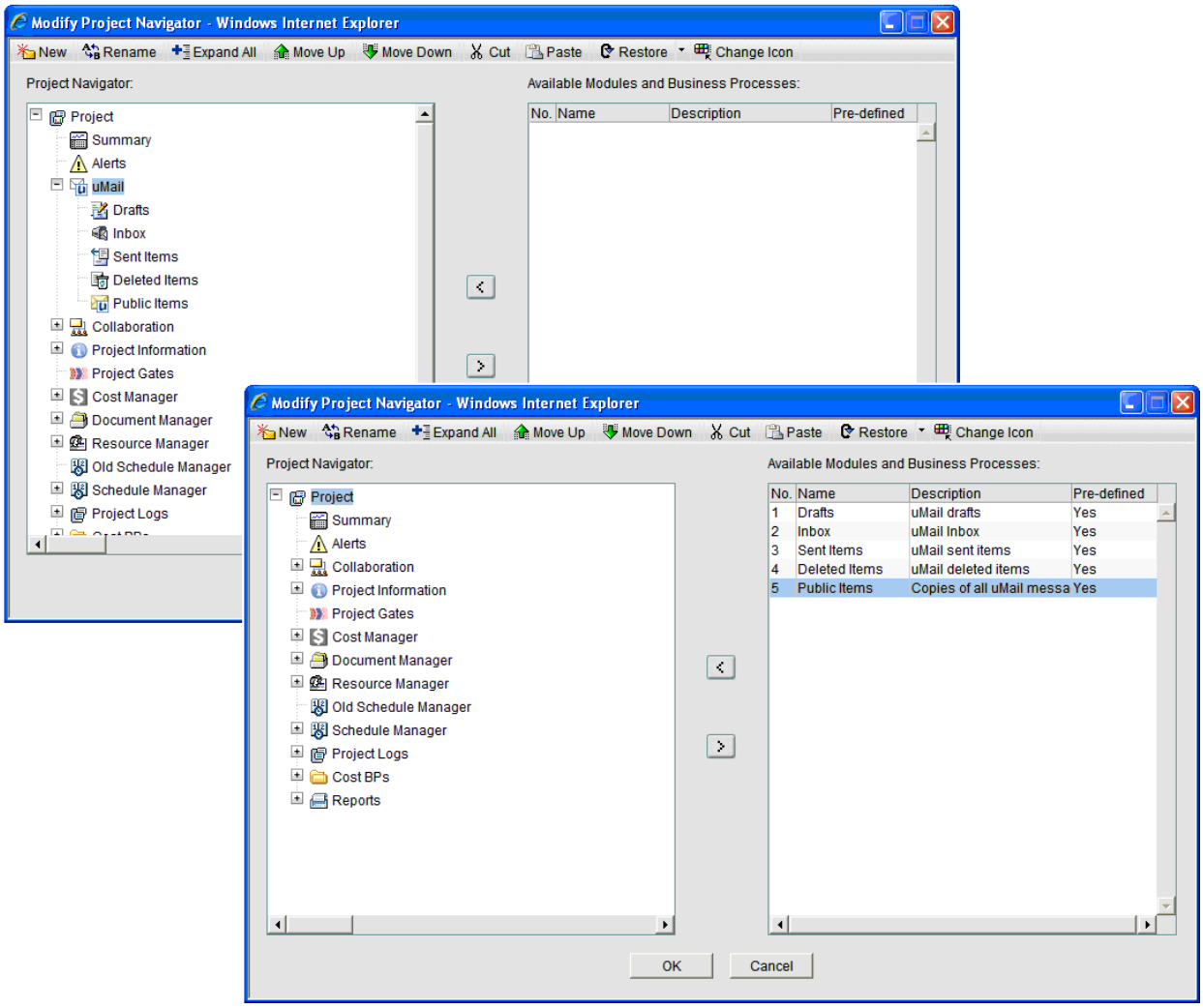
If there are Unifier modules that your company never uses, and that cannot be hidden by use of permission settings (for example, the Mailbox module), you can remove them from the User Mode Navigator. The modules themselves will not be deleted, and can be restored to the Navigator at any time.

To remove a module from the User Mode Navigator

1) Go to the **Company Workspace** tab and switch to **Admin** mode.

2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the navigator window, select the node to remove.
4) Click the **>** button to move the node to the right pane. Continue with each node that you want to remove.

   Only leaf nodes will be moved. If you select a grouping node, only the leaf nodes underneath it will move to the right pane. The grouping node itself will be deleted.
5) Save and deploy the configuration. The nodes that remain in the right pane will not appear in the user mode navigator.



In the above example, the Mailbox module nodes are moved to the right pane, which remove them from the user mode navigator for all users. Note that the original Mailbox grouping node has been deleted.

Delete a grouping node

Any grouping node can be deleted. Leaf nodes cannot be deleted; however, you can remove them from the user mode navigator that appears to all users. See ***Remove unused modules from the navigator*** (on page 161).

To delete a grouping node

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the left pane of the navigator window, select a grouping node.
4) Click the **>** button. The grouping node is deleted. If the grouping node contains leaf nodes, the leaf nodes are moved to the right pane, and the grouping node is deleted.

Deploying a navigator configuration

Once you have created a navigator configuration, it must be deployed for changes to take effect in the user mode. Once you deploy the navigation, the view will be displayed to all users.

To deploy a new navigator

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the User Mode Navigator log, select the configuration to deploy.
4) Click the **Deploy** button. When the navigation configuration is deployed, a confirmation window opens. Click **OK**.

   The navigator change takes effect immediately for all users.

Delete a navigator configuration

If you delete a configuration from the User Mode Navigator log, the system defaults for the applicable portion of the User Mode Navigator (Project, Shell, Program or Company Workspace) will be restored back to the system defaults automatically.

To delete a configuration and restore the navigator to system defaults

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Configuration>User Mode Navigator**. The User Mode Navigator log opens. The log lists any previously created configurations.
3) In the User Mode Navigator log, select the configuration to delete.
4) Click the **Delete** button. At the confirmation window, click **Yes**. The user mode navigator will be restored to system defaults immediately.

Restore the navigator to previous or default configuration

You can restore the navigator configuration to a previously saved version, the last deployed version, or to original system default at any time. You must still deploy the restored navigator in order for it to take effect.

To restore the navigator to a previous or default version

In the configurable navigator window, click the **Restore** button and choose one of the following options:

- Last Saved: Restores the navigation tree to the last saved version, regardless of deployment
- Last Deployment: Restores the navigator to the version that was last deployed (not applicable for new configurations that have not yet been deployed)
- System Default: Restores the navigator to the original system defaults

User Administration

This section covers adding, managing, related permission settings, and related access control for:

- **Company Users** (sponsor company and partner company users)
- **Partner Users** (partner users)
- **Groups** (user groups)
- **Task Reassignment** (access control)
- **Integration Users**

Owner Company or **Sponsor Company**

The entity that engages in business and has the complete control (or ownership) of the Unifier application with all its rights and privileges.

Partner Company or **Member Company**

The consultants, contractors, and vendors that have been invited to participate in a project by the Owner Company/Sponsor Company. Unifier allows adding Partner Company/ Member Company to enable project users to collaborate on (and coordinate) the execution of a project.

> **Note**: A **Member Company** is a **Partner Company**. When a **Partner Company** is added to a shell or project, the **Partner Company** becomes a **Member Company**.

To access the **User Administration** node, go to **Company Workspace** > **Admin** mode > **User Administration**. The following explains each sub-node in details.

For more details about company types, see ***Companies in Unifier*** (on page 35).

In This Section

Assigning Application Access to Primavera Unifier (Cloud Only)

To assign application access to Primavera Unifier:

1) Log in to Primavera Administration and do the following:
   a. Add a user.
   b. Assign application access for that user to **Primavera Unifier Production**.

   Note: For details on using Primavera Administration, see the *Primavera Administration Identity Management Guide*.

2) Log in to Primavera Unifier as a company administrator.
3) Assign the users permissions that are specific to module access, functions, and tasks that they will use in Primavera Unifier.
4) Repeat these steps for each user account that requires access to Primavera Unifier.

Importing User Attribute Form

For company user administration, Unifier displays a default log, General tab (used when creating a user with the Company or Partner detail form), and User/Group picker, unless you design and import your own user administration attribute form.

In uDesigner, you can add additional data elements to the User Attribute form, configure Company User and Partner User logs, add additional attributes to the View User Profile form, and a User/Group picker. The additional data elements appear as user properties on the General tab for Company and Partner users, as well as on the user View Profile form. For example, the additional user properties can include a user's department and location, or other details.

Refer to uDesigner "User Administration Overview" for more details.

> **Note**: The new attribute will be available only for **Company Users** log and **Partner Users** log and will not be available as part of custom attributes in other module designs.

All designs, including user attribute forms, are designed in uDesigner and deployed to Unifier. See ***Importing Configuration Packages*** (on page 303).

Adding and Managing Company Users

Company Administrators can add new users to the sponsor company. Each new user creates a new user record. These are known as *company users*. Company users can be entered manually one at a time, or multiple user records can be imported into Unifier from a CSV file.

> **Note**: The ***Internationalization and CSV Files*** section contains information about translating CSV files.

To ensure compliance with company standards and restrict access, Oracle recommends that the responsibility for user administration (at the company level) be delegated to one person, or a small group of people.

> **Note**: If you are using Oracle Identity Management (OIM) to add users to your company, some of the instructions that follow do not apply. OIM creates the user's login name, first and last names, and email account. OIM does not honor user attribute forms or user preference templates. Users manage their own passwords with OIM. OIM will honor the permissions and proxy users you specify in Unifier. You can use a CSV file to bulk update user information (see ***Managing Users in Bulk*** (on page 198)), except for passwords. The Template Name columns is mandatory field in order to update user information, successfully.

To access the Company Users log

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration** > **Company Users** in the left Navigator. To open an existing user record, select a user from the log and click **Open**.

> **Note**: If a **User Attribute** form has been imported, the columns that appear in the Users Log can vary. If designed in uDesigner, the log can include navigation in the left pane. This navigation allows you to filter the display of users listed in the log. If you decide that you want a standard log to display, you can remove the navigation from the log in uDesigner. Also, the search criteria in the Find window and sort order can also vary depending on what was added to the User log design in the **User Attribute** form.

User Type

As part of the log attributes in uDesigner, the column, "**User Type**" in the **Company Workspace** log page (**Company Users** node **Company Workspace** > **Admin** mode > **User Administration** > **Company Users**) identifies the type of user, available in Unifier, per following:

- **SYS User Type/Standard**

  The SYS User Type/Standard, which refers to both Company and Partner users, can have access to all Unifier modules, except the Earned Value Management. If the Earned Value Management component is checked for a Standard User, the Earned Value Management will be available to the Standard User.

  > **Note**: For information specific to the Earned Value Management module, refer to the Unifier Earned Value Management User Guide.

- **SYS User Type/Portal**
- The SYS User Type/Portal, which refers to Portal users, can have access to self-service portal login, only.

The **Company Workspace** log page (for **Company Users** node) has the following *menu* options:

- **File**
  - **New**
    - **Manual**
    - **Import**
  - **Open**
  - **Export**
    - **All**
    - **Selection**
    - **Export Structure**
  - **Send e-mail**
  - **Status**
    - **Active**
    - **Inactive**
    - **On-Hold**
- **Edit**

  - **Bulk Edit**
  - **Delete**
  - **Update User Type**
    - **To Portal**
    - **To Standard**
- **View**
  - **All**
  - **Find...**
  - **Audit Log...**
- **Help**
  - **Unifier Help**
  - **Unifier Library**
  - **User Productivity Kit**
  - **About Unifier**

The **Company Workspace** log page (for **Company Users** node) has the following *toolbar* options:

- **New**
  - **Manual**
  - **Import**
- **Open**
- **Find**
- **Send e-mail**
- **Status**
  - **Active**
  - **Inactive**
  - **On-Hold**
- **Update User Type**
  - **To Portal**
  - **To Standard**

The **Update User Type** (**To Portal** and **To Standard**) option, collectively, work as a bulk action on one or more selected user rows by enabling you to update the type of user. For example, you can select one row, or multiple rows, click **Update User Type**, and change the user type to portal, or standard, by clicking **To Portal**, or **To Standard**.

If user assignment results in number of users exceeding the licenses allocated, Unifier displays a notification.

If the user type attribute is not mentioned when creating the user, the user type for that user will be set to Standard user type by default.

When you are creating a user, the User Type drop-down list is defaulted to Standard user, but you can change the User type to Portal.

The Attribute "Earned Value Management" displayed is unchecked by default. If the user checks this option, then the user will be granted access to the Earned Value Management module. This checkbox will be disabled for Portal type of users.

> **Note**: The checkbox for Earned Value Management users will be seen only when the Earned Value Management module is loaded.

In the **License Manager**, the Company user and Partner user are considered Standard users in terms of license count and combined count for License Terms and Current Usage. The **License Manager** landing page will define Gauge chart for all the following license types:

- Standard Users
- Portal Users
- Earned Value Management Users

In addition, a new count for Portal users and Earned Value Management (EVM) users are shown for License Terms and Current Usage. This count will depend on:

- Whether a particular Company user is marked as Portal user, and
- The Earned Value Management user in User Administration.

The excess or surplus (overage) is calculated in the same way as the Standard users.

The Site Administrator can edit the license terms and view the audit log for the users by clicking the Settings icon.

When editing the user count, the Site Administrator will have to put a combined number for active named users.

The Site Administrator will also be able to edit the Portal users and EVM users count by using the following tabs on the License Terms window:

- General tab
- Notifications tab

For users other than the Site Administrator, only the Notification tab will be available to be edited.

> **Note**: Unifier considers the existing Company users and all users added by way of import (File > New > Import) as Standard users.

The **User Type** column will be seen by default in the standard user data picker. For the custom user data picker, if the user has added the column, then the user will be seen in **User Type** column.

Add a New Company User

This section describes how to manually add a new user record to your company. For information about importing multiple user records from a CSV file, see the following section.

If you have created a **User Preference template** (in **Standards & Libraries > User Preference Templates**), the active template will automatically be used to generate the new user's user preferences. If there is no active template present, then the system default settings will be used for the user preferences.

The following information is for adding users from Unifier.

Notes:

- If you access Unifier through Oracle Identity Management (OIM), you cannot add a new user.
- You can import a CSV file, but if the CSV file has a new user, the user will not be added.
- Users manage their own passwords with OIM.
- OIM does not honor user attribute forms and does not use user preference templates. Users will be able to edit the user attributes and the preferences in Unifier.
- OIM has its own password policy which supersedes other policies.

To add a new company user

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **User Administration** > **Company Users** in the left Navigator.
3) Click **New** from the toolbar to open the Edit User window and complete the form.
4) The Edit User window opens.
5) Complete the fields of the **General** tab as discussed in the following table.
6) Click the **Security** tab. You must also add a login user name before saving the record. See ***Manage user login information (Security tab)*** (on page 176) for details.
7) At this point, you can activate the user, save the record, or complete the rest of the tabs:
   - **Permissions**: You can configure individual permission settings for the user in this tab. See ***Edit user permissions (Permissions tab)*** (on page 177) for details. Alternatively, you can assign the user to a group (the user will automatically inherit group permissions), or assign permission through Access Control.
   - **Projects**: This tab lists the projects to which the user has been added and is view-only. See ***View user's project, program, and shell membership (Project/Program/Shell tabs)*** (on page 178).
   - **Shells**: This tab lists the shells to which the user has been added and is view-only. See ***View user's project, program, and shell membership (Project/Program/Shell tabs)*** (on page 178).
   - **Programs**: This tab lists the programs to which the user has been added and is view-only. See ***View user's project, program, and shell membership (Project/Program/Shell tabs)*** (on page 178).
   - **Proxy**: You can add or view the user's proxy users in this tab. See ***Designate a proxy user (Proxy tab)*** (on page 178).
8) Click **Apply** to save changes, or **OK** to save and exit the window.

In this field:	Do this:
First Name, Last Name	Enter the first and last name of the user. These are required fields.
Title	Enter an optional company title for the user.

Email	Enter the user's email address, which will be used to send system notifications to the user, and will display in the user's contact information. This is a required field.
Work Phone	Enter the user's work telephone number.
Mobile Phone	Enter the user's mobile telephone number.
Home Phone	Enter the user's home telephone number.
Pager	Enter the user's page number.
Fax	Enter the user's fax number.
Address	Click the **Select** button to add a company address to the user profile (From Edit Company, Address Tab)
Time Zone	Choose the default time zone for the user. This can be changed in the User Preferences window.
Language	Select a language from the drop-down list. **Note**: The languages listed are the active languages selected in the **Configuration - Internationalization** log window, by the administrator.
Date Format	This setting controls the display of dates on reports, business process forms, etc. This can be changed in the User Preferences window.
Status	New users are Active by default. Status can be Active, Inactive or On-hold. Neither Inactive nor On-Hold users can sign in to Unifier: ▸ **Active**: User is listed in Project or Shell Directory, in User/Group Picker, User can sign in and participate in project or shell. ▸ **Inactive**: User's name does not appear anywhere for selection on any project-or shell-related functions or User Picker. User cannot sign in but they can be given permissions and added to groups. ▸ **On-hold**: User can be added to a project or shell and assigned as a participant in a business process workflow but cannot sign in. Normally used to pre-assign users to a new project or shell before activating it. **Active** and **On Hold** users will be counted against your user license terms; **Inactive** users will not.

Import company users (add users or update users)

If you have a large number of users to add or update, you may want to import the records, so you do not have to manually open and update each user record. You can import multiple users with a CSV file by doing the following:

- Export a copy of the CSV file structure.
- Populate the CSV file with user information.
- Import the CSV file into Unifier.

> **Note**: If you are using Oracle Identity Management (OIM) to add users to your company, you cannot import users via CSV file. You can, however, update user information via CSV, except for the user's password.

Once the OIM is enabled, the following features will be disabled in Unifier:

- Manual User Creation
- CSV Import User

> **Note:** The CSV Import User feature continues to support the User Update function but not the Create User function.

- Editing the username and password in the user admin
- Web Sevice (Create User)

To export a copy of the CSV file structure

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Company Users** in the left Navigator.
3) Click the **File** menu and choose **Export > Export Structure**. A confirmation window opens. Do one of the following:
   - Click **Open** to open the file in Excel (or other editor that supports CSV files). You can save the file from here after previewing.
   - Click **Save** to save the file to your local drive. Enter a name for the file and click **Save**.

To export existing users for update

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **User Administration > Company Users** in the left Navigator.
3) Choose **File > Export > All,** or select users in the log and choose **File > Export > Selection**. A confirmation window opens. Do one of the following:
   - Click **Open** to open the file in Excel (or other editor that supports CSV files). You can save the file from here after previewing.
   - Click **Save** to save the file to your local drive. Enter a name for the file and click **Save**.

To populate the CSV file with user information

1) Open Microsoft® Excel (or other program compatible with CSV format), and open the CSV file you just saved.

2) Enter or modify user information in the spreadsheet. The fields are discussed in the following table. Ensure that you review the notes after the table.
3) Save in CSV format.

In this column:	Do this:
First Name*	Enter user's first name.
Last Name*	Enter user's last name.
Title	Enter user's company title
Email*	Enter user's email address
Work Phone	Enter user's work phone number
Mobile Phone	Enter user's cell phone number
Home Phone	Enter user's home phone number
Pager	Enter user's pager number
Fax	Enter user's fax number
Login Username*	Enter a unique username that the user will use to log into Primavera Unifier
Password	Enter a password that will allow the user to log in for the first time. The user can change the password after signing in to Unifier.
Time Zone*	Enter the code for the Time Zone (refer to the *Unifier Reference Guide* for the list of codes). This is a required field, even if you are entering a User Preferences Template Name (if the time zone specified in the template is different from this cell, the template selection will take precedence).
Date Format*	Enter the code for the Date Format (refer to the *Unifier Reference Guide* for the list of codes). This is a required field, even if you are entering a User Preferences Template Name (if the date format specified in the template is different from this cell, the template selection will take precedence).
Address	Enter the code for the company address to use with this user. (Refer to the *Unifier Reference Guide* for the list of codes)
Template Name	If you have created User Preferences Templates, enter the name of the template to use for this user.
Status*	Enter a status code for this user: Active=1, On-Hold=2, Inactive=0

* = mandatory column

Note the following:

- Do not delete or change the order of the columns; this will make the file invalid.
- Valid information must be entered into columns corresponding to required fields. An asterisk in the column header indicates required fields. (Expand the columns to see the asterisks if necessary.)
- For non-text-entry fields (Time Zone, Date Format, Address), enter the corresponding code. Valid codes are found in the *Unifier Reference Guide*.
- Non-required fields (column heading does not have an asterisk) are optional. You may enter information or leave these fields blank.
- The length of "Username" cannot exceed 64 characters and cannot include the following:
  - Space
  - Non-printable characters

To import the CSV file into Unifier

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **User Administration > Users** in the left Navigator.
3) Choose **New > Import** to import the completed CSV file.
4) Click **Browse** and navigate to where you saved the file.
5) Click **OK** to import. New users are created and existing users are updated.
6) Open the User record and setup the Groups, Permissions, Projects/Shells, Programs, and Proxy tabs as needed.

   If any rows contain errors, no rows are imported. Error messages are listed in the CSV file.

To fix import errors

If you receive the Confirmation message:

```
Import could not be completed. Do you want to download a file with errors shown?
```

1) Click **Yes** to open the CSV file.
2) Fix the rows that contain errors.
3) Re-import the file.

Export user records

You can export a CSV file with current user information.

To export a CSV file containing all user records

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Company Users** in the left Navigator.
3) Click the **File** menu and choose **Export > All**. A confirmation window opens. Do one of the following:
   - Click **Open** to open the file in Excel (or other editor that supports CSV files). You can save the file from here after previewing.
   - Click **Save** to save the file to your local drive. Enter a name for the file and click **Save**.

To export a CSV file containing selected user records

1) In the Company Users log, select one or more users to export (press the Ctrl or Shift keys to select multiple users).
2) Click the **File** menu and choose **Export > Selection**. A confirmation window opens. Do one of the following:
   - Click **Open** to open the file in Excel (or other editor that supports CSV files). You can save the file from here after previewing.
   - Click **Save** to save the file to your local drive. Enter a name for the file and click **Save**.

Manage user login information (Security tab)

Before you activate a new user, you must enter a Login Username. To allow the user to sign in to the system, you must also add an initial password. You can also change the user's password here, for example if the user has forgotten their password.

Users can change their password later in the User Preferences window.

> **Note**: If you are using Oracle Identity Management (OIM) to add users to your company, the instructions that follow do not apply. OIM creates the user's login name, first and last names, and email account. Users manage their own passwords with OIM. OIM does not honor user attribute forms.

To add or manage user login information

1) In the User Administration log, select a user and click **Open**. The Edit User window opens.
2) Click the **Security** tab.
3) Complete the fields as shown in the following table.
4) Click **Apply** to save changes, or **OK** to save and exit.

In this field:	Do this:
Login Username	Enter the Users Sign In ID (required). This value can be changed by the System or Company Administrator but not by the User.
Password	Enter the value the user will use as their Sign In ID. Passwords must match the company Security/Password policy, if one is in force.
Confirm Password	Confirm password by re-entering.
View Password Policy	Click this link to verify the password is conforming to your company's Security/Password policy (Edit Company window, Security tab). A password that does not comply will generate a warning message. **Note**: If you are using OIM to provision your company users, the password policy

	specified here will be superseded by the password policy in OIM.

Note: The Security tab is not available if Unifier is integrated with SSO (LDAP, OAM).

Manage a user's group membership (Groups tab)

You can manage a user's group membership from the Groups tab of the Edit User window. This tab displays all the groups the user is a member of, and allows you to quickly add or remove groups. The default groups are Company Administrators, Project Administrators, Shell Administrators, and Support. For information about adding or managing groups, see ***Adding and Managing Groups*** (on page 192).

Note: If you are using OIM to add users to your company, you will still have to use these instructions to add users to groups.

To add a user to a group

1) In the User Administration log, select a user and click **Open**. The Edit User window opens.
2) Select the **Groups** tab.
3) Click **Add**. The User/Group Picker opens.
4) Select the **Group** and click **Add**. The group will appear in the Selected Groups window. Click **OK** to save.

To remove a user from a group

On the **Groups** tab, select a group and click **Remove**.

Edit user permissions (Permissions tab)

This procedure allows you to grant or remove specific user permissions. This is useful if a user needs special permissions that are not likely to be repeated with other users, or is not part of a group. You can also specify permissions for groups (if you add the user to the group, the user will automatically inherit all group permissions, or control permissions through Access Control.

To edit a user's permission settings

1) In the User Administration log, select a user and click **Open**. The Edit User window opens.
2) Select the **Permissions** tab.
3) Click a plus sign to expand the choices. Scroll up or down as needed.
4) Select the Permission module in which to grant permissions. Choose the Permission level in the bottom window. Permissions are described in the *Unifier Reference Guide*.
5) Click **OK** to save.

To copy permissions from a template

1) In the Permissions tab, click the **Copy Permissions** button.
2) Select the template and click **OK**. All permissions settings in the user record will be overwritten and replaced with the permission settings from the template.

View user's project, program, and shell membership (Project/Program/Shell tabs)

Users can be added to projects, programs, and shells giving them access to participate in them. You can view a user's project membership in the Projects/Shells tab, and program membership in the Program tab.

To view a user's project membership

1) In the User Administration log, select a user and click **Open**. The Edit User window opens.
2) Select the **Projects** tab. This tab displays the list of programs of which the user is a member. Users cannot be added or removed from Programs here.

To view a user's program membership

1) In the User Administration log, select a user and click **Open**. The Edit User window opens.
2) Select the **Programs** tab. This tab displays the list of programs of which the user is a member. Users cannot be added or removed from Programs here.

Designate a proxy user (Proxy tab)

A Site/Company Administrator can designate a user to be a proxy user for another user.

- Proxy users can be granted permission to access another user's account and perform various functions on that person's behalf if that person is unavailable, such as on vacation.
- Proxy users who are active (Status: **Active**) receive email notification of tasks to perform as proxy. This applies during the time specified time period, using the Start Date/Time and End Date/Time.
- Proxy users have access to all of the records, settings and functions of the original user. A proxy user signed in to another's account cannot change Preference settings. The Audit logs reflect the actions taken by a proxy user as "on behalf of" the original user.

> **Note**: If the specified proxy user has Send notifications in a single daily digest selected on the Options tab of their User Preferences, it will impact when they receive notification of the task they must perform as proxy. Ensure that the Send notifications in a single daily digest checkbox is deselected for the proxy user if that user must receive the task notifications immediately.

To designate a proxy user follow these steps:

> **Note**: The following applies to Company Users, Partner Users, and Groups.

1) Launch **Unifier** > **Company Workspace** > **Admin** mode > **User Administration** > **Company Users.**

2) Select a user from the Users log and click open to open the **Edit User** window
3) Click **Proxy** tab.
4) Set the options per following descriptions.

Do not allow Proxies

The Site/Company Administrators, Company users, and Partner users) are permitted to select the **Do not allow Proxies** option.

> **Note**: This option is read-only in the user's User Preferences window.

Users are able to add proxy users in their User Preferences window only if the Site/Company Administrator has not checked the **Do not allow Proxies** option in the Proxy tab of Edit User window.

Users who can act as my Proxy

This section of the Proxy tab lists the users who can act as proxy and allows you to add, adjust the settings, remove proxies, and view the proxy login history.

> **Note**: You can select/designate more than one proxy user.

Add

The Company Administrator can assign other users to act as proxies to your account. if you are unable to do so.

To add a proxy:

1) Click **Add** to open the **Proxy User Settings** window.
2) Click **Select** to open the **Users/Group Picker** window.
3) Select users, click **Add**, and then click **OK** to go back to the **Proxy User Settings** window.
4) Enter the Start Date/Time and End Date/Time values.
5) Select the **Status** (**Active**) and click **OK**.

Settings

Use this option to select an existing proxy and change the user settings of the proxy, such as start and end date/time. To change the user settings of the proxy, click **Settings** and follow the prompts.

The system sets the values in the time-related fields base on the user's preferred data and time formats.

> **Note**: If you do not specify a start or end date, the proxy user can access your account immediately and their access privileges will not expire.

You can select **Active** to activate proxy's access. To disable proxy's access, select **Inactive**.

Remove

You can use this option to remove a selected proxy. To remove a user as a proxy, click to select the proxy from the list and click **Remove**.

Proxy Login History

Use this option to view the following information about the proxies:

- Name
- Login Date
- Logout Date

The last login information appears on top.

> **Note**: The **Sign Out** link at the upper right portion of the Unifier window allows a proxy's session to end.

Send email to a company user

This is available for company users only, and is not available for partner company users.

To send an email to a company user

1) Navigate to the Company Users log.
2) Select one or more names in the log, then click **Send email** on the button bar. Your email client window opens, where you can then send an email to the user(s) you selected.

Unlock a locked user account

A user account can be locked if the user exceeds the maximum logon attempts, or if the user has not signed in after a specified number of days. These password criteria are configured on the Security tab of the Edit Company window.

Users who are locked out of Unifier will receive a message stating the condition that needs to be corrected.

> **Note**: If you are using Oracle Identity Management (OIM) to provision the users in your company, you must use OIM to unlock a user account. For information, see the documentation that accompanies the OIM product.

To unlock a locked user account

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Company Users** or **User Administration > Partner Users** in the left Navigator.
3) Select the user from the log.
4) Click **Open**, and click the **Security** tab. When a user's account is locked, the Unlock account checkbox appears selected. This checkbox is provided only if the user's account is locked. Otherwise, it does not appear on the user's Security tab.
5) Deselect the **Unlock account** checkbox.
6) Click **Apply** to save or **OK** to save and exit.

Change the status of multiple company users

If you want to change the status of multiple users at the same time you can select the users from the log and change the status for all of those users. This eliminates the need for you to open each user record to modify the user status.

The **License Manager** controls the number of active users within a system. If the new users will exceed your license terms, you will receive an error message.

To change the status of multiple company users

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **User Administration** > **Company Users** in the left Navigator.
3) Select the users whose status you want to change.
4) Choose **Status** and one of the available statuses (Active, Inactive, On-Hold).

View or print user audit log

To view the Audit Log for a user record:

1) Select a user from the Users log.
2) Click the **View** menu and choose **Audit Log**. The Audit Log window opens, listing each event associated with the user.
3) From the Audit Log window, you can double-click a listed event to view the audit record detail, which details the action taken. The details also include for reference the current time zone of the user viewing the audit log.

To print the audit log:

1) From the Audit Log window, click the **Print** button. A PDF file of the audit log is created.
2) Do one of the following:
   - Click **Open** to open the file in Adobe Acrobat Reader. From the Reader window, you can view, save, or print the file.
   - Click **Save**. In the Save As window, navigate to the location in which you want to save the PDF file. Open the file in Adobe Acrobat Reader and choose **File > Print** to print.

Reactivating Users

When a Partner Company participates in a project or shell, the Partner Company becomes a Member Company in that project or shell, and the Partner Company users that are added to the project or shell become the Member Company users.

> **Note**: Project and shell access is limited to Unifier users (including Sponsor Company users or Member Company users) who are chosen for the project or shell and permissions are configurable for each company.

For more details about company types, see ***Companies in Unifier*** (on page 35).

Note: These processes apply to the proxy users.

Go to the **Company Workspace** (Admin mode). From the left Navigator, click **User Administration** > **Partner Users**, and open a user to open the **Edit User** window. In this window:

- If you (the administrator) deactivate a Partner Company user from a project or shell that the Partner company was associated with and later decide to reactivate the Partner Company user for that project or shell, the status of that Partner Company user changes to what it was prior to the deactivation of that Partner Company user.
- If you (the administrator) remove a Partner Company from a project or shell and later decided to re-add the Partner Company to that project or shell, the status of the Partner Company users changes to what it was prior to the removal of the Partner Company. In this scenario, the administrator has to manually activate the Partner Company user at the company level (global), and Unifier automatically changes the status of the Partner Company user to what it was prior to the removal, or deactivation.

Important Information about Reactivating Users

When you deactivate the Partner Company users who are active in a project or shell and later activate the same users, Unifier reverts the status of the users to "Active" or whatever the user's status was prior to the deactivation.

When you deactivate a Partner Company, in Company Workspace, Unifier removes the Partner Company that exists as a Member Company (in a project or shell). If you deactivate a Member Company from the list of Partner Company, in the Company Workspace, Unifier removes the Member Company from all associated projects or shells and sets all Member Company users as "Inactive." When you reactivate the Member Company, at the company level, unifier adds the Member Company to all previously associated projects and shells.

If a Partner Company is a member of a project or shell, but the Partner Company users are all set as "Inactive" in that project or shell, when you (the administrator) decide to reactivate the Partner Company users at the company level, the status of the Partner Company users at the shell level will remain as "Inactive."

When there are limited licenses available in the system, you need to deactivate the Member Company users at company-level. In this case, the Partner Company users are deactivated automatically.

You can reactivate a deactivated Member Company at company-level (Company Workspace).

Exceeding License Limit

Example

If you have three licenses, but you have added or activated five users, then Unifier assigns the three licenses that you had to the first three users (most recent users) that you added or activated.

Creating Partner Companies, Users, and Permission Settings (On-Premises Only)

Creating Partner Companies

A Company Administrator of an Owner Company (Sponsor Company) can create multiple partner companies.

To create multiple partner companies go to **Company Workspace** > **Admin** mode > **Partner Companies** > **New**.

In the **New Company** window, enter information in fields of the following tabs:

- **General**
- **Address**
- **Security**
- **Contact**

The Partner Companies log toolbar allows you to add (**New**), open (**Open**), and find (**Find**) partner companies.

The Partner Companies log page allows you to see a list of partner companies (**Company Name**), the name of the contact for the partner company (**Contact Name**), phone (**Phone**), and the partner company standing such as active or inactive (**Status**).

The **Partner Users** node has the following *menu* options:

- **File**
  - **New**
  - **Open**
  - **Send e-mail**
  - **Status**
    - **Active**
    - **Inactive**
    - **On-Hold**
- **Edit**
  - **Bulk Edit**
  - **Delete**
  - **Update User Type**
    - **To Portal**
    - **To Standard**
- **View**
  - **All**
  - **Find...**
  - **Audit Log...**
- **Help**
  - **Unifier Help**
  - **Unifier Library**

  - **User Productivity Kit**
  - **About Unifier**

The **Company Workspace** log page (for **Partner Users** node) has the following *toolbar* options:

- **New**
- **Open**
- **Find**
- **Status**
  - **Active**
  - **Inactive**
  - **On-Hold**
- **Update User Type**
  - **To Portal**
  - **To Standard**

The **Update User Type** (**To Portal** and **To Standard**) option, collectively, work as a bulk action on one or more selected user rows by enabling you to update the type of user. For example, you can select one row, or multiple rows, click **Update User Type**, and change the user type to portal, or standard, by clicking **To Portal**, or **To Standard**.

Creating Users for the Partner Company

To add users to a Partner Company go to **Company Workspace** > **Admin** mode > **User Administration** > **Partner Users** > **New**.

When the **Edit User** window opens, you can see the following tabs. Enter data in the fields within each tab.

- **General**
  1. Enter the name of the Partner Company (the system conducts a search and displays a filtered list of partner companies)
  2. Alternatively, you (Company Administrator) can select the name of the Partner Company from the list by clicking the arrow.
  3. Fill out the fields under "Contact Information as in Company Directory."
  4. Select the Status, and click **OK**.
- **Security**

  To enter the password for the user.
- **Groups**

  To add the user to an existing group.
- **Permissions**

  To assign permissions to various modules in Unifier.
- **Projects/Shells**

  The content in this tab is blank when creating a user, and any existing content varies based on the Projects/Shells that the user has access to.
- **Programs**

The content in this tab is blank when creating a user, and any existing content varies based on the Programs that the user has access to.

- **Proxy**

  To manage Proxy settings.

If user assignment results in number of users exceeding the licenses allocated, Unifier displays a notification.

If the user type attribute is not mentioned when creating the user, the user type for that user will be set to Standard user type by default.

When you are creating a user, the User Type drop-down list is defaulted to Standard user, but you can change the User type to Portal.

The Attribute "Earned Value Management" displayed is unchecked by default. If the user checks this option, then the user will be granted access to the Earned Value Management module. This checkbox will be disabled for Portal type of users.

> **Note**: The checkbox for Earned Value Management users will be seen only when the Earned Value Management module is loaded.

In the **License Manager**, the Company user and Partner user are considered Standard users in terms of license count and combined count for License Terms and Current Usage. The **License Manager** landing page will define Gauge chart for all the following license types:

- Standard Users
- Portal Users
- Earned Value Management Users

In addition, a new count for Portal users and Earned Value Management (EVM) users are shown for License Terms and Current Usage. This count will depend on:

- Whether a particular Company user is marked as Portal user, and
- The Earned Value Management user in User Administration.

The excess or surplus (overage) is calculated in the same way as the Standard users.

The Site Administrator can edit the license terms and view the audit log for the users by clicking the Settings icon.

When editing the user count, the Site Administrator will have to put a combined number for active named users.

The Site Administrator will also be able to edit the Portal users and EVM users count by using the following tabs on the License Terms window:

- General tab
- Notifications tab

For users other than the Site Administrator, only the Notification tab will be available to be edited.

> **Notes**:
>
> - Any user who has not yet been added to the existing partner

companies will be added to the Partner Users log of the Owner Company as Inactive user.

- Partner user creation through CSV is not supported.

Permission Settings for Partner Companies

To set permissions for partner companies go to **Company Workspace** > **Admin** mode > **Access Control** > **Administration Mode Access** > **Partner Companies**.

In the **Module Permission Settings** window, determine the level of permission for each user (in the Partner Company) that is listed. You can click **Add** (to add a new name), **Modify** (to change the permission setting for a user, by way of **Permission/Access Control** window), or **Remove** (to delete a name) in this window.

If you (Company Administrator) create a Partner Company and select **Inactive** for the Partner Company **Status**, then the users that you add for that Partner Company will be inactive. When the contract with a Partner Company ends, you can select **Inactive** for the Partner Company **Status** and inactivate the contract.

Creating Partner Companies and Users (Cloud Only)

A partner company is a consultant, contractor, or vendor company that is associated with a owner company. A partner company may work on some or all of the projects or shells that the owner company commissions.

Creating partner companies and users require you to use perform a series of tasks in both Primavera Unifier and Primavera Administration.

For the prerequisites and tasks to create partner companies and users, see the *Primavera Administration Identity Management Guide.*

Adding and Managing Partner Company Users

Adding a partner company user enables you to grant them access to your company Unifier features in the company workspace, programs, projects, or shells. You can manage their status, group membership, and permissions.

User Type

As part of the log attributes in uDesigner, the column, "**User Type**" in the **Company Workspace** log page (**Partner Users** node **Company Workspace** > **Admin** mode > **User Administration** > **Partner Users**) identifies the type of user, available in Unifier, per following:

- **SYS User Type/Standard**

  The SYS User Type/Standard, which refers to both Company and Partner users, can have access to all Unifier modules, except the Earned Value Management. If the Earned Value Management component is checked for a Standard User, the Earned Value Management will be available to the Standard User.
- **SYS User Type/Portal**

The SYS User Type/Portal, which refers to Portal users, can have access to self-service portal login, only.

Add a partner company user

Partner company user details are managed by the Site Administrator or the company administrator for the partner company. As the company administrator for the your company, you can add partner company users to your own company at the company, program, project, or shell level, and control their status and permissions within your company.

Partner company users can be added to projects or shells, even if the users do not show up on this list. If a partner company user is added to a project or shell, the user will be added to the Partner Company Users log automatically.

The **License Manager** (**Company Workspace** > **Admin** mode > **Access Control** > **Administration Mode Access**) controls the number of active partner company users within a system. If the new users will exceed your license terms, you will receive an error message.

By default, new users will have a status of **Active**. You can change the status or other user detail information selecting the user from the list and clicking **Open**.

To access the Partner Users log

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Partner Users** in the left Navigator. To open an existing user record, select a user from the log and click **Open**.

> **Note**: If a **User Attribute** form has been imported, the columns that appear in the Users Log can vary. If designed in uDesigner, the log can include navigation in the left pane. This navigation allows you to filter the display of users listed in the log. If you decide that you want a standard log to display, you can remove the navigation from the log in uDesigner. Also, the search criteria in the Find window and sort order can also vary depending on what was added to the User log design in the User Attribute form.

To add a partner company user

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Partner Users** in the left Navigator.
3) Click **New**. The **User/Group Picker** opens.

> **Note**: If a User Administration design has been imported, the content of the User/Group Picker (in User view) can vary. The Find window and sort order can also vary depending on the optional design created in uDesigner.

4) Click the **List Names from** drop-down list at the top of the picker window and choose the company from which to add the new project or shell user.

This drop-down lists your sponsor company plus any Partner Companies. You can click the Partner Companies node under your company to view the list of available partner companies.

5) Select one or more users to add. You can press the **Shift** or **Ctrl** keys to select multiple users at once.
6) Click the **Add** button. You can continue to select and add names to the **Selected Users** portion of the picker window.
7) Click **OK** to add the users to the Partner Users log.

Manage partner company user status, groups and permissions

User details such as contact information are managed for individual users by the company administrator for the partner company.

> **Note**: Partner company users can be granted Company Administrator permissions if you add them to the Company Administrators group. See ***Manage a user's group membership (Groups tab)*** (on page 177) for details on adding users to groups.

You can manage the following information for partner company users:

Status: You can change the partner company user to Active, Inactive, or On-Hold.

- *Active* users are eligible to participate in company or project- or shell-level activities to which they have permissions.
- *On-Hold* users appear on user pickers, and can be added to business process set ups, project or shell user lists. However, the user cannot log onto the system until they are activated.
- *Inactive* users will not appear in user pickers. If you inactivate partner company users, they will automatically become inactive throughout the system, including in any projects or shells to which they belong. After inactivating, if you then change the status back Active, their status in projects or shells will not automatically change back to Active; you will need to reactivate them at the project or shell level.

Groups: You can add a partner company user to a company or project- or shell-level group as needed.

Permissions: You control permission access for partner company users within your company.

To edit a partner company user's details

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **User Administration>Partner Users** in the left Navigator. The Users log opens.
3) Select a partner company user and click **Open**. The Partner Company Edit User window opens.

> **Note**: If a User Administration design has been imported, the data elements that appear in the General tab of the User Properties can vary.

4) Do any of the following:

- To change the status of the partner company user, click the **General** tab and change the Status field.
- To manage a partner company user's group membership, click the **Groups** tab. Click Add or Remove.
- To manage a partner company user's permissions, click the **Permissions** tab. Grant permissions to the user as needed. (In addition, when using Access Control, both partner company users and sponsor company users can be added to a module.)

5) Click **OK** to save and exit.

Change the status of multiple partner users

If you want to change the status of multiple users at the same time you can select the users from the log and change the status for all of those users. This eliminates the need for you to open each user record to modify the user status.

> **Note**: The **License Manager** controls the number of active users within a system. If the new users will exceed your license terms, you will receive an error message.

To change the status of multiple partner users

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Partner Users** in the left Navigator.
3) Select the users whose status you want to change.
4) Choose **Status** and one of the available statuses (Active, Inactive, On-Hold).

Importing and Exporting Company and Partner Users

Importing and Exporting for Company Users

When the direction for the Data Element (DE) "`uuu_user_company`" is set to **Input/Both**, then the DE "`Company`" will be available in the CSV when the user performs **Export Structure**.

When the direction for the DE "`uuu_user_company`" is set to **Output** , then the CSV retrieved through the **Export Structure** action will not have the DE "`Company`". In this scenario, the CSV can be used to create Company Users.

If the DE "`Company`" is present in the CSV, then the user must include the Owner Company name to complete the CSV import. Unifier will not validate because the value in the DE "`Company`" is ignored.

Importing and Exporting for Partner Users

When the User Attribute Form is present, the following conditions apply:

The **Partner Users** log enables you to export and import, similar to **Company Users** log.

Go to the **Company Workspace** (**Admin** mode).

From the menu bar, click **File**. Click **Export** to see the following sub-options:

- **All**

  To export the list of partner users to a CSV file.
- **Selection**

  To export a list of selected partner users to a CSV file.
- **Export Structure**

  To export the structure for partner users to a CSV file based on the DEs set in the **Integration** node of Partner Users.

If the **Direction** is set to **Output**, in uDesigner, then:

- The CSV file generated using **All** and **Selection** will export data, but it will not contain the company attribute in the CSV file.
- The CSV file generated using **Export Structure** will not include company attribute. Such CSV file, when used to create user by way of the **Import** option, will return the error, "Company is required" indicating that a partner user cannot be created without a company attribute.

Similarly, the Import option will be available as a sub-option of the New option in toolbar and menu options (**File** > **New** > **Manual** or **Import** > **Manual** or **Import**). The **Import** option, in this case, enables you to perform a bulk import by way of a CSV file. The functionality is similar to the **Import** option on the **Company Users** log.

The user can import partner users through a CSV file only when the company attribute is present. In this scenario, the **Direction** (for **Integration**) must be set to **Input** or **Both** in uDesigner in order for the user to be able to create partner users by way of the **Import** option.

> **Note**: The company attribute is a mandatory field when creating Partner Users by way of the **Import** option.

When the User Attribute Form is not present, the options to import or export will be available the same ways as when a User Attribute Form is present.

If the User Attribute Form is not defined, and the user clicks **Export Structure** for Partner Users, then the DE "`Company`" is displayed by default in the exported CSV file.

Reactivating Users

When a Partner Company participates in a project or shell, the Partner Company becomes a Member Company in that project or shell, and the Partner Company users that are added to the project or shell become the Member Company users.

> **Note**: Project and shell access is limited to Unifier users (including Sponsor Company users or Member Company users) who are chosen for the project or shell and permissions are configurable for each company.

For more details about company types, see ***Companies in Unifier*** (on page 35).

Note: These processes apply to the proxy users.

Go to the **Company Workspace** (Admin mode). From the left Navigator, click **User Administration** > **Partner Users**, and open a user to open the **Edit User** window. In this window:

- If you (the administrator) deactivate a Partner Company user from a project or shell that the Partner company was associated with and later decide to reactivate the Partner Company user for that project or shell, the status of that Partner Company user changes to what it was prior to the deactivation of that Partner Company user.
- If you (the administrator) remove a Partner Company from a project or shell and later decided to re-add the Partner Company to that project or shell, the status of the Partner Company users changes to what it was prior to the removal of the Partner Company. In this scenario, the administrator has to manually activate the Partner Company user at the company level (global), and Unifier automatically changes the status of the Partner Company user to what it was prior to the removal, or deactivation.

Important Information about Reactivating Users

When you deactivate the Partner Company users who are active in a project or shell and later activate the same users, Unifier reverts the status of the users to "Active" or whatever the user's status was prior to the deactivation.

When you deactivate a Partner Company, in Company Workspace, Unifier removes the Partner Company that exists as a Member Company (in a project or shell). If you deactivate a Member Company from the list of Partner Company, in the Company Workspace, Unifier removes the Member Company from all associated projects or shells and sets all Member Company users as "Inactive." When you reactivate the Member Company, at the company level, unifier adds the Member Company to all previously associated projects and shells.

If a Partner Company is a member of a project or shell, but the Partner Company users are all set as "Inactive" in that project or shell, when you (the administrator) decide to reactivate the Partner Company users at the company level, the status of the Partner Company users at the shell level will remain as "Inactive."

When there are limited licenses available in the system, you need to deactivate the Member Company users at company-level. In this case, the Partner Company users are deactivated automatically.

You can reactivate a deactivated Member Company at company-level (Company Workspace).

Exceeding License Limit

Example

If you have three licenses, but you have added or activated five users, then Unifier assigns the three licenses that you had to the first three users (most recent users) that you added or activated.

Adding and Managing Groups

Company-level user groups can be used to group users who will be using the same functionality in Primavera Unifier and assigned the same Permissions. Anytime a new person comes onto the project or shell you can assign them to the appropriate groups and their permissions will be set automatically.

There are three default groups created for new companies: Company Administrators, Project Administrators, and Support. You can edit group information and permissions as necessary, and create new groups as needed.

For example, you may want to create a "Finance Admin" group and give them permission to create and modify Cost Sheet Templates. Another "Finance User" group may have permission to access and work with project- and shell-level cost sheets, but not the templates. These users may require access to only those modules and reports dealing with finances, but not other areas of the company, project or shell.

To access user groups

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Groups** in the left Navigator.

Create a new group

The following discusses how to create a new group.

To create a new group

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration>Groups** in the left Navigator. The Groups log opens.
3) Click the **New** button. The Groups window opens.
4) Complete the **General** tab as outlined in the following table.
5) At this point you can also complete the other two tabs:
   - Add user to the groups in the **Members** tab.
   - Add group permissions in the **Permissions** tab.
6) Click **OK** to add the new Group.

In this field:	Do this:
Group Name	Enter a name for the group.
Group Manager	Click Select and select the person responsible for administering the group. This person automatically becomes a member of the Group.
Group Description	Enter a description, such as the group's function or permission level.

Add users to a group (Members tab)

This section discusses how to add and manage a group's membership. You can add company users or partner company users to a group. You can also manage a user's group membership in the Groups tab of the Edit User window of both company and partner users.

To add a user to a group

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration>Groups** in the left Navigator. The Groups log opens.
3) Select a group and click **Open**. The Groups window opens.
4) Click the **Members** tab, and click **Add**. The User/Group Picker opens. The User/Group Picker displays all Active or On-Hold users from the sponsor company and all Partner Companies. The company affiliation is noted in the Company column on the picker.

> **Note**: If a User Administration design has been imported, the content of the User/Group picker (in User view) can vary. The Find window and sort order can also vary depending on the optional design created in uDesigner.

5) Select the user(s) to add to the group. (Press the **Ctrl** or **Shift** keys to select more than one user name.)
6) Click **Add**. Users will appear in the Selected Users box.
7) Click **OK**, then click **OK** to close the Groups window.

To remove a user from a group

From the Groups window, **Members** tab, select the user on the list and click **Remove**.

Edit group permissions (Permissions tab)

The permissions assigned here will be applied to all members of the group. Users within the group inherit permissions from the group. If a user is in more than one group, then the highest level of permissions granted in any group for a module will prevail.

> **Note**: Permissions are described in the *Unifier Reference Guide*.

To assign permissions

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration>Groups** in the left Navigator. The Groups log opens.
3) Select a group and click **Open**. The Groups window opens.
4) Click the **Permissions** tab.
5) You may click on the **plus sign** next to a module to expand the options. Scroll up or down, as needed.
6) Select a module in the upper portion of the window. Choose the **Permission level** for that module in the lower portion.
7) Click **OK** to save.

To copy permissions from a template

1) In the Permissions tab, click the **Copy Permissions** button.
2) Select the template and click **OK**. All permissions settings in the user record will be overwritten and replaced with the permission settings from the template.

Integration Users

Integration user is referred to a user who is performing integration, using the SOAP and REST services. This user will be a part of standard user licensing.

You (Administrator) can use the **Integration Users** sub-node (under **User Administration** node) to view the list of integrated user, create new integrated users, and assign or edit permissions for Document Manager and access protocol (Legacy).

To access the **Integration Users** sub-node:

1) Go to **Company Workspace** and switch to **Admin** mode.
2) Click **User Administration** node to expand.
3) Click **Integration Users** sub-node log.

The **Integration Users** sub-node log contains the following elements:

Toolbar options

- **Create**
- **Refresh**
- **Print**
- **Find on Page**

Columns

- **First Name**
- **Last Name**
- **User Name**
- **Status**
- **Description**
- **Timezone**

When you select a user, a right-hand pane displays the general details for the user that you selected.

The following explains each element in details.

Creating Integration Users

To create a new integration user:

1) Go to the **Integration Users** log.
2) Click **Create** to open the **Create User** window.
3) Fill out the form.
4) Click **Done**.

The following explains each block and field in the **Create User** window:

General block

It provides general information about the integration user. The **General** block has the following fields:

- **First Name**
- **Last Name**
- **Status**
- **Active**
- **Inactive**
- **Email**
- **Language** (system default language)
- **Description**
- **Time Zone** (system default time zone)

Security block

It provides the ability to add "username" and "password" for a user. The **Security** block has the following fields:

- **Username**
- **Password**
- **Confirm Password**

Permissions block

It provides the ability to determine the permissions that the user has (for modules in Unifier). The **Permissions** block has the following fields:

Document Manager

- Folder Services
  - Create: This permission will provide access to all the POST services for Folders.
    Create Folder by Path
    Create Folder by Parent Folder ID
  - Update: This permission will provide access to all the PUT services for Folders.
    Update Folders Metadata by Path
    Update Folder Metadata by Folder ID
  - Get: This permission will provide access to all the PUT services for Folders.
    Get Folders, or Documents, Metadata by Path.
    Get Folders, or Documents, Metadata by Parent Folder ID
- Document Services
  - Create: This permission will provide access to all the POST services for Documents.
    Create Documents by Path
    Create Documents by Parent Folder ID
  - Update: This permission will provide access to all the PUT services for Documents.
    Update Documents Metadata by Path

Update Document Metadata by Document ID

- Get: This permission will provide access to all the PUT services for Documents.

  Get Documents by Path

  Get Documents by Parent Folder ID

  Get Document by File ID

Legacy block

Legacy SOAP services

- The Full Access permission will be supported for all the Legacy SOAP services.
- The check-boxes will be checked by default when clicked on Full Access.

Setting Permissions to Integration Users

To set permissions to integration user:

1) Go to the **Integration Users** log.
2) Click **Create** to open the **Create User** window.
3) Click **Permissions** to expand the form.
4) Set the integration user permission for **Document Manager**.
5) Set the integration user permission for **Legacy** accesses.
6) Click **Done**.

Printing and Exporting Integration Users

To print a list of the integration users:

1) Go to the **Integration Users** log.

2) Click the **Print** drop-down.
3) Select **Print** and follow the prompts.

To export the integration users to CSV:

1) Go to the **Integration Users** log.
2) Click the **Print** drop-down.
3) Select **Export to CSV** and follow the prompts.

To export the integration users to Excel:

1) Go to the **Integration Users** log.
2) Click the **Print** drop-down.
3) Select **Export to Excel** and follow the prompts.

Access Control for Integration Users

To set permissions for Integration Users:

1) Go to **Company Workspace**, **Admin** mode.
2) Click **Access Control** node to open the Access Control log.
3) Click **Administration Mode Access** to expand.
4) Click **User Administration** to expand.
5) Click **Integration Users**.

You can assign the following permissions:

Permission	Expected Behavior When Checked
Create	When you check this option, Unifier selects the following permissions: ▸ Modify ▸ View A user with the "Create" permission can add users, modify the user status, and view the user details.
Modify	When you check this option, Unifier selects the "View" permission. A user with the "Modify Status" permission can modify the user status and view the user details.
View	A user with the "View" permission can view the user details.

Managing Users in Bulk

You can use bulk processing to manage users across a large number of projects or shells. Bulk processing means that you can perform the same action on a large number of user records without having to navigate to each record and perform the same action repeatedly. You can perform this bulk processing at the shell or project level. Bulk user management is performed using CSV file export and import. Importing user group assignments and importing users uses the existing Add Users permissions on a project or shell.

> **Note**: For cases where users have the same first and last name, the combination of first name, last name, company, and email address is used to uniquely identify a user. The email address is required on all imported rows.

You can use bulk processing to:

- Add or remove user group assignments
- Add new users

> **Note**: If you are using Oracle Identity Management (OIM) to add users to your company, you cannot use CSV files to add users. OIM creates the user's login name, first and last names, and email account. Users manage their own passwords with OIM. OIM does not honor user attribute forms. For information, see the documentation that accompanies the OIM product.

- Change the status of existing users
- Update multiple users in the User logs for Company or Partner users

Change user group assignments or add new users in bulk

To add or remove user group assignments in bulk

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Company Sponsored Projects > All** or **CompanySponsored Shells >** shell log (for the shells that you have configured).
3) Select projects or shells from the log.
4) Choose **File > Export > Export User Group Assignments > All Projects/Shells** or **File > Export > Export User Group Assignments > Selected Projects/Shells**. This will export the current user group assignments for all or the selected projects or shells to a CSV file. The exported file contains all users and group assignments for the selected projects or shells. Empty project groups are exported as well. Users that are not assigned to groups are not exported.
5) All columns are required, except the **Action** column. The **Action** column determines if a user is added to a group, removed from a group, or if no action occurs for a user's group assignment. Enter **Remove** to remove a user from a group; enter **Add** to add a user to a group. Users are automatically added in the **Active** status. If you leave the **Action** column blank for a user, no action occurs for that user's group assignment.

Note: The words **Remove** and **Add** must be initial capitalized.

To change a group assignment for a user, remove the user from one group and then add them to another.

6) You can also add new users at this point by adding new lines to the sheet and entering the data for the new users. On import, these new users are added to the project or shell with Active status. When you add new users, you must enter data into all columns except for **Action**, which is optional. New partner company users are added to Partner Company Users as well as to the project or shell.
7) Save the CSV sheet when you are finished modifying the user group assignments or adding new users.
8) Navigate back to the log and choose **File > Import > Import User Group Assignments**.
9) Upload the modified CSV file and click **OK**.

   The import process will load all rows that have no errors. The import can issue exceptions if:

   - A user is not a valid user in Unifier
   - The user/company combination is not valid
   - The group is not valid in the project/shell
   - The Partner user license is exceeded
   - Action specified is invalid
   - Insufficient permissions exist to add users or add and remove group assignments

Change user status in bulk

To change user status in bulk:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Company Sponsored Projects > All** or **CompanySponsored Shells >** shell log (for the shells that you have configured).
3) Select projects or shells from the log.
4) Choose **File > Export > Export Users**. This will export the current users for the selected projects or shells to a CSV file.
5) In the **Status** column of the CSV file, change the status of the user as needed. Valid status designations are:

   - Active
   - Inactive
   - On-Hold

   Also, you can add new users. Be sure to provide valid values in all columns.
6) Save the CSV sheet when you are finished modifying the user statuses.
7) Navigate back to the log and choose **File > Import > Import Users**.

   The import process will change the status of existing users and add new users as specified in the CSV sheet. Users can be added from companies listed under the Member Companies node at the project/shell level.

   The import process will load all rows that have no errors. The import can issue exceptions if:

- A user is not a valid user in Unifier
- The user/company combination is not valid
- The group is not valid in the project/shell
- The Partner user license is exceeded
- Insufficient permissions exist to change the user status or add a user

8) Upload the modified CSV file and click **OK**.

Update multiple company or partner users

Bulk edit of Company or Partner users relies on fields defined in Integration and is available only if the User Attribute form has been imported. For Partner users, the only additional attributes that are available for bulk edit are those that were added by importing the User Attribute form.

> **Note**: Bulk update of status is available through the Status button in the Users log toolbar.

To update multiple users in the Users log

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **User Administration > Company Users or User Administration > Partner Users** in the left Navigator.
3) From the log, select users to modify.
4) Choose **Edit > Bulk Edit**.
5) Modify the Bulk Edit form as needed.
6) Select the **Update** checkbox for the fields you want to update. The checkbox is automatically selected when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.
7) Click **Update**. This launches the bulk update of the selected records.

   The Bulk Actions Status window displays after you click Update. This window allows you to monitor the progress of the bulk update. Click OK after all records have processed. Click Cancel if you want to cancel the bulk update in progress.

Creating and Managing User Preference Templates

User Preference templates can be used to configure the default user preference settings for new users. It can also be used to update existing users' user preferences by "pushing" the preference options. In this way, you can establish a standard for your users' preference settings.

> **Note**: If you are using Oracle Identity Management (OIM) to enter users into your company, preference templates will be ignored.

Create a User Preferences Template

1) You can create any number of user preferences templates.

To create a *new* User Preferences Template:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** and then **User Preference Templates** in the left Navigator. The **Preference Templates** log opens.
3) Click **New**. The User Preferences Template window opens.
4) On the **General** tab, enter a name for the template. Each template must have a unique name. Enter an optional description.
5) For **Status**, choose **Active** or **Inactive**. You can create any number of templates, but only one can be active at a time.

   The Active template will be used as the default user preference settings when adding new company users. The other templates can be used to update ("push") preference settings to existing users.
6) Click the **Preference** tab. The Preferences tab appears exactly like the Options tab of a user's User Preference window. Complete the fields in the window as described earlier in the Preferences section of this guide.
7) Click the **Region Format** tab. Select the following: Language, Time Zone, Date Format, and Number and Currency Formats.

   Note: The languages listed are the active languages selected in the **Configuration - Internationalization** log window, by the administrator.

8) Click **Apply** to save changes, or **OK** to save and close the window.

Update Users with the User Preferences Template

You can create multiple user preference templates. The Active template will be used as the default template when creating new users. The other templates can be used to update ("push") preference settings to existing users.

The Update Users process runs in the background. Depending on the number of records and projects or shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

To apply the user preferences template to selected users

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Standards and Libraries** > **User Preference Templates** in the left Navigator. The Preference Templates log opens.
3) Select any template in the log.
4) Click the **Update Users** button and choose **Users**. The User Picker opens. The picker lists Company Users.
5) Select the users to update and click **Add**. Click **OK** to close the picker window.
6) Select preferences to update. Only selected options are updated. Email subscription choices are not selectable; they are determined by the template.
7) Click **OK**.
8) Click **Yes** to confirm. The user preferences of the selected user(s) will be updated with the template settings.

To apply the user preferences template to all users

1) In the Preference Templates log, select a template.
2) Click the **Update Users** button and choose **All Users**. This includes Company Users.
   Users are identified by their unique User ID.
3) Select preferences to update. Only selected options are updated. Email subscription choices are not selectable; they are determined by the template.
4) Click **OK**.
5) Click **Yes** to confirm.

View update users history

You can view details about previous Update User runs.

To view Update Users History

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Standards and Libraries>User Preference Templates** in the left Navigator. The Preference Templates log opens.
3) Click the **Update Users** button and choose **History**. The Update Users: History window opens. It lists the following:
   - Requestor: User who initiated the update process
   - Users: Either user selected or all users
   - Submit date: When the update request was submitted
   - Start date: When the update process started
   - End date: When the update process ended
   - Status: Status of the request
4) Select an instance from the list and click **Open** (or double-click to open). The History Details window opens, displaying which users were updated by the request.

Cancel a user update request

You can cancel an update request that has not yet started, that is, the status is not **In Process** or **Finished**.

To cancel a user update request

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Standards and Libraries > User Preference Templates** in the left Navigator. The Preference Templates log opens.
3) Click the **Update Projects** or **Update Shells** button and choose **History**. The Update Projects or Shells: History window opens.
4) Select an update that has not yet started.
5) Click **Cancel Request**.

Creating an Approved Email List for Project/Shell Mailboxes

Emails are important tools for communication and they need to be included in Project/Shell. Emails can come from:

- Project/Shell members who send emails from outside Unifier.
- External users who do not use Unifier.

The system collects emails, and their attachments, in a central repository, called a **Mailbox.**. This repository enables users to use emails in managing and documenting a Project/Shell.

> **Note**: Emails can also be linked to business process records.

Once an email resides in the Project/Shell Mailbox, a user can forward the email to appropriate members, flag the email for review, or reply to the email.

When Unifier is installed on your system, a dedicated email address for your company is specified. When you create a Project/Shell, the system assigns a unique identifier to the Project/Shell. To create a dedicated mailbox as the communication repository for the Project/Shell, Unifier combines you company email address and the Project/Shell identifier.

Since the system considers email addresses used by any company or partner user as "approved" and automatically adds the email addresses to the Approved Email List, to prevent spam and virus attacks from infiltrating your system, by way of external emails, you must create a list of approved email addresses that are be accepted by the Project/Shell Mailbox.

> **Note**: Unifier accepts up to 1,000 emails from any single address per day. Unifier ignores, as spam, any number of emails beyond 1,000.

To prevent adding all possible email addresses that can send emails to the Project/Shell Mailbox in the Approved Email List, one by one, you (Unifier Administrator) can enter the Internet domain name for all of the users (Unifier users or external users) to the Approved Email List. See the following for details on both options.

To create an approved email list (email address of an individual)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Approved Email List** in the left Navigator.
3) Click **New** to open the **Add address or domain** window.
4) In the **Email/Domain** field, enter the email address of the individual, for example: `someone@example.com`
5) (Optional) In the **First Name** and **Last Name** fields, enter the name of the user.
6) If you want to add another email address, click **Apply**; otherwise, click **OK** to close the window.

To create an approved email list (Internet domain name)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Approved Email List** in the left Navigator.
3) Click **New** to open the **Add address or domain** window.
4) In the **Email/Domain** field, enter the Internet domain name, for example: `@example.com`

Notes:

- Domain names have to start with the "at" (@) symbol.
- Names *can* include letters (abc), numbers (123), period (.), and dashes or hyphens (- - -).
- Names *cannot* include any other special characters or space.
- Names *cannot* begin with a dash or hyphen, and end with a dash or hyphen.
- If the system detects a domain name, then the system disables the **First Name** and **Last Name** fields.

5) Click **Apply** and then **OK**.

Editing, Deleting, and Finding Email Addresses

When Unifier is installed, a dedicated email address is specified for the company. When a Project/Shell is created, Unifier assigns a unique identifier to the Project/Shell. The system combines the dedicated email address and the Project/Shell identifier and creates the Project Mailbox. The Project/Shell email address appears on the **Options** tab of the Project/Shell details page.

The Administrator can define the project email address in order to create a more meaningful name that is related to the project.

The existing format for an email address in Prefix pattern is: `<PID>-<Configurator email>@<Domain>`.

The existing format for an email address in Suffix pattern is: `<Configurator email>@<Domain>+<PID>@<Domain>.`

The string that you enter in the Email Address field is prefixed/suffixed to the project email address based on the Configurator settings. By default, the system generates the "<PID>" and places it as the first part of the project email address.

You can change the project email address at any time; however, the system retains the emails belonging to a previous mailbox of the Project/Shell in the new mailbox.

The following explains the rules for naming an email address:

- Must be alpha numeric.
- Can include non-ISO characters.
- Cannot contain more than 170 characters.
- Cannot include the at (@), plus (+), or dash (-), symbols.

The following characters are not acceptable for the <PID>: / \( ) ~ ! @ # $ % ^ & * { | , ; " < > ' } + - : ? space characters = [ ].

Note: For an existing Project/Shell, the input box for Email address cannot contain zero (0) because internally the system uses zero (0), at the time of creating the Project/Shell, to populate the Project ID (<PID>_). As a result, zero (0) is not a valid input for the Email Address

field.

To edit an email address

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Approved Email List** in the left Navigator.
3) In the log click to select the email address that you want to edit and double-click the email address to open. The **Add/Edit Approved Emails** opens.
4) Edit the information and click **OK**.

To delete an email address

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Approved Email List** in the left Navigator.
3) In the log click to select the email address you want to delete and click **Delete**.

To find a specific email address

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Approved Email List** in the left Navigator.
3) In the log click **Find** to open the **Find** window.

   The **Find** window shows fields from the list, which you can use to narrow the list of items you see on the list. These fields show an *operator*, such as "contains" or "equals," which you can use to specify more precisely which items you want to search for.
4) Click the operator beside the field and choose the operator you want to use on the field, such as "equals," "does not contain," or "is empty".
5) Enter the value the field should contain.

   You can enter a partial name or address.
6) Click **Search** (or press **Enter**).

   Unifier will display the address(es) or name(s) that match the criteria you entered. It will also identify the criteria by which you have searched the list in the "**Current View: filtered by**" line above the list. If you choose to, you can cancel the find action by clicking **[Cancel Filter]**. Unifier will restore the list to its unfiltered state.

Importing and Exporting Email Addresses

If the user and email address information is stored in another software application, such as Microsoft Excel, you can import the information from the software application into the Approved Email List. You can also export the information from the Approved Email List to another software application, if necessary.

The **Export** option, on the toolbar, enables you to export:

- All
- Selected Rows
- Structure

Note: If you choose the **Export** > **All** option, you do not need to create a

template structure.

The **Import** option, on the toolbar, enables you to open the File Upload window and select files.

To import and export *email addresses*, you (Unifier Administrator) need to create a template structure, to use for both the import and export actions, first.

To create a template structure

1) On the **Approved Email List** log, click **Export** and select **Structure**.
2) At the prompt, click **Open**.

   Unifier opens a CSV file (for example: `unifier_approved_emails.csv`) showing the user information in the columns for:

   - Email / Domain*
   - First Name
   - Last Name
3) Save the CSV file.

   This CSV file becomes the template for importing and exporting Approved Email List data.

In the CSV file, you can enter the email address information. If an email, or Internet domain name, is already in use and you try to add it again, then the system notifies you about the duplicate record.

Notes:

- Do not change column structure. Columns marked with asterisk (*) contain mandatory/required information.
- Upon importing, if the email, or Internet domain name, is not present in the Approved Email List log, then the system creates a new record.
- Upon importing, if the email is present in the Approved Email List log, then the system updates the First and Last Name information for that associated record
- Upon importing, if the Internet domain name is present in the Approved Email List log, then the system ignores the First and Last Name information for that associated record.

Example

Email / Domain*	First Name	Last Name
user1@example.com	User1	Partner
user2@oracle.com	User2	Contractor

To import approved email addresses

1) On the **Approved Email List** log, click **Import**. The **File Upload** window opens.
2) Use **Browse** to navigate to the CSV file you want to import.
3) Click **OK** to upload the file into the Approved Email List.

To export all approved email addresses

1) On the **Approved Email List** log, click **Import** and select **All**.
2) Select the CSV file and click **OK** to begin export.

   Unifier exports all the email addresses on the approved list to the CSV file and open the file. You can edit the file and import it back into Unifier, or you can save the file for later updates.

To export specific approved email addresses

1) On the **Approved Email List** log, select the email addresses that you want to export.
2) Click **Export** and select **Selected Rows**.

   Unifier exports all the email addresses that you selected to the CSV file and open the file. You can edit the file and import it back into Unifier, or you can save the file for later updates.

Managing permissions and access control

Permissions can be set at the company level, program level, or project and shell level. This section discusses managing company level permissions.

Company level permissions can be set on company, program, shell, and project level functions. Changes to program and project or shell level permission settings made here will take affect for new programs and projects or shells to which users will be assigned. These settings can be overridden by adjusting specific permissions at the program or project or shell.

About Permissions

- Permissions are granted to users, or groups, to allow them access to Unifier features. Specific permission settings are described in the *Unifier Reference Guide*.
- A user can be granted permissions individually, or can inherit them from the groups to which the user belongs.
- If a user is in more than one group, then the highest level of permissions granted in any group for a module will prevail.
- Users can be granted individual permissions in addition to group permissions. If user-level and group-level permissions are different for a module, the highest level will be granted to the user.
- If you grant permissions to project or shell level User Mode features from the company-level Permissions tab, the new permission settings will take effect on future projects or shells the user is assigned to, but not on current projects or shells. To grant permissions to a user for a current project, be sure to change the permissions from the project or shell level user record.
- Permissions in a project or shell template from which the project or shell is created override Company level permissions.

Permission tab versus Access Control

There are two ways to control permissions and access to Unifier features and records: Access Control and the Permissions tab. Both of these will allow you to manage permissions. See below to help you decide which to use.

Access Control

Access Control displays the permissions granted to all users and groups per module. It allows you to quickly see which users and groups have access to each module and at what permission setting.

You can add, remove or adjust permissions for multiple users or groups at once, rather than editing the properties for each user or group individually. For example, if you need to grant access permissions to a newly setup business process, or want to verify that all team members have access to a new feature, it may be easier to do this in Access Control rather than opening each individual group or user record.

You can also generate and print an Access Information table summarizing permission settings.

Permissions tab

You can manage individual user or group permissions in the Permissions tab, which is part of the Properties window for the user or group record. Use the Permissions tab to quickly view or adjust permission settings for a particular user or group.

The Permissions tab also enables access to permission templates. You can copy a permission template to quickly set up the permissions for a new user or group; you can also save an existing user or group's permission settings as a new template for later use.

See ***Edit user permissions (Permissions tab)*** (on page 177) or ***Edit group permissions (Permissions tab)*** (on page 193).

Edit user or group permissions using Access Control

To adjust permission settings using Access Control

1) Do one of the following:
   - To open company level access control, go to the **Company Workspace** tab and switch to Admin mode. Click **Access Control** in the left Navigator. The Access Control window opens in the right pane of the Unifier window. The window displays a copy of the Navigator.
   - To open access control for a program, go to the Company Workspace tab and switch to Admin mode. Click **Access Control** in the left Navigator. The Access Control window opens in the right pane of the Unifier window. The window displays a copy of the Navigator.
   - To open access control for a project, open the project and click **Access Control** in the left Navigator. The Access Control window opens in the right pane of the Unifier window. The window displays a copy of the Navigator.
   - To open access control for a shell, open the shell and click **Access Control** in the left Navigator. The Access Control window opens in the right pane of the Unifier window. The window displays a copy of the Navigator.
2) Select a module in the Access Control window. The Module Permission Settings window opens. It lists the user(s) and group(s) which currently have access to the selected module and their permission settings.

   You can **Add**, **Modify**, or **Remove** users or groups, and grant permission levels. See the following procedures.

To add user and group access to a module

1) From the Module Permission Settings window, click **Add**. The Permission/Access Control window opens.
2) Click **Add Users/Groups**. The **User/Group Picker** opens.
3) Select users and/or groups from the list, click **Add** to add them to the Selected Users/Groups list, and click **OK**.
4) In the **Permission Settings** window, select the level of permissions you want to assign to the Users/Groups. Click **OK**.

To remove a user/group and their related module permissions

In the **Module Permission Settings** window, select the checkbox next to the user or group and then click the **Remove** button.

To modify permission settings

In the **Module Permission Settings** window, select the checkbox next to the user or group and then click the **Modify** button. Make changes to permission settings as needed and click **OK**.

Create or edit a permission template

Permission templates are sets of permissions that can be applied to users or groups of users as a whole. This is often an easier alternative to setting individual access permissions, especially when setting up groups and working with large project or shell teams. You can apply the template to a user or group to set basic permissions, then modify the permissions for individuals or groups if needed.

Note that any project or shell level permission granted at the company level and then applied to a specific user or group of users is inherited at project or shell creation time. The user permissions can then be modified at the project or shell level if further modifications are necessary.

To create a new permission template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Standards & Libraries > Permission Templates** in the left Navigator. The Permission Templates log opens.
3) Click the **New** button. The Edit Permission Template window opens.
4) Add a name and description of the template in the **General** tab.
5) Click the **Permissions** tab. This window is the same as the Permissions tab for an individual user or group record.
6) Configure the permissions settings and click **OK**.

To edit a permission template

1) Select the template from the **Permission Template** log and click the **Open** button. The Edit Permission Template window opens.
2) You can edit the name or description in the General tab.
3) Click the **Permissions** tab and adjust permission settings as needed.

4) Click **OK**.

To create a new permission template from existing permission settings

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **User Administration>Groups** in the left Navigator.
3) Select a group and click **Open**.
4) Click the **Permissions** tab.
5) Click the **Save as Template** button. Enter a template name and click **OK**.

Generate and print an Access Information report

You can generate and print an Access Information summary report of user and group permission settings. The report will display all user and group permissions.

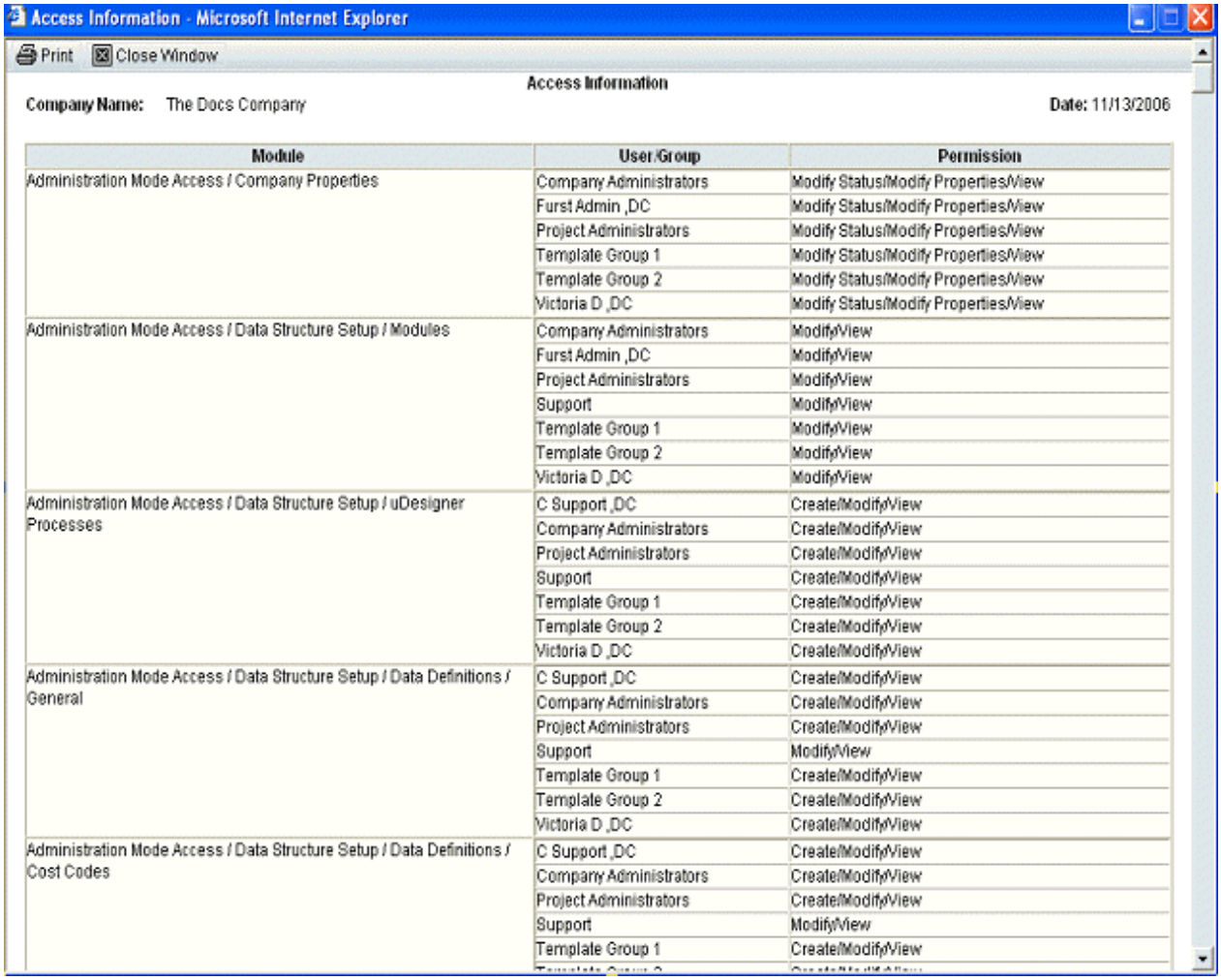
To generate the Access Information report

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) Click the **Access Information** button. The Access Information window opens. It may take several moments to generate the report.

To print the Access Information report

1) Generate the **Access Information** report. When the report is complete, the Print button becomes available on the toolbar.

2) Click the **Print** button. Select the printer and click **OK**.



Access Information - Microsoft Internet Explorer

Print | Close Window

Access Information

Company Name: The Docs Company

Date: 11/13/2006

Module	User/Group	Permission
Administration Mode Access / Company Properties	Company Administrators	Modify Status/Modify Properties/View
	Furst Admin ,DC	Modify Status/Modify Properties/View
	Project Administrators	Modify Status/Modify Properties/View
	Template Group 1	Modify Status/Modify Properties/View
	Template Group 2	Modify Status/Modify Properties/View
	Victoria D ,DC	Modify Status/Modify Properties/View
Administration Mode Access / Data Structure Setup / Modules	Company Administrators	Modify/View
	Furst Admin ,DC	Modify/View
	Project Administrators	Modify/View
	Support	Modify/View
	Template Group 1	Modify/View
	Template Group 2	Modify/View
	Victoria D ,DC	Modify/View
Administration Mode Access / Data Structure Setup / uDesigner Processes	C Support ,DC	Create/Modify/View
	Company Administrators	Create/Modify/View
	Project Administrators	Create/Modify/View
	Support	Create/Modify/View
	Template Group 1	Create/Modify/View
	Template Group 2	Create/Modify/View
	Victoria D ,DC	Create/Modify/View
Administration Mode Access / Data Structure Setup / Data Definitions / General	C Support ,DC	Create/Modify/View
	Company Administrators	Create/Modify/View
	Project Administrators	Create/Modify/View
	Support	Modify/View
	Template Group 1	Create/Modify/View
	Template Group 2	Create/Modify/View
	Victoria D ,DC	Create/Modify/View
Administration Mode Access / Data Structure Setup / Data Definitions / Cost Codes	C Support ,DC	Create/Modify/View
	Company Administrators	Create/Modify/View
	Project Administrators	Create/Modify/View
	Support	Modify/View
	Template Group 1	Create/Modify/View

Announcements Node

In addition to the Site (or System) Administrator, a Company Administrator will be able to create Announcements. Also, A Company Administrator will be able to define whether a particular announcement should be displayed to the:

- Users.
- Bidders.
- Users and bidders.

> **Note**: Announcements are displayed to all the users of the owner company and all partner users. Bidders are also able to view all announcements by Owner Company, in the Bidder Portal.

To access the **Announcements** module:

1) Go to the **Company Workspace**.

2) Switch to the **Admin** mode.
3) From the left-hand Navigator click the **Announcements** node to open both the **Announcements** log, and the **Announcement** properties page (the right-hand pane).

The **Announcements** log (toolbar options) enables you to:

- Create a new announcement (**+ Create** icon).
- Delete or change the status of an existing announcement (**Actions** drop-down menu).
- Refresh the log items (**Refresh** icon).
- Print, or export, the contents of the log (**Print** icon).
- Find items on the log (**Find on Page** icon). If the you decide to cancel the find for an entire row, then you must click the **Find on Page** icon, again.

The **Announcements** log contains the following columns:

- **Title**
- **Status**
- **Last Modified By**
- **Last Modified Date**

When the log page is displayed, the default sort order is descending date of records (**Last Modified Date**).

When you select an announcement record, or you hover over an announcement record, a gear icon will be displayed. The gear icon enables you to delete the selected announcement or change the announcement status.

The **Announcement** properties page (the right-hand pane) also enables you to see, or change, the details of an existing announcement. You must click to select an announcement on the **Announcements** log, first. The **Announcement** properties page (the right-hand pane) also enables you to:

- Enter a title for your new announcement (**Title**). You must click the create a new announcement (**+ Create** icon) option, first.
- Enter the text for a new announcement (**Announcement Text**). Maximum of 4000 characters, including formatting and HTML tags.
- Assign a status for your new announcement (**Status**). Active announcements cannot be deleted.
- Determine the audience (**Make an Announcement for**). The default is "**Both**" the Unifier Users and Bidders.

Announcement Properties

When you create a new announcement record which is unread, a red bubble count-indicator icon appears on top of the grey announcement icon (the megaphone icon). In the bubble icon, the number of unread announcements is displayed.

When there are no unread announcements, the bubble count-indicator disappears.

When you click the announcement icon (the megaphone icon), a grid appears that displays all of the unread announcements, highlighted in red. All the announcements are displayed in descending order, according to the date.

Once an announcement record has been read by a user, the title of the record is displayed in black. When you click the announcement hyperlink, the announcement grid appears.

In the announcement grid, the active (**Status** = **Active**) announcement records are displayed, only. The **Title**, **Last Modified By**, and **Last Modified Date** (for both company and system announcements) fields are also displayed.

For the system announcements created by the Site Administrator, the sign-in name of the Site Administrator is displayed in the **Last Modified By** field.

For company announcements, the full name (First + Last Name) of the user who created (**Last Modified By**) the record, is displayed in the **Last Modified By** field.

Access Control for the Announcements Node

To assign access:

1) Go to the **Company Workspace**.
2) Switch to the **Admin** mode.
3) From the left-hand Navigator click the **Access Control** node to open the **Access Control** log.
4) Click to expand the **Administration Mode Access**.
5) Click the **Announcements** sub-node to open the **Module Permission Settings** window (**Permission Settings for: Announcements**).
6) Click **Add**, click **Add Users/Groups**, click and select user, group, or both, and click **Add**.
7) Assign permission: **Create** or **View**.

   Create: Users/Groups with Create announcements permission will be able to create, modify, and view all announcements.

   View: Users/Groups with View permission will be able to the existing announcements, without the ability to modify them.

Site Administrator Announcements Log

A Site Administrator can access announcements under **Customer Support** node:

1) Sign in as Site Administrator.
2) On the left-hand Navigator click to expand **Customer Support** node
3) Click **Announcements** sub-node.

A Site Administrator can create announcements in the same way that a Company Administrator creates announcements.

Announcements created by a Site Administrator are displayed to all Unifier users.

> **Note**: The Make an Announcement for" option is not available for the Site Administrator.

For a Site Administrator, the following columns are displayed in the Announcements log:

- **Title**

  The title from the announcement displayed in the log.

- **Status**

  The current status of the announcement record is displayed in this column.
- **Last Modified Date**

  The date on which the announcement record was created or last modified. This an auto-populated field. The date is displayed in the format selected by the user, in the user **Preferences** window. When a field in an announcement record is modified, and the modification is saved, then the **Last Modified Date** is updated.

> **Note**: The Announcements log does not display the Last Modified By column for Site Administrator.

Working with the License Manager

The **License Manager** (**Company Workspace** > **Admin** mode > **License Manager**) controls the number of active users (Standard Users, Portal Users, and Earned Value Management Users) allowed in the system based on an agreed license terms.

> **Note**: The standard users refer to both *Company* and *Partner* users.

The license terms (i.e., number of allowed users) used for **License Manager** are maintained by the *Site Administrator*, and cannot be edited by the *Company Administrator*.

You can click the **Settings** icon to define the notification threshold for license terms and overage thresholds.

The Earned Value Management block in License Manager is seen only when the module is loaded. When licenses are provided for the Earned Value Management module in Unifier, an additional Earned Value Management check box is available in the Edit User dialog for standard users. Select the check box to designate users as Earned Value Management module users, within license terms.

Your *Company Administrator* can access the **License Manager** to:

- View the current named users and user record limits.
- View the usage charts.
- Print usage reports.

Your *Company Administrator* can set up the **License Manager** to:

- Automatically notify the *Company Administrator* (or other designated user) when the number of users is approaching the limit.
- Allow for an overage (i.e., a certain number of users that are over the limit, as determined by the terms of the license agreement).

If the number of users exceeds the number of available licenses, then the system sends notifications to the following:

- Users specified in the configurator (Unifier Configurator WebLogic).
- Users who have **Notify** permission in the **License Manager**, which was set in **Access Control**.

The **License Manager** counts users with status of **Active** or **On-Hold**. The term "active named user" refers to any user in the system who has an **Active** or an **On-hold** status.

A user with the **Inactive** status is not counted against the license terms, and you can add/import any number of **Inactive** users.

View License Manager Terms and Usage

The License Manager console provides easy access for viewing license terms and usage.

To view the License Manager console

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **License Manager** in the left Navigator. The License Manager console opens in the right pane.

   The License Manager displays the following blocks:

   - **Standard Users**: This block is always displayed and provide the total license count for *Company* and *Partner* users.
   - **Portal Users**: This block is displayed when the environment has license-count of portal users greater than zero.
   - **Earned Value Management Users**: This block is displayed when the module is loaded.

   Each block has the following information:

   - **License Terms**: Displays the number of **Active Named Users** — that is, any user with a specific user name and password — in the sponsor company and all partner companies. ("Active" refers to users with a status of Active or On-Hold.) It also displays any **Overage** limits, which allow companies to exceed their active named user limits by an agreed upon amount.
   - **Current Usage**: Displays the current number of Active Named Users (users with status Active or On Hold for your company and partner companies, and whether the Overage is being used. Usage refers to user records only, regardless of whether the users are currently signed in, or not. (Current Usage also displays the "as of" date and time of the last update.)

To view the License Terms window

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **License Manager** in the left Navigator. The License Manager console displays in the right pane.

   The Site Administrator will be able to edit the license terms and view the audit log for the users by clicking the **Settings** icon (gear icon).

   The Site Administrator when editing the user count will have to put a combined number for active named users. The Site Administrator will also be able to edit the Portal Users and Earned Value Management Users counts.

   - The **General** tab displays your company's current license terms. This tab is read-only, and managed by the Site Administrator.
   - The **Notifications** tab allows you to schedule regular usage checks, and configure thresholds for notifying you when you are getting close to license term limits.

Note: If you exceed license limits while adding or importing users, then:

- While adding company or partner company users, if license limits have been reached, a warning message will appear. You may receive this warning message if:
- The license limit for active named users has been reached, but not the overage limits. Any new users will be counted against the overage limits.
- The license limits for both active named users and overage have been reached. You will be able to add new user records, but will not be able to activate them without adjusting your current license limits, or deactivating other users.
- If you are adding partner company users to the company workspace or a project or shell, you can add the users, but will not be able to activate them.
- If you are importing users (via XML or CSV), and the license limits are reached, any user records that would exceed the limit will not be created, and you will receive an error message informing you of the number of user records that could not be created.
- In addition, if your license limits have been reached, you will not be able to activate any currently inactive users.

Set Up License Manager Scheduled Runs and Notifications

You can set up the License Manager to notify you when the number of active users in your company or partner companies is approaching the established license limits.

Note: Notifications will only be sent if a scheduled run is set up and enabled. Notifications will only be sent to users or groups who have been given explicit Modify or Notify Permissions.

To set up notification and threshold limits

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **License Manager** in the left Navigator. The License Manager console appears in the right pane.
3) Click the **Open** button. The License Terms window opens.
4) Click the **Notifications** tab. Complete the fields as described in the following table and click **OK**.

In this field:	Do this:
Enable Notifications	Select this checkbox to enable notifications regarding License Term thresholds. These email notifications will be sent to users or groups who explicitly have Modify or Notify permissions. Notifications are sent only after scheduled runs.
Notification	Enter the threshold values for active named users in your company and

Thresholds: Active Named Users	partner company. For example, if you want to be notified when the number of active named users in the system reaches 80% of your license terms, then enter 80 in this field. **Note**: The threshold value calculates against the number of allowed active users in the license terms, and does not count overage amounts. Once the threshold limit has been reached, users will continue to receive notifications during every scheduled run.
Scheduled Runs Frequency	You must schedule usage runs in order to generate notifications. These runs check for currently active named users in your company and partner company. You will receive notification of these runs only if threshold values have been reached. Choose frequency: **Weekly**: select the day of the week. **Monthly**: select the day of the month.

Print License Manager Information

You can print a copy of the current license manager console view.

To print license manager terms and usage

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **License Manager** in the left Navigator. The License Manager displays in the right pane.
3) Click the **Print** icon in the upper right corner. The information appears in a printable HTML format in a separate browser window.

View or Print the License Manager Audit Log

The audit log captures changes made to license terms. You can view the audit log, print a copy, or save a PDF copy of the audit log to your local drive.

To view a license manager audit log

1) From the License Manager log, click the **View** menu and choose **Audit Log**. The Audit Log window opens.
2) From the Audit Log window, you can double-click a listed event to view the audit record detail, which includes for reference the current time zone of the user viewing the audit log.

To print the audit log

1) From the Audit Log window, click the **Print** button. A PDF file is created.
2) Do one of the following:
   - Click **Open** to open the file in Adobe Acrobat Reader. From the Reader window, you can view, save, or print the file.
   - Click **Save**. In the Save As window, navigate to the location in which you want to save the PDF file. Open the file in Adobe Acrobat Reader and choose **File > Print** to print.

Running System Usage Reports

You can track current system usage using the predefined system usage reports. These reports provide an accurate and efficient way to track and manage licenses and system usage. Usage reports can be run based on company workspace or individual projects or shells, and can track both sponsor company users and partner company users.

The available reports are:

- Usage Detail By Company
- Usage Summary By Company
- Usage Detail By Project/Shell
- Usage Summary By Project/Shell
- Usage Detail By Company Workspace
- Usage Summary By Company Workspace
- Usage Detail By User
- Usage Summary By User
- User Account Details
- User Account Summary
- User Session Detail
- Last Login
- Current Login
- Proxy Login

The reports are described in the following sections.

Run a System Usage Report

The following is the general procedure for running a system usage report. The availability for the reports is based on permissions.

To run a system usage report

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **System Reports** in the left Navigator.
3) Select a report from the log and click **Open** (or double-click the selected report). The query window for the report opens. The query window will differ depending on the report selected.
4) Use the table below to complete the Query fields. You can leave the fields blank to return all records without filtering.
5) Choose a report format. The User Account Details include Programs as a source, and allows you to choose a program name for the report. The options are:
   - **HTML**: Displays the report in the standard format in a browser window. You may print a copy of the report from the browser window. (Click the File menu and select Print or Print Preview.)

- **CSV**: Formats the report in an exportable CSV format, usually in Microsoft Excel, or other software application you have setup for this format. You will be prompted to save the file or open it.
- **Excel**: The report displays in Microsoft Excel format in the browser window. You can save an Excel formatted copy of the report or print from the window. (Click the File menu and select Save As or Print.)
- **PDF**: Opens Adobe Acrobat Reader and displays the report in PDF format. You can save a copy of the report and/or print it from the PDF window. (Click the File menu and select Save or Print.)
- **XML**: Generates the output in XML format. Before the results are generated, a confirmation window will open, giving you the option to save the XML file to your local machine (click Save), or display the results in a popup browser window (click **Open**).

6) Click **Run** to run the report. The report results are generated in the format you chose.

For this query parameter:	Do this:
Owner Company	(The field displays the owner company.)
Source	Select one of the following options to see where users' time was spent: All: All areas of the system Company Workspace Project: If you select Project, the Project picker is activated. Shell: If you select Shell, the Shell picker is activated. Other: Other areas of the system that are not par t of a project or shell or the company workspace, such as the Asset Manager, Administration Mode, program features, user home page, etc.
Project/Shell	If you chose Project /Shell or All as the source, the Project /Shell picker is activated. Click Select to select a specific project. If you do not select a project or shell, the default is all projects or shells.
Partner Company	Click Select to select a specific partner, or leave blank to include all partner companies (in addition to the owner company results).
Date Range From	Click the calendar icon to enter a start date for the report. If you leave it blank, then the report will start at the company activation date.
Date Range To	Click the calendar icon to enter a start date for the report. If you leave it blank, then the report will include results up to the current date.

System Usage Report Types

The following describes details for running the predefined system usage reports.

Usage Detail By Company

This report allows you to view usage times across a company and all of its partner users grouped by Company /Partner name. This report uses the login time to track usage, and shows usage per day (not per session).

The report results are sorted as follows:

- Company name in alphabetical order.
- For each company, the list of user names: first name, last name
- For each user, lists the source alphabetically
- When source = Project, then project names are listed alphabetically

Report Query Parameters:

- Owner Company: Read-only
- Source: All, Company Workspace, Project/ Shell or Other
- Project/Shell: Select a Project/Shell or leave blank
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
Company Name	The name of the company for which the report is being generated. Depending on filter condition, this report can be generated for a particular company or all.
User Name	The user names that are involved either in Projects or Shells or directly at Company Level.
User ID	The user ids that are involved either in Projects or Shells or directly at Company Level
Source	Company Workspace, Project, Shell, or Other
Name	The names of projects or shells that have users assigned to it either from Company or Partner levels. If user does not participate in any Projects or Shells the Project or Shell Name and number columns is empty.
Number	The number that corresponds to the Project or Shell Name
Date	Date when user signed in to Unifier
Usage (Min)	Time taken by User in minutes between sign in and sign out
Usage (Hrs)	Time taken by User in hours between sign in and sign out

This column:	Shows:
Total	Total time taken by all users per company login level and per Company Partner level
Grand Total	Total time taken by all users at a company level as well as Company Partner level

Usage Summary By Company

This report allows you to view summarized usage times across the sponsor company and partner companies. These are usage times logged by users, once they sign in to Unifier, independent of whether they are working for their own company or other companies. The report results are sorted alphabetically by company name.

Report Query Parameters:

- Source: All, Company Workspace, Project/Shell or Other
- Project: Select a project or leave blank for all projects
- Shell: Select a shell or leave blank for all shells
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
Company Name	The company name. Depending on filter condition, this report can be generated for a particular company or all companies.
Usage (Min)	Total Time taken by all Company Users in minutes at "Source" level between sign in and sign out in the specified date ranges
Usage (Hrs)	Total Time taken by all Company Users in hours at "Source" level between sign in and sign out in the specified date ranges

Usage Detail By Project/Shell

The Usage Detail By Project/Shell report shows usage details per project or shells across a company and its partners grouped by project or shell name. Results are sorted by:

- Project/Shell names alphabetically for all projects belonging to user company
- For each project or shell, lists users belonging to owner company first followed by partner company sorted alphabetically
- Within a company, users are sorted alphabetically by first name, last name

Report Query Parameters:

- Source: defaults to Project/Shell
- Project/Shell: Select a Project/Shell or leave blank

- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
Name	The names of projects or shells that have users assigned to it either from Company or Partner levels.
Number	The corresponding Project or Shell Numbers.
Company Name	Name of the owner company. Depending on filter condition, this report can be generated for a particular Sponsoring company. If no users from current company are assigned to the Project, the row will start with Partner name.
User Name	The user names that are involved in Projects/Shells
User ID	The user ids that are involved either in Projects/Shells
Date	Date when user signed in to Unifier
Usage (Min)	Time taken by User in minutes between sign in and sign out working on that Project/Shell
Usage (Hrs)	Time taken by User in hours between sign in and sign out working on that Project/Shell
Total	Total time taken by sponsor company or partner company users for a given project or shell
Grand Total	Total time taken by sponsor company or partner company users across Projects/Shells.

Usage Summary By Project/Shell

This report displays summarized usage times per project or shell across a company and partner users grouped by project name.

Report Query Parameters:

- Source: defaults to Project/Shell
- Project/Shell: Select a Project/Shell or leave blank
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
Name	The names of projects or shells that have users assigned to it either from Company or Partner levels
Number	The corresponding Project/Shell Numbers

This column:	Shows:
Company Name	Either the Sponsoring Company Name or Partner Company Name. Distribution across Owner Company and Partner users in a given Project
Usage (Min)	Total Time taken by all Users in minutes between sign in and sign out per Project/Shell
Usage (Hrs)	Total Time taken by all Users in hours between sign in and sign out per Project/Shell
Total	Total time taken by users at a company level as well as Company Partner level for across all company projects or shells

Usage Detail By Company Workspace

This report displays usage times for company and partner users working in the owner company's Company Workspace.

Report Query Parameters:

- Source: defaults to Company Workspace
- Project/Shell: Not applicable
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
Company Name	The company name. Depending on filter condition this report can be generated for a particular Sponsoring company. If no users from current company are assigned to work in the Company Workspace the row will start with Partner name.
User Name	The user names that are involved at Company Level
User ID	The user ids that are involved either at Company Level
Date	Date when user signed in to Unifier
Usage (Min)	Time taken by User in minutes between sign in and sign out working at the Company Workspace
Usage (Hrs)	Time taken by User in hours between sign in and sign out working at the Company Workspace
Total	Total time taken by users at a company level as well as Company Partner level at Company level

This column:	Shows:
Grand Total	Total time taken by users at a company level as well as Company Partner level across Company and its Partners.

Usage Summary By Company Workspace

This report summarizes usage times for company and partner users working in the owner company's Company Workspace.

Report Query Parameters:

- Source: defaults to Company Workspace
- Project/Shell: Not applicable
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
Company	Name of the Sponsoring Company or Partner
Usage (Min)	Total Time taken by all Users in minutes between sign in and sign out in Company Workspace per Company/Partner
Usage (Hrs)	Total Time taken by all Users in hours between sign in and sign out in Company Workspace per Company/Partner
Total	Total time taken by users at the owner company level as well as Company Partner level in the Owner Company Workspace

Usage Detail By User

This report details usage across a company and all of its partner users grouped by user name. The results sort by user's first name and last name independent of whether user belongs to the owner company or a partner company.

Report Query Parameters:

- Source: All, Company Workspace, Project/Shell or Other
- Project/Shell: Select a Project/Shell or leave blank
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
User Name	The user names that are involved either in Projects or directly at Company Level

This column:	Shows:
User ID	The user ids that are involved either in Projects or directly at Company Level
Company Name	Company Name of the User
Source	Either Company Workspace/Project/ Other
Name	The names of projects or shells that have users assigned to it either from Company or Partner levels. This column is empty if Source is Company Workspace or Other.
Number	The corresponding Project/Shell Numbers. This column is empty if Source is Company Workspace or Other
Date	Date when user signed in to Unifier
Usage (Min)	Time taken by User in minutes between sign in and sign out
Usage (Hrs)	Time taken by User in hours between sign in and sign out
Total	Total time taken by a particular user at a company level as well as Company Partner level across Source criteria
Grand Total	Total time taken by all users at a co. level as well as Company Partner level across Source criteria

Usage Summary By User

This report displays summarized usage times per user. The report is sorted alphabetically by user first name, last name.

Report Query Parameters:

- Source: All, Company Workspace, Project/Shell or Other
- Project/Shell: Select a Project/Shell or leave blank for all projects or shells
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
User Name	All user names for sponsor company and partner companies
User ID	The corresponding User IDs
Company Name	Each user's company
Usage (Min)	Total Time taken by a user in minutes between sign in and sign out summed up in the date ranges

This column:	Shows:
Usage (Hrs)	Total Time taken by a User in hours between sign in and sign out summed up in the date ranges

User Account Details

This report displays account status details across a company and partners grouped first by Company User Names and then Partner User Names.

Report Query Parameters:

- Source: All, Company Workspace, Programs or Projects/Shells
- Source Name: Active if Programs or Projects/Shells is the source. Click Select and select the Program or Project/Shell name from the list.
- Partner Company: Select a partner or leave blank for all partners

This column:	Shows:
Company Name	The Sponsor Company Name, followed by the Partner Names
User Name	All user Names from a company and partner users assigned to Sponsoring Company Projects
User ID	The corresponding User IDs
Source	The Project/Shell Name the user is a part of
Source Name	The name of the project or shell
Date Added	The date that this user was added to the company. This column is empty for Partner users
User Status	The Status of the User at the project or shell level whether (Active/Inactive)
Status Effective Date	The date the Status of the user changed at the project Level.

User Account Summary

This report summarizes account status details across a company and partners grouped first by Company User Names and then Partner User Names.

Report Query Parameters:

- Partner Company: Select a partner or leave blank for all partners

This column:	Shows:
Company Name	The Sponsoring Company or Partner
Company Short Name	The short name for the Company
Total Users	Total number of users at Owner Company/Partner working on Owner Company Workspace or Owner Company Projects
Current Active Users	Total number of active users at Owner Company/Partner working on Owner Company Workspace or Owner Company Projects
Current Inactive Users	Total number of inactive users at Owner Company/Partner working on Owner Company Workspace or Owner Company Projects
Current On Hold Users	Total number of inactive users at Owner Company/Partner working on Owner Company Workspace or Owner Company Projects

User Session Detail

This report displays user sign in session details.

Report Query Parameters:

- Owner Company
- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To
- Platform
  - Website
  - Mobile App
  - Website & Mobile App

This column:	Shows:
User Name	All user Names from an Owner Company
User ID	The corresponding User IDs
Company Name	The Sponsoring Company or Partner
Login Date	Date user signed in to Unifier
Logout Date	Date user signed out. (Dates will displayed in Server Time zone)
Session End Type	Timeout or Logout

This column:	Shows:
Usage (Min)	Usage between sign in and sign out in minutes
Usage (Hrs)	Usage between sign in and sign out in Hours
Total	Total time taken

The following shows the columns according to the platform:

This column:	Shows:
Website	As is.
Mobile App	Output for User Session Detail Report: The header of the Report will have the fields of Owner Company, Partner Company, Report Run by, and the date that the report was run on. Columns displayed in the report output: ▸ User Name ▸ User ID ▸ User Type ▸ Company Name ▸ Operating System ▸ Device ▸ Login Date ▸ Logout Date ▸ Session End Type ▸ Usage (Min) ▸ Usage (Hrs)

Website & Mobile App	Output for User Session Detail Report: The header of the Report will have the fields of Owner Company, Partner Company, Report Run by, and the date that the report was run on. Columns displayed in the report output: ▸ User Name ▸ User ID ▸ User Type ▸ Company Name ▸ Operating System ▸ Device ▸ Login Date ▸ Logout Date ▸ Session End Type ▸ Usage (Min) ▸ Usage (Hrs)

About Platform

Unifier can be accessed through various platforms (website, mobile app, or both), and you have the option to track the users when they sign in through these platforms. This is to enable you to to capture information such as number of sign-ins, device type, and so forth.

When you select the platform, the report output, will have the following columns:

This column:	Shows:
Operating System	The version of the device operating system.
Device	The device model. For example, Apple iPhone 7 plus.

The following shows the columns according to the platform:

This column:	Shows:
Website	As is.

Mobile App	Output for Last Login Report: The header of the Report will have the fields of Owner Company, Partner Company, Report Run by, and the date that the report was run on. Columns displayed in the report output: ▸ User Name ▸ User ID ▸ User Type ▸ Company Name ▸ User Status ▸ Operating System ▸ Device ▸ Last Login Date ▸ Days Since Last Login
Website & Mobile App	Output for Last Login Report: The header of the Report will have the fields of Owner Company, Partner Company, Report Run by, and the date that the report was run on. Columns displayed in the report output: ▸ User Name ▸ User ID ▸ User Type ▸ Company Name ▸ User Status ▸ Operating System ▸ Device ▸ Last Login Date ▸ Days Since Last Login

The information above applies to the following reports (**Company Workspace** > **Admin** mode > **System Reports**):

- User Session Detail
- Last Login
- Current Login

The available report formats are:

- HTML
- CSV
- Excel
- PDF
- XML

Last Login

This report displays last sign in details for a user. It lists the users that have signed in, not all user accounts. If a user has never signed in to Unifier, that user will not be listed on the Last Login Report.

Report Query Parameters:

- Partner Company: Select a partner or leave blank for all partners
- Platform: Select a platform to monitor.

This column:	Shows:
User Name	All user Names from an Owner Company
User ID	The corresponding User IDs
Company Name	The Sponsoring Company or Partner
User Status	The status of the user
Last Login Date	Date when Company User last signed in. For a partner user, this date should be the last date the user signed in to Partner Company Workspace.
Days Since Last Login	Number of days since the user last signed in. Calculated as difference between last sign in date and the date on which the report is run.

Current Login

The Current Login Report displays currently logged in users.

Report Query Parameters:

- Source: All, Company Workspace, Programs or Projects
- Source Name: Active if Programs or Projects is the source. Click Select and select the program or Project name from the list.
- Partner Company: Select a partner or leave blank for all partners
- Platform: Select a platform to monitor.

This column:	Shows:
Company	Sponsor company
User Name	All user names from an Owner Company
User ID	The corresponding User IDs
Source	The source
Source Name	The source name

This column:	Shows:
Source Number	Corresponding number
Login Time	Login time for the current session
Remote Address	The IP address of the computer from which the user is logged on

The following shows the columns according to the platform:

This column:	Shows:
Website	As is.
Mobile App	Output for Current Login Report: The header of the Report will have the fields of Owner Company, Partner Company, Source, Source Name, Report Run by, and the date that the report was run on. Columns displayed in the report output: ▸ Company Name ▸ User Name ▸ User ID ▸ User Type ▸ Operating System ▸ Device ▸ Source ▸ Source Number ▸ Login Time ▸ Remote Address

Website & Mobile App	Output for Current Login Report: The header of the Report will have the fields of Owner Company, Partner Company, Source, Source Name, Report Run by, and the date that the report was run on. Columns displayed in the report output: ▸ Company Name ▸ User Name ▸ User ID ▸ User Type ▸ Platform ▸ Operating System ▸ Device ▸ Source ▸ Source Number ▸ Login Time ▸ Remote Address

Proxy Login

This report displays user sign in proxy details.

Report Query Parameters:

- Partner Company: Select a partner or leave blank for all partners
- Date Range From
- Date Range To

This column:	Shows:
First Name	The Proxy first name
Last Name	The Proxy last name
Login User Name	The user who logged in
Company Short Name	The Company name of the Proxy user
Proxy User Name	Then name of the Proxy
Login Date	The date the user logged in

Setting Permissions for Inbox

To set **Inbox** permissions for Company Workspace, Shell Instances, and Standard Project Instances:

1) Go to **Company Workspace** (**Admin** mode).
2) Click **Access Control** to open the log.
3) Click **User Mode Access** to expand.
4) Click **Shells / Projects (Standard)** to expand.
5) Click **Mailbox** to expand.
6) Click **Project Mailbox** to expand.
7) Click **Inbox** to open the **Permissions Setting for: Inbox** window.
8) Click **Add** or **Modify** and grant the following permissions:
   - Delete
     To delete messages.
   - Reply
     To reply to messages.
   - View
     To view messages.
   - Create/Manage Folders
     To create, rename, and move folders under **Inbox**.
9) Click **Apply** when finished.

> **Note**: You cannot grant permissions at **Project Mailbox** level. All **Project Mailbox** permissions must be granted at **Inbox** level.

For Permission Templates:

1) Go to **Company Workspace** (**Admin** mode).
2) Click **Access Control** to open the log.
3) Click **Administration Mode Access** to expand.
4) Click **Standards & Libraries** to expand.
5) Click **Permission Templates** to open the **Permission Settings for: Permission Templates** window.
6) Click **New**.
7) Click **Permissions**.
8) Go to **User Mode Access** and expand.
9) Click **Mailbox** to expand.
10) Click **Project Mailbox** to expand.

Setting Permissions for Unpublished Attachments

Whenever a mail is received through the Unifier Project Mailbox, the attachment associated with the email will be captured within the Document Manager (DM). A new folder will be available under Project Mailbox node in which all unpublished mail attachments will be available for publishing to Shell DM.

To set **Unpublished Attachments** permissions for Shell Instances and Standard Project Instances:

1) Go to your project or shell mailbox.
2) Click **Access Control** to open the log.
3) Click **User Mode Access** to expand.
4) Click **Shells / Projects (Standard)** to expand.
5) Click **Mailbox** to expand.
6) Click **Project Mailbox** to expand.
7) Click **Unpublished Attachments** to open the **Unpublished Attachments** window.
8) Click **Add** or **Modify** and grant the following permissions:
   - Publish

     To allow publishing into the DM.
   - Download
   - Open
   - View
9) Click **Apply** when finished.

Task Reassignment (Company and Project)

When a user with assigned tasks is removed from a project, you (Company Administrator, Project Administrator, or Administrator user) can reassign the removed user's tasks to an active user.

> **Note**: In this scenario, you can only reassign tasks that have not been started, or tasks that are in progress.

In the case of a dynamic assignment (when a workflow is routed back to the previous step, and the task on that step was assigned to the removed user), Unifier enables you to send the task the new active user. This also applies to a situation in which a record must be sent back to review.

To reassign a task from a removed user to an active user:

1) Go to **Company Workspace** (**Admin** mode).
2) Click to expand **User Administration**.
3) Click to expand **Task Reassignment**.

There are two sub-nodes under the **Task Reassignment** node:

- **Active User Tasks**

- **Inactive User Tasks**

The following explains each sub-node in details.

Active User Tasks

The **Active User Tasks** log will house the following tasks:

- Tasks for all active users existing at the company level.
  - Company level - This includes users from both owner and all partner companies
  - Project level - This includes users from both owner and the member companies.
- Tasks where the active user is an assignee and the record has not yet reached the terminal step.

  This means that the previous user would no longer be seeing the task in the log but because of a previous action taken by the previous user the task would still appear in the log. The reasons for this appearing in the log are as follows:

  - To account for Dynamic step assignment. For example, the Workflow setup might have "Match <step>" in a subsequent step.

  - To account for step revisits.

Active User Tasks log (toolbar options)

Option	Description
Reassign	To open the **Select New Assignee** window and select the following information about the assignee: - **Name** - **Company** Select one or more tasks and click **Reassign** to open the user picker-window.
View	This option enables you to view the following pre-defined views: - **All Tasks** - **Group by Assignee** - **Group by Origin** - **Group by Business Process** - **Reassignment History** (See the "Reassignment History" section below for important details) - **Create New View** - **Manage Views** The **Create New View** option can be used to define user specific views.
Refresh	To refresh the items listed in the log.
Print	To print the items listed in the log, based on the current view of the log.

Option	Description
Edit View	To view and edit the settings of items listed in the log. Use the **View Name** field to enter a name for your new view. Use the **Columns** tab to: - Determine which columns to display: **Available Columns** - Select the columns: **Selected Columns** - Lock the columns in place: **Lock after selected Column** Use the **Filters** tab to: - Determine the field for your filter: **Field** - Indicate the operator for your filter: **Operator** - Include any values: **Value** - Determine the number of records that you want to be displayed: **Number of Records** Use the **Group By** tab to: - Group the list based on the options available from the drop-down list. - Adjust the order of your list: **Order** Use the **Sort By** tab to sort items according to: - Previous assignee - New assignee - Origin - Business Process - Record Number - Reassigned on Click **Cancel** to discard your changes and return to the log. Click **Apply** to apply your changes to the view. Click **Save As** to save an existing view with another name.
Filter	The quick filter option enables you to quickly filter the tasks based on the values that you enter. The quick filter works on the visible contents, only. For example, if 200 records are displayed in the view, then the quick filter will work on the 200 visible records, only.

Active User Tasks log (columns)

Column Heading	Description
Reassignment Status	The (X symbol) signifies that the task cannot be reassigned.

Column Heading	Description
Assignee	Name of the inactive user assignee.
Company	Company name of the inactive user.
Origin	The source. The source can be Project, Shell, or Company workspace tab name.
Business Process	Name of the business process.
Record Number	The record number
Title	The title.
Record Due	The due date for the record.
Creation Date	The creation date for the task.
Workflow Name	The workflow name.

Inactive User Tasks

The **Inactive User Tasks** log lists records that are in progress (workflow has not yet been completed) for inactive users.

For the inactive users at the company, the **Inactive User Tasks** log lists all the tasks for inactive users.

- At the Company level, the tasks included may belong to owner company users or all partner company users.
- At the Project level, the tasks included may belong to owner company users or member company users.

> **Note**: A Member Company is a Partner Company. When a Partner Company is added to a shell or project, the Partner Company becomes a Member Company.

The **Inactive User Tasks** log also lists the records that an inactive user is an assignee and the record has not yet reached the terminal step. This means that the inactive user would no longer be seeing the task in the log but because of a previous action taken by the inactive user the task would still appear in the log. This display allows to account for both Dynamic step assignment and step revisits for in-flight records.

Example

Workflow setup might have "Match <step>" in a subsequent step.

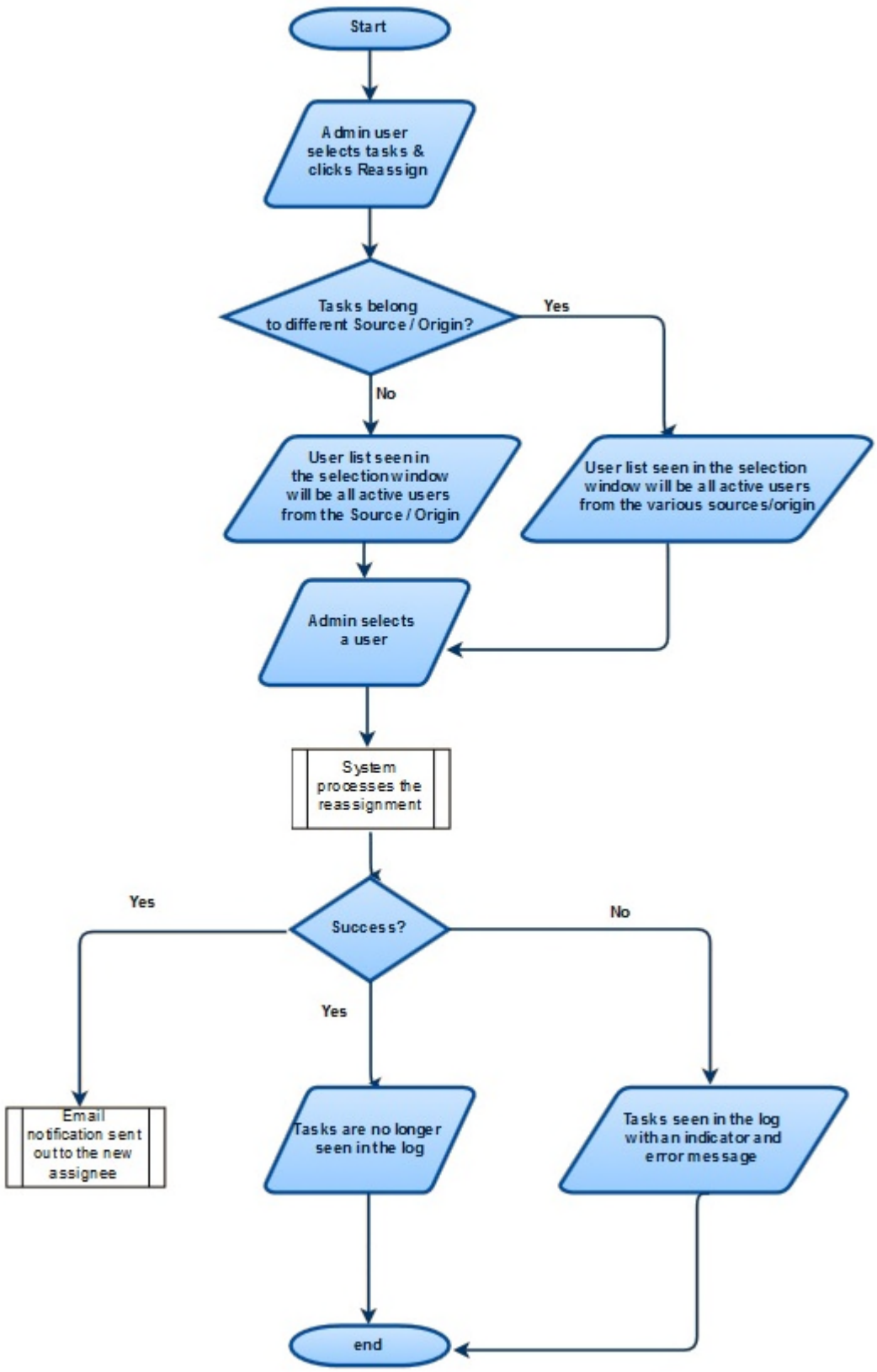
The Task Reassignment log has the following columns:

Note: The following information applies to both the Company-level and Project-level unless it is noted otherwise.

Column Heading	Description
Reassignment Status	The (X symbol) signifies that the task cannot be reassigned.
Assignee	Name of the inactive user assignee.
Company	Company name of the inactive user.
Origin	The source. The source can be Project, Shell, or Company workspace tab name.
Business Process	Name of the business process.
Record Number	The record number
Title	The title.
Record Due	The due date for the record.
Creation Date	The creation date for the task.
Workflow Name	The workflow name.

Reassigning Tasks (Workflow)

The following chart describes the workflow for reassigning tasks. The following topics explain each step in details.


Start
Admin user selects tasks & clicks Reassign
Tasks belong to different Source / Origin?
Yes
No
User list seen in the selection window will be all active users from the Source / Origin
User list seen in the selection window will be all active users from the various sources/origin
Admin selects a user
System processes the reassignment
Success?
Yes
No
Yes
Email notification sent out to the new assignee
Tasks are no longer seen in the log
Tasks seen in the log with an indicator and error message
end

Reassigning Tasks (Scenarios)

In the following cases, the company administrator is a user who has permissions to reassign the tasks.

Case 1: Selected new assignee is a CC user

1) Business Process record R1 currently has been assigned to user A and has been CC'd to user B
2) User A has been inactivated
3) Company Administrator has now reassigned this task to user B
4) User B will receive the task reassignment notification in addition to seeing the task in the Tasks log.
5) In addition to this, the notification for this task which the User B had received because of being a CC'd user, will be removed from the Notifications log.

Case 2: Selected new assignee is not in the Workflow (WF) setup

In the event that the selected assignee is not in the WF setup, the user will still get the reassigned task. This means that the task will be seen in the Tasks log.

> **Note**: By means of Tasks reassignment, the system will not add the user to the Workflow setup. This action has to be performed by the administrator who is setting up the workflow setup. Similarly the user will not have navigation level permissions to the Business Process log that the task belongs to. This action again has to be performed by the administrator.

Case 3: Selected new assignee had previously declined the task

If the selected new assignee had previously declined the task, then post reassignment, the task will be seen in the Tasks log.

Assumption: The workflow setup allows declining of the task.

Case 4: Single Completion policy - Non participating assignee has been inactivated

A non participating assignee is one who has not acted on a task. When such a user is inactivated, the in-flight records which had this user in one of the steps will not be seen in the Tasks reassignment log.

Case 5: Completion Policy - All Consensus

1) Business Process record R1 currently has been assigned to users A, B and C
2) User A accepts the Task routes the record to step A
3) User B declines the task
4) User C has been inactivated
5) Company Administrator reassigns the Task of User C from the Tasks Reassignment log to user D
6) User D accepts the Task and routes the record to step B

7) The record will get routed to the resolving action since the users have taken different actions

Case 6: Completion Policy - All Majority

1) Business Process record R1, currently has been assigned to users A, B and C
2) User A accepts the Task and routes the record to step A
3) User B accepts the Task and routes the record to step B
4) User C has been inactivated
5) Company Administrator reassigns the Task of User C to user D
6) User D accepts the task and routes the record to step B
7) The record will get routed to Step B since the majority of the users took the action of routing it to Step B

Views

You can use the views to sort or group tasks based on various attributes. The following displays the views and their definitions:

View	Definition
All Tasks	Columns are in the following order. ▸ Assignee ▸ Company ▸ Origin ▸ Business Process ▸ Record Number ▸ Title ▸ Record Due ▸ Creation Date ▸ Workflow Name Other definitions are the same as in the **Tasks** log.
Group by Assignee	The **Group By** element will be **Assignee**. Columns are in the following order. ▸ Assignee ▸ Company ▸ Origin ▸ Business Process ▸ Record Number ▸ Title ▸ Record Due ▸ Creation Date ▸ Workflow Name Other view attributes are the same as in the All Tasks.

View	Definition
Group by Origin	The **Group By** element will be **Origin**. Columns are in the following order. ▸ Assignee ▸ Company ▸ Origin ▸ Business Process ▸ Record Number ▸ Title ▸ Received ▸ Creation Date ▸ Workflow Name Other view attributes are the same as in the Group by Origin in the **Tasks** log.
Group by Business Process	The **Group By** element will be **Business Process**. Columns are in the following order. ▸ Assignee ▸ Company ▸ Origin ▸ Business Process ▸ Record Number ▸ Title ▸ Received ▸ Creation Date ▸ Workflow Name Other view attributes are the same as in the Group by Business Process in the **Tasks** log.
Reassignment History - log	It is important to maintain the reassignment history of tasks. The view **Reassignment History** will enable administrators to view all the past reassignments. When this view is active: Toolbar option of Reassign will not be seen. All other toolbar options will remain as is. Log columns will be Previous assignee, New assignee, Origin, Business Process, Record Number and Reassigned on. The date column of **Reassigned on** will honor user preferences.

View	Definition
Reassignment History - View settings	Columns Previous assignee New assignee Origin Business Process Record Number Reassigned on Filter fields Previous assignee New assignee Origin Business Process Record Number Reassigned on The operators available will be dependent on the data type. In addition to the filter fields, the view definition will also have Number of Records. Group By String fields View buttons The view settings will only have Cancel and Apply. There can be only one view of this type and this is already provided by the system. Any changes made to the view cannot be saved.

Workflow of Reassigning Tasks (Company)

- The administrator user selects tasks.

  Tasks may or may not be from the same Origin. For example, the Tasks may belong to two different projects P1 and P2.
- The administrator user clicks **Reassign**.
- The user picker window opens that displays the list of users as follows:
  - All active owner company users from P1 and P2.
  - All active member company users from P1 and P2.
  - Users belonging to either of the two projects.
- The administrator user selects a new assignee.
- Unifier assigns all selected tasks to the new assignee.
- If user exists in the project, then the task will get reassigned and an email notification will be sent to the new assignee. See the "New Assignee Email Notifications" for details.

- If user does not exist in the project, then the task will not get reassigned and will continue to remain in the log.

Workflow of Reassigning Tasks (Project)

- The administrator user selects tasks.

  Tasks belong to the same project.
- The administrator user clicks **Reassign**.
- The user picker window opens that displays the list of users as follows:
  - All active owner company users.
  - All active member company users.
- The administrator user selects a new assignee.
- Unifier assigns all selected tasks to the new assignee.
- If reassignment is successful, then the task will get reassigned and an email notification will be sent to the new assignee. See the "New Assignee Email Notifications" for details.
- If reassignment is no successful, then the task will not get reassigned and will continue to remain in the log.

Reassigning Tasks Access Control

Access to the **Tasks Reassignment** node is by permissions. To grant permission:

1) Go to the **Access Control** node.
2) Click **Administration Mode Access**.
3) Click **User Administration**.
4) Click **Tasks Reassignments**.
5) Select users, or groups, and set permissions.

The "Enable" permission enables the user to:

- View the task
- Reassign the task

You can assign the permissions to either an individual user or a group.

The permission changes are applicable to all modules of Unifier, where the permissions can be set, for example:

- User > Permissions
- Group > Permissions
- Permission template

New Assignee Email Notifications

The Subject line of the new assignee email notification states how many task have been assigned and by whom.

The body of the new assignee email notification contains the following information:

- Project name

- Record number of the business process
- Title of the business process
- Unifier login link

Adding & Managing Partner Companies

A sponsor company may work with one or many partner companies (for example, subcontractors, vendors, etc.) to work on projects, shells, or company level activities. Company Administrators can manage partner companies and users. The Site administrator will first add the potential partner company to the list of available companies, from which you can select the companies to activate. Partner company users can be granted access to specific company level and project-level or shell-level features.

> **Note**: Contact your Site Administrator to add a company to the list of available companies.

To access partner companies

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click the **Partner Companies** node in the left Navigator. The Partner Companies log opens. The log will display any current partner companies.

In This Section

Add a partner company

Adding a partner company to the list allows you to work with partner company users within Unifier.

To add a partner company

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Partner Companies** in the left Navigator. The Partner Companies log opens.
3) Click the **Add** button. The Add Partner Companies window opens, listing available potential partner companies. (This list is maintained by the Site Administrator.)
4) To search for a particular company, click the **Find** button. The Find box opens at the top of the window. Click the Search By drop down and choose **Company Name** or **Contact Name**. Enter the search criteria in the **Search for** field and click the **Search** button.
5) Select one or more companies from the list and click the **Add** button.
6) When the confirmation window opens, click **Yes**. The company is added to the log. Users from the company are now available to be added to company, project, or shell functions.

Remove a partner company

If you no longer want users in a partner company to participate in your company, project, or shell Unifier areas, you can remove the company from the list. If you remove a partner company:

- The partner company users that have been added as users either under your company (Partner Users node) or in any projects or shells will be inactivated automatically.
- If the partner company being removed has previously been added to a project or shell as a project or shell "member company," the company will remain in the Member Company log for the project or shell, but users will be inactivated.
- These inactivated users cannot be reactivated unless the partner company is added back to Partner Companies node.

To remove a partner company

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Partner Companies** in the left Navigator. The Partner Companies log opens.
3) Select a partner company from the list and click **Remove**.
4) At the confirmation window, click **Yes**.

View partner company profile

Partner company details are managed by the company administrator for the company, or the Site Administrator. You can view the details.

To view the company profile of a partner company

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Partner Companies** in the left Navigator. The Partner Companies log opens.
3) Select a partner company from the list and click **Open** (or double-click). The Company Profile window opens. The information in this window is read-only, and is maintained by the partner company's administrator.
4) Click the **General** tab to view general information, or the **Address** tab to view address and other contact information for the company.

Configuring Project Numbering, Cost Codes, and Status

To configure project numbering, cost codes, and status:

1) Go to the **Company Workspace** tab and click **Configuration > Shell Manager** in the left Navigator.
2) Select **Projects (Standard)** and click the **Open** button. The Configuration - Projects (Standard) window opens.
3) Complete the **General** tab as described in the table below.
4) Click **Apply** to save your changes, or **OK** to save and exit the window.

In this field	Do this
Enable automatic numbering	Select to allow automatic numbering of projects based on the specified Format and Start values. You can deselect this checkbox to disable automatic numbering. This checkbox is selected by default.
Format/Start	Specify the format and starting number for projects if automatic numbering is enabled. Format determines the format of the numbering schema. Start determines the starting number of the numeric schema. By default, Format is blank and Start is 0001. The numbering schema format cannot be changed after a user creates projects using the originally specified format.
Cost Codes: CBS/Generic	Displays the type of cost code specified in uDesigner for the project. The type available for Projects (Standard) is CBS.
Status	Status can be Active or Inactive. Users cannot access projects with the status Inactive. The default is Inactive.

In This Section

Create and manage project categories (organize projects)

You may create project categories to help organize multiple projects. Project categories have no effect in User Mode and are invisible. Users who are assigned to a project, regardless of the category, will see the project listed in their Projects log.

Once a project has been created under one category, it cannot be moved to another. New projects may be created under the new categories. Once you create a category, you cannot edit or delete it, but you can deactivate it to prevent it from being displayed in the Navigator.

Tip: Project Administration permissions can be set based on category.

For example, you might create a category called Large Construction Projects, another called Small Construction Projects, and another called Maintenance and Facilities. You can grant project administration permissions to one set of project administrators for the All category, to another group for the construction categories, and to a third group to handle project administration of the maintenance/facilities projects. Once you create a category, you cannot edit or delete it, but you can deactivate it to prevent it from being displayed in the Navigator. Remember to grant permissions to yourself or others to view the new categories and to create/edit projects in the category.

To create a project category

1) Go to the **Company Workspace** tab and switch to User mode.
2) In the left Navigator, click **Configuration > Shell Manager**.
3) Select **Projects (Standard)** and click the **Open** button. The Configuration - Projects (Standard) window opens.
4) In the **Organize** tab, click **Add**. The Add Project Category window opens.
5) Type a **name** for the new category. The status for the newly-added category is Active:
   - **Active**: projects can be created in the category, which appears in the Navigator
   - **Inactive**: the category will not appear in the Navigator until it is activated
6) Click **OK** to add the category.
7) After all categories have been added, click **OK** to save and exit the Configuration - Projects (Standard) window.

To rename a project category

1) In the Configuration - Projects (Standard) window, select a category.
2) Edit the project category Name and click **OK**.
3) Click **OK** to close the Configuration - Projects (Standard) window.

To activate/deactivate a project category

1) Open the Configuration - Projects (Standard) window and do one of the following:
   - To deactivate an active category, deselect the Activate checkbox. Deactivating a category will cause it to not be displayed under Company Sponsored Projects, but this does not affect any projects organized within it. Any projects in a deactivated category are still accessible to administrators under **Administration Mode > Projects**, and to users in User Mode.
   - To activate an inactive category, select the category and select the **Activate** checkbox.
2) Click **OK** to close the Configuration - Projects (Standard) window.

To grant permission to access the new project category

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, do one of the following:
   a. Click **User Administration** > **Company Users** or **Partner Users** (to grant permissions to company or partner users), or

   b. Click **User Administration** > **Groups** (to grant permissions to a group or individual users.)
3) Select a company, partner, group, or user from the log and click **Open**.
4) Click the **Permissions** tab.
5) In the upper portion of the window, under **Administration Mode Access**, do one of the following:
   a. Click **User Administration** > **Company Users**,
   b. Click **User Administration** > **Partner Users**,
   c. Click **User Administration** > **Groups**,
   d. Click **User Administration** > **Task Reassignment**, or
   e. Click **Company Sponsored Projects (Standard)**.
6) Select the new categories to which you want the user to have administration access, and click **OK**. The user may already have access to All which allows them to administer (create or edit) projects in the All category.

> **Note**: Having "Administer All" permission does not automatically grant administration access to other custom categories. This permission setting allows the user access to the project category only, and does not set specific permissions regarding project administration.

To access the categories

New categories appear under the **Company Sponsored Projects (Standard)** node in the **Company Workspace** tab (**Admin** mode). You may need to refresh the page (reopen the company record, or press the F5 key) before you can see the new categories.

Setting Up Multiple Company Calendars

Unifier supports multiple calendars, enabling you to create a library of calendars that can be selected for use at the company, shell, and project levels. The multiple calendars enable you to have calendars to support varying work schedules (depending on locality) and to account for holidays and other non-working days. For example, some countries in the Middle East have weekends that are other than Saturday and Sunday. Unless otherwise specified, the default calendar for a project or shell is the Company calendar that is designated as the default calendar. The calendar selected affects project or shell durations and due dates.

The calendars can be used in project/shell templates, and are automatically applied when the template is updated. Also, users can create activity calendars to use in schedule sheets, specific activities in schedule sheets. Calendars also affect business process task dues dates, workflow due dates, and formula calculations.

Step 1: Set permissions for multiple calendars. Grant permissions to allow the configuration of company-level multiple calendars. See ***Setting Multiple Calendar Permissions*** (on page 255).

Step 2: Create and manage calendars (create, copy, modify, delete, set as default). See ***Creating Multiple Calendars*** (on page 256) and ***Modify, Delete, or Mark a Calendar as Default at Company Level*** (on page 257).

In This Section

Setting Multiple Calendar Permissions

You must have permissions granted to be able to create, modify, or view the calendars.

To set multiple calendar permissions

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click the **Access Control** node.
3) On the right pane, select **Administration Mode Access > Standards & Libraries > Calendars**.
4) Set the permissions as needed:
   - **Create**: Users can create, modify, view, delete, mark as default. These calendars are known as Standard Calendars.
   - **Modify**: Users can modify and view Standard Calendars.
   - **View**: Users can view existing Standard Calendars.

Creating Multiple Calendars

You can create a calendar and use it as the standard calendar for use in Unifier at the company level, shell level, project level, template level, activity level, and business processes.

There is a default company calendar available in Unifier titled: **Company Calendar (Default)**. You can:

- Use the default calendar as the standard calendar.
- Use the default calendar to create a standard calendar.
- Copy an existing calendar and modify it to create a new calendar that can be used as standard calendar.
- Create a custom calendar.

You must have **Create** permission to be able to create standard calendars. See ***Create a Project Calendar (Calendar Tab)*** (on page 344) for more details.

To create a standard calendar at company level

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Calendars** in the left Navigator. The **Calendars** log window opens.
3) Click **New**. The **Calendar Properties** window opens.
4) Enter the calendar name and an optional description.
5) Modify the working and non-working days that are specific to the new calendar you are creating. Select the calendar day and click the **Working** or **Non Working** options as needed. By default, the standard calendar will have Saturdays and Sundays marked as non-working days. For more information about modifying the calendar days, see ***Modify, Delete, or Mark a Calendar as Default at Company Level*** (on page 257).
6) Click **OK**.

To copy an existing calendar at company level

1) Go to the **Company Workspace** tab and click **Standards & Libraries** > **Calendars** in the left Navigator. The **Calendars** log window opens.
2) Select a calendar in the log.
3) Click **Copy**. The **Calendar Properties** window opens with the calendar description and calendars days specified.
4) Enter the calendar name and change the optional description as needed.
5) Modify the working and non-working days that are specific to the new calendar you are creating. Select the calendar day and click the **Working** or **Non Working** radio buttons as needed.
6) Click **OK**.

Modify, Delete, or Mark a Calendar as Default at Company Level

You can modify a standard calendar if you have **Modify** permission. You can delete a standard calendar if you have **Create** permission. If you use a calendar in a shell, project, schedule sheets, or schedule sheet activities, and you are asked to replace the calendar, you can delete the existing calendar and replace it with a new one. You can also specify a default standard calendar if you have **Create** permission. Unless otherwise specified, the default calendar for a project or shell is the company calendar that is designated as the default calendar.

> **Note**: The calendar selected affects project or shell durations and due dates.

To modify a calendar at company level (Classic View)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Calendars** in the left Navigator. The **Calendars** log window opens.
3) Click the company calendar to select and click **Open**. The **Calendar Properties** window opens.
4) Modify the calendar name and change the optional description as needed.
5) Modify the working and non-working days that are specific to the new calendar you are creating. Select the calendar day and click the **Working** or **Non Working** options as needed.
   a. To change a particular date from a working to a non-working day, click the date cell to highlight and click **Non Working**. You can select multiple dates. This change impacts the months individually and does not impact the rest of the calendar or subsequent years.
   b. To change Saturdays and Sundays from non- working days to working days, click the day cell for example "Sat," to highlight and click Working. This will make all Saturdays, or Sundays, of the calendar as working days, including subsequent years. In this scenario, you can select individual dates under Saturdays or Sundays and mark them as non-working dates.
6) Click **OK**.

To delete a calendar at company level (Classic View)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Calendars** in the left Navigator. The **Calendars** log window opens.
3) Select one or more calendars in the log.
4) Click **Delete**. If a calendar is not in use, it is deleted. If a calendar is in use, the **Select a Calendar** window displays to enable you to select a replacement calendar. Select an alternate calendar and click **OK**.

> **Note**: You cannot delete calendars that are used by view-only projects or shells.

To specify a default calendar (Classic View)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.

2) Click **Standards & Libraries** > **Calendars** in the left Navigator. The **Calendars** log window opens.
3) Select a calendar in the log.
4) Click **Default**.

To change working and non-working days on a calendar at company level (Classic View)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Standards & Libraries** > **Calendars** in the left Navigator. The **Calendars** log window opens.
3) Click to select a calendar and click **Open** to open the **Calendar Properties** window.
   a. To change a particular date from a working to a non-working day, click the *date* cell to highlight and click **Non Working**. You can select multiple dates. This change impacts the months individually and does not impact the rest of the calendar or subsequent years.
   b. To change Saturdays and Sundays from non- working days to working days, click the *day* cell for example "Sat," to highlight and click **Working**. This will make all Saturdays, or Sundays, of the calendar as working days, including subsequent years. In this scenario, you can select individual *dates* under Saturdays or Sundays and mark them as non-working *dates*.

A non-working date appears grayed out, and it will not be used in date calculations.

Manage Support and e-Learning contact information (Contact tab)

In the Contact tab of the Edit Company window, you can provide your users with an email address and/or phone number of your internal support staff. This information will be displayed in error messages users may encounter if their accounts become locked, on the Support window Contact tab, and at the bottom of email notifications. The information included for email notification can contain a hyperlink to your local support. For information about translating Email Notifications, see the ***Internationalization (Email Notifications)*** section.

In addition, if your company is part of the eLearning suite of interactive tutorials, you can provide access information to your users in this tab. This space can also be used for any location (such as an internal website) where you have provided Unifier training materials.

To manage user support contact information

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the right pane, click the **Open** button. The Edit Company window opens.
3) Open the Edit Company window and click the **Contact** tab.
4) Under Support Contact Info and eLearning Access, you can add or modify the contact information as needed. See the following table for details.
5) Click **Apply** to save changes, or **OK** to save and exit the Edit Company window.

To complete this section:	Enter this information:
Support Contact Info	Email: Email address for company internal support. Phone: Phone number for company internal support. Instructions: Information that appears in the Support window Contact tab, as well as the Email and Phone from above. This provides information to your users on how the use the support information. Email Notifications: Information that appears at the bottom of email notifications. This field supports simple html formatting, and can include a hyperlink. For example: For YourCompany support, contact support@yourcompany.com or 1-800-555-1212. which will display in the bottom of record email notifications as: For YourCompany support, contact support@yourcompany or 1-800-555-1212.
eLearning Access	URL: Enter the URL for eLearning access. It is best to include the entire address Label: This is the label for the URL above. The label can display the actual URL, or you can a different label. This will

	appear as a hyperlink to users. Contact email: Enter an email address that you would like users to use if they need to contact someone. Enter a valid email format, e.g., elearn@yourcompany.com. Instructions: You can enter instructions or other information such as a contact phone number. This field does not support html formatting.

Manage Company Password Policy (Security tab)

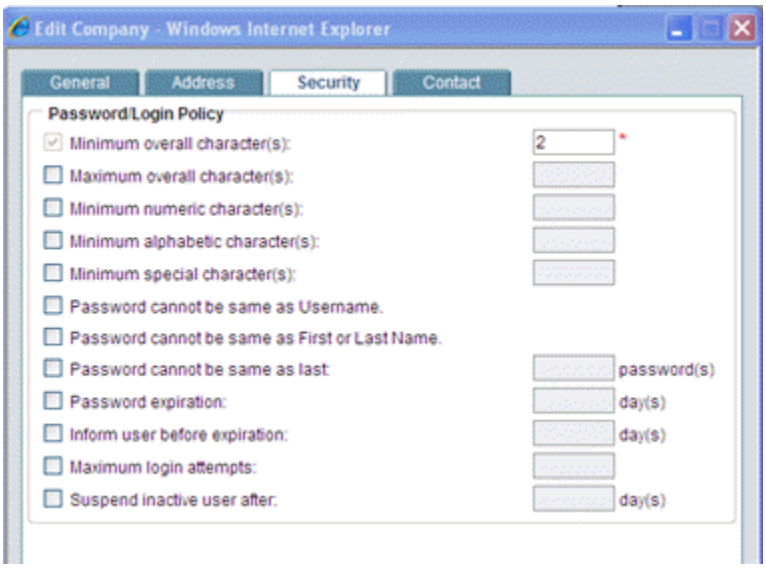
Sponsor company administrators can specify password security policies in the Security tab of the Edit Company window. By default, the minimum password requirement is set at one (1) character, meaning that the user is required to create a password with a minimum of one character. If a value is not entered in a field, the option is ignored.

Notes:

- These settings apply to Sponsor/Owner company users only. They will not apply to Partner Company users, where the default settings apply.
- If your company is using Oracle Identity Management (OIM) to provision your company users, the password policy specified on this tab will not be used. OIM has its own password policy which will supersede the policy on this Security tab.

To manage user password criteria

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the right pane, click the **Open** button. The Edit Company window opens.
3) Open the Edit Company window and click the **Security** tab.



4) Select the password criteria that you want to configure, then enter the value in the text box. See the following table for details on each option.
5) Click **Apply** to save changes, or **OK** to save and exit the Edit Company window.

Select this option:	To specify:
Minimum overall character(s)	Minimum number of characters that a password must contain; default is one (1)

Maximum overall character(s)	Maximum number of characters that a password must contain
Minimum numeric character(s)	Password must contain a minimum amount of numbers
Minimum alphabetic character(s)	Password must contain a minimum amount of letters
Minimum special character(s)	Special characters are [{~!@#$%^&*()-_=+;:'",<.>/?]}
Password cannot be same as user name	Users cannot use their user name as their password
Password cannot be same as first or last name	Users cannot use their name as their password
Password cannot be same as last	A newly changed password must be different from previously used ones (indicated the number here)
Password expiration	If password expires, users will be prompted to change it when attempting to log on
Inform user before expiration	Upon signing in, users are warned that their passwords are about to expire and given the option of changing it
Maximum login attempts	If user does not successfully log on after this number of attempts, the account will become locked
Suspend inactive user after	Sets the number of days of inactivity before a user's account is locked
Password recovery secret questions required	If selected, users will be prompted to set up security questions for password reset upon first login. Existing users will be prompted to set up security questions upon the next login. Note: This option is available for Owner, Partner, and Hosting companies. When selected, it makes it mandatory for users to set up the password recovery secret questions. This is applicable to all users in the respective companies including Company Administrators and site Administrator.

Manage Company Addresses (Address tab)

At a minimum, a Headquarters address must be entered in the Edit Company window. The Headquarters address will be the default company address. The default address displays on the Company Home page and is used to generate an online company location map. You can add up to six additional company addresses.

To manage company addresses

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the right pane, click **Open**. The **Edit Company** window opens.
3) Click the **Address** tab.
4) Complete all fields marked as mandatory (red asterisk *). To enter additional addresses, click **Address Type** and choose another address to enter. See the table below for details.
5) Click **Apply** to save changes, or **OK** to save and close the Edit Company window.

In this field:	Do this:
Address Type	Click the field and select from the drop-down list. At a minimum, an address for Headquarters is required, which is used as the default company address in Unifier. You can enter up to seven company addresses (for example, billing).
Attention	Click the Select button and select a user from the picker.
Address and phone fields	These are text fields. No validation will be performed on these fields. All fields with a red asterisk are required. Select the Country/Region from the drop-down list.

Access Company Details

Company detail information is managed in the **Edit Company** window. To access the **Edit Company** window:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the right pane, from the toolbar, click **Open**. The **Edit Company** window opens. The **Edit Company** window has the following tabs:
   - **General**: In this tab, you can manage several company features. See the table below for details. The fields with red asterisks are required.
   - **Address**: You can enter up to seven company addresses. There must be at one address entered for the company headquarters.
   - **Security**: In this tab, you can set up file security policy and password/login policy that your users must follow after they signed in to Unifier.

     Note: If your company is using Oracle Identity Management (OIM) to provision your company users, the password policy specified on this tab will not be used. OIM has its own password policy which will supersede the policy on this tab.

   - **Contact**: Maintains support contact and e-Learning access information for your users. The information entered here appears in the Support window (Contact tab). To access the Support window, click **Help**, from the upper right-corner of the Unifier window, and select **Contact Support** from the menu.
   - **E-Signatures**: In this tab you can manage the default e-signature type, DocuSign setup, and AdobeSign setup to use these digital E-signature solutions within Unifier documents.

The following explains each tab in details.

In This Section

Edit Company (General Tab)

To complete the **General** tab:

In this field:	Do this:
Name	Enter a company name, up to 64 characters. It can include alphanumeric characters, spaces and punctuation.

In this field:	Do this:
Short Name	Enter a one-word short name, up to 60 characters. The **Short Name** is a unique, one-word abbreviated form of your company name, and is used throughout Unifier in place of the company name. (For example, uDesigner-created business processes and on logs that identify partner companies.)
Description	Enter a company description. This is displayed on the Administration Mode home page. This can be especially useful for identifying partner companies, such as subcontractors or vendors.
Contact Name	Click **Select**, then select a user from the User/Group picker. This name is displayed on the Company Home Page in Administration and User Modes. The list is generated from the list of active users in the Company Users log.
DUNS	Enter the nine-digit Dunn & Bradstreet business identification number.
Home Page URL	Enter the URL of your company's web site, displayed on the Company Home Page as a hyperlink.
Help URL	Enter an additional URL that to point to internal documentation regarding company policies or practices, an intranet site, or other internal information that you choose. This is displayed on the Company Home Page as a hyperlink.
Status (read-only)	Company status is controlled by the Site Administrator.
Image	Similar to the Image field in the Shell properties, this field allows you to include a picture that represents the company.
Authentication Key or Re-Enter Authentication Key **Note**: This field is available for the Site Administrator, only, and the Site Administrator is the only person who can change the value.	The Authentication Key provides a means of gaining access to the company that you are signing in to. This key was set up at the time the company was configured. For Unifier Cloud customers, the Cloud Administrators will need to enter a unique key to manage the cloud administration services. The current key is stored in an encrypted format and can be changed as needed. If a key has already been assigned to the company, it will not be displayed in the field; the field will appear blank. Re-enter the key in the following field to confirm it. This field is not available on the General tab, for the company administrator. The company administrator must access the Integration Users sub-node to access the authentication key. Read "Additional information about the Authentication Key" below for more details.

In this field:	Do this:
Bid Access URL	Used with Request for Bid (RFB) feature. This is the URL that will be used by bidders to access bids (system-assigned). When a bidder is invited to bid for the first time, the system sends two emails simultaneously: ▸ Invitation email, which contains the Bid Access URL. ▸ Credential email, which contains the username and system-generated password. **Note**: Oracle recommends that the bidders change the password at the very first log in.
Bid Management Account	Enter the account name of the user who will be managing the bids that your company receives. This is the account that will contain the bidder's preferences you specify when you create the bid management account. See the instructions under "Set Up a Bid Management Account in Primavera Unifier" in the Primavera Unifier Administration Help.
Owner	Selecting this option allows a company to sponsor projects or shells, and is controlled by the Site Administrator. The checkbox will not be selected if the company is a partner company that is not authorized to sponsor projects or shells.
Enable Custom Dashboards	Selecting this option allows the creation of custom dashboards that provide an accurate and dynamic view of company and project performance indicators.
Maximum Limit for UDR records	The company administrator will be able to set the maximum number of records to be retrieved for the company. By default the maximum number will be set to 1 million. The company administrator will have multiple options to choose from and the set the maximum limit.
Display element for Project/Shell	By default, the "Name" option is selected. Based on the setting in this field, the labels change in the following areas: Top navigation tabs Breadcrumbs The first (top) left menu node (Home node) for the Shell/Project Bookmarks: Add new bookmark (editable label of bookmark) If the user selects the "Name" option to display the Shell name, the default string will appear as "{Shell Name} - {Location}" when adding a new bookmark. If the user selects the "Number" option to display the Shell number, the default string will appear as "{Shell Number} - {Location}" when adding a new bookmark. The tool-tips will be seen in format: {Shell Number} - {Shell Name}

Changing the Authentication Key

For integration users, the company administrator can access the authentication key value by way of the **Integration Users** sub-node (**Company Workspace** > **Admin** mode > **User Administration** node > **Integration Users**).

For users who are using Unifier 19.x:

You (the company administrator) need to create a new integration user in order to change the authentication key.

You need to use the following format to create the integration user:

User Name - $${shortname}

Password - {Desired authentication Key}

If you have upgraded to Unifier 19.7, Unifier will not create $${shortname} integration, by default. In such case, Oracle recommends that you use new token-based REST APIs, instead of legacy SOAP and old REST APIs.

If you have not upgraded to Unifier 19.7, but you have upgraded to Unifier 19.6, Unifier creates $${companyshortname} automatically, by way of the migration process, with the password that is the same as the original authentication code.

To access the authentication value:

1. In the **Integration Users** log click on a customer row to open the **Update User** page.
2. In the **Update User** page, scroll to see the **Security** block.
3. In the **Security** block, the value in the **User Name** field shows the company name (for example: $$company short name).
4. In the **Security** block, the value in the **Password** field shows the existing authentication key.

> **Note**: The Site Administration can change the authentication key, also.

For users who are upgrading to Unifier 19.x:

As a part of upgrading process, Unifier will automatically create an integration user by:

Using the company short name as the integration user.

Using the existing authentication key as the password.

That is to state:

User Name - $${shortname}

First Name - $${shortname}

Last Name - $${shortname}

Time Zone - Company timezone as seen in the Background Jobs

Language - Company language as seen in the Internationalization node

If a company does not have an authentication key, then the integration user will not be created.

If a customer already has an integration user $${shortname}, then Unifier will leave it unchanged.

The legacy SOAP and old REST APIs do not access the integration permissions.

For this created integration user, all legacy permissions will be checked.

Edit Company (Address Tab)

Enter the company address information in the fields.

Edit Company (Security Tab)

The **Security** tab has the following blocks:

- **File Security Policy**
  - **File Upload Restrictions**
- **Virus Scan Alerts**
- **Cost Sheet Restrictions Policy**
- **User Attributes Policy**
- **Password/Login Policy**

To complete the **Security** tab:

File Security Policy

In this field:	Do this:
Size Limit per File in MB:	Enter the number.

File Upload Restrictions

In this field:	Do this:
Allow File Extensions	Enter the file extensions separated with comma. Example Allow File Extensions: Selected Allow: .png, .pdf, .jpg Block: Blank Files that the user can upload: .png, .pdf, .jpg Or Allow File Extensions: Selected Allow: Blank Block: Blank Files that the user can upload: No file can be uploaded as nothing specified in Allow.

In this field:	Do this:
Block File Extensions	Block File Extensions : Selected Allow: Blank Block: .mov Files that the user can upload: All file types except .exe and .mov Or Block File Extensions: Selected Allow: Blank Block: Blank Files that the user can upload: No restrictions, but the user cannot upload .exe files since the system prevents it.

Virus Scan Alerts

In this field:	Do this:
Do not alert the user when a file that is pending scan for threats is being downloaded.	By default, this option is selected. When this option is selected, Unifier does not display an alert when a file is pending scan. When this option is not selected, Unifier displays a confirmation-request message asking whether the user wants to view a file that is pending scan, or not. In this scenario, the user is not prevented from viewing the file when the viewing of files occurs through Outside-In converted files or through AutoVue. The same conditions are applied for downloading files. **Note**: If any threats are detected post-scan, then Unifier sends an email notification to the user who uploaded the file, as well as the Company Contact (in the Company Properties page).

Cost Sheet Restrictions Policy

In this field:	Do this:
Override column restrictions	View or edit a cost sheet column if any of the restricted groups, or the individual user, is allowed to view or edit the column. By default, this option is not selected.

User Attributes Policy

In this field:	Do this:
Hide User Profile	Select this box to hide the basic information of the user associated with the field.

Password/Login Policy

Select the necessary options and enter values.

Edit Company (Contact Tab)

The **Contact** tab has the following blocks:

- **Support Contact Info**
  Enter values in each field.
- **eLearning Access**
  Enter values in each field.

Edit Company (E-Signatures Tab)

The **E-Signatures** tab contains the following field and blocks:

- **Default E-Signature Type**
- **DocuSign**
- **AdobeSign**

The following provides details:

Default E-Signature Type	(Mandatory field) To select the default technology that provides electronic signature solution for the company.

DocuSign	This block contains the following fields and options: ▸ **Url** The API URL which the customer or Oracle attains after acquiring the license. ▸ **Account Id** The ID for the DocuSign account ▸ **Client ID** To enter the user identification needed to log into AdobeSign. ▸ **Client Secret** This field is needed to set up integration between Unifier and DocuSign. ▸ **Token** This field is needed to set up integration between Unifier and DocuSign. ▸ **Status** Inactive by default. When you click **Active**, Unifier tests the connection. If the connection is successful, then you will be able to lock the status as **Active**. If the connection is not successful, then you will be receiving pertinent messages, and the status will remain as **Inactive**. If you successfully change the **Status** as **Active** and then change any of the fields, the Status changes to **Inactive**, and you must select Active to run the test connection. ▸ **Generate Token** ▸ **Test Connection** To establish a connection between Unifier and DocuSign: 1. Click **Generate Token**. Unifier inspects the integrator key and the client secret and directs the end-user to DocuSign URL to enable them to log in to their Demo or Production DocuSign account. 2. Once the end-user logs in to their DocuSign account, the token will be generated automatically in the **Token** field. 3. Click **Test Connection** to ensure that the connection has been made successfully. This option is available after you successfully entered in, and selected values for, all the fields. If the testing the connection fails, then Unifier displays the error message: Integrator key / Client Secret / Token combination is not correct. 4. Follow the prompts to complete the work. 1) 1. 2. 3. 2)

AdobeSign	This block contains the following fields and options: ▸ **Url** The API URL which the customer or Oracle attains after acquiring the license. ▸ **Client ID** To enter the user identification needed to log into AdobeSign. ▸ **Client Secret** This field is needed to set up integration between Unifier and AdobeSign. ▸ **Token** This field is needed to set up integration between Unifier and AdobeSign. ▸ **Status** Inactive by default. When you click **Active**, Unifier tests the connection. If the connection is successful, then you will be able to lock the status as **Active**. If the connection is not successful, then you will be receiving pertinent messages, and the status will remain as **Inactive**. If you successfully change the **Status** as **Active** and then change any of the fields, the Status changes to **Inactive**, and you must select Active to run the test connection. ▸ **Generate Token** ▸ **Test Connection** To establish a connection between Unifier and **AdobeSign**: 1) Click **Generate Token**. The token will be generated automatically in the **Token** field. 2) Click **Test Connection** to ensure that the connection has been made successfully. This option is available after you successfully entered in, and selected values for, all the fields. 3) Follow the prompts.
OK	Click when you are finished.
Cancel	Click to exit the tab.

Background Jobs

Unifier uses system jobs to perform various:

- Operations (such auto creation)
- Scheduled jobs (such as UDR runs)
- Record creations (from WF templates)
- Analytics data pushes (to staging table)

The node called "**Background Jobs**" (**Company Workspace** > **Admin** mode > **Background Jobs**) enables certain users and groups (Company Administrators) access the jobs data and can choose to set the time zone for the recurring jobs.

The visibility of, and access to, the **Background Jobs** node is controlled by permissions set in the **Access Control** node. The following shows how to determine access by way of the **Access Control** node.

Go to **Company Workspace** > **Admin** mode > **Access Control** > **Administration Mode Access** > **Background Jobs** to set the permissions. The permission settings contain the "Modify" and "View" options, and permissions can be assigned to both Users and Groups. Users/Groups with View permission are able to view the log without having the ability to edit the time zone. Users/Groups with Modify permission are able to view the log content and edit the time zone.

The **Background Jobs** node log page has the following toolbar options:

- Reload ( ): Enables the user to reload the contents of the page. When the action is complete, the list may vary from before reload.
- Find on Page ( ): Enables the user to conduct a quick find (on the contents of the page) for any of the log columns.
- On the far right-corner of the log page, the field labeled "**Time Zone for Recurring Job:**" is displayed. By default, this field shows the "(Default) <Time Zone Name>". The Edit icon (Edit), next to the field, is displayed if the user has Modify permission, only.

  The system uses the set time zone to calculate the next start time for time-based jobs.

The **Background Jobs** node log page content:

- **High Priority Jobs**: Example - Auto Creation job
- **Background Jobs**

The lower-end of the page displays the total count of the jobs and log pagination number.

The **Background Jobs** node log page has the following columns:

- **Name**: The name of the job. Examples - system:collect action emails, alert:Hourly Trigger etc.
- **Status**: The possible values are: Running and Waiting.

  Refer to the *Unifier Reference Guide* for the default time zones and the possible values.

- **Next Start Time**: The time that the scheduler runs the job. The value seen here will be per User Preferences. Example: If the User preference is set, then the format of the next run will be according to this time.
- **Type**: The possible values are: Simple and Recurring. Simple is a type of job that is executed once, at a specific time. Recurring is a type of job that is executed based on a calendar schedule.
- **Priority**: The job priority. Only high priority jobs will have this column populated with the value of "High." The values for other jobs will be blank.
- **Workspace**

  Displays the name or number of the shell for the job (listed under the Name column).
- **Time Zone**

  Displays the time zone for the job.

All current jobs (scheduled UDR, scheduled refresh of the attach flow, BP record creation using templates) across the shells are run based on the time zone that you set up in the company **Background Jobs** module (company-level time zone).

In cases where the project time zone is different from the company time zone (for example facilities based on a certain geographical location), you can go to the shell details (**Details** > **Options** tab) and from the **Time Zone for Background Jobs** drop-down list select the desired time zone for all the shell. After saving your changes, all the jobs within the shell will use your selected time zone.

Event Notifications

The **Event Notifications** log displays events that happen within the Workflow, or Non-workflow, BPs according to the conditions defined by the designer, in uDesigner.

> **Note**: Unifier runs automatic purge every day in order to delete the notification records that are older that one month.

By design, the event notifications are generated for all active (Active) BPs (within the project or shell).

If you do not want to generate event notifications for certain WF BPs (within the project or shell), then Oracle recommends that you use a new WF that does not have the notification setup.

> **Note**: If it has been set up in uDesigner, you cannot avoid generating even notifications for Non-WF BPs. Unifier generates notifications for all of the records that meet the setup conditions.

If any BP record moves to the step which is set up to generate event notifications by way of web service or CSV, then the event notifications is generated and recorded in the events log, also. This applies to WF and Non-WF BPs.

Event Notifications toolbar options:

View	Similar to the **View** option in BP log (**Logs** node), Standard View, it enables to use one of the following system-defined default views: ▸ **All Notifications** This is the default view in this log and available to all users. By default, all rows in this log (sorted by event date and in descending order) are visible to the users. ▸ **Group by Object Name** This means grouping the rows in the grid by the "Object Name" parameter. As in the BP log view, the user has the ability to Create New View, Manage Views. Any view created by any user who has permissions to this log will be available to all other users who have permissions to this log. Similarly, any view edited or deleted by one user will be edited or deleted for all other users using this log.
Edit View	Similar to the **Edit View** option in BP log (**Logs** node), Standard View, it enables you to edit the: ▸ Columns tab: To remove, add, or reorder any column in the view that uses this tab. ▸ Filters tab: To create filters using any columns in the grid of this log. ▸ Group By or Sort By: To group or sort any columns within the grid of this log.

Refresh	Similar to the **Refresh** option in BP log (**Logs** node).
Print	Similar to the **Print** option in BP log (Logs node).
Search	Similar to the **Search** option in BP log (Logs node).
Find on Page	Similar to the **Find on Page** option in BP log (Logs node).

Event Notifications grid (Workflow BPs):

For the Workflow BPs, the grid displays a record of all of the workflow actions that are taken within the BP records, and which are set with the **Generate event notification** option as checked, in uDesigner.

A Workflow BP step completion policy does not impact the creation of the notification row. Regardless of the completion policy, if an action (which is setup to generate an event notification) is taken in the Workflow BP record, then the notification row is inserted in the log.

If there are multiple assignees on a step, then the final action on the Workflow BP record, which moves the record to the next step, determines what will be included as an event notification row in the grid, not each action taken by an assignee.

If a task is reassigned and the new assignee takes an action that moves the record to the next step, and the record is configured to generate a notification, then Unifier inserts an event notification row in the grid, also.

Unifier populates the grid columns within the newly inserted notification row with the values of the Workflow BP records.

Event Notifications grid (Non-workflow BPs):

For the Non-workflow BPs, the grid displays a record of all of the status changes that take place within the BP records, and which are set with the **Event Notification** status (BP status) as "Yes", in uDesigner.

> **Note**: If a user clicks **Edit** on a Non-workflow BP record and proceeds to click **Finish Edits** without making any changes, but the status change is set to generate notifications per the design in uDesigner, then Unifier inserts a notification row in the grid, also.

Unifier populates the grid columns with the values of the newly inserted notification row from the values of the Non-workflow BP records.

Event Notifications grid columns:

Column Name	Description	Applies to WF BPs	Applies to Non-WF BPs
Shell Number	Populates with the project or shell number where the event was triggered.	Yes	Yes
Shell Name	Populates with the name of the project or shell where the event was triggered	Yes	Yes
Object Type	Populated as, "Business Process."	Yes	Yes
Object Sub-Type	When the Object Type = Business Process, then the Object Sub-Type is populated as Workflow or Non-workflow, based on the type of the BP.	No	Yes
Object Name	Populated with the name of the Business Process in which the event was triggered	Yes	Yes
Record Number	Populated with the "record_no" value of the BP record that triggered the event.	Yes	Yes
Event Date	Populates with the date and time, when the event was triggered. The content of this column is in descending order, which is the default sort format.	Yes	Yes
WF Step From	Populates when the event notification is for a *WF BP*. This column is populated with the name of the *starting step* of the record that have triggered the notification generation.	No	Yes
WF Step To	Populates when the event notification is for a *Non-WF BP*. This column is populated with the name of the *final step* of the record that have triggered the notification generation.	No	Yes
WF Action Name	Populates with the WF action name that was taken for the BP record that triggered the notification. **Note**: The same BP could go through several events which trigger the notification generation. Each such event inserts a corresponding row in this log.	No	Yes
Old Status	The original status of the BP record (before the event got triggered).	Yes	Yes
New Status	The final status of the BP record which satisfies the event trigger condition.	Yes	Yes

To set the **Event Notifications** node permissions:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.

2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access** > **Event Notifications** to open the **Permission Settings for Event Notifications** window.
4) Set the **View** permission to users and groups as needed.

Users or groups with the **View** permission have the ability to:

a) See the **Event Notifications** node in the left Navigator.
b) Take actions using available options in the log toolbar.
c) View all notifications records within the log.

Configuration Package Management

You can manage the configuration package creation and import through the **Configuration Package Management** node in the left-hand Navigator.

To access the **Configuration Package Management** node, go to **Company Workspace** > **Admin** mode > **Configuration Package Management**.

The **Configuration Package Management** node has the following sub-nodes:

- **Component Lists**

  A central repository which contains all the component lists designed in a given environment.
- **Configuration Packages**

  The configuration packages in form of zip files that exist in the given environment. The packages displayed in the log are the packages that you have created in, or imported from, the given environment.

The following explains each sub-node in details.

In This Section

Accessing Configuration Package Management Node

Access to the **Configuration Package Management** node is controlled by permissions. Granting permissions to the **Configuration Package Management** node is similar to granting permissions to the **Design Bundles** node, under **uDesigner**.

To grant permissions to the **Configuration Package Management** node, go to **Access Control** and select **Configuration Packages** (**Company Workspace** > **Admin** mode > **Access Control** > **Administration Mode Access** > **Configuration Packages**).

You can use the **Module Permission Settings** window to add, modify, or remove users groups.

When you click **Add** to add a user, the **Permission/Access Control** window opens. In this window (under **Permission Settings** field), you can grant permissions to both users and groups by clicking to select **Enable**.

Note: Users are able to view the contents of this node.

Component Lists

The sub-node lists all the component lists existing in an environment and has the following options:

- **Create**
- **View**
- **Filter**

> **Note**: When you click the **View** option to open or edit the component list, the system displays the existing selections that were made while saving the report previously. You can proceed with the new list creation.

The details related to the component lists are presented in the following columns:

- **Name**

  The name assigned to the component list by the user at the time of creation.
- **Last Error Check Status**

  The status for component list is determined by the **Error Check** action. There are three different statuses for the component list:
  - **Pending**: This status will be seen for the list which has not been error checked by the user.
  - **Complete**: This status will be seen when the user has performed the error check and there are no errors existing for the component list.
  - **Error**: This status will be seen when the user performed error check and there are errors which need to be resolved for the component list.
- **Last Error Check**

  The date that the error check was performed. This will honor the user's date preferences. If the list is in **Pending** status then the **Last Error Check** column will show empty for the corresponding list.
- **Creation Date**

  The date that the component list was created. This will honor the user's date preferences.
- **Last Modified Date**

  The date the component list was last modified on.

The gear icon enables you to perform the following functions on each item:

- **Delete**

  The user can delete the component list; however, if the component list is a part of any **Draft** status configuration package, then the user will not be able to delete the component list, and the user will see the following alert message: "The component list is used in a Draft Configuration Package and cannot be deleted."

The **Component Lists** log is sorted by default on the **Creation Date** column. All other columns can be sorted as desired.

The component list name will be unique. If the user tries to create a duplicate list the system displays an alert message.

Review the following topics for more information about:

- Creating Component List

Configuration Packages

The Configuration Packages sub-module contains the following options:

- **Create**
- **Import**
- **View**
- **Filter**

The Configuration Packages log has the following columns:

- Package Name
- File Name
- Description
- Status
- User Name
- Creation Date
- Published By
- Published Date

The Configuration Packages log is sorted based on the Creation Date column.

The configuration package name (Package Name) is unique and cannot be duplicated.

The options available under the gear icon ( ) are:

- Open
- Delete
- Publish for Production (Only for Created status)
- Download (Only for status Created, Import Success)
- Impact Analysis Report (Only for Import Success , Import Failed, Import Error)
- Error/Warning Report

  In addition to the regular errors and warnings, you can download the error report to see limited information about the exception context.

Review the following topics for more information about:

- ***Creating Configuration Packages*** (on page 301)
- ***Importing Configuration Packages*** (on page 303)
- ***Viewing Configuration Packages*** (on page 308)

> **Note**: Pre-17.6 configuration package zip files will not be available in the log. If you want to view your pre-17.6 log content, Oracle recommends that you print your pre-17.6 log content prior to the upgrade.

Creating Component List

When you create a new component list, you can perform the following actions:

- **Error Check**

  When user clicks **Error Check**, a new window for Component Analysis will be opened displaying the list of errors/warning related to the component list
- **Save**

  When user clicks **Save**, the component list will be saved with the user entered name.
- **Save As**

  When user clicks on **Save As**, a new window will open asking the user to enter the name for the new list. After Clicking OK button on the window, the existing component list will show the newly displayed name for component list and user will be able to work on the component list for further edits. At this point if the previous list has components selected then those will be retained for the new list. Also the log will be refreshed to show the new component list created using Save as action.The unique validation for component list will be checked when the user clicks on OK button.
- **Cancel**

  When user clicks on Cancel, the window will be closed.

The left-hand pane of the log displays the components that you can select. When you select a particular component, the items for the selected component that can be added are listed, and you can select the items individually. You can:

- Use the check box, on top, to select/deselect all the items.
- Use the filter option to perform a quick filter.
- Use the print option to print the list of selected components, in a consolidated format.
- Use the expand all/collapse all to expand or collapse the component seen in the Grouping.

The component list name is unique. If the user tries to create a duplicate list, the system displays an alert message.

The left-hand pane (navigation tree) in the window displays the following nodes:

- Designs
- Data Structure Setup
- Company Access Control
- Configuration
- Company Workspace
- Company Templates
- Shell Templates
- Single Instance Shells
- Analytics

The following explains each node in details.

Designs

The Design components can be selected and included in the component list required for creating configuration packages. The selected Design components overwrite, or insert, deployed/published versions of design components in the destination environment.

Displays the following design components, in groups:

- Business Processes
- Asset Manager
- Configurable Modules
- Cost Manager
- Document Manager
- Planning Manager
- Portfolio Manager
- Resource Manager
- Schedule Manager
- Space Manager
- Shell Manager
- User Administration

The following columns will be seen:

- Name
- ID
- Level
- Type
- Status
- Deployed Version
- Published Version

The log is sorted by default on the "Name" column and you can sort the other columns.

Use the filter option to perform a quick filter of the data for search on a column.

Use the print option to print the list of selected components, in a consolidated format.

When the user selects the designs, for any of the design components, the deployed design version will be included as part of the component list.

The published design version will be automatically considered as part of the component list only when there is a dependency from another selected component (for example, selected Setup or Configuration), in the component list. If user has not selected an existing published design, it will not be included in the component list.

The published design version will not be included as a part of the component list if there are no dependencies. If any selected component is dependent upon the current published design version, the system displays messages during error check of the component list, or when the configuration package is being created.

Designs and Document Manager

When the DMS attributes from of the **Document Manager** is included in the component list (to be further included in the configuration package), all of the folder properties attribute forms must be included in the component list with the corresponding document properties attribute forms and the document logs.

Data Structure Setup

The Data Structure Setup components can be selected and included in the component list required for creating configuration packages. The selected Data Structure Setup components overwrite, or insert, data set/default values in the destination environment.

The following are the sub-nodes available under Data Structure Setup:

- Basic Data Definitions
- Cost Code Data Definitions
- Data Cube Definitions
- Data Views
- Dynamic Data Sets

Each node, when selected, displays the columns:

- Basic Data Definitions
  - Name
  - Input Type
  - Used in Selected Designs
- Cost Codes Data Definitions
  - Name
  - Input Type
- Data Cube definitions
  - Name
  - Description
- Data Views
  - Name
  - Label
  - Description
- Dynamic Data Sets Configuration
  - Name
  - Description
  - Used in Selected Designs

The default column sort is the Name column.

Data Structure Setup - *Basic Data Definitions*

All basic data definitions are available for selection except for the:

- Picker type

- Data picker type
- Checkbox type DDs

When imported, the data sets/default values of the selected data definitions (included in the package) overwrite the existing data definitions in the destination environment.

If the data definitions do not exist in the destination environment, then all of the new data definitions imported as a part of the configuration package are inserted into the destination environment, by the system.

The data sets/default values are not included for the data definitions that are not selected.

If users have defined the data sets/default values in the destination server, then those values remain as they are.

Used in Selected Designs

The column will have a "Yes" value for the Data Definitions (DDs) which are being used in the selected designs. If you deselect any particular design in the **Design** node, then if you go back to the **Data Definitions** node, the value will be empty for respective DDs.

> **Note**: The data set values are always included for Project phase data definition.

Data Structure Setup - *Cost Codes*

All cost codes are available for selection.

The selected Cost Codes (included in the package), when imported, overwrite as data sets values for the corresponding Cost Codes existing in the destination environment. If the Cost Codes do not exist in the destination environment, the new cost codes, imported in as part of the configuration package, are inserted into the destination environment.

The data sets/default values are not included for the data definitions that are not selected.

Data Structure Setup - *Data Views*

All Data Views are available for selection.

The selected Data Views (included in the package), when imported, overwrite in the destination environment. If the Data Views do not exist in the destination environment, the new Data Views, imported in as part of the configuration package, are inserted into the destination environment.

The dependency errors related to data views not selected will be checked at component analysis and during configuration package creation.

> **Note**: For a Data View that is dependent on another Data View, there are no dependency errors that are checked on Component analysis and configuration package creation; however, publishing of the Data View fails because of the dependency and the system displays an error message upon import.

Data Structure Setup - *Dynamic Data Sets (DDS)*

The DDS are available for selection.

The selected DDS, included in the configuration package when imported, either create a new configuration or overwrite the existing configuration in the destination environment.

If the DDS does not exist in the destination environment, then the new DDS imported as a part of the configuration package are inserted into the destination environment, by the system.

When a dynamic data set (DDS) is used in a uDesigner object (such as a business process), the DDS configuration that exists in the package must match the DDS configuration that exists in the destination environment; otherwise, Unifier will mark the process as a data definition conflict, and the import will fail.

Used in Selected Designs

The column will have a "Yes" value for the Dynamic Data Sets (DDS) which are being used in the selected designs. If you deselect any particular design in the **Design** node, then if you go back to the **Dynamic Data Sets** node, the value will be empty for respective DDS.

Company Access Control

The Company Access Control permissions can be selected and included in the component list required for creating configuration packages. The selected Company Access Control permissions overwrite, or insert, permissions related to groups in the destination environment.

Displays the following access control permissions, in groups:

- Administrator Mode Access
- User Mode Access

For static modules, there are no error check performed on component analysis. For dynamic modules (such as BP setup in Admin mode access or Data Cubes as non navigational nodes in User mode access), if the user selects modules dependent on components which have not been selected, when the component analysis is performed, the system displays a warning message indicating that the dependent component has not been selected, but the permissions have been selected.

Upon a successful import, the system updates the permissions for the selected modules. If the permissions (transferred as a part of the configuration package for dynamic modules) do not have the dependent components in the destination environment, and the configuration package, then the permissions will not be imported into the destination environment, and the system displays a message; however, if the dependent components are present in the destination environment, then the system updates the permissions, when imported successfully. By default, for "creator users," the permissions will be set to the "importer user" upon the configuration package creation, and in the destination environment.

Configuration

The Configuration can be selected and included in the component list required for creating configuration packages. The selected Configuration overwrites, or gets inserted, in the destination environment.

The following sub-nodes are displayed under the **Configuration** node:

- **Designs**
- **Log Views**
- **Custom Templates (Custom Prints and Reports)**
- **User Mode Navigator**

- **Portal Landing Page**
- **Stamps**

Designs

Displays the configuration for the design components available for selection. The grouping, by headers, are as follows:

- Business Processes
- Asset Manager
- Configurable Module: <CM name>
- Planning Manager
- Portfolio Manager
- Resource Manager
- Space Manager
- Shell Manager
- Document Manager

The following columns are displayed:

- Name
- ID
- Level

Log Views

Displays the log views available for selection. The grouping, by headers, are as follows:

- Business Processes

  See ***Creating BP Log Views in Admin Mode*** (on page 531) (BP Log Views and Configuration Package) for more information.
- Document Manager Log Views

  See ***Setting Up the Document Manager*** (on page 763) (Document Log Views and Configuration Package) for more information.

The following columns are displayed:

- Name
- ID
- Level

Custom Templates

Displays the Custom Templates available for selection. The grouping, by headers, are as follows:

- Custom Print
- Custom Report
- Custom Email

Note: The system does not display the application type and external

type of reports.

The following columns are displayed:

- Name
- Key
- Description

User Mode Navigator

Displays the active and inactive user mode navigator available for selection. The following columns are displayed:

- Name
- Type
- Status

Portal Landing Page

Displays the active or inactive portal landing page setup available for selection. The following columns are displayed:

- Name
- Status

Note: To include in the configuration package, you must include all image files and hyperlinks.

Stamps

Displays the stamps available for selection. The following columns are displayed:

- Name
- Description

All of the sub-nodes logs are sorted by default on the "Name" column and you can sort on any of the other columns.

Additional Information

Portfolio Manager

As a part of Project Portfolio Manager (PPM) configuration, the "Display monthly breakdown of Actuals" option is included for the Configuration Package.

If the check box for the "Display monthly breakdown of Actuals" option is selected when the PPM configuration is being included in the Configuration Package, then upon import to the destination environment, the user will see the checkbox checked.

The Actuals source curve values displayed in the source environment (in the Derived curve properties) will be seen in the destination environment as well, when the **CashFlow** is packaged as part of the Configuration Package.

Company Workspace

The components for the Company Workspace can be selected and included in the component list required for creating configuration packages. The selected components for the Company Workspace overwrites, or gets inserted, in the destination environment.

The following are the sub-nodes for the Company Workspace:

- **Setup**
- **Rules**
- **Auto Update Status Setup**
- **User Defined Reports**

Setup

Displays the Setup (Company level) for the design components (Business Process and Planning Manager) available for selection. The grouping, by headers, are as follows:

- Business Process
- Planning Manager

The following columns are available:

- Name
- ID
- Status

Rules

Displays the Rules (Company level) available for selection. The following columns are available:

- Name
- Control Source
- Status

Auto Update Status Setup

Displays the Auto Update Status Setup (Company level) available for selection. The following columns are available:

- Name
- Status

User Defined Reports

Displays the UDRs (Company level) available for selection. The following columns are available:

- Name
- Data Type
- Report Type

> **Note**: The UDRs listed are in *User* mode.

All of the sub-nodes logs are sorted by default on the "Name" column and you can sort on any of the other columns.

Company Templates

The components for the Templates (Company level) can be selected and included in the component list required for creating configuration packages. The selected components for the Templates overwrites, or gets inserted, in the destination environment.

The following are the sub-nodes for the Company Templates:

- **CashFlow**
- **Sheets**
- **Folder Structures**
- **Rules**
- **User Defined Reports**

CashFlow

Displays the company-level CashFlow templates available for selection. The following columns are available:

- Name
- Detail Level
- Time Scale

Sheets

Displays the company-level Sheets templates available for selection. The grouping, by headers, are as follows:

- Commitment Summaries
- Configurable Modules : <CM name>
- Commitment Funding Sheets
- Cost Sheets (The worksheets will be shown under this same grouping. However the name for worksheet will be shown as Worksheet : <worksheet name>)
- Funding Sheets
- General Spends SOV sheets
- Schedule Sheets

The following columns are available:

- Name
- Description

Folder Structures

Displays the company-level Folder Structures templates available for selection. The following columns are available:

- Name

> **Note**: For Folder structures, under Company Templates, you see the name column that correspond to all of the template name entries coming from Unifier. Only those templates that the user selects are included in the component list.

Rules

Displays the company-level Rules templates available for selection. The following columns are available:

- Name
- Control Source
- Status

User Defined Reports

Displays the company-level UDRs templates available for selection. The following columns are available:

- Name
- Data Type
- Report Type

All of the sub-nodes logs are sorted by default on the "Name" column and you can sort on any of the other columns.

Shell Templates

The components for the Shell Templates can be selected and included in the component list required for creating configuration packages. The selected components for the Shell Templates overwrites, or gets inserted, in the destination environment.

> **Note**: The respective folder properties and associated document properties attributes form and document log must be included as part of the configuration package when any shell, or shell template, (shell, or shell template that does not use the default form) is included. While creating configuration package the user will be notified of the inclusion of these attribute forms by a message.

The Shell Templates displays the available shell templates grouped by their shells. You must select a shell template before selecting the following sub-nodes:

- **Access Control**
- **Setup**
- **Sheets**
- **Folder Structures**
- **Rules**
- **User Defined Reports**

The components are grouped based on the shell template that you have selected. The following explains each component under Components:

Access Control

The Shell Templates Access Control permissions can be selected and included in the component list required for creating configuration packages. The selected Shell Templates Access Control permissions overwrite, or insert, permissions related to groups in the destination environment.

Displays the Shell Templates Access Control permissions available for selection. The grouping, by headers, are as follows:

- Administrator Mode Access
- User Mode Access

The following columns are available:

- Module

The log is sorted by default on the "Module" column and you can sort the other columns.

For static modules, there are no error check performed on component analysis. For dynamic modules (such as BP setup in Admin mode access or Data Cubes as non navigational nodes in User mode access), if the user selects modules dependent on components which have not been selected, when the component analysis is performed, the system displays a message indicating that the dependent object have not been selected, but the permissions have been selected.

Upon a successful import, the system updates the permissions for the selected modules. If the permissions (transferred as a part of the configuration package for dynamic modules) do not have the dependent components in the destination environment, and the configuration package, then the permissions will not be imported into the destination environment, and the system displays a message; however, if the dependent components are present in the destination environment, then the system updates the permissions,when imported successfully. By default, for "creator users," the permissions will be set to the "importer user" upon the configuration package creation, and in the destination. environment.

Setup

Displays the Shell Templates Setup available for selection. The grouping, by headers, are as follows:

- Business Process
- Gates
- Planning Manager
- Resource Manager
- Configurable Modules : <CM name>
- Dashboard

The following columns are available:

- Name
- ID
- Status

The log is sorted by default on the "Name" column and you can sort the other columns.

Sheets

Displays the Shell Templates Sheets available for selection. The grouping, by headers, are as follows:

- Configurable Modules : <CM name>
  All CM sheets for that specific configurable module will be seen in this group by
- Cost Manager
  This group will list all the cost sheets , CashFlow sheets . For below sheets
- Commitment Summaries
- Commitment Funding sheet
- General Spends
- Payment applications
- <BP name> - SOV
  Only those will be seen for which the structure has been created for that particular template.
- Space Manager
  All Stack plans and level sheets will be seen under this group by
- Schedule Manager
  All schedule sheets will be seen under this group by

The following columns are available:

- Name
- Description

The log is sorted by default on the "Name" column and you can sort the other columns.

Folder Structures

Displays the Shell Templates Folder Structures available for selection. The following columns are available:

- Name

The log is sorted by default on the "Name" column and you can sort the other columns.

> **Note**: For Folder Structures under Shell Templates, only the "Name" is displayed, at the root folder name. For Example if there is a folder Test12 available in Documents, then the name for the structure will be seen as Documents.

Rules

Displays the Shell Templates Rules available for selection. The following columns are available:

- Name
- Control Source
- Status

The log is sorted by default on the "Name" column and you can sort the other columns.

User Defined Reports

Displays the Shell Templates UDRs available for selection. The following columns are available:

- Name
- Data Type
- Report Type

The log is sorted by default on the "Name" column and you can sort the other columns.

> **Note**: Based on the shell template selected, only the components related to the selected shell template are displayed and available for selection. If you deselect a previously selected shell template, the components of the deselected shell template do not display; however, if you select the deselected shell template, then the components are displayed.

Defining Shell-Specific Custom Print Templates for Business Processes

In addition to editing shells that you have permissions for, you can view all Custom Print Templates and define them at the shell level. Once you choose a shell template in the Company Workspace, you must select the **Details** icon in the upper-right corner of the dashboard. In the **Details** window, a **Custom Print Template** tab is available.

The **Custom Print Template** tab contains a short description detailing its functionality and an **Add Selective Custom Print Templates** checkbox. The checkbox is unchecked by default, which means every template that is available for BPs is available at run-time. If the checkbox is checked, then only the selected templates are available at run-time.

> **Note**: For further explanation of the checkbox, hover your cursor over the Question Mark icon next to the checkbox.

Upon checking the checkbox, a grid is displayed with **Add Custom Print Template** and **Find on Page** options. When you select **Add Custom Print Template**, a new window is displayed where you can select a Business Process from the dropdown.

After you choose a BP, you can select the custom print templates that you want to add in the shell. The options for custom templates include all Published and Legacy templates.

Once you select one or more templates, you can add them to the **Selected Items** list by clicking the **Right** arrow. If you want to remove a template from the list, select the template and click the **Left** arrow. After selecting **Save**, the **Add Custom Print Template** window is closed and the chosen templates are displayed in the previous grid.

To delete a newly added template, select the **Trash Bin** icon in the far right column of the grid. To find a specific template, select the **Find on Page** option.

Supporting Shell Attribute View Forms

Since you can include **View Forms** in shell attributes and restrict users and group (who are members of the shell) to view the forms added to the shell properties (**View Forms** tab), you can use the **Configuration Package** to export and import the **View Forms** tab information (along with other tabs) of the shell properties of your selected shell templates or single instance shells.

In general, you can export and import the shell attribute design (which includes both the action forms and the view forms), and the view form permission settings (added in the **View Forms** tab of the shell or shell template properties), by way of **Configuration Package**.

Configuration Package export for shell templates and single instance shells

When you tag one or more shell templates that have view forms setup in the **Component List**, then along with other shell tabs the **View Forms** tab information will be exported, when you create the **Configuration Package**.

Along with the view forms, the users, groups, and shell administrator, who are part of the permission settings of view forms, will be exported. For other modules in the BP setup, the users, groups, and shell administrator associated to the permission settings will not be exported. In other word, the users, groups, and shell administrator associated to the permission settings in the View Forms tab of the BP setup will not be exported; however, the users, groups, and shell administrator permission settings in the view forms setup (in the shell attribute form) will be exported.

When the published shell design does not have all the view forms added in the tagged shell template in the **Component List**, then the design dependency error is displayed, when you conduct error check in the **Component List**. Add the dependency component to fix this error.

If you tag a shell template (that has view forms) in the **Component List**, and the published design has those view forms already, then the system does not validate for the latest deployed design. Also, if the tagged shell template does not have any view forms, and the shell design is published, then the system does not validate for any latest deployed design while creating the **Configuration Package**. Similarly, when you tag a single instance shell, and the selected shell instance has view forms setup, then along with the other tab information all of the view forms and permission settings (for the users, groups, and shell administrator) will be exported.

Import of Configuration Package containing shell templates with view forms

When you import the **Configuration Package** containing shell templates with view forms into the destination server:

- If the shell template does not exist, then a new template will be created and view forms setup information (forms and permission settings for groups) will be added.
- If the destination server already has the shell template, then the view forms setup information will be updated by way of importing the **Configuration Package**.
- If **Configuration Package** created has a single instance shell with the view forms setup, then in destination server the single instance shell will be imported when the component does not exist. The view forms setup information are also imported along with the other tabs. In the case the destination server already has a single instance shell, then the single instance shell information will not be updated, including view forms information.

Single Instance Shells

The components for the Single Instance Shells can be selected and included in the component list required for creating configuration packages. The selected components for the Single Instance Shells overwrites, or gets inserted, in the destination environment.

The Single Instance Shells displays the available shells for selection. You must select a shell from the Single Instance Shells before selecting the following sub-nodes:

- **Access Control**
- **Setup**

- **Rules**
- **User Defined Reports**

The components are grouped based on the shell template that you have selected. The following explains each component under Components:

Access Control

The Single Instance Shells Access Control permissions can be selected and included in the component list required for creating configuration packages. The selected Single Instance Shells Access Control permissions overwrite, or insert, permissions related to groups in the destination environment.

Displays the Single Instance Shells Access Control permissions available for selection. The grouping, by headers, are as follows:

- Administrator Mode Access
- User Mode Access

The following columns are available:

- Module

The log is sorted by default on the "Module" column and you can sort the other columns.

For static modules, there are no error check performed on component analysis. For dynamic modules (such as BP setup in Admin mode access or Data Cubes as non navigational nodes in User mode access), if the user selects modules dependent on components which have not been selected, when the component analysis is performed, the system displays a message indicating that the dependent object have not been selected, but the permissions have been selected.

Upon a successful import, the system updates the permissions for the selected modules. If the permissions (transferred as a part of the configuration package for dynamic modules) do not have the dependent components in the destination environment, and the configuration package, then the permissions will not be imported into the destination environment, and the system displays a message; however, if the dependent components are present in the destination environment, then the system updates the permissions,when imported successfully. By default, for "creator users," the permissions will be set to the "importer user" upon the configuration package creation, and in the destination.

Setup

Displays the Single Instance Shell Setup available for selection. The grouping, by headers, are as follows:

- Business Process
- Gates
- Planning Manager
- Resource Manager
- Configurable Modules : <CM name>
- Dashboard

The following columns are available:

- Name

- ID
- Status

The log is sorted by default on the "Name" column and you can sort the other columns.

Rules

Displays the Single Instance Shells Rules available for selection. The following columns are available:

- Name
- Control Source
- Status

The log is sorted by default on the "Name" column and you can sort the other columns.

User Defined Reports

Displays the Single Instance Shells UDRs available for selection. The following columns are available:

- Name
- Data Type
- Report Type

The log is sorted by default on the "Name" column and you can sort the other columns.

> **Note**: Based on the Single Instance Shells selected, only the components related to the selected Single Instance Shells are displayed and available for selection. If you deselect a previously selected Single Instance Shells, the components of the deselected Single Instance Shells do not display; however, if you select the deselected Single Instance Shells, then the components are displayed.

Defining Shell-Specific Custom Print Templates for Business Processes

In addition to editing shells that you have permissions for, you can view all Custom Print Templates and define them at the shell level. Once you choose a shell template in the Company Workspace, you must select the **Details** icon in the upper-right corner of the dashboard. In the **Details** window, a **Custom Print Template** tab is available.

The **Custom Print Template** tab contains a short description detailing its functionality and an **Add Selective Custom Print Templates** checkbox. The checkbox is unchecked by default, which means every template that is available for BPs is available at run-time. If the checkbox is checked, then only the selected templates are available at run-time.

> **Note**: For further explanation of the checkbox, hover your cursor over the Question Mark icon next to the checkbox.

Upon checking the checkbox, a grid is displayed with **Add Custom Print Template** and **Find on Page** options. When you select **Add Custom Print Template**, a new window is displayed where you can select a Business Process from the dropdown.

After you choose a BP, you can select the custom print templates that you want to add in the shell. The options for custom templates include all Published and Legacy templates.

Once you select one or more templates, you can add them to the **Selected Items** list by clicking the **Right** arrow. If you want to remove a template from the list, select the template and click the **Left** arrow. After selecting **Save**, the **Add Custom Print Template** window is closed and the chosen templates are displayed in the previous grid.

To delete a newly added template, select the **Trash Bin** icon in the far right column of the grid. To find a specific template, select the **Find on Page** option.

Analytics

The Analytics can be selected and included in the component list required for creating configuration packages. The selected Analytics overwrites, or gets inserted, in the destination environment.

When you click Analytics, the system displays a list of analytics available for selection.

The log contains the "Name" column only.

Cost Attributes - Cost Sheet

Users can export and import the Configuration Package, with the **Analytics Cost Sheet** node checked, to other environments.

After you defined mappings (in the **Data Mapping – Cost Attributes** tab), if the option **Cost Sheet** is selected (the **Component Lists** node > **Configuration Package Management** > **Analytics**), then the source design, in uDesigner (Cost Code Attributes (Design ID = standard_cost)) has to be selected.

Component Analysis for Component Lists

You can perform component analysis for the components that you have selected in the component list. When you click Error Check, in the component list creation screen, the system displays the component analysis screen.

In case of errors, the system displays the following error types;

- Dependency errors
- Miscellaneous errors
- Warnings

Dependency errors

These errors are displayed when the components available inside the component list have dependency errors. Dependency errors occurs when the user has selected primary components in the component list but did not select the dependent components.

Example

While creating a component list, the user selected a UDR report but did not select the dependent BP design.

The system displays dependency errors as groups, in the Component Analysis screen, and the Fix Action column displays a symbol. If you hover over the symbols displayed, the system displays the action that you need to take.

To correct a dependency error, you have two options:

a) Add the missing component (Add Missing Component symbol)
   You can add the dependent components (in the error list) and resolve the errors.
b) Remove the existing component (Remove Existing Component symbol)
   You can remove the selected components from the list and resolve the errors.

The system processes the error list and the list can be refreshed by clicking Refresh.

Miscellaneous errors

These errors are encountered when the components have other miscellaneous errors that have to be fixed at the application level.

Warnings

The system displays warnings related to components present in the component list, using (the yellow triangle symbol).

Creating Configuration Packages

When you click Create in the configuration package log, the Package Details step of the creation wizard is displayed.

The creation wizard has the following steps:

> **Note**: You cannot create a configuration package with a component list that has no components selected.

- Package Details
  Mandatory details related to the configuration package must be entered in this step.
- Package Components
  Displays the configuration package component preview, based on the selected items from the Components Lists.
- Create
  Enables you to publish the configuration package for production and download the configuration package zip file.

The New Configuration Package screen is divided into:

- Package Details
- Components Lists (multiple selection is available)

Package Details step

The Package Details contains the following fields:

- Package Name
- File Name (the zip file)

- Description

The File name and Description fields will be auto-populated once you enter the Package Name. You will be able to edit both the fields further.

The Components Lists provides the following information in two columns:

- List Name
- Creation Date

Package Components step

When you click Next in the Package Details step, you go to the the Package Components step. The Package Components page displays the package components from the selected components list (from the Package Details step).

Only two categories, and components, that are part of the selected component list are shown.

Example

If the user selected, List 1 (with categories Designs and Analytics) and List 2 (with categories Designs and Configuration and Configuration included business processes, only), then the following is displayed in the package components:

Categories

- Designs
- Configuration
- Analytics

Since the configuration included the component business process, the business process components are displayed under Configuration. Based on what is transferred from the selected items under Component Lists, you will see:

- Designs (There will be tab to see the Published designs , if any published designs are coming as part of the selected component lists.)
- Data Structure Setup
- Access Control
- Configuration
- Company Workspace
- Company Templates
- Shell Templates
- Single Instance Shells
- Analytics

You can use the filter option to search data for each column.

The print option prints the consolidated report, based on the selected components.

Click Next to go to the Creation step.

Creation step

In the Creation step, you can publish your configuration package for production and download the configuration package zip file after creation.

When you click Create, the system creates the configuration package.

Errors and Warnings

When you click Next in the Package Components step, the system performs an error check to determine if the configuration package is complete, or not.

If there are no errors, then you can see the last step, Create.

If there are errors, then the system displays the Package Error and Warnings step. In this step, you can resolve errors dependency errors dynamically. Once you fix the errors dynamically, click Back to see the results.

For other types of errors, you must save as draft, fix the errors at the application level, and then run the step.

The Refresh option enables you to refresh the dynamically resolved errors and proceed with the error processing.

When all the errors are resolved, or there are no errors in the configuration package, you can click Next in the Package component step and go to the Create screen, or Creation step.

Importing Configuration Packages

Click **Import** to activate the Configuration Package Import wizard. Select a valid zip file and click **Next**.

When you click **Next** in the **Package Components** step, the system displays the package components from the selected zip file.

Only the components available in the zip file are displayed in the Package Components preview.

Example

If the user selected a zip file (with categories Designs, Analytics, and Configuration), then the Package Components preview displays the following Categories:

- Designs
- Configuration
- Analytics

Since the configuration include component Business Process, Business Process components are displayed under Configuration.

The Designs node will also have separate sub node Published Designs to show the published designs coming in as part of the configuration file. The Group sub node will also appear in the categories Shell Templates and Single Instance Shells. For Groups, the column that will be seen is the Name where the group name should be seen.

There will be a filter option available to enable you to filter data for search for every column. The print option prints the consolidated report based on the user selected components.

In the Package Components preview, the Status column is displayed for all the components with the following indicators:

- **Add**

  When imported successfully, the component will be added in the destination environment.
- **Update**

  When imported successfully, the component will be updated in the destination environment.

- **No Change**

  When imported successfully, there will be no changes applied to the component in the destination environment.

When you click **Next** in the **Package Components** step, you go to the **User Mapping** step, and the following operations take place:

- The system extracts the following information, for user mapping:
  - Shell administrator.
  - Auto Creator for Business Process records or line items.
  - BP Auto Creator in the BP Setup.
- For other component where users/groups are assigned, for example, Workflow Setup, Access Control, column restrictions in Cost Sheet, or Portfolio Manager:
  - If all assignees are Groups, then the Groups will be extracted.
  - If the assignees are a mix of users and groups, then only the groups will be extracted and the users will be ignored.
  - (Portfolio Manager) If the assignees is a list of users only, then during error check, the following error message appears, while creating component list and during export of Configuration Package:

    `The users assigned to {name of PPM} cannot be extracted. Include at least one group to proceed further`
- The other creator users for components that the user does not select or cannot be changed, for example, creator of Cost sheet, then those creator users are replaced with the user who is performing the import.
- When performing import for the first time in the destination environment, by default, the destination login name (present in the destination environment) is displayed in the column for users who *are present* in the environment. The destination login name will be empty for users who *are not present* in the environment.
- The last entered values for the User Mapping (from the last import) will be remembered in the same environment. The system auto-populates the last User Mapping values once the user reaches the User Mapping step.
- You can enter the mapping details.
- You can edit the destination login name for any value.
- You can map different imported users to the same user in the destination environment.

> **Note**: Although group name and the group permission is available, the members of the group cannot be extracted.

After you click **Next** from the **User Mapping** step, you go to the **Import** step.

You can select/deselect to download the impact analysis report in the **Import** step. If you deselect this option, you can download the impact analysis report using the gear icon option in the Configuration Package log.

Configuration Package Report and Audit Log

You can view the configuration package contents in a report format by generating a PDF file. The print option is displayed when you are viewing the configuration package.

After you import a configuration package, all included modules that support auditing will continue to do so. The following lists the specifics:

- Auditing is done post import and in the destination environment.
- New attributes are not added to the Audit log.
- The Date.
- The User Name is the user who last imported the configuration package.

Conditions for User Mapping in Configuration Package

User Mapping

Many Unifier modules have user information as a part of setup information. When you create and export configuration package, the user information is included in the package; however, when you export, the user information will not be created in the **Production** environment and the import process will fail.

To prevent this, you can map the **Development/Test** environment users to a user in the **Production** environment.

Note the following conditions:

- The user mapping that you set at this point applies to the particular configuration package that you are working with.
- The names that you enter in the **Destination Login Name** field (Production) must exist in the destination environment.
- The system validates the user names at the time of import.
- If no user exists by that name, the import fails.
- The **Destination Login Name** is a text field and the system validates the character length against the existing character length limit for the field.
- You cannot map a two-source user to the same destination user.

Configuration Packages Import Rules

The following explains import rules for the configuration packages.

Manually, a design object such as a business process can be setup in a Shell template, Single Instance Shell, Company Workspace only if the design object has an Active Configuration, which is set in the Configuration node.

> Since the system does not perform checks for the existence of an Active status configuration at the time of import, the configuration setup is imported irrespective of configuration status (Active or Inactive). As a result, the user must tag the configuration of the corresponding design, in the **Development/Test** environment, so that it is a part of the Configuration Package.

This rule applies to the following components:

- Business Process
- Asset Manager
- Planning Manager
- Portfolio Manager
- Resource Manager
- Shell Manager
- Space Manager
- Configurable Manager

The system imports all content included in the Configuration Package.

The system aborts the import process if there is an error.

For a successful import, you must load all necessary modules, for each component, in the destination server. For example, if the configuration package includes Cash Flow Curves, then the Cash Flow module must be loaded in the **Production** environment, or destination server.

If the following objects do not exist in the **Production** environment, or destination server, then the system creates these objects in the **Production** environment, or destination server, automatically:

- Design
- Data structure setup components
- Shell templates

If a report does not exit in the **Production** environment, or destination server, then the system creates the report after a successful import.

If your configuration package components already exist in the **Production** environment, or destination server, then the system performs an update upon a successful import.

System updates result in complete replacement. For example, if the Auto Creation setup has changed in the BP setup, then the system applies the updates to all of the tabs in the BP setup.

If you include BIP reports in your configuration package, ensure that:

- The application modules have been deployed in the imported environment, prior to import.
- The BIP reports are at application level.

  If the application modules have not been deployed in the imported environment prior to import, then the import process will fail.

Unifier module options that have associated files are based on the Configuration Package, always.

The components for the following objects in the Configuration Package overwrite the components of the corresponding objects in the **Production** environment, or destination server, after a successful import:

- Shell templates
- Templates
- Company Workspace
- Single Instance Shells

If the components of the objects do not exist in the **Production** environment, or destination server, then the system adds the components of the objects in the **Production** environment, or destination server, after a successful import.

If the components of the objects exist in the **Production** environment, or destination server, then the system updates the components of the corresponding objects in the **Production** environment, or destination server, after a successful import.

When you include the User Mode Navigator setup in the Configuration Package, the system deploys the setup after a successful import.

If external Custom Reports are used in the User Mode Navigator, ensure that the external Custom Reports names and locations in the Configuration Package match those existing in the **Production** environment, or destination server; otherwise, the import process will fail.

If the names of the following components of Cost Manager sheets (Funding), in a Template, do not match, then the import process will fail:

- Funding Sheets
- Commitment Funding Sheets

The registry name of Data Views that are imported into the **Production** environment, or destination server, must match those in the Configuration Package. Data Views can only be imported between two servers belonging to the same registry. This condition also applies to the following components, which use Data Views:

- Data Cubes
- UDRs
- BIP reports

Impact Analysis Report

The impact analysis report enables the user to view the impact of component after the import has been completed, whether successfully or not.

An Impact Analysis Report contains the following information:

- Import Date
- Imported by
- Import Status

In case of Success, Error, or Failed conditions, the components that will be seen in the report are the ones that impacted the destination system. For example if there are no changes related to Shell Templates, then the shell template information will not be seen the report. The sequence for information seen will be same as seen in the component list screen (the left-navigation tree).

The **Status** column of the report states the impact on the respective component as follows:

- **Added**

  When imported, the component has been added in the destination environment.
- **Updated**

  When imported, the component has been updated in the destination environment.
- **No Change**

When imported, no changes are applied to the component in the destination environment.

Viewing Configuration Packages

When you click **View** in configuration package with **Draft** status, the system displays the wizard for the **Package Details** step.

When you view a successfully created/imported configuration package, only the components and categories are displayed that are a part of the configuration package contents.

Example

If the user successfully created a configuration package using List 1 (with categories Designs and Analytics) and List 2 (with categories Designs and Configuration and Configuration included business processes, only), then the following is displayed in the package components Categories:

- Designs
- Configuration
- Analytics

Since the configuration included the component business process, the business process components are displayed under Configuration.

The Designs node has a separate tab for the published designs that are a part of the configuration file. The Group sub node appears in the categories Shell Templates and Single Instance Shells. For Groups, the Name column is displayed (group name).

In case of warnings, the **Warnings** tab is displayed next to the **Components** tab listing the warnings contained in the configuration package.

In case of configuration package in Error status, when you click **View**, all the errors, or warnings, related to the configuration package are displayed.

Transferring Configuration Package

The following is a workflow for transferring your configuration package from one environment to another.

Oracle recommends that you follow this workflow: **Development** > **Test** and **Development** > **Production**.

Development

All the designs, configurations, setups, and any components needed to be transferred to other environment must be done in the Development environment.

Once all the components are ready, create the component list which creates the configuration package. The publish for production is optional, based on where you want to transfer the configuration package.

Test

The Test environment can import published and unpublished configuration packages.

Once the configuration package is transferred to the Test environment successfully, you must test all the components of Unifier that have been impacted by the configuration package.

Any changes made (e.g., setup or configuration) in the Test environment must be made, manually, in the Development environment before transferring the configuration package to the Production environment.

Production

Only the published configuration packages that have been tested thoroughly (in both Development and Test) must be transferred to the Production environment.

Installing Base Products

The Unifier Platform (Basic) is now preloaded in Unifier with the option to install the Project Controls and Facilities and Asset Management base products through configuration package import.

> **Note**: See ***Importing Configuration Packages*** (on page 303) in this guide.

For the **Development** environment

The Unifier Platform (Basic) is preloaded, by default. You have the option to install the Project Controls base product or Facilities and Asset Management base product. The base products are installed with all of the designs, but the designs are not published. You need to create configuration packages, related to each base product, in the Development environment, and set them as published before you can use them (transferring, designing, configuring, and setting up) in the **Production** environment.

> **Note**: Oracle recommends that you follow this workflow: **Development** > **Test** and **Development** > **Production**.

For the **Test** environment

The Unifier Platform (Basic) is preloaded, by default. You have the option to install the Project Controls base product or Facilities and Asset Management base product. The base products are installed with all of the designs, but the designs are not published. You need to create configuration packages, related to each base product, in the Development environment, and set them as published before you can use them (transferring, designing, configuring, and setting up) in the **Production** environment.

For the **Production** environment

The Unifier Platform (Basic) is preloaded, by default. You do not have the option to install the Project Controls base product or Facilities and Asset Management base product; however, you can transfer the base products by way of the configuration package.

uDesigner Overview

uDesigner is a functional module of Unifier and is enabled automatically when Unifier is installed.

The uDesigner module is used to create:

- Business Process (BP)
- Managers (Asset - Cost - Document - Planning - Portfolio - Resource - Schedule - Space - Shell)
- Configurable Modules
- Attribute Forms (Users, Shells, Document Manager, Cost)

Collapse by Default Option in Block Properties

In the Block Properties window of both a BP form and a manager attribute form, there is a new checkbox called **Collapse by Default**. If the checkbox is checked, the block is collapsed by default. If the checkbox is unchecked, the block is expanded by default.

With the **Collapse by Default** option, you can avoid scrolling through irrelevant information.

Under the **Collapse by Default** checkbox, the following note is displayed: “The block will be collapsed in User Mode, only if the block has a label and the Show Border and Show Label options are checked. This option is applicable only for Standard View of forms.”

Collapse by Default is applicable to the following forms: Action form, View form, Detail form, and various attribute forms.

Additional uDesigner Options

You can use the uDesigner module to:

- Create a design in the **Development** environment.
- Configure, setup, and test your designs in both the **Development** environment and **Test** environment.

After this point you can import your designs to the Production environment by way of **Configuration Package**.

Oracle recommends that you:

- Create your Configuration Package in the **Development** environment and import your Configuration Package to the **Test** environment for additional testing.
- Import your Configuration Package from the **Development** environment onto the **Production** environment for use.

You can select the Unifier environment in the **Unifier Configurator**.

- The Unifier **Development** environment is a Unifier server deployed by selecting the server type as "Development" in the the **Unifier Configurator**.
- The Unifier **Test** environment is a Unifier server deployed by selecting the server type as "Test" in the the **Unifier Configurator**.

- The Unifier **Production** environment is a Unifier server deployed by selecting the server type as "Production" in the the **Unifier Configurator**.

The **Development**/**Test** environment is an environment that replicates the Unifier **Production** environment.

An object (for example a BP) can be deployed multiple times in the **Development** environment, only.

> **Note**: In **Development** environment, all uDesigner functionalities are available, but in the **Test**/**Production** environment the uDesigner functionalities are not available.

In the **Test** environment, you *can*:

Import an unpublished Configuration Package.

In the **Test** environment, you *cannot*:

Publish your Configuration Package. You can only publish your Configuration Package from the **Development** environment.

The Test server is equipped with usable uDesigner and Data Structure Setup nodes so users can create or modify BP designs and include them in configuration packages and export them to another Test or Development server.

When deploying your designs using Design Bundles, it is important to note the version numbers:

- A *deployed* version indicates that the design has been tested in the **Development**/**Test** environment.
- A *published* version indicates that the design has been imported, or the design has been imported into the **Production** environment for the first time.

Custom Dashboards

Custom dashboards present data in a graphical format. Using data mined from data views and data cubes, you can create custom dashboards that provide an accurate and dynamic view of company and project performance indicators. You can have multiple custom dashboards in Unifier.

> **Note**: Before you begin creating a company or shell custom dashboard, ensure your company has enabled custom dashboards. Consult with your site administrator for details.

In This Section

Creating Company or Shell Custom Dashboards

You cannot create **Company** or **Shell** SWF-based (small web format) custom dashboards.

> **Note**: Existing custom dashboards can be modified.

The SWF file should be configured to point to a data cube in Unifier. You can only use **Company Data Cubes** with **Company Dashboards** and **Shell Data Cubes** with **Shell Dashboards** (See the "Data Cubes" topic).

When you create the SWF file, be sure to include a URL that includes the custom dashboard name. This will ensure there is a link between the SWF file and the custom dashboard's data cubes, and that the custom dashboard data will refresh when the data changes.

Users can print the custom dashboard if the print capability is resident in the imported SWF file used to display the dashboard.

Granting Custom Dashboard Permissions

Ensure you have permission to create company and shell dashboards. These two types of dashboards use the same Module Permission Settings for Company Dashboard and Shell Dashboard.

To grant Custom Dashboard permissions

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) In the left Navigator, select the **Access Control** node. The Access Control log opens and lists all available functions in Unifier.

3) Select **Administration Mode Access** > **Custom Dashboard** in the Access Control log. The Permission Settings for: Workspace window opens.
4) Click the **Add** button. Another Permission Settings for: Workspace window opens.

   In the Select Users/Groups pane:

   a. Click the **Add Users/Groups** button. The User/Group Picker window opens.
   b. Select users and/or groups and click the **Add** button. The user or group name appears in the Selected Users/Group pane.
   c. Click the **OK** button.

   In the Permission Settings: pane, located in the bottom section of the window, select the desired permissions. The permissions cascade, in other words, if you have a permission, you have all the permissions below that selection.

   - **Create:** Users can create a Custom Dashboard; they can use the custom dashboard toolbar buttons **New**, **Open**, **Delete**, **Find**, **Permissions**, **Download XML**, **Refresh Cache**.
   - **Modify:** Users can modify Custom Dashboard properties and edit the dashboard; they can use the custom dashboard toolbar buttons **Open**, **Delete**, **Find**, **Permissions**, **Download XML**, **Refresh Cache**.
   - **Modify Permissions:** Users can assign permissions but cannot edit properties unless they have the **Modify** permission. They can use the custom dashboard toolbar buttons **Open**, **Find**, **Permissions**, and **Download XML**.
   - **View:** Users can view existing custom dashboards. They can use the custom dashboard toolbar buttons **Open**, **Find**, and **Download XML**.
5) Click the **OK** button.

Configuring a Company Custom Dashboard

Configuring a **Company Dashboard** entails modifying the dashboard properties and assigning permission for users.

The Company Dashboard properties include:

- A **General** tab, where you can name the dashboard and upload the SWF file
- A **Query** tab, where you can add multiple queries, select the data cube, and define grouping, summary, output, and reporting options
- A **Cache** tab, where you can enable the XML caching option (instead of using real-time data)

Modify the General Properties of a Company Dashboard

You cannot define the general properties of Company Dashboard.

> **Note**: Existing custom dashboards can be modified.

To modify the General properties of a Company dashboard, do the following:

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.

2) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.
3) In the **General** tab complete the fields as shown in the table below.

In this field:	Do this:
Name	Enter a name for the dashboard.
Title	Enter a title. The title appears in the list of available custom dashboards that a user can view.
Description	Enter a description
SWF File	Browse for the SWF (Small Web Format) file to use with the dashboard.
Type	Unifier displays the dashboard type as a read-only field.

Next, select data sources in the **Query** tab, as described in the following procedure.

Define queries for Company Dashboard data cubes

To define queries for data cubes

1) Click the **Query** tab.
2) Click **Add**. The Query window opens. Complete the fields in the **Query** window as described in the table below.

In this field:	Do this:
Name	Enter the name of the query.
Data Cube	Choose a data cube to use as a data source for the custom dashboard. ▸ For a company-level custom dashboard, the data cube must be defined as **Company Data Cube**. ▸ For a shell-level custom dashboard, the data cube must be defined as **Shell Data Cube**.
Source Grouped By	Choose a column from Data Cube definition by which to group data. This drop-down list lists those data elements that are marked Group By in Data Cube definition. Changing the value under this drop-down should always reset values under Report On and Summary Type.
Output Type	Choose the output type, which determines the output after grouping data based on Source Grouped By column. Following are the options ▸ Record Count

	▸ Summary Value
Report On	Choose a column defined in the data cube from among those designated as Summary.
Summary Type	This drop-down shows a list of possible summary types. Values shown under this drop-down are based on the type of Report On data element: ▸ For Numeric type of data element: Summary, Min, Max, Average ▸ For Date type of data element: Min/Max

Next, specify cache details in the **Cache** tab, as described in the following procedure.

Specify cache details

This tab is only available on a company-level dashboard. You must enable the cache before data can be cached. Enabling the cache allows you to schedule the refresh of dashboard data at a preset frequency. With every successful run, the XML data file associated with the dashboard is refreshed.

> **Note**: The Enable Cache option controls the Refresh Cache ability on the log. If Cache is not Enabled, Refresh Cache will not work.

The XML data is created only during a scheduled run or when the refresh cache option is selected. If Enable Cache is disabled, the XML is deleted. Until the scheduler refreshes the cache, or a manual refresh of the cache is not done, XML is not created. If **Cache** is not enabled in the custom dashboard properties, the dashboard query will result in real-time XML data.

▸ *To enable the cache and specify refresh and recurrence*

Click the **Cache** tab. Complete the cache fields as described in the table below.

In this field:	Do this:
Enable Cache	Mark this check box if you want to use the caching function. This selection enables the other options on the form.
Cache Refresh Frequency	Select cache refresh frequency. ▸ Daily. ▸ Weekly, end of day. Select which day of the week you want the cache to refresh. ▸ Monthly. Select which day of the month for the cache to refresh. ▸ Yearly.

Range of Recurrence	▸ Start on. Select a date to begin the refreshing the cache. This is a required field. ▸ No end date. ▸ End by. Select a date to end refreshing the cache.

Grant Company Dashboard View permission

▸ ***To grant Company Dashboard View permission***

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.

> **Note**: Although the log lists both Company and Shell custom dashboards, you cannot grant Shell custom dashboard View permission in this log. Shell custom dashboard view permission is set at the individual shell level; that is, if you have access to a shell you will see its dashboard.

3) Select a Company dashboard from the log and click the **Permission** button. The Edit Permission window opens.
4) Click the **Add** button. The User/Group Picker window opens.
5) Select the users and or groups to add and click the **Add** button. The selected users or groups populate the Selected User/Groups pane.
6) Click the **OK** button to close the User/Group Picker.
7) In the User/group Name pane select the user or group and in the Permissions pane select View.
8) Click the User/Group Picker button to save the selection.

Configuring a Shell Dashboard

Configuring a **Shell Dashboard** entails modifying the dashboard properties, which include:

- A General tab, where you can name the dashboard and upload the SWF file
- A Query tab, where you can add multiple queries, select the data cube, and define grouping, summary, output, and reporting options

Caching is not available for the shell dashboard.

If you are a member of a shell, you can see its dashboard.

Modify the General Properties of a Shell Custom Dashboard

You cannot define the general properties of Shell Dashboard.

Note: Existing custom dashboards can be modified.

To modify the General properties of a Shell custom dashboard, do the following:

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) Navigate to the **Company Workspace** tab and switch to Administration Mode.
3) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.
4) In the **General** tab complete the fields as shown in the table below.

In this field:	Do this:
Name	Enter a name for the dashboard.
Title	Enter a title. The title appears in the list of available custom dashboards that a user can view.
Description	Enter a description
SWF File	Browse for the SWF (Small Web Format) file to use with the dashboard.
Type	Unifier displays the dashboard type as a read-only field.

Next, select data sources in the **Query** tab.

Define queries for shell dashboard data cubes

To define queries for shell dashboard data cubes

1) Click the **Query** tab.
2) Click **Add**. The Query window opens. Complete the fields on the **Query** tab.

In this field:	Do this:
Name	Enter the name of the query.
Data Cube	Choose a data cube to use as a data source for the custom dashboard. ▸ For a company-level custom dashboard, the data cube must be defined as **Company Data Cube**. ▸ For a shell-level custom dashboard, the data cube must be defined as **Shell Data Cube**.
Show Data From	Determine the level from which the data cube should pull information. ▸ Current Shell Only

	▸ Subshells Only ▸ Current Shells and sub-shells
Source Grouped By	Choose a column from Data Cube definition by which to group data. This drop-down list lists those data elements that are marked Group By in Data Cube definition. Changing the value under this drop-down should always reset values under Report On and Summary Type.
Output Type	Choose the output type, which determines the output after grouping data based on Source Grouped By column. Following are the options ▸ Record Count ▸ Summary Value
Report On	Choose a column defined in the data cube from among those designated as Summary.
Summary Type	This drop-down shows a list of possible summary types. Values shown under this drop-down are based on the type of Report On data element: ▸ For Numeric type of data element: Summary, Min, Max, Average ▸ For Date type of data element: Min/Max

Modifying a custom dashboard

With the exception of refreshing a company dashboard cache, modification procedures pertain to both **Company** and **Shell** dashboards.

▸ ***To modify a custom dashboard***

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.
3) Select a company dashboard.
4) Click the **Open** button.
5) Modify the dashboard as needed and click **OK**.

See these dashboard modification topics:

- Delete a custom dashboard
- Find a custom dashboard
- Download XML Company or Shell dashboard data
- Refresh the Company Dashboard cache

Delete a custom dashboard

Only users with **Create/Modify** permissions can delete a custom dashboard.

The **Delete** procedure pertains to both Company and Shell Dashboards.

To delete a custom dashboard

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.
3) Select a company dashboard.
4) Click the **Delete** button.
5) You will receive a confirmation message. Click **OK**.

Find a custom dashboard

This procedure is germane to both Company and Shell Dashboards.

To find a custom dashboard

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.
3) Click the **Find** button.
4) You can search for custom dashboards using **Name** or **Type**.
5) Enter the search criteria and click **Search** (or press **Enter**).

Primavera Unifier displays all the dashboards that met the search criteria you entered.

Download XML data associated with a custom dashboard

You can download the data associated with the custom Company or Shell Dashboard.

> **Note**: For Company Dashboard, if you enabled the cache when you defined the dashboard properties, then Unifier will download the last stored XML data.

To download XML data associated with a custom dashboard

1) Navigate to the **Company Workspace** tab and switch to Administration Mode.
2) **Select** the **Custom Dashboard** node. The Custom Dashboard log window opens.
3) Select a company dashboard.
4) Click the **Download XML** button.
5) Save the XML file.

Refresh the Company Dashboard cache

To refresh the company dashboard cache

The Refresh Cache option is available only for Company Dashboards that have the cache enabled. If you attempt to refresh the cache and the cache is not enabled, you will receive the message: *Cannot refresh the cache. Cache is currently disabled on* this *dashboard.*

1) Navigate to the Company Workspace tab and switch to Administration Mode.
2) **Select** the **Custom Dashboard node.** The Custom Dashboard log window opens.
3) Select a company dashboard.
4) Click the **Refresh Cache** button that is located on the tool bar.

Program Administration

The following section describes how to create and manage programs.

In This Section

Creating and Managing Programs

Programs are a way to group like projects or CBS shells together (or projects and shells in combination). Programs allow consolidation of financial, schedule and status data across projects or shells. They are created at the company level in Admin mode. An administrator typically grants permissions to other project or shell team members who will modify an existing program and generate specific project or shell data. For example, a project or shell team member may modify a program to produce high-level forecasting data or to generate program reports based on a project's cost, schedule, and status data.

Although the Company Administrator creates the program, rights are typically granted to project or shell members who will then modify the existing program and generate specific project or shell data.

For example, a project or shell team member may modify a program to produce high-level forecasting data or to generate program reports based on the project cost, schedule and status data for one project or shell or across several projects or shells.

Creating a Project

The follow discusses creating a project by copying from a project template, by copying from another existing project, or creating manually.

Grant permission to administer projects or project templates

In order for a Project Administrator to be able to create and setup a Project, the administrator must have the permission setting to "Administer All" (or "Administer *Project Category*") at the Company Sponsored Projects, Project Properties level.

To grant permissions to Project Administrator User or Group

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **User Administration > Company Users** or **Partner Users** (to grant permissions to individual users) or **Groups** (to grant permission to a project administration group).
3) Scroll to **Company Sponsored Projects (Standard)** and select.

4) Select the user or group and click **Open**. Click the **Permissions** tab.
5) Select **Administer All** (for non-categorized projects), and/or Administer Project Category.

Create a project by copying a template or project

You can create projects using the project templates you created. You can also create projects by copying from existing projects.

You can verify the project properties, make changes as necessary, update status, or activate as necessary.

Tip: Because you can only have one cost sheet per project (and once a Cost Sheet is created for a project, it cannot be deleted or replaced), you might consider creating a Cost Template in the Templates log and copy into the project separately.

> **Note**: As Project Administrator, you can receive email notification of the successful creation of a shell instance, for shells that are created manually, through Web Services or a CSV file upload, or through auto-creation. This notification can be set up in email notifications in uDesigner. Also, you can set your User Preferences to control whether you receive these notifications.

To create a project from a project template or existing project

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Company Sponsored Projects** in the left Navigator.
3) If your company is using project categories, click a project category in which to create the new project. If you don't wish to categorize the project, or if no categories have been setup, click **All**. Note that not all administrators will have access to all project categories.
4) From the **File** menu, click **New** > **Copy From**. The Project Cloning window opens.
5) Click the Copy From drop-down list and choose Project to copy an existing project, or Template to copy a project template.
6) Select a project or template from the list and click **OK**. To search for a specific project or template on the list, click the **Filter By** field and select **Name** or **Number**. In the **Filter For** field, enter all or part of the name or number to search for and click **Search**.
7) In the Select Modules pane, select the modules to include in the new project. Users and Groups are selected by default and copied along with the project properties.

> **Note**: If the Schedule Sheet option is selected, the curves relating to the schedule sheet will be copied to the new project. If the Schedule Sheet is NOT selected, the curves relating to the schedule sheet will be created but the name of the schedule sheet selected on the properties window will be empty.

8) Click **OK**. The Project window opens, displaying the project properties.

   Most properties are copied from the original template with the following exceptions:
   - Project Number: On the General tab, enter a Project Number
   - Project Currency: On the Standards tab, specify the Project Currency

- Project Image: On the Standards tab, specify the Project Image (optional)

9) When the window is complete, click **OK**.
10) Click **Yes** to confirm and create the new project.

Create a new project manually

To manually create a new project:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Projects** in the left Navigator.
3) Click a project category in which to create the new project. If you do not wish to categorize the project, or if no categories have been setup, click **All**. Note that not all administrators will have access to all project categories.
4) Click the **New** button. The Project window opens.
5) Complete the information on each of the tabs.

   The tabs contain the same fields as the template window.

   Some notes on the tabs:

   - **General** tab: Note Project Status: you may set the project status to Active to make it available to users immediately, or leave it as Inactive until you have completed setting up the new project. This will prevent users from signing in to their company and attempting to access the project before it is ready.
   - **Location** tab: Be sure to enter the complete Project Address and any other project related addresses.
   - **Progress** tab: Enter the project schedule start date, planned completion date, status and project phase.

     You can manage a project's progress on a continuing basis by reviewing the project properties you define here. For instance, at any time you can enter a revised completion date, enter the percent complete for a design and/or construction project, monitor the project status, or change the project phase to ensure information contained in the Document Manager is current and available to the project team at the right time.

     The information that you enter here is also viewable from the Progress pane of the Project landing page. This means a project administrator can quickly view the current status of a project and make modifications as necessary.
6) Click **OK** to save your changes and exit the **Project** window.

Add Cost Sheet

The option "Enable P6 sources" is not available in a Cost Sheet created in a Standard Project or Standard Project Template.

The cost sheet that has the option "Enable P6 sources" selected is not included when you want to create a new Cost Sheet by copying a cost sheet.

The template that has the option "Enable P6 sources" selected is not included when you want to create a new Cost Sheet using: New > Cost Sheet > Copy from Template.

Manage Projects

You can verify the Project properties, make changes as necessary, update status, or activate as necessary. It is recommended that you keep the company progress information up to date to reflect the ongoing status and progress of the project.

You can also modify project information in a Project Template and then update one or more existing projects by "pushing" the information from the template to the projects (see ***Updating Projects*** (on page 347)).

To open a project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Projects** in the left Navigator. Select a project name from the project log and click **Open**. The Project home page opens.

To edit an existing project

1) Open the project's home page and switch to Admin mode.
2) Click the **Open** button. The Project window opens.
3) Modify the project information as necessary on the tabs. You can modify any of the project properties any time during the project duration, except for the project currency. Once a project is set up, the project currency is locked.
4) Click **OK** to save your changes and exit the **Project** window.

> **Note**: The tabs contain the same fields as the Template window.

Activate or deactivate a project

To activate/deactivate a project

1) Open the Project Home Page and switch to Admin mode.
2) Click the **Open** button. The Project window opens.
3) In the **General** tab, set the status to Active, Inactive, or On-hold.
   - **On-hold**: The initial project status. On-Hold projects are listed on the projects log, but you cannot work with them.
   - **Active**: Active, in-progress project. All project actions in User and Administration Mode are available.
   - **Inactive**: Inactivate projects to suspend project usage. Inactive projects are visible from the Administration Mode under Sponsored Project log only, but *not* visible under the Projects node (i.e., only Sponsor Company can access the project), or in User Mode logs and selections. Only System and Project Administrators (users with Modify Status rights) can reactivate the project.

> **Note**: "Late" tasks in an inactive project may still show up in users' task logs. Though they can access the task, no transactions can be performed in the inactive project.

Creating a Program

To create a new Program:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Programs** in the left Navigator.
3) Click **New** on the button bar. The Program window opens.
4) Complete the tabs. This defines the program properties:
   - **General**: Define general properties
   - **Shell/Projects:** Add projects and shell to the program
   - **Progress:** Track progress of the program
   - **Links:** Add your own web page links, which appear on the Program home page

   See the following section for details.
5) Click **Apply** to save changes, or **OK** to save and exit the window.

Defining Program Properties

You can define program properties when you first create a program, or open an existing program.

Define Program General Properties (General tab)

To access program properties:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Programs** in the left Navigator.
3) Select a program from the log and click **Open**. The program properties landing page opens.
4) Click **Open** to open the Program window.
5) Use the information in the following table to complete the General tab.

In this field:	Do this:
Program Number	Enter a number for the program.
Setup Date	This field is populated with the program creation date.
Program Name	Enter a name for the program.
Description	(Optional) Enter a description of the program or projects or shells within it.
Administrator	Click **Select** and select an administrator from the list. Each program must have an administrator.
Image	(Optional) You can click **Browse** and select an image file. This image will appear on the Program Home Page.

Program Category	If a program category data definition has been setup, you can select it here.
Status	Select a status.

Add or Remove Projects or Shells From a Program (Projects tab)

You can add any Active or On Hold project to a program. Inactive projects are not eligible.

To add a Projects/Shellsto a program

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Programs** in the left Navigator.
3) Select a program from the log and click **Open**. The program properties landing page opens.
4) Click **Open** to open the Program window.
5) Click the **Projects/Shells** tab.
6) Click **New**.
7) Select one or more projects or shells and click the **Add Project/Shell** button. To select multiple projects or shells, hold down the **Ctrl** or **Shift** key while selecting.
8) In the Program window, click **Apply** to save, or **OK** to save and exit.

To remove a Projects/Shells:

On the **Projects/Shells** tab, select the project or shell and click **Remove**.

Set Up Program Progress Tracking (Progress tab)

You can enter a start date and planned completion dates for a program by manually entering the dates, or by linking the program to the project or shell schedule sheet. To use the Schedule Manager options, a schedule sheet must be defined in your project or shell. As changes are made in the Schedule Manager, they will automatically change the progress indicator in the Progress tab.

Progress indicators linked to the schedule are:

- Start Date
- Planned Completion
- Revised Completion

To track the progress of a program manually:

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Programs** in the left Navigator.
3) Select a program from the log and click **Open**. The program properties landing page opens.
4) Click **Open** to open the Proram window.
5) Click the **Progress** tab.
6) Complete the fields. See the following table for details.
7) Click **Apply** to save the changes, or **OK** to save and exit.

In this field:	Do this:
Start Date	Choose one of the options: Manual: Manually enter the project or shell start date by clicking the calendar icon. From Schedule Manager: Click the selection list and choose a data column from the list (for example, Program Start Date). The Program Schedule Sheet must be created and setup before selections become available.
Planned Completion	Choose one of the options: Manual: Manually enter the project or shell start date by clicking the calendar icon. From Schedule Manager: Click the selection list and choose a data column from the list (for example, Program Due Date). The Program Schedule Sheet must be created and setup before selections become available.
Revised Completion	Choose one of the options: Manual: Manually enter the project or shell start date by clicking the calendar icon. From Schedule Manager: Click the selection list and choose a data column from the list The Program Schedule Sheet must be created and setup before selections become available.
Notes	Program notes can be anything that the Administrator feels is relevant to share with other Project or Shell Administrators. This note is not displayed on the Summary or Home Page.

Add Links to Other Program-Related Web Pages (Links tab)

Links are displayed on the Program home page.

To add a link

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Programs** in the left Navigator.
3) Select a program from the log and click **Open**. The program properties landing page opens.
4) Click **Open** to open the Proram window.
5) Click the **Links** tab.
6) Enter a name for the link and the link's URL.
7) To add more links, click the **Add Row** button and repeat step **5**.
8) When you are finished, click **OK**.

Program User Administration

The **User Administration** node appears below the new program name in the Navigator once it is created and activated. As projects or shells are added to programs, the users and groups are not automatically added to the program. By default, the Program Administrator chosen during the program setup is added as a program user. The Program Administrator group is automatically added as a default group, and the program administrator is added to the group by default. You can add additional users and groups to the Program and set permission levels.

Add Users or Groups to a Program

To add users or groups to a program via the Company Workspace:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click the **User Administration** node for your program in the left Navigator.
3) Click **Users** to add users, or **Groups** to add groups to the program.

> **Note**: If a User Attribute form has been imported, the program user log will reflect the design of any designed Partner Log included in that form. See ***Importing User Attribute Form*** (on page 166) for details.

4) Click **New** on the button bar. The standard User/Group Picker window opens.
5) Select a **Company** from the **List Names from:** list box and Users or Groups from the **Show By:** list box.
6) Select the users/groups to include in the Program and click **Add**. You can also create a new group by highlighting the Groups node and selecting **File > New** or the **New** button.
7) When you are done adding users and groups, click **OK** to return to the Users or Groups log.

Grant Program Permissions (Access Control)

Granting program permissions entails granting users access to the modules in the program, such as the Schedule Manager or cost sheets.

To grant user/group permissions to the program

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **User Mode Access > Programs > [module]**. The Permission Settings window opens.
4) Click the **Add** button. The User/Group Picker opens.
5) In the picker, specify a user or group and select the Permission Settings.
6) Click **OK**, then click **OK** in the Permission Settings window.

Project Administration

The following topics describe tasks related to Project Administration.

In This Section

Creating and Managing Projects

Projects can be created from scratch one at a time, or can be created by copying a project template. It is recommended that you create one or more project templates first, then create new projects based on them. Advantages to using a template include ease of individual project setup, consistency between projects, and the ability to update project information easily (for example, if you add a new user, introduce a new business process, or edit a cost sheet column) by allowing you to make an addition or modification directly to the template and then "push" it to existing projects.

> **Note**: You can migrate standard projects to CBS shells. See ***Migrating standard projects to CBS shells*** (on page 498).

How to create and setup a project

Be sure you have the proper permission setting to administer projects. If your company has chosen to "organize projects" (that is, create projects under different project categories), be sure these categories have been set up. Categories can also include asset classes.

Step 1: Create a Project Template. Most major functionality that is available in a project can be set up in a project template. You can set up as few or as many individual features as you like within a template.

Step 2: Create a new Project. This can be done manually, or by copying a project template.

Step 3: Set up permissions. Grant permissions to access and work with the new project to project team members. Refer to the *Unifier Reference Guide* for project permission settings.

Step 4: Setup up gates. This is an optional step. The gates feature allows you set up acceptance criteria to use to track and control project phases.

Step 5: Manage projects. This includes updating projects to "push" updated information, set ups, etc., to existing projects. The projects do not need to have been created originally from the template.

The following sections discuss creating and managing projects and project templates.

Creating a Project Template

Project and project template categories are maintained by the company administrator. Asset classes are added as project category nodes when they are created. One category ("All") is listed by default. You can create project templates under the All category, or other project categories or asset classes as needed. These categories do not appear to users in User Mode; they are a way to organize projects or link asset classes to projects.

Access project templates

To access project templates

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard)** in the left Navigator.
3) Expand the **Projects (Standard)** node. Like projects, project templates can be grouped by categories or by asset classes.
4) Click one of the category or asset nodes. The Project Templates log opens. The log lists any project templates that have been created under the category.

Create a project template

The following procedure describes how to create a project template. The procedure is similar to creating a new project.

To create a new project template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates > Projects** in the left Navigator.
3) Expand the **Projects (Standard)** area to display the categories. The default is All. The project category that you define here will determine the category to which subsequent projects will be assigned. The project category cannot be changed.

   Use caution when defining a template in a project category. You cannot "re-categorize" a project or project template once it is created and saved.
4) Click one of the category or asset nodes. The Project Templates log opens. The log lists any project templates that have been created under the category.
5) Click the **New** button. The Template window opens. The Template window is equivalent to the Project window; the same properties and tabs are filled out for a project template as for a new project.
6) Complete the Template window. This window will be used for the project Properties when creating projects:

- **General tab:** Define properties. See ***Define general project properties (General tab)*** (on page 336).
- **Location tab:** Define the project location. See ***Define project location (Location tab)*** (on page 338) and ***Add a project image (Standards tab)*** (on page 340).
- **Standards tab:** See ***Add project currencies (Standards tab)*** (on page 339).
- **Progress tab:** See ***Set up project progress tracking (Progress tab)*** (on page 342).
- **Links tab:** See ***Add links to other project-related web pages (Links tab)*** (on page 344).
- **Custom tab:** See ***Select a project custom attribute (Custom tab)*** (on page 344).

These tabs are the same for both project templates and projects.

7) Click **Apply** to save changes as you enter information, and **OK** when you are ready to save information and exit the Template window.

Create a project template by copying a template or project

You can create a Project Template by copying from an existing Project template or an existing Project.

> **Note**: You can choose to copy any existing Custom Calendars from the template or from an existing project.

To create a project template by copying an existing project or project template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates > Project (Standard)** in the left Navigator, then select a project category. The default is **All**. Use caution when defining a project category. You cannot "re-categorize" a project or project template once it is created and saved.
3) From the **File** menu, choose **New >Copy From**. The Template Project Cloning window opens.
4) From the **Copy From** drop-down list, select one of the following:
   - **Template:** The log displays the list of existing project templates
   - **Project:** The log displays the list of available company-sponsored projects
5) Select a listed template or project name.
6) In the Select Modules pane, select the modules to include in the new template.
7) Click **OK**. The Template window opens, displaying the project template properties.

   Most properties are copied from the original project or template into the Template properties window, with the following exceptions:
   - **Project Number:** On the General tab, enter a Project Number
   - **Project Currency:** On the Standards tab, specify the Project Currency
   - **Project Image:** On the Standards tab, specify the Project Image (optional)
8) Click **OK**. Click **Yes** to confirm.

> **Note**: Use caution when selecting which modules to copy. When you create a project template by copying from an existing project or template, you will be copying existing setups already created in the selected

modules. (For example, if you select Cost Sheet, you will copy not only the project cost sheet, but any existing work packages and worksheets as well; since cost sheets and work packages cannot be deleted once created, you will not be able to delete these from the new template.)

Set up modules in the project template

Setting up modules is optional. For example, you can configure a Cost Sheet in your project template. When you create a new project using this template, you will have the option of copying this Cost Sheet into the new project.

Project Templates have the same fields as a new Project.

Note: Some fields are not filled in or not copied over when you copy from a template because they are not relevant until a project is created, like Project Start Date and Project Image.

Member Companies

You can select project member companies from your company's list of partner companies. See ***Managing Member Companies*** (on page 361).

Access Control

Enables setting up default permission settings for users and groups. See ***Grant project user permissions through Project Access Control*** (on page 366).

Users and Groups

As with projects, you must add at least one user to the project template before you can activate it. Users and groups added to a project template are always copied by default from the template to the project created from it. See ***Managing Project Users and Groups*** (on page 362).

If your groups are going to be similar across all of your projects, you can define them once in the template rather than creating them in each project. It is not recommended that you put Users into the Project Template unless you know that those users will be on every project. The one exception is that a Project Administrator is required to be named in the template. Users cannot be deleted once they are in the Template, although Users can be deactivated.

Projects Templates can include the following modules:

Business Process Setup

Business Process setups created in the template can be copied over to projects.

Rules

You can define project level cost or funding rules.

Project Information

You can define the business process that will be used in the Project Information: General node.

Gates Setup

You can include a gates setup in your project template. See ***Setting Up Gates*** (on page 367).

Cost Manager

You can define any or all of the following in a template:

- **Cost Sheet** (includes Worksheets and Work Packages)

  You can create a cost sheet for the project template. This is similar to creating a cost sheet for a project. And like projects, you can also include worksheets and work packages.
- **Funding Sheets**

  You can create a project fund sheet, and commitment funding sheet structure.
- **Schedule of values (SOV)** (Structures for General Spends, Payment Applications, and/or Summary Payment Applications)
  - For General Spends SOV, the SOV structure is copied from an SOV template in the Templates log.
  - For Payment Applications SOV and Summary Payment Applications SOV, the structure is copied from the line item grid structure of the Payment Application Business Process. This means that you must first complete the Business Process (BP) setup for the Payment Application BP before you can create the structure.
- **Cash Flow Curves**

  You can create Cash Flow Curves.

> **Note**: Since only one Cost Sheet, Funding Sheet, SOV structure (of each type) and commitment funding structure can exist in a project, make these choices carefully. Once you create these items in the project template, you can modify them, but will not be able to delete or replace them.

Document Manager, **Project Documents**

You can create a folder structure for the document manager that can be used across projects. These can be created from Folder Structure Templates, or folders can be added manually. Unlike Folder Structure Templates, you can also assign users (if they are in the project template) folder-level permissions, and can import folders and folder properties.

Resource Manager

You can create the setup and resource sheets in the template.

Schedule Sheet

A Schedule Template will be used to create the Schedule Sheet. Like the Cost Sheet, once this is created, it cannot be deleted.

User-defined Reports: You can create one or more user-defined report templates, which will be used for project user-defined reports. You can import user-defined reports into project templates from project templates in other companies and Unifier environments. See ***Importing User-Defined Reports into Project or Shell Templates*** (on page 880).

To set up modules in the project template

1) Open the project template.
2) Click a module and add the applicable information. This information can be carried over to new projects created from the template.

Manage Project Templates

Once the Project Template properties have been defined, you can setup any or all of the available modules. These will be copied to projects that have been setup using the template.

> **Note**: You do not have to setup modules here. If you do not setup a module in the Project Template, the modules will not be setup in the projects. You can setup the projects manually after project creation, or by using individual templates, for example, cost sheet templates.

You have the option to edit project properties and modules and update existing projects with the new data. See ***Updating Projects*** (on page 347) for more information.

To open the project template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates>Project (Standard)** in the left Navigator.
3) Select a project category (default is **All**). The **Project Templates** log opens.
4) Select a project template from the log and click **Open**.
5) The project template home page opens. The navigator expands to display the modules that can be configured in the project template. Select a module to edit or set up.

To edit project template properties

1) From the project template home page, click the **Open** button. The Template window opens.
2) Click the tabs to view or edit project template properties.

Defining Project (and Project Template) Properties

This section describes the Properties window for projects and project templates.

Define general project properties (General tab)

To define project locations for a project or project template

1) Open the **General** tab of the Project or Template window.
2) Complete the window as described in the following table.

In this field:	Do this:
Project Number	For Templates, you might enter a phrase such as Enter project number here or information for your Project Administrator regarding how to assign a project number, as each project created from the template will have its own number. When creating a new project, if the Site Administrator enabled automatic project numbering during new company setup, this field will be pre-populated each time a new project is created.
Setup Date	Populates automatically with the current date when the project or template is saved.
Project Name	Enter a project name. For templates, you might enter a generic name or

	instructions such as Enter Project Name here.
Description	Explain the purpose or intended uses of the project or template (especially if you have multiple templates).
Administrator	Click Select to open the User/Group picker and select a Project Administrator. For templates, the user will automatically become part of the Project Administrator group for any project created from the template. (Additional administrators can be selected.)
Construction Type	Choose New Construction or Retrofit/Remodel.
Project Status	You can activate the project template immediately, or place it On-Hold or make it View-Only and activate later. A template that is On-Hold, View-Only, or Inactive cannot be used to create a project. It is good practice to leave a project or template On-Hold until you have completed the setup. Project Administrators/Users with "modify project status" rights are the only ones who can change the status. The project administrator will receive email notification when the status of a project changes. The change of project status could occur due to a manual change, bulk update, through Web Services or a CSV file, or through automatic update. Status definitions for **projects** are: ▸ **Active:** Active, in-progress project. All project actions in User and Administration Mode are available. ▸ **On-Hold:** The initial shell status. On-hold shells appear on the shells log. Shell administration functionality is available to shell administrators for setup and maintenance for users with permissions to perform that function. Users cannot create records in a shell that is On-Hold. If a user attempts to access a shell that is On-Hold, the system displays an alert message stating that the shell is On-Hold. ▸ **View-Only:** For end users, View-Only projects can be viewed, printed, exported, and included in reports. They cannot be modified. When a shell is View-Only, the status overrides (but does not modify) access control permissions, granting only View permissions. The project reverts to the access control permissions when the project is made Active. View-Only projects can be added to and removed from programs, and can roll up to programs, UDRs, and dashboards. Business process records cannot be auto-created in View-Only projects. Data from View-Only projects does not roll up to company-level account codes or cost sheets. Data will roll up from View-Only projects to programs, the Planning Manager, and the Asset Manager. No updates can occur to View-Only projects through Integration, Unifier Mobile, or through reverse auto-population. View-Only projects cannot be updated through templates. Consolidate line item functionality is disabled for View-Only projects. View-Only projects have only view, export, and print permissions available. Tasks and Drafts are not available for

	View-Only projects. Messages are available, but users cannot add general comments. Mailbox is available for viewing, but users cannot send, edit or delete messages for View-Only projects. When a project becomes View-only, all scheduled jobs associated with it are canceled. When the status of the project changes back to Active, you must restart any scheduled jobs. Administrators can perform all actions on View-Only projects. ▸ **Inactive:** Used to suspend project usage. Inactive projects are visible from the Administration Mode under Sponsored Project log only, but **not** visible under the Projects node (i.e., only Sponsor Company can access the project), or in User Mode logs and selections. Only System and Project Administrators (users with Modify Status rights) can reactivate the project. Late tasks in an inactive project may still show up in users' tasks logs. Though they can access the task, no transactions can be performed in the inactive project.
Auto-update Status Setup	The selections on the drop-down list are defined automatic status update setups. These setups are defined at the Company level for use in specific projects. See ***Setting Up Automatic Status Update*** (on page 366) for details. If you decide not to use the automatic status update, you can deactivate it by deselecting a setup (by literally selecting the word "Select").
Project Type	The selections on the drop-down list are defined in the data set of the Project Type data definition. The default is None. Contact your Company Administrator if you need additional Project Types defined.

Define project location (Location tab)

You can define up to four addresses (Project, Billing, Shipping, and Billing & Shipping) for a project or project template. For each project or project template, you must enter at least one address: the Project Address. The Project Address will be used to generate an online location map accessed in the Project Home Page in User Mode.

The following is applicable when creating a project template or new project:

To define project locations for a project or project template

1) Open the **Location** tab of the Project or Template window.
2) Complete the Location tab as shown in the following table.
3) Click **Apply** to save changes, or **OK** to save and exit.

In this field:	Do this:
Address Type	Select one of the address types listed (you must complete the Project Address fields).
Address 2	Enter the main street address Note: If the Project Template will be used for different project locations,

	you can enter generic notations for the Project Administrator, such as Enter project address here.
Address 3 Address 4	Generally for P.O. Box numbers, suite numbers, etc.
Country	Choose the from the drop-down list.
Site	Choose a site from the drop-down list. The selections are generated from the Project Site data definition. The default is None.

Add project currencies (Standards tab)

On the Standards tab, you can specify a currency or currencies that will be used on the project. The currency you specify here will be used throughout the project, for example for cost business processes, the cost sheet, etc. You must define at least one currency. If the project is international, you can define multiple currencies in which to display data, although only one can be the default project currency.

> **Note**: The list of available currencies is maintained in **Standards & Libraries > Exchange Rate**.

To define project currency for a project or project template

1) Open the **Standards** tab of the Project or Template window.
2) In the **Currencies** section of the window, click the **Add** button. The Edit Exchange Rate window opens.

> **Note**: The **Base Currency** shown at the top of the Edit Exchange Rate window is the Base Currency set up for your company. For example, if yours is a company in the U.S., then the Base Currency will likely be the United States Dollar (USD). If your company does business internationally, you may make other currencies available for project use.

3) Use the information in the table below to add a currency.
4) Click **OK** to save and exit the Edit Exchange Rate window.
5) In the **Standards** tab, select a **Project Currency** from the drop-down list. This will be used as the default project currency. Once you have selected a project currency and saved the template or project, it cannot be changed. The selections are generated from the Currencies list you defined.
6) Click **Apply** to save changes, or **OK** to save and exit.

In this field:	Do this:
Currency Name	Select the currency you want to use for the cost functions in this project. If the currency you selected is other than the company Base Currency, then complete the following fields.

Rate	Enter an exchange rate to use for conversion calculations. From the drop-down list select one of the following: ▸ If **Float** is selected, the rate is updated automatically from the **Company Currency Table** (**Standards & Libraries > Exchange Rate**). ▸ A **Peg** rate locks in the company rate on the day the rate is set. (Only a Project Administrator can manually modify the **Peg** rate to a value other than the company peg rate.).
Hedge?	If the **Hedge** selection is Yes, then the Hedge rate is used for conversion calculations. Otherwise, the **Float** rate will be used.
Rate	If an amount is entered for the **Rate**, then the hedge rate is used until the amount specified is reached (by spends) and then the system will revert back to the normal rate.
Amount	If **Float** is specified, Unifier will retrieve the rate, based on today's date and time. If **Peg** rate is specified, the field will be editable.
Comments	(Optional) Add any comments that might be necessary to explain the default currency.

Note: Once a currency is selected and saved, it cannot be modified. The remove option is made available to enable you to remove the additional currencies and unsaved changes.

Add a project image (Standards tab)

You can add a representative image of the project that will display on the project home page for users.

For templates, it is not necessary to select a project image because it will not be copied to a project created from the template. However, you can include one to provide an example to users creating projects.

For best results, the recommended image size is 500 pixels wide by 300 pixels high. Image files should be in jpeg or gif format.

To define a project image

1) Open the **Standards** tab of the Project or Template window.
2) In the **Project Image** field, click the **Browse** button.
3) Browse to the location of the image file, select the file and click **OK**.
4) Click **Apply** to save changes, or **OK** to save and exit.

Distribute an External Email Address for the Project (Standards Tab)

External emails are important communications that need to be included in projects. Such emails can come from project members or from external users who do not use Unifier. These email communications (and any attachments) can be collected in a central repository, called the **Project/Shell Mailbox**, so that project members can use them in managing and documenting the project. Once such emails reside in the project's mailbox, project users can view them, forward them to appropriate members, flag them for review, and reply to them. In addition, these external emails can be linked to business process records.

When Unifier is installed on your system, a dedicated email address for your company is specified, and whenever you create a project, Unifier assigns it a unique identifier. Unifier combines this email address and project identifier to create the Project Mailbox. This email address appears on the **Standards** tab, and from the **Standards** tab, you can send the email address for the Project Mailbox to all project participants, both within and outside of Unifier.

Notes:

- External emails that have been blind carbon-copied (Bcc) are not collected by the mailbox.
- To prevent spam and virus attacks, you will need to create a list of approved email addresses that will be accepted by the project. See ***Creating an Approved Email List for Project/Shell Mailboxes*** (on page 203).

To distribute the external email address

1) Click the **Send Email** button. An email message window opens.
2) In the **To** field, enter the email addresses of all participants in the project.

   You can also send the address of the dedicated mailbox to external users by adding their email addresses in the **External Cc** field.
3) Click the **Send** button.

Distribute the email address from the landing page

In addition to the Standard tab, you can distribute the email address from the project's landing page. Remember to add the new recipient to the approved email list for this mailbox (***Creating an Approved Email List for Project/Shell Mailboxes*** (on page 203)).

To notify project users whenever the project mailbox receives an external email

1) In the **Send Notification To** field, click the **Select** button. The User Picker opens.
2) Select the users you want to notify and click **OK**.

Set up project progress tracking (Progress tab)

The Progress tab of the Project window helps you track the progress of your project. You can manage milestones and project phase from this window. This information is displayed on the Progress pane of the Project landing page. This means a project administrator can quickly view the current status of a project and make modifications as necessary. Project Phase can affect other modules such as triggering when certain workflows or documents become available.

The Progress tab can be linked to the Project Schedule Sheet. By setting up the Project properties to integrate with the Schedule Manager, changes in the schedule manager will automatically change the progress indicator in the project or program Progress tab. (The Schedule Manager is referenced.)

The Project Phase can be set manually, or can be maintained manually (see ***Setting Up Gates*** (on page 367).)

To set up project progress tracking

1) Open the **Progress** tab of the Project or Template window.
2) Complete the tab as described in the following table.
3) Click **Apply** to save changes, or **Ok** to save and exit.

In this field:	Do this:
Start Date	Choose one of the options: Manual: Manually enter the project start date by clicking

	the calendar icon. From Schedule Manager: Click the selection list and choose a data column from the list (for example, Project Start Date). The Project Schedule Sheet must be created and setup before selections become available.
Planned Completion	Choose one of the options: Manual: Manually enter the project start date by clicking the calendar icon. From Schedule Manager: Click the selection list and choose a data column from the list (for example, Project Due Date). The Project Schedule Sheet must be created and setup before selections become available.
Revised Completion	Choose one of the options: Manual: Manually enter the project start date by clicking the calendar icon. From Schedule Manager: Click the selection list and choose a data column from the list The Project Schedule Sheet must be created and setup before selections become available.
Design Complete	This indicates the percentage of the design phase that has been completed. Enter a value.
Construction Complete	This is the percentage of the construction phase that has been completed. Enter a value.
Notes	Project notes can be anything that the Project Administrator feels is relevant to share with other Project Administrators. This note is not displayed on the Summary or Project Home Page.
Status	Chose from one of the three statuses.
Project Phase	If you are manually managing project phases, you can choose from this list for template and projects. **Note**: If you are using Gates, this list may not be applicable. Project Phase is a system-defined Data Definition that is pre-filled when the company is created. You can update this list by navigating to Data Structure Setup > Data Definitions > General and add new values to the Data Set list. **Note**: Project Phase is associated with Files and Folders in the Document Manager. Files and Folders can be given a Phase Property. Then, the only Folders and Files that will show in the DM are those folders without a Phase Property or one that matches what is set in

	Project Setup.

Add links to other project-related web pages (Links tab)

Project Links will appear on the Project Home Page. Links entered here in the Project Template will be copied over to the Project.

Project Links will appear on the Project Home Page. They can be used to provide links for users to useful websites, your company's website, an intranet, etc. Links entered here in the Project Template will be copied over to the Project.

To add a project link

1) Open the **Links** tab of the Project or Template window.
2) Enter the name and URL for any number of links you want to appear on the project home page. The name will display as an interactive link on the project home page. When users click on the link, a new browser window opens to the URL.

   For example, to provide a direct link to the government Occupational Health and Safety website, you might enter OSHA as the name, and http://www.osha.gov as the URL.
3) Click **Add Row** to add additional URL links on the project home page.
4) Click **Apply** to save.

Select a project custom attribute (Custom tab)

Projects can have Custom Attributes associated with them. Custom Attributes are created as company-defined Data Definitions. In the case of Projects and Project Templates, they can be used to provide further data not defined elsewhere. In the example below, Regions were defined as a custom attribute.

If no custom attributes have been defined, the tab will be blank.

To select a custom attribute

1) Open the **Custom** tab of the Project or Template window.
2) Select the value from the pull-down menu. Click **OK**.

Create a Project Calendar (Calendar Tab)

Each project can have its own calendar. The project calendar that you specify can be used to override the company calendar, or you can use the company calendar for the project.

If there is no project calendar, or a project calendar is not in use, the company-level standard calendar marked as the default calendar (**Company Calendar (Default)**) is the calendar that is used by the project.

The project calendars can be based on:

a) Standard calendars created at the company level

b) Custom Calendars created for the specific project

The project calendar you create applies only to the project for which you create that calendar. The calendar selected affects project durations and due dates. For example, companies can have multiple projects in different countries that have different working and non-working days. These working and non-working days must be considered when determining such time-driven factors as business process workflow due dates and activity dates in schedule sheets.

> **Note**: Unless otherwise specified, the default calendar for a project is the company calendar that is marked as default at the company level.

To create a project calendar (Classic View)

1) Open the **Calendar** tab of your shell. Alternatively, you can open the **Calendar** tab of your project or Template. The calendar you create in this tab is known as the Project/Shell Calendar.
   1. Click **Details** to open the **Details** window.
   2. Click the **Calendar** tab.
2) Select one of the following calendar options:
   a. **Standard Calendar**

      This allows you to use a standard calendar for your shell, project, or template. You options are **Company Calendar (Default)** or other calendars listed.

   b. **Custom Calendar**

      This allows you to use a custom calendar for your shell, project, or template. You option are **Copy** or create a custom calendar.

The calendar that you select displays in the **Calendar** tab.

> **Note**: You cannot modify a standard calendar.

To create a project calendar (Standard View)

1) Go to shell home click **My Dashboard ...**, and click **Details** to open the details page (overlay).
2) Click **Calendar** tab.
3) Select one of the following calendar options:
   a. **Standard Calendar**

      This allows you to use a standard calendar for your shell, project, or template. You options are **Company Calendar (Default)** or other calendars listed.

   b. **Custom Calendar**

      This allows you to use a custom calendar for your shell, project, or template. You option are **Copy** or create a custom calendar.

The calendar that you select displays in the **Calendar** tab.

Modify a Project Calendar

You can modify the displayed calendar. You can specify the working and non-working days for the calendar. Browse to the month and year using the drop-down lists at the top of the calendar. Saturdays and Sundays are set as non-working days by default. Do one of the following:

To change working and non-working days on a calendar at project level (Classic View)

1) Open the **Calendar** tab of your shell. Alternatively, you can open the **Calendar** tab of your project or Template. The calendar you create in this tab is known as the Project/Shell Calendar.
   1. Click **Details** to open the **Details** window.
   2. Click the **Calendar** tab.
   a. To change a particular date from a working to a non-working day, click the *date* cell to highlight and click **Non Working**. You can select multiple dates. This change impacts the months individually and does not impact the rest of the calendar or subsequent years.
   b. To change Saturdays and Sundays from non- working days to working days, click the *day* cell for example "Sat," to highlight and click **Working**. This will make all Saturdays, or Sundays, of the calendar as working days, including subsequent years. In this scenario, you can select individual *dates* under Saturdays or Sundays and mark them as non-working *dates*.

A non-working date appears grayed out, and it will not be used in date calculations.

To change working and non-working days on a calendar at project level (Standard View)

1) Go to shell home click **My Dashboard ...**, and click **Details** to open the details page (overlay).
2) Click **Calendar** tab.
   a. To change a particular date from a working to a non-working day, click the *date* cell to highlight and click **Non Working**. You can select multiple dates. This change impacts the months individually and does not impact the rest of the calendar or subsequent years.
   b. To change Saturdays and Sundays from non- working days to working days, click the *day* cell for example "Sat," to highlight and click **Working**. This will make all Saturdays, or Sundays, of the calendar as working days, including subsequent years. In this scenario, you can select individual *dates* under Saturdays or Sundays and mark them as non-working *dates*.

A non-working date appears grayed out, and it will not be used in date calculations.

Company Sponsored Projects (Standards Tab) E-Signatures

If you have configured and activated Company Properties > E-Signatures tab with details about the entity that provides electronic signature technology (**DocuSign** or **AdobeSign**), then when you access your project, Projects (Standard), and open the properties window, you can use the **Standards** tab to select the E-Signatures type.

By default, the value of the **E-Signature Type** drop-down list is: **Company Default**. This means that the Project Administrator has selected the Default E-Signature Type in the Company Properties > E-Signatures tab as the E-Signature Type for the project. See ***Edit Company (E-Signatures Tab)*** (on page 271).

> **Note**: If only one E-Signature provider has been determined in the Company Properties > E-Signatures tab, the value of the **E-Signature Type** drop-down list (**Standards** tab) will be read-only and set as **Company Default**.

You can select a different value from the **E-Signature Type** drop-down list.

The Company Administrator can go to the Company Properties > E-Signatures tab to change the default value (Default E-Signature Type). This change does not impact the value of the **E-Signature Type** in the project, and the values will continue to remain as Company Default or as chosen by the Project Administrator.

Updating Projects

The Update Projects function allows you to quickly add or modify information into a project template, and then apply that template to existing projects. This will "push" the new information to the projects that you specify. By allowing data to be entered or modified once, this function helps to reduce set up time and ensure cross-project uniformity.

The Update Projects function is available for select modules in Project Templates. The following information can be pushed:

- **Users:** users, group membership, permissions
- **Groups:** group names, permissions
- **Business Processes and BP Setups:** Business processes, setups
- **User-defined Reports:** Reports, report permissions
- **Access Control:** modules, users, groups, permissions
- **Cost Sheet:** Cost sheet columns, column access and restrictions
- **SOV:** General and Payment Applications structure
- Commitment Funding: Commitment funding sheet structure
- **Cash Flow:** Curve properties and permissions
- **Rules**: Project cost or fund rules
- **Gates Setups**: Active or inactive setups
- **Schedule Sheet Properties:** title, description, Master Schedule, status, auto-control, project start date, and error notification.

Each project module that can be updated from the template has an Update Project button in the toolbar.

This functionality makes it easy to update information across multiple projects. For example, if you add new users, or group of users, to the company and need to add them to multiple projects, you can add them to a project template, then use the Update Projects functionality to add the users to multiple projects.

Projects with a status of Active or On-Hold can be updated with this functionality. Inactive or View-Only projects cannot. Users with Create permission for the project template modules can do this operation.

> **Note**: You update project information one module at a time. Any Active or On-hold projects can be updated in this way.

General procedure for updating project information

In general, the Update Project feature works like this:

Step 1. Open a Project Template.

Step 2. Navigate to one of the modules listed above. Add or edit data.

Step 3. Click the **Update Project** button. Select which information within the module to update, and which of your active or on-hold projects to "push" the information to. New information will be added to the selected projects. Edited information will overwrite existing data.

You can also cancel a project update before it reaches the In Process status.

Detailed instructions for updating specific types of project information is found in the following sections.

Update users

You can add new users to multiple projects at once by adding them to a project template in the User Administration > Users module. When adding new users to a project, you can assign individual permissions directly to a new user, or add the user to a group to apply group permissions.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Some notes about updating users

- Users are identified by their unique User ID.
- Any Active, Inactive or On-hold users can be pushed.
- If the user does not already exist in the project, the user will be added to the project with the permission settings and group membership.
- If the user already exists in the project, the user information is updated (replaced) with the user information as entered in the project template. This includes permission settings and group membership.
- If a group that the user was added to doesn't already exist in the project, the group will be added, and the user will be added to the group. Group permissions are not updated; this is done by updating groups.
- If the group already exists, the user will be added to it. Group properties and permissions will not be affected.

To add or update users using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, go to the **User Administration > Users** log.
4) Add a user to the project template, or select a user to edit. Define user parameters and assign permissions.
5) Select one or more users in the Users log.
6) Click the **Update Projects** button and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update groups

You can add new users to projects individually or by adding them to groups, and then adding the groups to the projects. You can assign the user individual permissions, or add the user to a group and apply group permissions.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating groups:

- Groups are identified by their unique Group Name.
- All group properties, including permission settings, will be added or updated in the projects that you selected.
- If the group does not already exist, the group will be created with the permission settings. Group membership (user list) will not be updated in the project.
- If a group of that name exists, the properties and permissions of that group will be replaced with the new group, but not the list of users.
- Users will not automatically be added to the group; they need to be added by updating users (group membership).

To add or edit user groups using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates>Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to the **User Administration>Groups** log.
4) Add a group to the project template, or select group to edit. Define group parameters and assign group permissions.
5) Select one or more groups from the Groups log.
6) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update Business Processes and BP Setups

You can add and update new business processes, or add additional business process setups to existing business processes.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating business processes and setups:

- BP Setup is identified by the unique combination of BP Name, Setup Name and Workflow Name.
- If the BP Name does not exist, it will be added to project with the BP Setup and permissions.
- If the BP exists, but the BP Setup does not, it will be added to the BP.
- If the BP and BP Setup exist, the Setup will be replaced with the new one.
- Users and Groups that are part of a BP setup as assignees are added/updated, but not permissions. If a group is created, it will be empty. Users must be added to the group separately through user administration.
- BP-related permissions are added/updated (for example, discussion groups, which are available in Classic View only).

To add or update business process setups using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates>Projects (Standard) >All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to the **Setup >Business Process** log.
4) Add any new business processes, if applicable. (The BP must already have been imported into Unifier and configured at the company level.)
5) To add or edit business process setups, select the BP to update in the Business Processes log. Click **Open**. The BP Setup log opens.
6) Create a new setup or modify an existing setup. You may create as many setups as you wish to make available in the project(s).
7) Select one or more setups from the BP Setup log.
8) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
9) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Workflow Setup for Workflow Business Processes

You have the ability to delete (**Delete**, or **Edit** > **Delete**) inactive Workflow setup for Workflow Business Processes in Project Templates.

Updating Record Properties tab in the BP Setups

When you push the BP setup to selected shells, or all shells, the users and groups who had restrictions to the **Audit log** and **Workflow Progress** tabs, the **Record Properties** tab of the BP setup (in shell template) will be pushed into the shells.

The confirmation message (when pushing BP setup into shells or projects from template) will have an additional information: "Users and groups permissions, in the Record Properties tab, are added to the shell and existing permissions will be updated."

Update User-Defined Reports

You can add and update user-defined reports.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Important information about updating reports in Project/Shell:

- Reports are identified by the combination of Name and Data Type.
- Report names do not have to be unique.
- If the report name and data type does not exist, the new one will be added.
- The original owner of the report is added to the Users or Groups of the report in the receiving Project/Shell (Permission tab).
- The administrator of the receiving Project/Shell becomes the report owner.
- If a report exists with the same name and data type in the receiving Project/Shell, the existing report will be replaced with the new report, and the following information will be according to the new report:
  - Report updates
  - Added or changed Users or groups
  - Added or changed permissions

To add or update user-defined reports using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to the **Reports > User-Defined Reports** log.
4) Add a UDR to the project template, or select UDR to edit. Define properties.
5) Select one or more reports from the User-Defined Reports log.
6) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.

- **All Projects**: updates all active and on-hold projects.
- **History**: allows you to view the update history from past updates or cancel a request before the update begins.

An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.

7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update access control

You can edit access control parameters and update across projects.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

- Modules are identified by name.
- If the module exists in the project, the module is updated, users/groups are created or updated, and permissions are updated for the module.
- If the module does not exist, the module is added to the project. Users/groups are created and permissions are created for that module.

To update access control using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates>Projects (Standard)** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to **Access Control** and assign user or group permissions to the modules as needed.
4) Click the **Update Projects** button. The Update Projects window opens, displaying the list of modules for which the access control settings can be updated.
5) Select the module(s) that you wish to update, click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
6) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update cost sheet columns in a project

Cost sheet columns can be updated using this functionality.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating cost sheet columns:

- A column is identified by a unique data source.
- If the project cost sheet does not exist in the project, the column is not added.
- If the project cost sheet is present but the column does not exist, the column definition is created, and the column is added. Column restrictions are added. Users/Groups are created or updated.
- For formula columns, be sure to first push the columns or data sources that make up the formula (if they don't already exist in the cost sheet), then push the formula column.
- Any new column that is created will use the column to its immediate left as the reference point for positioning. When a column is added to the cost sheet via an update, this means: If the column to the left of the column that is being pushed exists in both the template and cost sheet, the column will be positioned in the cost sheet according to its position in the template. If the column to the left of the column being pushed exists in the template but does not exist in the cost sheet, then the column will be added to the end (far right) in the cost sheet.

Cost Column Project Update Rules

If a project cost sheet column of the same name exists, it will be replaced according to the following matrix.

If this template (source):	Is used for this project (destination):	The template will:
Single Date Source	Column exists	Update the column
	Column does not exist	Create column with the same definition
Logical Data source (Formula entry)	Logical Data source Column Exists (Formula entry)	Update and replace the formula
	Logical Data source column exists (Manual entry)	Not update the column or formula
	Column does not exist	Create column with same definition

Logical Data source (Manual entry)	Logical Data source Column Exists (Manual entry)	Update the column
	Logical Data source Column Exists (Formula entry)	Update the column and change it to manual entry
	Column does not exist	Create column with same definition

To add or update cost sheet columns using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to **Cost Manager > Cost Sheet**. Create or open the Project Cost Sheet.
4) From the cost sheet, click **Columns** to open the Columns log. Add or edit cost sheet columns as needed.
5) From the **Columns Log** window, select the column to push. Only one column can be updated at a time.
6) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update Schedule of Values (SOV) Structure

You can update the SOV structure for General Spends, Payment Applications, or Summary Payment Applications.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

- Update Project can be used to create or update the SOV structure. If the structure already exists, it will be updated. If not, it will be created (restrictions apply for payment applications; see below).
- When creating or updating the structure of the Payment Applications SOV or Summary Payment Applications, the Payment Application

business process must be set up in the target project first. If the business process has an active setup, then Update Project will create or update the structure.

To update SOV structure using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to **Cost Manager > Schedule of Values**. Select one of the options: **General Spends**/**Payment Applications**/**Summary Payment Applications**.
4) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
5) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update commitment funding structure

You can update the structure used to create commitment funding sheets.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating the commitment funding sheet structure:

- Update Project can be used to create or update the commitment funding structure in the project. If the structure already exists, it will be updated. If not, it will be created.
- Updating the structure in a project will not affect commitment funding sheets that already exist. New sheets will reflect the updated structure.

To update commitment funding structure using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to **Cost Manager > Funding > Commitment Funding Sheet**.

4) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
5) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update Cash Flow Curve Properties and Permissions

You can push cash flow detail curve properties and permissions from a project template to a project.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating cash flow curve properties:

- Both detail curve properties and permissions are pushed from the template to the project.
- Cash flow detail curves are identified by name.
- If a detail curve with the same name exists in the project, it will be replaced. All properties, including detail level and time scale, and permission settings will be updated.
- If a detail curve with the same name does not exist in the project, a new one will be created.
- Users and groups will be added if they do not exist. If a group is created, it will be empty.
- In order to push a curve, the destination project must have a cost sheet.
- Commitment detail level curves will not be pushed.
- A Summary CBS curve cannot be pushed to a project where the cost sheet is flat.
- After a successful update, the updated destination curves will be refreshed.

To update cash flow properties and permissions using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.

3) In the Project Template, navigate to **Cost Manager > Cash Flow**.
4) Add a cash flow curve to the project template, or select one to edit. Define properties and permissions.
5) Select a curve from the Cash Flow log.
6) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update project cost or fund rules

Project cost or fund rules can be updated using this functionality.

The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating rules:

- Both active and inactive rules can be pushed.
- Rules are identified by the combination of rule name and the source.
- If the rule does not exist, it will be added.
- If a rule already exists with the same name and source, that rule will be updated. This includes the status: for example, if the rule being pushed is active, and the rule in the project is inactive, the system will update the existing rule and activate it.
- It is possible to have more than one rule with the same name and source in a project/shell or template. If two or more rules already exist with the same name and source as the rule being pushed, the update will not occur and will give an error.
- When the update process begins, the system will first attempt to validate each rule (equivalent to clicking the Validate button). This will occur whether the rule is active or inactive in the template. If the rule is validated successfully, the system will proceed with the update.
- If the rule fails validation, the rule will not be pushed. The attempt will be captured in the History.

To update rules using Update Project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Projects (Standard) > All** in the left Navigator. Open the project template to update.
3) In the Project Template, navigate to **Cost Manager > Rules**.
4) Select one or more rules from the log.
5) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.
6) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update gates setups

You can update projects with Active or Inactive Gates setups. The Update Project process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating Gates setups:

- The Gates setup update will completely overwrite any existing Gates setup, or will be added if it did not previously exist.
- Previously scheduled Gates runs are overwritten by the new Gates setup. If the pushed setup is Active new scheduled Gates runs are scheduled according to the schedule in the new setup.
- Both Inactive and Active Gates setups can be pushed in the update.
- After update the Gates setup reflects the status of the template.
- After the update, the Current Phase in the Gates setup is reset to the First Phase.
- After the update, Gates projects will not execute the scheduled refresh if the project is On-Hold. Gates scheduling will resume automatically when the project becomes Active.
- If you have permission to create Gates setups, you can update Gates setups using Update Project, even if you do not have permission to access the individual projects.
- Users and groups specified in the Email Notification field are added if they do not exist.
- Newly-created groups are empty.

To update Gates setups using Update Project

1) Go to the **Company Workspace** tab and switch to admin mode.
2) Click **Templates > Projects (Standard)** in the left Navigator. Open the project template to update.
3) In the project template, click **Setup and select Gates**.
4) Select a Gates setup.
5) Click **Update Projects** and choose one of the following:
   - **Projects**: allows you to choose which project(s) to update. You can use Find to search for specific projects to select from the complete list of projects. You can select as many projects as you want to update. The Page and Display fields display on the Project Update window, but are disabled in this case.
   - **All Projects**: updates all active and on-hold projects.
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a project is updated, this action cannot be undone.

6) Click Yes if you want to proceed with the update, or No to cancel.

View update history

You can view details about previously updated project modules.

To view Update Project History

1) In the Project Template, navigate to the module to view the update history.
2) Click the **Update Projects** button and choose **History**. The Update Projects: History window opens. It lists any previous incidents of using Update Projects.
3) Select an instance from the list and click **Open**. The History Details window opens, detailing the module information that was updated. History Details displays:
   - **Requestor:** User who initiated the update process
   - **Projects:** Either user-selected or all projects
   - **Submitted date:** When the update request was submitted
   - **Start date:** When the update process started
   - **End date:** When the update process ended

Cancel a project update request

You can cancel an update request that has not yet started; that is, any request that does not have a status of In Process or Finished.

To cancel a project update request

1) In the Project Template, navigate to the module in which you want to cancel the update request.
2) Click the **Update Projects** button and choose **History**. The Update Projects: History window opens.
3) Select an update that has not yet started.
4) Click **Cancel Request**.

Managing Member Companies

If your company has set up Partner Companies, those companies can become eligible to be added to projects. When added to a project, these companies become Member Companies, and their users can participate in projects with any permission level you set for them.

> **Note**: The list of eligible partner companies is maintained in the Partner Companies log. In Administration Mode, navigate to **Company** > **Partner Companies** to view the list.

Add a member company to a project

Active partner company users (users with a unique Unifier user name, and status of Active or On Hold) can be added to projects and assigned permissions, just like sponsor company users. See ***Add a user to a project*** (on page 363) for more information.

To add a member company to a project

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Projects > [project] > Member Company** in the left Navigator. The Member Companies log opens.
3) Click the **Add** button. The Add Member Companies window opens. This window lists the available partner companies that can be added to the project as a member company.

   You can click the **Find** button to search for a particular company by Company Name or Contact Name.
4) Select one or more companies from the list and click the **Add Member** button.
5) At the confirmation window, click **Yes**. The company is added to the Member Companies log.

View member company profile

To view a member company profile

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Projects > [project] > Member Company** in the left Navigator. The Member Companies log opens.
3) Select a company from the list and click **Open**. The Company Profile window for the company opens. This is a view-only window. This information is maintained by the partner company's administrator.
4) Click the **General** tab to view general information, and the **Address** tab to view contact information.

Remove a member company from a project

You can remove a member company from the project's Member Companies list. When a member company is removed from a project, users belonging to the member company will be automatically inactivated for that project.

To remove a member company

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Company Sponsored Projects > [project] > Member Company** in the left Navigator. The Member Companies log opens.
3) Select the company and click the **Remove** button.
4) At the confirmation window, click **OK**. This will remove the selected company from the list and inactivate any users who have been added to the project.

Managing Project Users and Groups

This section discusses adding groups and users to projects, managing project groups, and managing project permission levels.

You can use bulk processing to update users in projects. See ***Managing Users in Bulk*** (on page 198) for details.

Add a user to a project

After you have created a project, you will need to add users to the list of approved project users. Project users can be from your own sponsor company, or from approved member companies.

When adding users from your company to the project:

- To add users from your own (sponsor) company, the user must be either **Active** or **On-Hold** at the company level. When added, the user will automatically be **Active** for the project.
- Users who are **Inactive** at the company level cannot be added to a project.

When adding users from a partner company to the project:

- In order to add a user from a partner company, the company must first be added to the Member Companies list for the project. The user must be either **Active** or **On-Hold** at the company level for their own company. When added, the user will automatically be **Active** for the project.
- The user does not necessarily need to be listed in the Partner Users log at the company level in order to be added to a company. If the user is listed in the Partner Users log, the user must be **Active** or **On-Hold**. If the user is not already in the Partner Users log, they will be automatically added to the list of Partner Users with a status of **Active.**

To add users to a project

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Company SponsoredProjects > [project] > User Administration > Users** in the left Navigator. The Users log opens. The log lists all users that are already part of the project.
3) Click **New**. The User/Group Picker opens.

> **Note**: If a User Attribute form has been imported, the project user log will reflect the design of any designed Partner Log included in that form. See ***Importing User Attribute Form*** (on page 166) for details.

4) Click the **List Names from** drop-down list at the top of the picker window and choose the company from which to add the new project user.

   This drop-down lists your sponsor company plus any member companies that have been added to the project. You can click the **Member Companies** node under the project to view the list of available member companies.
5) Select one or more users to add to the project. You can press the Shift or Ctrl keys to select multiple users at once.
6) Click the **Add** button. You can continue to select and add names to the Selected Users portion of the picker window.
7) Click **OK** to add the users to the project. The new users are listed in the Users log.

Note: By default, new users will have a status of **Active**. You can change the status or other user detail information selecting the user from the list and clicking **Open**.

To add a user to a project template

Open the project template and navigate to **User Administration > Users**. Follow the steps above to add a sponsor company or member company user to the template.

View or edit a project user's profile

You can edit a project user's details. These procedures apply to sponsor company users and member company users.

To view or edit a project user profile

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Company Sponsored Projects > [project] > User Administration > Users** in the left Navigator. The Users log opens.
3) Select a user from the list and click **Open**. The Edit Project User window opens. The window has the following tabs: General, Groups, Permissions and Custom.
4) In the **General** tab, review the contact information for the user as it will appear in the Project Directory. By default, the project address (as defined in the project details) displays as the contact address. You can edit this information as necessary.

   You can also modify the user's project status:

   - **Active**: User is listed in Project Directory, in User/Group Picker, User can log in and participate in the project. New users are Active by default.
   - **Inactive**: If you deactivate a project user, the user's name will not appear anywhere for selection on any project-related functions. The user will not be able to access the project. Inactivating a user at the project level does not affect their status on other projects.
   - **On-Hold**: User can be added to a project, or assigned as a participant in a business process workflow but cannot sign in.
5) Select the **Show user on the Project Directory** option if you want the user's information to be viewable in the Project Directory.
6) In the **Groups** tab, you can add or remove the project users to a project-level group the same way that you add company users to company groups. Click the Add button to add a group to the user's list, or select a group and click Remove to remove the user from the group.
7) In the **Permissions** tab, you can assign project-related permissions to the user, by module and mode. For more information about assigning permissions, see Company User Administration. Permissions are described in the *Unifier Reference Guide.*
8) In the **Custom** tab, you can view available custom attributes that may have been added to the user form.

Create and Manage Project Groups

Groups are a way to collect Users together so that adding new team members to the project and assigning permissions can be done quickly and efficiently. For example, groups can be members of the same project team, and/or they can be users who share the same access privileges. At the company level, groups can span projects. At the project level, all members of a group are members of a given project. Different members of a project may have different access to Unifier functionality, depending on their role on the project.

For example, a Finance person might require access to cost modules and reports dealing with finances, but not RFIs or Transmittals and their associated reports. An Executive might require access to Summary financial information, and not the cost BPs.

As users are added to a Group, they will inherit the Group's permissions. If they are in more than one group, then the highest level of permissions granted in any group for a module will prevail. Permissions are described in the *Unifier Reference Guide*.

When adding users to the group, you can choose eligible users from the sponsor company and any partner company users. The company short name will be listed in the User Picker window next to each user.

Company level groups cannot be copied into a project.

To create a new group

1) Go to the Company workspace tab and switch to Admin mode.
2) Click **Company Sponsored Projects > [project] > User Administration>Groups** in the left Navigator. The Groups log opens.
3) Click **New**. The Groups window opens.
4) Complete the **General** tab:
   - Group Name: Enter a name for the group
   - Manager: Click Select and select a user from the User Picker window. This is the person who will be responsible for administering the group.
   - Description: Enter an optional description for the group.
5) Click the **Members** tab. This is where you add and manage group membership.
   a. Click **Add**.
   b. From the User/Group Picker, select the users to add to the group and click **Add.**
   c. Click **OK**.
6) Click the **Permissions** tab. In this tab, you manage group permission settings. If a user is a member of the group, the user will inherit all group permissions.

   Granting permissions to the group is similar to granting permissions to individual users. Choose the project-related permissions for the group that will apply to all members assigned to this group. Choose permissions by module and mode.
7) In the **Custom** tab, you can view available custom attributes that may have been added to the group form.

To edit group information

1) Go to the Company workspace tab and switch to Admin mode.

2) Click **Company Sponsored Projects > [project] > User Administration>Groups** in the left Navigator. The Groups log opens.
3) Select a group and click **Open**, or double-click the selected group. The Groups window opens.
4) Make changes as necessary and click **OK**.

Grant project user permissions through Project Access Control

Once you have created a project, assign permissions to the people who need to access the project. You can use Access Control to grant multiple Users or Groups permission simultaneously, rather than editing the properties for each User or Group individually.

To view or change a project's access control

Click **Access Control** in the Navigator. Unifier displays a copy of the Navigator menu in the right pane of the window. In this right pane, you may click on different modules of the Navigator menu to set permissions for those functions.

Generate and print access information report

You can generate and print an Access Information summary of user and group access (permission settings). The report will display all user and group permissions.

To generate the Access Information report

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Projects > [project] > Access Control** in the Navigator.
3) Click the **Access Information** button. The Access Information window opens. It may take several moments to generate the report.

To print the Access Information report

1) Generate the **Access Information** report.
2) Click the **Print** button. (When the report is complete, the **Print** button becomes available.)

Setting Up Automatic Status Update

At the Company level, you can define the setup of the automatic update of project statuses of active projects based on triggering conditions which are defined using various data sources as parameters. For example:

- A selected activity on the schedule sheet is in the Completed status
- A single-record business process record is set to a specified status
- A business process workflow reaches a specified status

Depending on the setup and the conditions that are set, the status of the project can change from Active to a non-active status (On-Hold, View-Only, or Inactive). You can define multiple setups for each project. After you define these setups, they can be used on project or shell instances, or on templates to enable the automatic update of project status.

The data sources that you use in the triggering conditions can be either from project or shell level, or from the Company level. This data sources can be business processes, sheets or attribute forms. You can define the frequency at which Unifier evaluates the conditions to see if a particular active project should change its status, and can define a list of users or groups to be notified when the project status is changed. The highest frequency is daily.

This automatic update of project status can be useful for users that have a large number of projects and want many of these projects to change their status based on certain triggering conditions, and thus the users do not have to search for and modify these projects manually. For example, you can define a setup at the Company level that contains a triggering condition that changes of the status of an active project On-Hold if the project funds consumption exceeds the funds appropriated for that project. This allows the project manager to review the project and take appropriate action. If, in this case, the project manager is able to get additional funding for the project, the Administrator can change the project status back to Active to restart the project activities.

> **Note**: Automatic project status update can change the status of a project from Active to an inactive status. If you want the inactive project to status to revert to Active, you must activate the project manually.

Step 1: Create setups - general information.

Step 2: Verify the order of project statuses.

Step 3: Define project status triggering conditions.

Step 4: Define the schedule for automatic update of project status.

Step 5: Activate the automatic update of project status.

Step 6: Define permissions.

Setting Up Gates

Before you begin: Verify the list of project phases resides in the Project Phase data definition pull-down data set. This is the same list that is used when selecting a project phase manually in the project properties window. You can add or modify the default list as needed. This list makes the phases available for any project or project template; for each project or template, you select which of the phases to use. Create any business processes that you plan to use to drive gates conditions and phase completion.

Step 1: Define Project Phases. For each project or template, you define the list of project phases to include in the setup, choosing from the entire list in the Project Phase data set.

Step 2: Define Gate Conditions. For each phase, define one or more gates conditions. A gate condition is a combination data element and trigger condition that enable transition to the next phase.

Step 3: Schedule Gates runs. The gates runs run the validation of gate conditions. You can schedule runs automatically. This is optional.

Step 4: Activate the gates setup.

Step 5: Define permissions.

Note: If you create a new project by copying a project template or an existing project, any existing gates setup in the source project is copied into the new project, including the gates status. The gates phases are restarted at the first phase in the new project, and the scheduled gates run is activated.

Example of a gates setup and conditions

You will be setting up phases in gates to represent the actual phases of a project. For the project to advance from one phase to another, certain conditions must be met. This example will discuss phases, conditions, and using business processes in the context of the conditions to advance a project from one phase to another.

For example, phases for Project Zero could be:

- Preliminary
- Investigation
- Definition
- Measurement
- Analysis
- Execute
- Control

Previously, you have set up two business processes to use in the conditions for your gates setup. These are:

- **Schedule:** A single record business process that is updated manually by a project manager by checking checkboxes for the various phases such as Definition Phase Complete? or Measurement Phase Complete?
- **Funding:** a workflow business process that is automatically updated thorough the steps of the workflow.

As the project manager checks the checkboxes in the phases as represented in the Schedule business process, the gates runs keep checking the statuses of the checkboxes. As they are checked off, the project advances to the next phase.

The exception to this procedure is the transition from the Analysis phase to the Execute phase. Additional approval is needed for funding in order for the project to advance from Analysis to Execute. The Funding business process is included in the conditions for the Analysis phase. This business process must have the status Construction Approved and have a value of greater than zero for the Analysis phase to be exited and the Execute phase entered for the project.

Define the project phase list

To view the project phase list

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure Setup > Data Definitions** in the left Navigator.
3) Select **Basic**.

4) Select the Project Phase data definition and click **Open**. The Modify Data Definitions window opens.
5) Click the **Data Set** tab. The active phases on this list will be available for project phase setup.
6) Modify the list as needed. Any changes you make here will be reflected in new gates setups. Current setups will not be affected.

Create a gates setup

You can create a gates setup in project templates, and in individual projects. There can be one setup per project.

To create a new gates setup

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Do one of the following:
   - To create the setup in a project template, click **Templates > Projects (Standard)** in the left Navigator. Open the project template.
   - To create the setup in a project, click **Company Sponsored Projects** in the left Navigator. Open the project.
3) Click **Setup > Gates**. The Gates Setup log opens.
4) Click **New**. The gate setup is created automatically. Double-click the setup, or select from the list and click **Open**. The Gates Setup window opens. There are three tabs: General, Settings, Schedule.
5) In the **General** tab, enter a Setup Name, which displays in the log, and an optional Description. At this point, Status is Inactive by default.
6) In the **Settings** tab, define project phases and gates conditions. For details, see ***Add project phases to the gates setup (Settings tab)*** (on page 369) and ***Configure gate elements*** (on page 371).
7) In the **Schedule** tab, you can schedule regular gates. See ***Define gates runs schedule (Schedule tab)*** (on page 372).

Add project phases to the gates setup (Settings tab)

Select which of the phases to use in the project or template from the available project phase list. You can reorder them as necessary for the project or template.

To add project phases to the new gates setup

1) Open the Gates Setup window and click the **Settings** tab.
2) In the **Phases** pane, click the **Add** button. The Select Phases window opens, displaying the list of available project phases.
3) Select one or more project phases to add to the list. To select multiple phases, hold down the **CTRL** or **SHIFT** keys while selecting.
4) Click **OK**. The phases appear in the Phases list.

   The order in which the phases appear on the list is the order in which they will be followed in the project. The first phase on the list will be the first phase of the project.

Configure Gates conditions

To access the gate configuration view:

Select a project phase. The gate configure view opens in the right pane. See the following table for more information about the gate configuration view.

The **Phase Gate Configuration** section in the navigator lists the Project Phases for the current Project. The visual order of the Phases depends on the Order specified in the General tab.

The **Gates Conditions Elements** section allows you to define condition criteria per element. Gate Elements will be selected from all Unifier data sources and modules available in a particular project (for the Sponsoring company).

In this field:	Do this:
Start Date	The Start date for a particular Phase can be manually set or auto populated from a Schedule Sheet by linking it to a particular activity or milestone (activity with zero duration and marked as milestone) where it will update dynamically based on the start date associated with this activity. If there are multiple Start dates, choose the Start date used to set Gantt Charts in Schedule Manager. The start date must fall within Project date ranges. Note: You cannot choose dates from schedule sheets in the Schedule Manager for generic shells, because the Schedule Manager is not available in generic shells.
Planned Completion	Can be manually set or auto populated from a Schedule Sheet by linking it to a particular activity or milestone (activity with zero duration and marked as milestone) where it will update dynamically based on the start date associated with this activity. If there are multiple End dates, choose the End date used to set Gantt Charts in Schedule Manager. Note: You cannot choose dates from schedule sheets in the Schedule Manager for generic shells, because the Schedule Manager is not available in generic shells. Note: Dates are for reporting only. Phases cannot be date driven.
Advance to Next Project Phase...	This checkbox enables automatic phase advancement. Select the checkbox if you want the project to move automatically to the next phase once all Gate Elements for a particular Phase have been checked.
Notify users on Phase Completion	Allows you to define users who receive phase completion notification. You can configure the body text in the notification (similar to the BP Setup on the End Step, where you can specify the message text content.
Reevaluate conditions on every	When selected, this checkbox specifies that processing always starts at the First phase during a scheduled Gates Run/Refresh.

Gates run	You might have to scroll down to see this checkbox. If the checkbox is unchecked for a phase: ▸ If the phase is currently incomplete, incomplete conditions are evaluated and completed conditions are skipped ▸ If the phase is currently complete, phase processing is skipped ▸ If the checkbox is checked in a phase: ▸ Every condition in that phase is reevaluated. Including conditions that were met ▸ All conditions (except conditions that were marked as "ignore" manually) are marked as incomplete at the beginning of every Gates run and refresh. Saved Gates run (PDF) from prior runs persist. Processing will stop at a Phase where first un-met condition is encountered. By default this checkbox is deselected.

Configure gate elements

To add a Gate Condition Element

1) In the Gates Setup window, gate configuration view, select a project phase and click **Add**. The Data Type window opens.
2) Select a **Data Type** from the drop-down.
3) Click **OK.** The Edit Gate Condition window opens.
4) Complete the **General** tab: Enter a Name for the Gate Element. This can be the name of the data element or any descriptive name. This appears on the Gate Conditions Elements list. You can add an optional Description.
5) Click **Apply** to save changes, or **OK** to save changes and exit the window.

To define query and trigger conditions

1) In the Edit Gate Condition window, click the **Query** tab.
2) Under Query Conditions, click **Add**. The Query Condition window opens.
3) Complete the **Query** tab:

   Data Element: Click the Select button. The Data Element Picker opens. The list is generated from the data type you chose in the General tab. If the data element is a picker, pull-down or radio button, the Value field will display the values entered in the data set tab of for the data definition associated with the data element. For a full list of data elements and data types, refer to the *Unifier Reference Guide*.

   - Label: The label defaults to the data element name. You can enter a different label.
   - Condition: Define Gate Condition Element Condition. The condition options vary dynamically depending on the selected Data Element. The screen shots below list out the various options for different Data Element types. Examples include equals, does not equal.

- Values: Specify value. The Values field varies dynamically depending on the selected Data Element and Condition. (For example, if the element is a text box, the condition might be Contains, and value might be one or more letters to search for. If the element is a pull-down or other data definition with a data set, you will select a value from the data set.)

Change the order of project phases

To change the order of the phases in a gates setup

Select a phase and click the **Move Up** or **Move Down** button.

Define gates runs schedule (Schedule tab)

You can define a gates run schedule in the Gates Setup window, Schedule tab. This run evaluates gates conditions, and marks completed conditions as Complete. The update process can also be invoked manually in user mode. The scheduler engine is a background process.

In this field:	Do this:
Enable Scheduled Gates Runs	Select this checkbox to enable scheduled updating of Gate Elements. Deselecting this checkbox will disable the scheduler, and any scheduled future runs will be canceled immediately. The scheduled gates runs are disabled in the last phase provided all conditions are met, and the Enable Scheduled Gates Runs checkbox is automatically deselected.
Frequency	Choose Frequency of the Scheduled Gates Runs (Daily, weekly, monthly, quarterly, yearly)
Range of Recurrence	You can specify a date on which the Gate Runs will end, or no end date.
Auto-email as PDF Attachment to Gates creator	Select this checkbox to enable automatic emailing of the scheduled run results as a PDF attachment. The report displays the current status of each project phase and gate condition.

Activate or deactivate a gates setup

Activating a gates setup will enable the scheduled gates runs. After activation, if you need to edit the gates set up, you will need to deactivate it first.

You can make edits while the setup is inactive, including: adding or removing phases; reordering phases; add, modify or remove conditions within a phase.

Some notes about activating/deactivating gates setup:

- Reactivating an active project: If you temporarily deactivate a project that is in process, and then reactivate it, the gates check will start over at the first phase. This is because the setup needs to check all phases for new phase additions or new gate conditions that may have been added. You can manually update the project phases by clicking the Refresh button for gates in User Mode. This will evaluate all phases starting from the first phase, even if the phase has been marked Complete, and mark the first phase as the current phase. Note: be aware this may trigger email notifications regarding gates advancement, as set up in the Settings tab (where the users who are notified are defined), and those users' email subscription settings (User Preferences).
- While a gates set up is inactive: No scheduled gates run will be done. To manually advance phases in User Mode Gates for the project, the gates setup must be active.
- View-Only and Inactive projects: If a project has View-Only or Inactive status, the gates setup is inactivated, and you must manually reactivate the setup.

Set user permissions for gates

To grant User Mode Gates permissions:

In Access Control or Permissions window, navigate to **User Mode > Shells/Projects (Standard) > Gates**. The permissions are:

- **Change Phase**: Allows the user to change gates phases.
- **Modify and Refresh**: Allows the use to modify gates and refresh gates.
- **Refresh**: Allows the user to refresh gates.
- **View**: Allows the user to view gates.

Create an automatic project status update setup

Multiple setups can be defined at the company level and then used to configure individual projects.

To create a new project status update setup

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Workspace > Auto-update Status Setup** in the left Navigator. The Auto-Update Status Setup log opens.
3) Click **New**. The Auto-update Status Setup window opens. There are three tabs: General, Settings, Schedule.
4) In the **General** tab, enter a Setup Name, which displays in the log, and an optional Description.
5) In the **Settings** tab, define the order of the non-active statuses and the status change query and trigger conditions. For details, see ***Choose the order of non-active statuses (Settings tab)*** (on page 374) and ***Define status change query and trigger conditions (Settings tab)*** (on page 374).
6) In the **Schedule** tab, you can schedule the shell status update. See ***Define project status update schedule (Schedule tab)*** (on page 375).
7) Once you have defined the setup, you must activate it to be able to apply it to a project. See ***Activate or deactivate an auto-update status setup*** (on page 376).

Note: You must deactivate a setup to be able to modify it.

Choose the order of non-active statuses (Settings tab)

By default the order of the listed statuses is **On-Hold**, **View-Only**, and **Inactive**. These are listed on the left side of the **Settings** tab in the Status pane. You can change the order using the **Move Up** or **Move Down** buttons. You can change the order of the non-active statuses. The order of the statues is significant because the triggering conditions for the statuses are evaluated in the order in which they are listed on this tab, with the verification of the triggering conditions occurring for each condition listed in turn.

For example, if the conditions for the first listed status are not met, then the conditions for the next listed status are evaluated. If the conditions for that status are not met, then the triggering conditions for the third status conditions are evaluated. As soon as the first match occurs, Unifier will automatically change the project status and does not perform further evaluation.

To reorder non-active project statuses

1) Open the Auto-update Status Setup window and click the **Settings** tab.
2) In the Status pane, select the status you want to move.
3) Click the **Move Up** or **Move Down** button to reposition the selected status.
4) Click **Apply** to save changes, or **OK** to save changes and exit the window.

Define status change query and trigger conditions (Settings tab)

The **Conditions Elements** section allows you to define condition criteria per element. Elements can be selected from all Unifier data sources and modules available at the Company level.

In this field:	Do this:
Notify users and groups on Status change	Allows you to define the users and groups who will receive status change notification.
Email content	Enter the content of the email you want to send to notified users and groups. This content appears in the Additional Information section of the email.

To define query and trigger conditions

1) Under Conditions Elements, click **Add**.
2) Select a Data Type, and click **OK**. The Query Condition window opens.
3) Complete the **General** tab by entering a name for the query and a brief description. The Data type and Element is auto-populated from the selection you make on the Query tab.
4) Click the **Query** tab.
5) Click **Add**.
6) Complete the **Query** tab:

- **Data Element:** Click the Select button. The Data Element Picker opens. The list is generated from the data type you chose in the General tab. If the data element is a picker, pull-down or radio button, the Value field will display the values entered in the data set tab of for the data definition associated with the data element. For a full list of data elements and data types, Refer to the *Unifier Reference Guide*.
- **Label:** The label defaults to the data element name. You can enter a different label.
- **Condition:** Define Gate Condition Element Condition. The condition options vary dynamically depending on the selected Data Element. The screen shots below list out the various options for different Data Element types. Examples include equals, does not equal.
- **Values:** Specify value. The Values field varies dynamically depending on the selected Data Element and Condition. (For example, if the element is a text box, the condition might be Contains, and value might be one or more letters to search for. If the element is a pull-down or other data definition with a data set, you will select a value from the data set.)

7) Select the trigger conditions.
8) Click **OK**.

Define project status update schedule (Schedule tab)

You can define a schedule to check the conditions for the automatic update in the Auto-update Status Setup window, Schedule tab.

The maximum frequency that Unifier will verify whether triggering conditions are met is daily. If you have a need for greater frequency of verification, you must monitor the project with the project manager and then change the project status manually as needed. For example, if the triggering condition verification is performed in the morning, and the project funds are being spend during the course of the day, the project could exceed its budget before the condition verification occurs the next morning, and the project status is automatically changed.

In this field:	Do this:
Enable Scheduled Runs	Select this checkbox to enable scheduled evaluating of the automatic update status. Deselecting this checkbox will disable the scheduler, and any scheduled future runs will be canceled immediately. The scheduled evaluation is disabled for the last status in the list, provided all conditions are met, and the Enable Scheduled Runs checkbox is automatically deselected.
Frequency	Choose Frequency of the Scheduled Runs (Daily, weekly, monthly, quarterly, yearly)
Range of Recurrence	You can specify a date on which the Scheduled Runs will end, or no end date.

Activate or deactivate an auto-update status setup

You must activate a setup in order to be able to apply it to a project.

Note: You must deactivate a setup to be able to modify it.

To activate or deactivate a project status update setup

1) To activate or deactivate a new setup to use in projects, go to the Company Workspace tab and switch to Admin mode.
2) Click **Company Workspace > Auto-update Status Setup**. The Auto-Update Status Setup log opens.
3) Select a setup in the log.
4) Click the **Status** button. You can choose **Active** or **Inactive**.

Set permissions for automatic update of project status

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Company Workspace > Auto-update Status Setup**. The permissions are:
   - **Create:** Allows the creation of new auto-update status setups, edit existing auto-update status setups and activate or deactivate auto-update status setups.
   - **Modify:** Allows the edit existing auto-update status setups and activate or deactivate auto-update status setups. This permission excludes the ability to create a new auto-update status setup.
   - **View:** Allows viewing of existing auto-update status setups.

Shells Administration

You can use a Shell to organize the information about projects, or facilities, in one place. A Shell includes functions and features that are necessary for managing the information about projects, or facilities, within that Shell. A Shell does not require to function like a Project.

In This Section

Dedicated Mailbox for the Shell

External emails are important communications that need to be included in shells. Such emails can come from project team members or from external users who do not use Unifier. These email communications (and any attachments) can be collected in a central repository for the shell, called a **Mailbox**. Once such emails reside in the shell's Mailbox, users can view them, forward them to appropriate members, flag them for review, and reply to them. In addition, these external emails can be linked to business process records.

> **Note**: External emails that have been blind carbon-copied (Bcc) are not collected by the Mailbox.

When Unifier is installed on your system, a dedicated email address for your company is specified, and whenever a shell is created, Unifier assigns it a unique identifier. Unifier combines this email address and shell identifier to create the shell's Mailbox.

> **Note**: To prevent spam and virus attacks, you will need to create a list of approved email addresses that will be accepted by the shell. See ***Creating an Approved Email List for Project/Shell Mailboxes*** (on

page 203) for more information.

When you create a shell, you can notify all shell participants, both within and outside of Unifier, of the shell's email address. See ***Create a New Shell Manually*** (on page 398).

User Permissions and Navigation

Navigation from the Landing Page to a specific place in the sub-shell hierarchy requires permissions. Permissions can be:

- Granted on an instance-by-instance basis
- Pushed through shell templates
- Users can be managed through groups or added individually to instances

Setting up Shells

Before you begin: Shells types must be designed in uDesigner.

Step 1: Import shell types. Import into Unifier the shells that were designed in uDesigner.

Step: Set permissions to configure the shells in the Shell Manager.

Step 3: Configure imported shells in the Shell Manager.

Step 4: Set permissions to administer shell templates, which you can use to create shells for projects.

Step 5: Create shell templates.

Step 6: Set permissions to add or modify shells.

Step 7: Create new shells for user projects.

> **Note**: You will set permissions at several points during shell setup, in order to be able to access, or to grant access to, various aspects of working with the shell.

Importing Shells

All designs, including shell designs, are designed in uDesigner and deployed to Unifier. See ***Importing Configuration Packages*** (on page 303).

Note: Importing Forms that Contain Data Pickers: Data pickers point to a data source for the records they display. If that data source—the BP, shell, space, planning item, or manager class—to which the picker is pointing is not already in Unifier, you will receive a warning. The business process will not operate correctly until the data source is imported.

CSV Import or Restful Services (Create Shell)

When you create a shell instance by using CSV import or Restful Services (Create Shell), the system copies into the created Shell:

- The **View Forms** tab information from the selected shell template.
- The forms added in the shell template, along with users and groups who are part of the viewers list.

Setting Permissions to Configure Shell Types in the Shell Manager

To set permissions to configure shell types in the Shell Manager:

1) In Administration mode, go to the **Company Workspace** tab and click **Access Control** in the left Navigator.
2) On the right pane, select **Administration Mode Access > Configuration > All > Shell Manager**.
3) See ***Edit user or group permissions using Access Control*** (on page 208).
4) Click **OK**.

Configuring Shells

Configuring a shell consists of activating it and organizing it into a hierarchy.

Note: Before you configure shells it is worthwhile to plan the shell hierarchy with your users and uDesigner user. The instance, and cost settings affect how you will use the shell and its relationship to other shells. Planning will help you achieve the result that will meet your business needs.

To configure the shell types in the Shell Manager

1) Go to the **Company Workspace** tab and switch to **Administration Mode**.
2) Click **Configuration > Shell Manager** in the left Navigator.
3) Select a shell type and click the **Open** button. The Configuration <shell name> window opens.
4) Complete the **General** tab as described in the first table below.
5) Click the **Organize** tab. On this tab you can specify the sub-shell types that are allowed under a shell type.

This tab is where you establish the shell hierarchy, by selecting allowed sub-shells. For example, assume you have configured a shell called Region, which has the sub-shell types Properties and Buildings. Also, Properties has Buildings as a sub-shell. Unifier performs validation during shell configuration, and manages the relationships among the shells that you configure. The second table below shows the relationships among the shells described above.

Click the **Add** button to add sub-shell types from the list of imported shells. You can add sub-shell types to the sub-shell type you are currently configuring. Click **Add** and select the sub-shell types to add. Select the types to add, and click **OK**. You can only add shells that have the Active status.

6) Select the **Active** checkbox for the sub-shell types you want to activate. You can deactivate sub-shell types that you do not want users to use for sub-shell instance creation. You can deactivate sub-shell type even if sub-shell instances have been created with that type.

> **Note**: You can remove a sub-shell type from the list by clicking Remove, as long as an instance of the sub-shell type is not created under the shell.

7) Click **Apply** to save changes as you enter information, and **OK** when you are ready to save information and exit the Configuration window.
8) Complete the configuration steps for each shell type.

In this field	Do this
Enable automatic numbering	Select to allow automatic numbering of projects based on the specified Format and Start values. You can deselect this checkbox to disable automatic numbering. This checkbox is selected by default.
Format/Start	Specify the format and starting number for projects if automatic numbering is enabled. Format determines the format of the numbering schema. Start determines the starting number of the numeric schema. By default, Format is blank and Start is 0001. The numbering schema format cannot be changed after a user creates shell instances using the originally specified format.
Cost Codes: CBS/Generic	Displays the type of cost code specified in uDesigner for the shell type. ▸ CBS: Standard Cost Manager ▸ Generic: Generic Cost Manager The default selection is determined by which cost code was specified in uDesigner.
Status	Status can be Active or Inactive. Users cannot access shells types with the status Inactive. The default is Inactive. If a shell type is Inactive, users cannot create shell instances of that type.

Shells->	**Parent**	**Child**	**Grandchild**
Subshells that are allowed			
Parent	No	No	No
Child	Yes	No	No
Grandchild	Yes	Yes	No

Update generic cost sheet columns and rows

You may have a large number of codes that are used within the Generic Cost Manager. In addition you may have a large number of shells in your implementation. To update codes and columns in your generic cost manager sheets with a minimal effort, you can push columns in a project or shell template generic cost sheet from the Columns Log to cost sheets.

Notes:

About updating shell instance dashboards:

- A cost sheet must already exist in the destination shell. Pushing a column from a template will not create a cost sheet that can receive the column.
- You can push one column at a time.
- If a source column is a single data source, then the destination column will be created with that single data source if it does not already exist. (Column A or B in example below)
- If a source column is a formula with only single data sources, then pushing the source column will create that column in the destination cost sheet, if it does not already exist. (Column C in example below)
- If a source column is a formula with columns included in the formula, as long as all constituent columns contain single data sources, the source column can be pushed; for any columns that do not exist in the destination cost sheet, the formula will be changed to a single data source in the formula. (Column D in example below)
- If a source column is a formula with constituent columns that include logical data sources, the logical data source must exist in the destination cost sheet. The formula for the logical data source may be different in the destination cost sheet. Any column that contains a single data source will follow the rule above. (Column F in example below)

Column	A	B	C	D	E	F
Column Name	Original Commitment	Change Orders	Pending Commitments	Total Commitments	Trends	Forecast
Data Source	Purhcase_Order (Approved)	Change_Orders(Approved)	CM011	CM012	Trends(Open)	CM013
Formula			Purchase_Order (Pending) + Chanage_Orders (Pending)	Original Commitment + Change Orders		Total Commitments + Trends

To add or update generic cost sheet columns from a template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell-type template to update.
4) In the shell template, navigate to **Configurable Modules > Generic Cost Manager**.
5) Select the **Generic Cost Manager Sheet** template and click the **Structure** button.
6) In the Generic Cost Manager Sheet log, select the cost sheet template and then click the **Columns** button. The Columns Log window opens.
7) Select a cost sheet column.
8) Click **Update Shells** and choose one of the following:

- **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
- **All Shells**: You can use this option to update all shells of that shell type.
- **History**: You can view the update history from past updates or cancel a request before the update begins.

An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.

9) Click **Yes** if you want to proceed with the update, or **No** to cancel.

To update generic cost sheet rows from a template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell template you want to update.
4) In the template, navigate to **Configurable Modules > Generic Cost Manager**.
5) Select the template and click the **Structure** button.
6) Select a row or rows to push to the project/shell level generic cost sheet. You can select multiple rows by holding down the Shift or Ctrl keys as you click on the rows.

   Unifier will update leaf-level rows, but not summary rows.
7) Click **Update Shells** and choose one of the following:
   - **Shells**: allows you to choose which shell(s) to update. You can use Find to search for specific shells to select from the complete list of shells. You can select as many shells as you want to update. The Page and Display fields display on the Shell Update window, but are disabled in this case.
   - **All Shells**: updates all active and on-hold shells
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a shell is updated, this action cannot be undone.
8) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Configuring Shell Manager Configuration Package

The following configurations can be included in the Shell Manager Configuration Package:

- General setup

  All the fields included in the General Configuration (General tab).
- Organize setup

  All the fields included in the Organize tab.

Notes:

- The sub-shells defined in the Shell hierarchy are also included in the

Configuration Package.

- The sub-shells defined in the **Organize** tab are included in the Configuration Package.
- You can export the sub-shells.

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

Setting Permissions to Administer Shell Templates

Setting Shell Template administration access:

1) Go to the **Company Workspace** tab and switch to **Administration Mode**.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Templates > Shells [shell node]**.
4) See ***Edit user or group permissions using Access Control*** (on page 208).
5) Click **OK**.

Creating a Shell Template

From the Shells node under Templates, you can access the shell type templates that are created. One node is created under Shells for each shell type that is imported and that has an active configuration status.

Note: Single-instance shells are not listed under Templates > Shells as there can only be one instance created for those shell types, and there is no need of a template.

To access shell templates

1) Go to the **Company Workspace** tab and switch to **Administration Mode**.
2) Click **Templates > Shells** in the left Navigator.
3) Expand the **Shells** node. Any shell templates are grouped by shell types. Note that one node is created for each shell type imported.
4) Click one of the shell type nodes. The Shell Templates log opens. The log lists any shell templates that have been created for that shell type.

Create a Shell Template

The following procedure describes how to create a shell template.

To create a new shell template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.

   Expand the **Shells** to display the shell types.
3) Click one of the shell type nodes. The <shell> Templates log opens. The log lists any shell templates that have been created under that particular shell type.

4) Click the **New** button. The <shell> template Details window opens.
5) The General tab you see will depend on the Shell Attributes form that was imported. In the General tab, complete the fields as described in the table below:
6) In the Currency tab, click the **Add** button. The Edit Exchange Rate window opens.

> **Note**: The **Base Currency** shown at the top of the Edit Exchange Rate is the Base Currency set up for your company. For example, if yours is a company in the U.S., then the Base Currency will likely be United States Dollar (USD). If your company does business internationally, you may make other currencies available for shell use.

a. Complete the Edit Exchange Rate window:
   - Click the **Select** button.
   - Select a currency from the list and click **OK**. The available currencies are defined at the time your company was set up. (The currency list is maintained in **Standards & Libraries> Exchange Rate**.) Contact your Company Administrator if you need additional currencies.

b. If the currency you selected is other than the company Base Currency, then complete the following:
   - **Rate**: enter an exchange rate to use for conversion calculations. From the drop-down list select one of the following:
     - If **Float** is selected, the rate comes from the company active exchange rate set (**Standards & Libraries > Exchange Rate**).
     - A **Peg rate** is locked at the rate set. (Only an administrator can change the Peg rate, or Peg to Float or Hedge).
     - If the **Hedge** selection is **Yes**, then the **Hedge rate** is used. Otherwise, the Float rate will be used. If an amount is entered for the Rate, then the hedge rate is used until the amount specified is reached (by spends) and then the system will revert back to the active exchange rate.
   - Click **OK** to save and exit the Edit Exchange Rate window.

c. Select a **Default Currency** from the drop-down list. This will be used as the default shell currency. Once you have selected a shell currency and saved the template or shell, it cannot be changed. The selections are generated from the Currencies list you defined.

> **Note**: You cannot modify this default currency after you save the changes to the template Detail window.

7) In the **Options** tab, you can upload an image file. This image is displayed on landing page of the shell in both Administrator and User Modes. Click **Browse** to browse for the image file and then click the **Add** button. Also, you can select the phase of the shell on this tab. The phases available are based on the Phase data definition.

   Within the Shell Details, the user can select which attributes forms to use for the Document Manager, for both folders and documents.

From the **Options** tab, the user can define which attribute form (**Document Manager Attribute Form**) to use for the document/folder. By default , the "DMS Attributes" folder properties attribute form, which is system-defined in Document Manager, can be selected, and the corresponding **Document Manager Attribute Form** is used to determine the DMS structure. The user will have an option to choose other attributes forms as well. Only the active DM configuration forms will be available for selection.

In case a previous active **Document Manager** configuration (in a shell) is marked as inactive, the DMS structure keeps that attribute form structure. When you open the shell details, the **Document Manager Attribute** is defaulted to system-defined attribute form because the previous configuration has been marked as inactive. The **Document Manager Attribute Form User** will show the previous DM attribute form that is kept by the shell. If you click **OK**, Unifier displays a message, informing you of this change.

In case if a previous active **Document Manager** configuration (in a shell) is deleted because the associate folder attribute form was deleted, the DMS structure is defaulted to the system-defined attribute form of a supported DMS structure for the shells. When you open the shell details, the **Document Manager Attribute** is defaulted to system-defined attribute form because the previous configuration has been deleted. The **Document Manager Attribute Form Used** will show the system defined DM attribute form that is kept by the shell. If you click **OK**, Unifier displays a message, informing you of this change.

Project/Shell Creation BP behavior

While creating Project/Shell creation BP records, the shell template that has been selected via the shell picker keeps the folder properties attribute form that is mentioned in the respective templates and have the DMS structure accordingly.

Company and Standard Projects

The Company Workspace Document Manager is defaulted to DMS attribute which is system-defined.

The Options tab also enables you to select the entity that provides electronic signature technology (DocuSign or AdobeSign). For Projects (Standard), the value for the E-Signature Type drop-down list is: Company Default. This means that the Company Administrator has selected Company Default in the Company Properties > E-Signatures tab. See ***Edit Company (E-Signatures Tab)*** (on page 271).

> **Note**: If a value (E-Signature Type) has been determined in the Company Properties > E-Signatures tab, the value of the E-Signature Type drop-down list (Standards tab) will be read-only.

You can select a different value from the E-Signature Type drop-down list.

The Company Administrator can the Company Properties > E-Signatures tab to change the default value (Default E-Signature Type). This change does not impact the value of the E-Signature Type in the project, and the values will remain as:

- Company Default
- DocuSign
- AdobeSign

8) The **Options** tab also enables you to select the entity that provides electronic signature technology (**DocuSign** or **AdobeSign**). For Shells, or Shell Templates, the default value for the **E-Signature Type** drop-down list is: **Company Default**. This means that the Project Administrator has selected the **Default E-Signature Type** in the Company Properties > E-Signatures tab as the E-Signature Type for the project. See ***Edit Company (E-Signatures Tab)*** (on page 271).

> **Note**: If only one E-Signature provider has been determined in the Company Properties > E-Signatures tab, the value of the **E-Signature Type** drop-down list (**Standards** tab) will be read-only and set as **Company Default**.

You can select a different value from the E-Signature Type drop-down list.

The Company Administrator can go to the Company Properties > E-Signatures tab to change the default value (Default E-Signature Type). This change does not impact the value of the E-Signature Type in the project, and the values will continue to remain as Company Default, or as chosen by the Project Administrator.

9) Complete the **Links** tab to add links to the shell. These links are displayed on the shell landing page in User Mode. Use links to provide users with access to useful websites, your company's website, an intranet, or other destinations. Click Add Row and enter the name and URL for the links you want to add to the landing page.

10) In the **Calendar** tab, create a shell calendar. Each shell can have its own calendar. The shell calendar that you specify can be used to override the Company calendar, or you can use the Company calendar for the shell If there is no shell calendar, or a shell calendar is not in use, the company-level Standard Calendar marked as the default calendar is the calendar that is used by the shell. Shell calendars can be based on Standard Calendars created at the Company level, or Custom Calendars created for the specific shell. The shell calendar you create applies only to the shell for which you create that calendar. The calendar selected affects shell durations and due dates. For example, companies can have multiple projects in different countries that have different working and non-working days. These working and non-working days must be considered when determining such time-driven factors as business process workflow due dates and activity dates in schedule sheets.

> **Note**: Unless otherwise specified, the default calendar for a shell is the Company calendar that is marked as default at the Company level.

a. Open the Calendar tab of the shell or Template window. The calendar you create in this tab is known as the Project/Shell Calendar.

b. You can select a company-level Standard Calendar, or use a Custom Calendar for your shell. The calendar that you select displays in the Calendar tab.

   - To use a Standard Calendar as the shell calendar, click the Standard Calendar radio button and select a calendar from the drop-down list.
   - To use a Custom Calendar as the shell calendar, click the Custom Calendar radio button and click Copy. You can copy a previously-created Standard Calendar and use it as the project calendar.

c. You can modify the displayed calendar. You can specify the working and non-working days for the calendar. Browse to the month and year using the pull-down menus at the top of the calendar. Saturdays and Sundays are set as non-working days by default. Do one of the following:
   - To set a particular date as a non-working day (for example, a holiday), click the date on the calendar and select **Non Working**. The date will appear grayed out, and will not be used in date calculations.
   - To set a non-working day as a working day, click a grayed cell and select **Working**.
   - To set a particular day of the week (for example, every Saturday) as a non-working day, click the day at the top of the calendar (for example "Sat"), then click **Non Working**. All Saturdays in the calendar will be changed to non-working days (gray).
   - To set a particular day of the week as a working day, click the day at the top of the calendar, then click **Working**.
   - If you only want to set the day of the week in a particular month as working or non-working days, select each day individually and click **Working** or **Non Working**.

   Note: If you have marked the day of the week as a non-working day throughout the calendar by selecting the day at the top of the calendar (for example "Sat"), then you will not be able to mark individual days (that is, individual Saturdays in this example) as working days. To be able to include both working and non-working instances of a day of the week on the calendar, you must select them individually.

d. Click **OK**. When you click OK, the calendar displayed in the Calendar tab is the shell calendar.

11) Click **Apply** to save changes as you enter information, and **OK** when you are ready to save information and exit the window.

In this field	Do this
Description	Enter a description of the shell type template.
Administrator	Select an administrator for the template.
Location	Disabled for template creation.
Status	You can activate the shell immediately, or place it On-hold and activate later. A template that is On-hold or Inactive cannot be used to create a shell. It is good practice to leave a shell or template On-hold until you have completed the setup. Shell Administrators/Users with "modify shell status" rights are the only ones who can change the status. The Shell Administrator will receive email notification when the status of a shell changes. The change of shell status could occur due to a manual change, bulk update, through Web Services or a CSV file, or through automatic update.

	Status definitions for **shells** are: ▸ **Active:** Active, in-progress shell. All shell actions in User and Administration Mode are available. ▸ **On-hold:** The initial shell status. On-hold shells appear on the shells log. Shell administration functionality is available to shell administrators for setup and maintenance for users with permissions to perform that function. Users cannot create records in a shell that is On-Hold. If a user attempts to access a shell that is On-Hold, the system displays an alert message stating that the shell is On-Hold. ▸ **View-Only:** For end users, View-Only shells can be viewed, printed, exported, and included in reports. They cannot be modified. When a shell is View-Only, the status overrides (but does not modify) access control permissions, granting only View permissions. The shell reverts to the access control permissions when the shell is made Active. View-Only shells can be added to and removed from programs, and can roll up to programs, UDRs, and dashboards. Business process records cannot be auto-created in View-Only shells. Data from View-Only shells rolls up to Generic Cost Manager cost sheets if all of the shells in the hierarchy are generic. Data also rolls up to the program level cost sheet, if all of the shells in the hierarchy are CBS type and are included in the program setup, and Schedule Manager information rolls up to the program-level Schedule Sheet. Data rolls up to dashboards on a View-Only shell from child shells in the hierarchy, and rolls up to a parent shell from a View-Only shell. No updates can occur to View-Only projects through Integration, Mobile, or through reverse auto-population. View-Only shells cannot be updated through templates. Consolidate line item functionality is disabled for View-Only shells. Users can navigate through the shell hierarchy using View-Only shell instances. View-Only shells have only view, export, and print permissions available. Tasks and Drafts are not available for View-Only shells. Messages are available, but users cannot add general comments. Mailbox is available for viewing, but users cannot send, edit or delete messages for View-Only shells. When a shell becomes View-only, all scheduled jobs associated with it are canceled. When the status of the shell changes back to Active, you must restart any scheduled jobs. Administrators can perform all actions on View-Only shells. ▸ **Inactive:** Used to suspend shell usage. Inactive shells are visible from the Administration Mode under Sponsored Shell log only, but **not** visible under the Shells node (i.e., only Sponsor Company can access the shell), or in User Mode logs and selections. Only System and Shell

	Administrators (users with Modify Status rights) can reactivate the shell. Note: "Late" tasks in an inactive shell may still show up in users' tasks logs. Though they can access the task, no transactions can be performed in the inactive shell.
Auto-update Status Setup	The selections on the drop-down list are defined automatic status update setups. These setups are defined at the Company level for use in specific shells. See ***Setting Up the Automatic Update of Shell Status*** (on page 483) for details. If you decide not to use the automatic status update, you can deactivate it by deselecting a setup (by literally selecting the word "Select").
Shell Number	Unique number that identifies the shell.
GeoCoding	Details for mapping. This field appears if geocoding was set up in uDesigner for the shell.

Note: Once a currency is selected and saved, it cannot be modified. The remove option is made available to enable you to remove the additional currencies and unsaved changes.

Create a shell template by copying a template or shell

You can create a Shell Template by copying from an existing shell template or an existing shell.

To create a shell template by copying an existing shell or shell template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator, then select a shell type.
3) Select the shell type template you want to copy.
4) Click **Copy** button. The Template <shell type name> Cloning window opens.
5) From the **Copy From** drop-down list, select one of the following:
   - **Template**: The log displays the list of shell templates created under the current shell type.
   - **<shell type name>**: The log displays the list of available shell instances. You can select one to use for template creation.
6) Select a listed template or shell name.
7) In the Select Modules pane, select the modules to include in the new template. The modules available depend on the cost code type of the shell or shell template (CBS or Generic). See ***Shell Cloning window selections*** (on page 391) for the lists of available modules by cost code type.
8) Click **OK**. The template Detail window opens, displaying the shell template properties.

   Most properties are copied from the original shell or template into the template Detail window, with the following exceptions:
   - **Number:** On the General tab, enter a Number for the shell template. If automatic numbering is specified, this field is read-only.

- **Currency:** On the Currency tab, specify the Shell Currency
- **Image:** On the Options tab, specify the Shell Image (optional)

The status is set to On-Hold.

9) Click **OK**. Click **Yes** to confirm.

Shell Cloning window selections

In a shell log, when you click the Copy button, the cloning window lists optional calendar, module, manager, sheet, and structure selections. You must select an item to include it in the new shell. See ***Create a shell by copying a template or shell*** (on page 401).

Cloning window selections for all shell templates and shells (both CBS and generic codes)

- **User/Groups**: This is not an optional selection; users and groups in a template or shell are always included by default. See ***User Administration*** (on page 165)
- **BP Setup**: You have the option to copy all, or none, of the business processes and their setups that are in the template or shell. See ***General Procedures for Setting up Business Processes*** (on page 535).

  Templates do not allow record creation of multiple-record business processes, but they do allow record creation of single-record business processes under the Information>General node. If you added a single-record business process into the template or shell, and created a record, that record with all of its data is cloned when you select this option. See ***Single-record business processes*** (on page 546).
- **Configurable Modules > Configurable Managers (CM1 through CM25)>**: Configurable Managers are designed in uDesigner, and have flexible coding structures to data collection and analysis. Each manager appears in the module selection pane by its unique name.
- **Custom Calendars**: Custom calendars provide a means to address variations in work schedules, holidays, and other non-working days. You can add custom calendars to a shell detail form on the Calendar tab. See ***Creating Multiple Calendars*** (on page 256).
- **Dashboard Setup**: Shells and templates may have multiple dashboards, each governed by unique permission settings. See ***Creating a shell dashboard in a template*** (on page 496).
- **Document Folder Structure**: Folder templates help standardize document organization in the Document Manager.
- **Gates Setup**: Gates provide a means of automating when a project moves to the next phase. See ***How to Set Up Gates*** (on page 487).
- **Resource Manager**: Manage personnel resources using the Resource Manager.
- **User Defined Reports**: You can create multiple user-defined report templates and include them in the new shell during cloning.

Cloning window selections for only Generic code shell templates and shells

- **Commitment Summaries**: In the same way the schedule of values summarizes all cost information related to a particular commitment business process, the commitment summary tracks commitment record information. See ***Setting up the Commitment Summary Template*** (on page 760).
- **Generic Cost Manager (CM0)**: The Generic Cost Manager captures cost-related transactions for a generic shell. Each generic shell can have one Generic Cost Manager.

Cloning window selections only for CBS code shell templates and shells

- **Cash Flow**: Cash flow is the distribution of cost over time— in project management terms, it is the movement of cash into or out of a project measured during a specific time period.
- **Commitment Funding Sheet**: A funding sheet tracks project funding —where it comes from and how it is being spent. You can create one funding sheet per template or shell. See ***Setting up the Funding Manager*** (on page 699).
- **Cost Sheet**: The cost sheet provides detailed tracking of the project's budget and costs. You can create one cost sheet per template or shell. See ***Setting up Cost Sheets*** (on page 662).
- **Schedule of Values**: The schedule of values summarizes all cost information related to a particular commitment business process. See ***Setting Up Schedule of Values (SOV)*** (on page 726).
- **Rules**: Project cost or funding rules impose conditions on project transactions per rule queries. See ***Creating Rules and Rules Templates*** (on page 749).
- **Schedule Sheet**: Schedule sheets track project activities and milestones. You can have multiple schedule sheets in a project. Once created, they cannot be deleted.

Shell Template Modules and Managers

In shell templates you can prepare modules and managers to make standardized templates, which ensure project uniformity and greatly reduce the potential for errors. You can have different templates for different project models. For example, you can have one template for "cookie-cutter" projects that do not change, and you can have another template for projects that might incur substantial changes. Unifier will copy any prep-work when you use the template to create a new shell, a process called cloning. Manager and module availability can differ depending upon CBS or generic code specification in uDesigner. See ***Create a shell by copying a template or shell*** (on page 401).

Managers and Modules Available in all Shell Templates (Both CBS and Generic Codes)

- Member Companies: In order to make partner companies that you added at the company level available in your projects, you add them in Member Companies. Member companies added to a shell template automatically copy to a shell during cloning. See ***Managing Member Companies*** (on page 402).
- Access Control: For modules and managers included in a shell template, you can assign user-mode permissions. Permissions set in a template will automatically copy to a shell during cloning. Keep in mind, records created in user mode may require permission assignment in user mode. See ***Managing permissions and access control*** (on page 207).
- User Administration: Users and groups added to a template are copied by default from the template to a new shell during cloning. See ***User Administration*** (on page 165).
  - Users—Users added to a template automatically copy to the shell during cloning. Users added to shell templates cannot be deleted, only inactivated.
  - Groups—Groups added to a template, and any users added to these groups, automatically copy to the shell during cloning.
- Setup:

  - Business Process—You have the option to copy all, or none, of the business processes and their setups that were added to a template. See ***General Procedures for Setting up Business Processes*** (on page 535). If you added a single-record business process to a template, and created a record, that record with all of its data will be copied during cloning. See ***Single-record business processes*** (on page 546).
  - Dashboards—You can define dashboards in a template and opt to include them when you clone a new shell from the template. See ***Creating a shell dashboard in a template*** (on page 496).
  - Gates—Gates provide a means of automating when a project moves to the next phase. You can define gates in a template and opt to include them when you clone a new shell from the template. See ***How to Set Up Gates*** (on page 487).
  - Planning Manager—This is where you can plan for new projects, and create proposals and forecasts for projects already running in Unifier.
  - Resource Manager—This is where you can set up and manage personnel resources in a company, project, or shell.
- Information: This is where single-record business processes exist. When you clone a template, any single-record business processes are copied as well. See ***Single-record business processes*** (on page 546).
- **Configurable Modules > Configurable Managers (CM1 through CM25)>**: Configurable Managers are designed in uDesigner, and have flexible coding structures to allow data collection and analysis.
- **Document Manager**: You can create a folder structure for the Document Manager that can be used across shells. These can be created from Folder Structure Templates, or folders can be added manually. Unlike Folder Structure Templates, you can also assign users folder-level permissions (if they are in the shell template), and can import folders and folder properties.
- **Reports**: You can create one or more user-defined report templates, which will be used for shell-level user-defined reports. You can import user-defined reports into shell templates from shell templates in other companies and Unifier environments, for example from the **Development/Test** environment to the **Production** environment. See ***Importing User-Defined Reports into Project or Shell Templates*** (on page 880).

Selections available in only Generic code shell templates

- Configurable Modules > Generic Cost Manager (CM0): The Generic Cost Manager captures cost-related transactions in a Generic Shell. These can include costs like rent, lease payments, or landscape care that are based on time scales such as monthly, quarterly or yearly. Each generic shell can have one Generic Cost Manager.
- Cost Manager > Commitment Summaries: In the same way the schedule of values summarizes all cost information related to a particular commitment business process, the commitment summary tracks commitment record information. See ***Setting up the Commitment Summary Template*** (on page 760).

Selections available only in CBS code shell templates

Cost Manager

- Cash Flow

  Cash flow is the distribution of cost over time - in project management terms, it is the movement of cash into or out of a project measured during a specific time period.

- Cost Sheet

  The cost sheet provides detailed accounting of the project's budget and costs. You can create one cost sheet per template or shell. See ***Setting up Cost Sheets*** (on page 662). Tip! Set up the standard cost sheet template and copy it into the shell template.
- Earned Value

  The earned value module provides quantitative tracking information about project or shell status using earned value analysis. You can only set User Mode permissions in a template.
- Funding

  The Funding Manager helps you to keep track of where project funding comes from and how it is being spent. You can create one funding sheet per template or shell. See ***Setting up the Funding Manager*** (on page 699).
- Schedule of values (SOV)

  The SOV sheet summarizes all cost information related to a particular commitment business process. This is where you define structures for General Spends, Payment Applications, or Summary Payment Applications.

  You can define a General Spends SOV structure by copying from an SOV template in the Templates log.

  For Payment Application SOV and Summary Payment Application SOV, the structure is copied from the line item grid structure of the Payment Application Business Process. This means that you must first complete the Business Process (BP) setup for the Payment Application BP before you can create the structure. See ***Setting Up Schedule of Values (SOV)*** (on page 726).

Rules

You can define shell-level cost or funding rules. See ***Creating Rules and Rules Templates*** (on page 749)

Schedule Manager

- Schedule Sheet

  A schedule template will be used to create the schedule sheet. Like the cost sheet, once this is created, it cannot be deleted.
- Custom Calendars

  Primavera Unifier allows you to create Custom Calendars to be used by the Schedule Manager.

Shell Templates

If the Data Element (DE) "uuu_int_schedule_type" *is not included* in the attribute form, then:

- The template that has the option "Enable P6 sources" selected is not included when you want to create a new Cost Sheet using: New > Cost Sheet > Copy from Template.
- The cost sheet that has the option "Enable P6 sources" selected is not included when you want to create a new Cost Sheet by copying a cost sheet from a Shell instance.

If the DE "uuu_int_schedule_type" is included in the attribute form, then:

When you add a Cost Sheet to the template (using a standalone template or by Copy from other Shell instances), you can select a "Tree" structure cost sheet, only.

Notes:

- You can select any Cost Sheet irrespective of whether the option "Enable P6 Sources" is selected or not.
- Once you create a Cost Sheet , the option "Enable P6 Sources" is available for edit.
- Once you add columns to the Cost Sheet using "P6 Data Sources" you cannot deselect the property.
- If you remove the columns using P6 Data Sources, you can deselect the "Enable P6 Sources" option.

The value for the DE "uuu_int_schedule_type" remains blank because the DE is read-only.

Document Manager Template

Use the document manager template log page to create folders, perform actions, update shells, and find folders.

- Create: Create folders in the template.
- Actions : Perform the following actions (Export, Import, Index Report, Move, Copy, and Delete) on a folder.
- **Find on Page**: Find folders by filtering on the various columns.
- **Update Shells:** Use this drop-down menu to update the permissions, or the Structure & Permissions for a particular shell or all shells. You can also view the update history.

Note: The Comment, Lock, Ref and BP columns are not displayed in the document template log.

Manage Shell Templates

To open the shell template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Select a shell type. The shell templates log opens.
4) Select a shell template from the log and click **Open**.

To edit shell template properties

1) From the shell template home page, click the **Open** button. The template Detail window opens.
2) Click the tabs to view or edit shell template properties.

Integration Tab

The **Integration** tab in shell template attribute window is used to map multiple P6 projects with the respective Unifier shell. The **Link Multiple Projects** option enables the user to map multiple projects between P6 and Unifier.

- If this option is enabled, then the user is able to map P6 projects by entering the ID in the respective column present in the tab.
- If this option is disabled, then the existing architecture and synchronization for mapping single P6 project to a Unifier shell is used.

> **Note**: The mapping is used for Activity Sheet, only. Mapping does not have any impact on the existing summary sheet. For details about summary sheet see ***Setting Up and Managing Asset Sheets*** (on page 630).

The **Integration** tab in shell template attribute window has the following options:

- **Link Multiple Projects**
- **Add**
- **Remove**
- **Apply**
- **OK**
- **Cancel**

The **Integration** tab in shell template attribute window has the following columns:

- **Project ID**

  An alphanumeric field that can be populated using **Add**. The **Project ID** cannot be modified or removed from this tab.
- **Project Name**
- **Schedule Type**

While you create the mapping, you are required to enter only the Project ID (marked as mandatory field). Unifier populates the other columns (**Project Name** and **Schedule Type**) when you run project synchronization.

When you add projects, using this tab, to create an Activity Sheet:

- You cannot deselect the **Link Multiple Projects** option from this tab.
- You cannot modify, or remove, a Project ID.

The user can change the synchronization from the Gateway node, in Company Workspace. In this scenario:

- If the **Link Multiple Projects** option is disabled, then the system uses synchronization in "P6 Integration Parameters"
- If the **Link Multiple Projects** option is not disabled, then the system uses synchronization in multiple P6 projects.

If the user decides to change the existing mapping setup (Activity Sheet) and *selects* the **Link Multiple Projects** option, Unifier replaces the existing Activity Sheet with P6 projects after the next synchronization.

If the user decides to change the existing mapping setup (P6 Projects) and *deselects* the **Link Multiple Projects** option, Unifier cannot process the change because multiple P6 projects have already been mapped.

If a user tries to Remove a project that is mapped to an Activity Sheet, unifier cannot process the change because the schedule for the project is present in the Activity Sheet.

Adding View Forms in Shell Template

You (the project administrator) can setup the View forms in shell templates. For details, see ***Setting Up View Forms in Shell Attributes*** (on page 482).

When you create shells using shell templates, the **View Forms** tab information will be copied into the created shell. In addition:

- All of the View forms that are added in the template will be copied into the created shell.
- All of the users or groups, who are a part of the viewers list in the View forms, will become the members of the newly created shell.

Setting Permissions to Create or Modify Shell Instances

To set shell instance access:

1) In Administration mode, go to the **Company Workspace** tab and click **Access Control** in the left Navigator.
2) On the right pane, select **Administration Mode Access > Company Sponsored /Shells> [shell node]**.
3) See ***Edit user or group permissions using Access Control*** (on page 208), select these permissions depending on what access need to be granted:
   - **Create**: Allows the creation of new shell instances
   - **Modify Status**: Allows the modification of the status of shell instances
   - **Modify Properties**: Allows the modification of shell instance properties
   - **Configure User Dashboard**: Allows the configuration of the shell dashboard in User Mode. This is the dashboard listed as My Dashboard in the View Dashboard drop-down list that displays for the end user in a shell instance.
4) Click **OK**.

Creating a Shell

There are multiple ways to create a shell.

- Manually, from scratch
- Copying from a shell template
- Copying from an existing shell
- Importing via a CSV file
- Using a shell creation business process

When you create a shell from a shell template or by copying another shell, any shell dashboard that exists in the source template, Unifier copies the dashboard into the destination shell.

Create a New Shell Manually

To manually create a new shell

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Company Sponsored Shells** in the left Navigator.
3) Select a shell type.

> **Note**: Ensure that you configure and test shells in the **Development** environment before you import the shells into the **Test** environment or **Production** environment.

4) Click the **New** button. The <shell> template Details window opens.
5) On the **General** tab, complete the fields as described in the first table below.

   The fields in the table here are only the required fields. The shell that was designed for your company may include other fields.
6) On the **Currency** tab, click the **Add** button to add a default currency for the shell type template.

> **Note**: You cannot modify this default currency after you save the changes to the template Detail window.

7) Use the information in the second table below to add a currency.
8) Click the **Options** tab.
9) Use the information in the third table below to complete the **Options** tab.
10) Complete the Links tab to add links to the shell. These links are displayed on the shell landing page in User Mode. Use links to provide users with access to useful websites, your company's website, an intranet, or other destinations.
    a. Click Add Row and enter the name and URL for the links you want to add to the landing page.
11) Click **Apply** to save changes as you enter information, and **OK** when you are ready to save information and exit the window.

In this field	Do this
Description	Enter a description of the shell type template.
Administrator	Select an administrator for the template.
Location	The Location picker allows you to change the location of a shell, and is accessible when you set up a shell or modify the shell details. See ***Location picker behavior*** (on page 401) for details. Use the Location Picker to select where the shell instance will reside. In the Location picker: ▸ Find searches the current level ▸ Open shows the next level of shells ▸ Select completes the action ▸ Location Picker will allow breadcrumbs to display through the

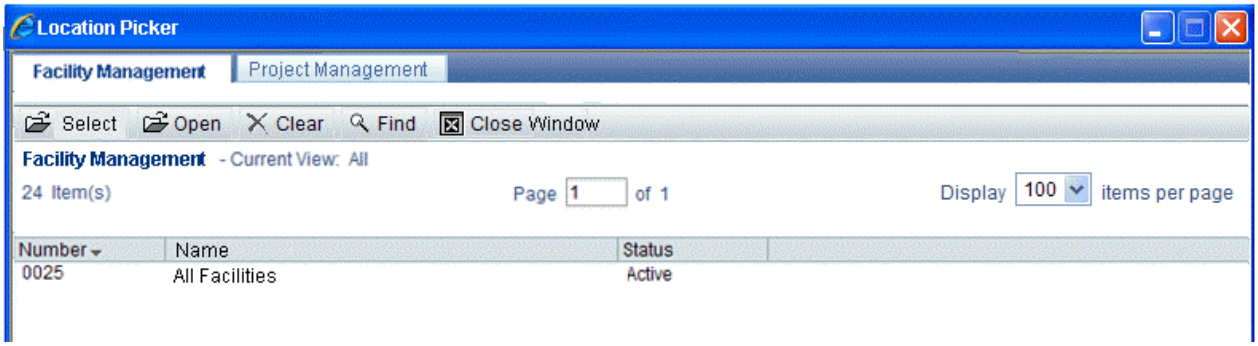
	hierarchy ▸ Work systematically from the top of the hierarchy to the bottom ▸ There must be an instance of a single shell to connect to You can use the Location picker to reorganize the shell hierarchy. The shell can move across tabs, or laterally along the hierarchy. When you move a shell instance, all of the shell data moves with the shell. If an auto-populated business process moves with the shell instance, then the auto-populated data moves with the business process. Data for the business process will be collected from the new shell location. In addition, if a child shell has been designed with linked elements, field values on the shell's attribute form or single-record BPs will be automatically updated to reflect changes when the shell is moved.
Status	You can activate the shell immediately, or place it On-hold and activate later. A template that is On-hold or Inactive cannot be used to create a shell. It is good practice to leave a shell or template On-hold until you have completed the setup. Shell Administrators/Users with "modify shell status" rights are the only ones who can change the status. Status definitions for **shells** are: ▸ **On-hold:** The initial shell status. On-hold shells appear on the shells log. Shell administration functionality is available to shell administrators for setup and maintenance for users with permissions to perform that function. Users cannot create records in a shell that is On-Hold. If a user attempts to access a shell that is On-Hold, the system displays an alert message stating that the shell is On-Hold. ▸ **Active:** Active, in-progress shell. All shell actions in User and Administration Mode are available. ▸ **Inactive:** Used to suspend shell usage. Inactive shells are visible from the Administration Mode under Sponsored Shell log only, but **not** visible under the Shells node (i.e., only Sponsor Company can access the shell), or in User Mode logs and selections. Only System and Shell Administrators (users with Modify Status rights) can reactivate the shell. Note: "Late" tasks in an inactive shell may still show up in users' tasks logs. Though they can access the task, no transactions can be performed in the inactive shell.
Shell Number	Unique number that identifies the shell.
GeoCoding	Details for mapping. This field appears if geocoding was set up in uDesigner for the shell.
Currency Name	Select the currency you want to use for the cost functions in this project. If the currency you selected is other than the company Base

	Currency, then complete the following fields.
Rate	Enter an exchange rate to use for conversion calculations. From the drop-down list select one of the following: If **Float** is selected, the rate is updated automatically from the company currency table (Standards & Libraries > Exchange Rate). A **Peg rate** is locked at the company rate on the day the rate is set. (Only a Project Administrator can manually modify the Peg rate to a value other than the company peg rate.).
Hedge?	If the Hedge selection is **Yes**, then the Hedge rate is used for conversion calculations. Otherwise, the Float rate will be used.
Rate	If an amount is entered for the Rate, then the hedge rate is used until the amount specified is reached (by spends) and then the system will revert back to the normal rate.
Amount	If **Float** is specified, Primavera Unifier will retrieve the rate, based on today's date and time. If **Peg Rate** is specified, the field will be editable.
Comments	(Optional) Add any comments that might be necessary to explain the default currency.
Image	(Optional) Upload an image file. This image is displayed on landing page of the shell in both Administrator and User Modes. Click **Browse** to browse for the image file and then click the **Add** button
Phase	(Optional) Select the phase of the shell on this tab. The phases available are based on the Phase data definition
Shell Email Email Address	The **Email Address** field shows the dedicated email "mailbox" that is automatically created for the shell. (For information on this mailbox, see ***Dedicated Mailbox for the Shell*** (on page 377).) You can distribute this shell email address to all users, both within and outside of Primavera Unifier, who will participate in the shell. To do so: Click the **Send Email** button. An email message window opens. In the **To** field, enter the email addresses of all participants in the shell. You can also send the address of the dedicated mailbox to external users by adding their email addresses in the **External Cc** field. Click the **Send** button. Note: You can also create a link on the shell dashboard that users can use to distribute this email address to shell users. (
Shell Email Send	Use this field to send notification to users in the shell whenever the shell mailbox receives an external email. To do so:

Notification To	Click the **Select** button. The User Picker opens. Select the users you want to notify and click **OK**.

Location picker behavior

The Location Picker opens when you click the **Location Select** button. This is an example of a Location picker:



In this example there are two single instance shells, Facility Management and Project Management. You can use this Location picker to select a shell instance. The multiple instance shells are listed under the single shell instances that are represented as tabs. You can select a tab on which the shell is listed on the organization configuration.

When this picker is opened first it displays the instance of single shell. In this example it is showing All Facilities. If Project Management tab is clicked then you should see the single instance shell created under that tab. You can now select this instance by highlighting it and clicking the **Select** button. If you want to drill down to another shell instance which is created under this single shell instance, you can navigate to it by selecting the single instance shell and double clicking or selecting a shell and clicking the **Open** button.

Create a shell by copying a template or shell

You can create shells using the shell templates you created. You can also create shells by copying from existing shells. You can verify the shell properties, make changes as necessary, update status, or activate as necessary.

> **Note**: As Shell Administrator, you can receive email notification of the successful creation of a shell. This notification can be set up in email notifications in uDesigner. Also, you can set your User Preferences to control whether you receive these notifications.

Creating a shell from a shell template or another shell, copies shell dashboards in the source template or shell to the destination shell. You can choose to copy any existing Custom Calendars from the template or from an existing shell.

To create a shell from a shell template or existing shell

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells** in the left Navigator.

3) Select a shell name.
4) Click the **Copy** button. The Shell Cloning window opens.
5) Click the **Copy From** drop-down list and choose **Shell** to copy an existing shell, or **Template** to copy a shell template.
6) Select a shell or template from the list and click **OK**.

   To search for a specific shell or template in the list, click the **Filter By** field and select **Name** or **Number**. In the **Filter For** field, enter all or part of the name or number to search for and click **Search**.
7) In the Select Modules pane, select the modules to include in the new shell. Users and Groups are selected by default and copied along with the shell properties. See ***Shell Cloning window selections*** (on page 391) for a discussion of the modules available for selection in the type of shell you are cloning.

> **Note**: When you copy a shell or template, you also copy existing setups in the modules you selected. If you select BP Setup when you copy a template, you will copy any existing business process setups, including those for any single-record business processes (SRBPs). SRBP setups and record data are copied along with everything else.

8) Click **OK**. The Shell Details window opens, displaying the shell properties.

   Most properties are copied from the original template with the following exceptions:
   - **Number**: On the General tab, enter a Shell Number
   - **Currency**: On the Currency tab, specify the Shell Currency
   - **Image**: On the Options tab, specify the Shell Image (optional)
9) When you finish completing the shell details, click **OK**. Click **Yes** to confirm and create the new shell.

Managing Member Companies

If your company has set up Partner Companies, those companies can become eligible to be added to shells. When added to a shell, these companies become Member Companies, and their users can participate in shells with any permission level you set for them.

> **Note**: The list of eligible partner companies is maintained in the Partner Companies log. In Administration Mode, navigate to Company>Partner Companies to view the list.

Add a member company to a shell

Active partner company users (users with a unique Unifier user name, and status of Active or On Hold) can be added to shells and assigned permissions, just like sponsor company users.

To add a member company to a shell

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > <shell name > <project name > Member Companies** in the left Navigator. The Member Companies log opens.

3) Click the **Add** button. The Add Member Companies window opens. This window lists the available partner companies that can be added to the shell as a member company.

   You can click the **Find** button to search for a particular company by **Company Name** or **Contact Name**.
4) Select one or more companies from the list and click the **Add** button.
5) At the confirmation window, click **Yes**. The company is added to the Member Companies log.

View member company profile

To view a member company profile

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell] > [shell instance] > Member Companies** in the left Navigator. The Member Companies log opens.
3) Select a company from the list and click **Open**. The Company Profile window for the company opens. This is a view-only window. This information is maintained by the partner company's administrator.
4) Click the **General** tab to view general information, and the **Address** tab to view contact information.

Remove a member company from a shell

You can remove a member company from the shell's Member Companies list. When a member company is removed from a shell, users belonging to the member company will be automatically inactivated for that shell.

To remove a member company

1) Select the company and click the **Remove** button.
2) At the confirmation window, click **OK**. This will remove the selected company from the list and inactivate any users who have been added to the shell.

Managing Shell Users and Groups

This section discusses adding groups and users to shells, managing shell groups, and managing shell permission levels.

Add a user to a shell

After you have created a shell, you will need to add users to the list of approved shell users. Shell users can be from your own sponsor company, or from approved member companies.

When adding users from your company to the shell:

- To add users from your own (sponsor) company, the user must be either **Active** or **On-Hold** at the company level. When added, the user will automatically be **Active** for the shell.
- Users who are inactive at the company level cannot be added to a shell.

When adding users from a partner company to the shell:

- In order to add a user from a partner company, the company must first be added to the Member Companies list for the shell. The user must be either **Active** or **On-Hold** at the company level. When added, the user will automatically be **Active** for the shell.
- The user does not necessarily need to be listed in the Partner Users log at the company level in order to be added to a company. If the user is listed in the Partner Users log, the user must be **Active** or **On-Hold**. If the user is not already in the Partner Users log, they will be automatically added to the list of Partner Users with a status of **Active**.

To add users to a shell

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell name] > [project name] > User Administration > Users** in the left Navigator. The Users log opens. The log lists all users that are already part of the shell.
3) Click **New**. The **User/Group Picker** opens.

> **Note**: If a User Attribute form has been imported, the shell user log will reflect the design of any designed Partner Log included in that form. See ***Importing User Attribute Form*** (on page 166) for details.

4) Click the **List Names from** drop-down list at the top of the picker window and choose the company from which to add the new shell user.

   This drop-down lists your sponsor company plus any member companies that have been added to the shell. You can click the Member Companies node under the shell to view the list of available member companies.

> **Note**: By default, new users will have a status of **Active**. You can change the status or other user detail information selecting the user from the list and clicking **Open**.

5) Select one or more users to add to the shell. You can press the **Shift** or **Ctrl** keys to select multiple users at once.
6) Click the **Add** button. You can continue to select and add names to the **Selected Users** portion of the picker window.
7) Click **OK** to add the users to the shell. The new users are listed in the Users log.

To add a user to a shell template

Open the shell template and navigate to **User Administration > Users**. Follow the steps above to add a sponsor company or member company user to the template.

View or edit a shell user's profile

You can edit a shell user's details. These procedures apply to sponsor company users and member company users.

To view or edit a shell user profile

1) Go to the **Company Workspace** tab and switch to Admin mode.

2) Click **Company Sponsored Shells > [shell instance] > User Administration > Users** in the left Navigator. The Users log opens.
3) Select a user from the list and click **Open**. The Edit Shell User window opens. The window has the following tabs: General, Groups, Permissions and Custom.

> **Note**: If a User Administration design has been imported from uDesigner by your Administrator, the content of this profile can vary.

4) In the **General** tab, review the contact information for the user as it will appear in the Shell Directory. By default, the shell address (as defined in the shell details) displays as the contact address. You can edit this information as necessary.

   You can also modify the user's shell status:
   - **Active**: User is listed in Shell Directory, in User/Group Picker, User can log in and participate in the shell. New users are Active by default.
   - **Inactive**: If you deactivate a shell user, the user's name will not appear anywhere for selection on any shell-related functions. The user will not be able to access the shell. Inactivating a user at the shell level does not affect their status on other shells.
   - **On-Hold**: User can be added to a shell, or assigned as a participant in a business process workflow but cannot log in.
5) Select the **Show user on the Shell Directory** option, if you want the user's information to be viewable in the Shell Directory.
6) In the **Groups** tab, you can add or remove the shell users to a shell-level group the same way that you add company users to company groups. Click the **Add** button to add a group to the user's list, or select a group and click Remove to remove the user from the group.
7) In the **Permissions** tab, you can assign shell-related permissions to the user, by module and mode.
8) In the **Custom** tab, you can view available custom attributes that may have been added to the user form.

Create and Manage Shell Groups

Groups are a way to aggregate Users together so that adding new team members to the shell and assigning permissions can be done quickly and efficiently. For example, groups can be members of the same shell team, and/or they can be users who share the same access privileges. At the company level, groups can span shells. At the shell level, all members of a group are members of a given shell. Different members of a shell may have different access to Unifier functionality, depending on their role on the shell.

For example, a Finance person might require access to cost modules and reports dealing with finances, but not RFIs or Transmittals and their associated reports. An Executive might require access to Summary financial information, and not the cost BPs.

As users are added to a Group, they will inherit the Group's permissions. If they are in more than one group, then the highest level of permissions granted in any group for a module will prevail.

When adding users to the group, you can choose eligible users from the sponsor company and any partner company users. The company short name will be listed in the User Picker window next to each user.

Company level groups cannot be copied into a shell.

To create a new group

1) Open the shell and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell] > [shell instance] > User Administration > Groups** in the left Navigator. The Groups log opens.
3) Click **New**. The Groups window opens.
4) Complete the **General** tab:
   - Group Name: Enter a name for the group
   - Manager: Click Select and select a user from the User Picker window. This is the person who will be responsible for administering the group.
   - Description: Enter an optional description for the group.
5) Click the **Members** tab. This is where you add and manage group membership.
   a. Click **Add**.
   b. From the User/Group Picker, select the users to add to the group and click **Add.**
   c. Click **Ok**.
6) Click the **Permissions** tab. In this tab, you manage group permission settings. If a user is a member of the group, the user will inherit all group permissions.

   Granting permissions to the group is similar to granting permissions to individual users. Choose the shell-related permissions for the group that will apply to all members assigned to this group. Choose permissions by module and mode.
7) In the **Custom** tab, you can view available custom attributes that may have been added to the group form.

To edit group information

1) Open the shell and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell] > [shell instance] > User Administration > Groups** in the left Navigator. The Groups log opens.
3) Select a group and click **Open**, or double-click the selected group. The Groups window opens.
4) Make changes as necessary and click **Ok**.

Grant shell user permissions through Shell Access Control

Once you have created a shell, assign permissions to the people who need to access the shell. You can use Access Control to grant multiple Users or Groups permission simultaneously, rather than editing the properties for each User or Group individually.

To view or change a shell's access control

Do either of the following:

- Open the shell and switch to Admin mode. Click **Access Control** in the Navigator.
- Go to the **Company Workspace** tab and switch to Admin mode. Click **Company-Sponsored Shells > [shell type] > [shell]** in the left Navigator. Then click **Access Control** in the Navigator.

Unifier displays a copy of the Navigator menu in the right pane of the window. In this right pane, you may click on different modules of the Navigator menu to set permissions for those functions.

Generate and print access information report

You can generate and print an Access Information summary of user and group access (permission settings). The report will display all user and group permissions.

To generate the Access Information report

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell] > [shellinstance] > Access Control** in the Navigator.
3) Click the **Access Information** button. The Access Information window opens. It may take several moments to generate the report.

To print the Access Information report

1) Generate the **Access Information** report.
2) Click the **Print** button. (When the report is complete, the **Print** button becomes available.)

Create new shells using an imported CSV file

An Integration interface must be created for shell creation to work via CSV file.

To create new shells using an imported CSV file

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells** in the left Navigator.
3) Select a shell type.
4) In the shell log, click **Export Template**.
5) Complete the shell creation template CSV file. Some hints:
   - The shell location must have a leading /. Be sure to use the true shell name as entered in the Shell Manager configuration.
   - Shell statuses are Active or Inactive. Use initial capitalization.
   - Administrators must be valid users. You might enter the user's full name (for example, Henry James) or the system user name (for example, *hjames*) depending on the configuration.
   - If using currency override, be sure the currency is active in Exchange rates and the CSV file contains a valid currency code.
6) In the shell log, click **Import**.
7) Select the modules to include in the shell.
8) Select the template from the listed templates and click **OK**.
9) Browse for the CSV file.
10) Click **OK**.

Reasons for a Shell Creation business process CSV failing to import

1) Any incorrect rows will cause the CSV upload to fail and an error message will display the incorrect row number.
2) Incorrect shell location used (this has to be set up before importing a CSV.)
3) Invalid shell name or number.

4) The location on the imported CSV file is not a valid parent location.
5) The sub-shell of the type that you are importing was not configured under the parent location specified.
6) Currency override used an invalid currency code or the currency was not active in Exchange rates.

Notes:

- If shell creation fails, the user who attempted to import the CSV will get an email notification of the import failure.
- When creating a shell through CSV, the Document Manager attribute form that is associated with the template, or shell instance, will be copied over to the new created shell.

Create shells with the shell creation business process

Before you begin, review these conditions for successful Shell creation from the Shell creation business process:

- Shell creation business process must be designed and deployed in uDesigner and configured and set up in Unifier.
- Shell template must be created
- Shell hierarchies must be correctly configured in Shell Manager
- Shell number must be unique
- Shell override currency, if it is to be used, must be active in Exchange Rates

The shell creation business process can synchronously auto-create a multiple-instance CBS or generic shell anywhere in or across a shell hierarchy. The business process uses a shell location picker to assign where the shell will reside in the hierarchy, and a shell picker to select a template. This means shell organization must be correctly configured in the Shell Manager and the shell template must be created.

The shell creation business processes designer can define the business process as company level or shell level. The designer may use workflow to support review and approval processes, or elect to design the business process without workflow. At run time, Unifier passes select information captured in the business process form to the newly created shell, thus avoiding redundant data entry. Reaching terminal status, as defined in uDesigner, triggers the synchronous shell creation process. If there is a planning item picker on the shell creation business process record or line item Unifier will link the planning item to the new shell.

Notification

Unifier will send an email notification upon successful shell auto-creation, provided notification is set up in business process setup, Unifier has a valid email address for anyone selected to receive notification, and those selected subscribe to email notification in user preferences. If auto-creation fails, Unifier will immediately send an alert to those selected to receive notification.

There are two types of shell creation business processes: simple and line item.

- Simple-type

The simple-type shell creation business process creates one shell per record. Reaching a terminal record status, as defined in uDesigner, triggers the synchronous shell auto-creation process. The business process designer has the option to either define workflow or not. In uDesigner the designer can define integration; in Unifier you can obtain the business process import template from the business process log.

It is important to note that the CSV import template must be correctly completed or Unifier will reject the CSV file in its entirety and not create any shells. When Unifier rejects a CSV file it creates an error file that tells you which line item is in error and why it is in error. To ensure a successful upload of the shell creation business process CSV file, retain the column headings in the same order as exported, and complete all required fields.

- Line Item-type

The line item-type shell creation business process creates a shell for each line item. Use the upper form to create the parent shell and each line item to create a child shell. Auto-creation happens when:

  - Record terminal status is reached, as defined in uDesigner
  - Line item status is met, as defined in uDesigner
  - A line item passes validation

At run time, when Unifier processes a line item-type shell creation business process record, it will create a new shell from each line item that passes validation. For example, if there are 10 line items in the shell creation record, but only five pass validation, Unifier will create five shells. Shell creation line items can be consolidated, provided consolidation is configured in uDesigner.

CSV Import or Restful Services (Create Shell)

When you create a shell instance by using CSV import or Restful Services (Create Shell), the system copies into the created Shell:

- The **View Forms** tab information from the selected shell template.
- The forms added in the shell template, along with users and groups who are part of the viewers list.

Managing Shells

You can verify the shell properties, make changes as necessary, update status, or activate as necessary. It is recommended that you keep the company progress information up to date to reflect the ongoing status and progress of the shell.

You can also modify shell information in a shell type template and then update one or more existing shells by "pushing" the information from the template to the shells (see ***Updating Shells*** (on page 411)).

To open a shell

Click the tab for the shell. The shell landing page opens.

To edit an existing shell

1) Go to the Company Workspace tab and switch to Admin mode.

2) Click **Company Sponsored Shells** in the left Navigator; select the shell instance, click to open the shell (from the log). The shell window opens. Click **My Dashboards**, and then click **Details** to open the **Details** page.
3) Modify the shell information as necessary.

   You can modify any of the shell properties any time during the shell duration, except for the shell currency. Once a shell is set up, the shell currency is locked.

   The Location picker allows you to change the location of a shell, and is accessible when you set up a shell or modify the shell details. See ***Location picker behavior*** (on page 401) for details.

   Use the Location Picker to select where the shell instance will reside. In the Location picker:
   - Find searches the current level
   - Open shows the next level of shells
   - Select completes the action
   - Location Picker will display breadcrumbs through the hierarchy
   - Work systematically from the top of the hierarchy to the bottom
   - There must be an instance of a single shell to connect to

   > **Note**: You can use the Location picker to reorganize the shell hierarchy. The shell can move across tabs, or laterally along the hierarchy. When you move a shell instance, all of the shell data moves with the shell. If an auto-populated business process moves with the shell instance, then the auto-populated data moves with the business process. Data for the business process will be collected from the new shell location. In addition, if a child shell attribute form or a single-record BP in a child shell has been designed with linked elements, the child shell attribute data and BP data will be automatically changed to reflect the new parent shell's current attribute values.

4) Click **Save** to save your changes and exit the **Details** window.

To deactivate an existing shell

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Company Sponsored Shells** in the left Navigator; select the shell instance, click to open the shell (from the log). The shell window opens. Click **My Dashboards**, and then click **Details** to open the **Details** page.
3) On the **General** tab, go to the **Status** field and select **Inactive**.

   > **Note**: If you deactivate a single instance shell (a shell that displays in Unifier as a tab) you cannot access that shell again to activate it. The tab will persist, but not be accessible.

4) Click **Save** to save your changes and exit the **Details** window.

Packaging Single Instance Shells

You can package Single Instance Shells that exist in the **Development/Test** environment in order to transfer the Configuration Package to the **Production** environment.

The Configuration Package that you create will include:

- The Shell details data (data from all tabs in the Shell).
- The currency defined in the Currency tab and if the selected currency does not exist in the destination environment, the system will create it.

> **Note**: The Currency attributes such as Code, Name, Symbol, and so forth are not updated when you import the Configuration Package, and after you create the shell, the Currency tab content will not be updated upon subsequent imports.

- The calendar from the Calendar tab and if the selected calendar does not exist in the destination environment, the system will create it.

The following Shell details are included in the Single Instance Shell:

> **Note**: The following Shell details are exported and imported to the destination environment on the first import, only. No subsequent updates of Shell details data can be performed in the destination environment.

- Shell data that exists in the form for the following fields: Shell Name, Shell Number, Administrator, and Shell Status.

The Shell log window is a user-defined log, and the user-defined columns appear next to the system-defined columns.

When you create a Single Instance Shell Configuration Package successfully, the system stamps the Shell with the Last Packaged Date.

Shells cannot be created if they are not activated in the Configuration module, so the configuration of the Shell will be included in the Shell Configuration Package at the time of transfer between environments.

> **Note**: The contents of the Organize tab, which defines the Shell hierarchy, will be included.

Updating Shells

The Update Shells function allows you to quickly add or modify information into a shell template, and then apply that template to existing shells. This will "push" the new information to the shells that you specify. By allowing data to be entered or modified once, this function helps to reduce set up time and ensure cross-shell uniformity.

The Update Shells function is available for select modules in shell type templates. Go to: **Company Workspace** > **Admin** mode > **Templates** > **Shells**

> **Note**: When you copy a Setup (Company Workspace > Admin mode >

Templates > Shells > Projects > … > Setup > …) from a Shell template, the fields in the shell details block all will be copied.

The modules that you can update are listed below.

- **Users**: users, group membership, permissions
- **Groups**: group names, permissions
- **Business Processes and BP Setups**: Business processes, setups
- **User-defined Reports**: Reports, report permissions
- **Access Control**: modules, users, groups, permissions
- **Cost Sheet**: Cost sheet columns, column access and restrictions
- **SOV**: General and Payment Applications structures
- **Commitment Funding**: Commitment funding sheet structure
- **Cash Flow**: Properties and permissions
- **Rules**: Cost or fund rules
- **Schedule Sheet Properties**: title, description, Master Schedule, status, auto-control, project start date, and error notification. ***Updating Schedule Sheet Properties from Templates*** (on page 814)
- **Gates**: Active or Inactive setups
- **Shell Instance Dashboards**: dashboards created at the shell level, and are available for users to view (but not edit) with granted permissions

Each of these modules has an Update function where you can use Find to isolate the shells you want to update. The find window contains data elements from the Find form (designed in uDesigner). This makes targeting shells with specific information possible. For example, if you add new users, to the company, and need to add them to many shells, but not every shell, you can add them to a shell template and use the Update Shells functional to add the users to only those shells that require them.

Shells with a status of Active or On-Hold can be updated with this functionality. Inactive or View-Only shells cannot. Users with create permission for the shell type template modules can do this operation.

Note: You update shell information one module at a time. Any Active or On-hold shells can be updated in this way.

When you create a configuration package for your shell templates, the system includes the following configurations from the selected component list:

- All shell templates that are included in the component list.
- Content of the shell template.
- Configuration of selected shells and business processes.

You can package the shell templates that exist in the **Development/Test** environment and transfer the configuration package to the **Production** environment, and your configuration package will include the shell details data (data from all tabs in the shell setup).

Currency

The currency, defined in the **Currency** tab, is included as a part of the configuration package. If the selected currency does not exist, then the system creates one in the destination environment. The currency attributes such as Code, Name, Symbol, and so forth cannot be updated by means of configuration package import. The **Currency** tab content is update upon every import. If the exchange rates, defined for currencies in the source shell template, do not exist in the destination environment, then the system creates a new exchange rate record for that currency and that exchange rate will be set to Active, and:

- The Effective is set to the configuration package Import Date.
- The Peg rate is brought over from the source environment.
- The Float rate is brought over from the source environment, if the rate does not exist in the destination environment.

Calendar

The calendar, from the **Calendar** tab, is included as a part of the configuration package. If the selected calendar does not exist, then the system creates one in the destination environment.

Shell Details

The following shell details, in the form, will be exported and imported in the destination environment upon every import:

- Text fields, Pull downs (Integer and String), Radio buttons, check boxes, Integer, Decimal and Currency Amounts and Dates. The dataset values, or the default values, will not transfer unless you include those in your configuration package.

> **Note**: Any picker that refers to some other design object like BP pickers, data pickers, and so forth will not be included.

- The contents of the **Organize** tab (shell configuration), which defines the shell hierarchy, will be included. This includes the defined sub-shells.

Shells cannot be created if you do not activate them in the **Configuration** module.

The configuration package creation will fail if:

- The design of the included shell is not a part of the component list.
- The shell design version that is included in the component list does not match the deployed Shell design version.

Business Processes

- A Shell Template can have several Business Processes in the **Development/Test** environment.
- Only those Business Processes that have been included in the configuration package, marked as publish for production, can be transferred to the **Production** environment.
- The configuration package can contain Workflows that have been setup (activated in Configuration module). If there are multiple Workflow setups in a Business Process, then all the setups are included in the configuration package, regardless of the status.
- Business Processes, and other design objects, in a template depend on their setups in the Configuration module. Only the configuration setups of the Business Processes, and the Shell that the Business Process resides in, are included in the template can be a part of the configuration package.

- In Workflow setups, where additional filtering on assignees exist for steps, the published design for user attribute form in the configuration package must include the deployed design.
- In Workflow setups, in case the **Advance workflow when next step is determined** option is selected:
  - When the user updates shells (Update Shells option), all of the shells (or the selected shells) will receive the next step setup.
  - When the user updates a BP setup, from an environment different than the current environment, then the next step setup will be imported.

User-Defined Reports (UDRs)

You can transfer User-Defined Reports (UDRs) that have been included in a Shell Template (Company Workspace > Admin mode > Templates > Shells) from **Development/Test** environment to **Production** environment. The data source for the reports can be a uDesigner design, a Data View, or a system-provided source.

Single Record Business Process (BP)

The data from the Single Record BP gets exported from the source environment and then gets imported into the destination environment. This includes: Text fields, Pull downs (Integer and String), Radio buttons, check boxes, Integer, Decimal and Currency Amounts and Dates. The dataset values, or the default values, will not transfer unless you include those in your configuration package.

The following data/items are not included in the configuration package:

- Any picker that refers to some other design object like BP pickers or data pickers.
- Attachments, linked records, and general comments.

Groups and Users

- Only the Shell Administrator user will be extracted for User Mapping, when importing the configuration package.
- Only groups will be extracted for the selected components in the shell templates.

Access Control

- For both Admin and User modes, the user can select the permissions for the Design objects in shell templates.

Updating Shell Formation - General Procedure

In general, the Update Shells feature works like this:

Step 1. In Administration Mode, open a shell type template.

Step 2. Navigate to one of the modules listed above. Add or edit data.

Step 3. Click the **Update Shells** button. Select which information within the module to update, and which of your active or on-hold shells to "push" the information to. New information will be added to the selected shells. Edited information will overwrite existing data.

You can also cancel a shell update before it reaches the In Process status.

Detailed instructions for updating specific types of shell information is found in the following sections.

Updating Shells, Users

You can add new users to multiple shells at once by adding them to a shell template in the **User Administration > Users** module. When adding new users to a shell, you can assign individual permissions directly to a new user, or add the user to a group to apply group permissions.

The Update Shells process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Some notes about updating users

- Users are identified by their unique User ID.
- Any **Active**, **Inactive** or **On-hold** users can be pushed.
- If the user does not already exist in the shell, the user will be added to the shell with the permission settings and group membership.
- If the user already exists in the shell, the user information is updated (replaced) with the user information as entered in the shell template. This includes permission settings and group membership.
- If a group that the user was added to doesn't already exist in the shell, the group will be added, and the user will be added to the group. Group permissions are not updated; this is done by updating groups.
- If the group already exists, the user will be added to it. Group properties and permissions will not be affected.

To add or update users using Update Shells

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell type template to update.
4) In the shell type template, navigate to the **User Administration > Users** log.
5) Add a user to the shell type template, or select a user to edit. Define user parameters and assign permissions.
6) Select one or more users in the Users log.
7) Click the **Update Shells** button and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
8) Click **Yes** if you want to proceed with the update, or **No** to cancel.

To delete users

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell type template to update.
4) In the shell type template, navigate to the **User Administration > Users** log.
5) If you are not an administrator or owner of an item in the template:
   1. Select the shell user for deletion.
   2. You can click on the **Usage** option, which downloads the usage report.
   3. The usage report lists all the references of the selected user in the template. You can check if the deletion would impact any area of the usage report.
   4. Select the **Delete** option.
   5. A confirmation message is displayed along with **Yes** and **No** options.
   6. If you choose **Yes**, then the item is deleted and all the user references are removed from the template.
   - The system deletes the user even if the selected user is the only user under the **Assignee** section of any workflow BP. You must manually open the BP and save the user in order to move them to an **Inactive** status. You can also assign a new user in the workflow.
6) If the selected user is an owner of a document, cost sheet, work sheet, schedule sheet, or User-defined report:
   1. Select a user ID and click on the **Delete** option.
   2. A confirmation message is displayed along with **Yes** and **No** options.
   3. If you choose **Yes**, then the system closes the message and automatically downloads the usage report without performing a deletion. You can refer to the usage report to understand the impact areas and take the necessary action.
7) If you select multiple users and all of them are owners of a document, cost sheet, work sheet, schedule sheet, or User-defined report:
   1. Select the user IDs and click on the **Delete** option.
   2. A confirmation message is displayed along with **Yes** and **No** options.
   3. If you choose **Yes**, then the system closes the message and automatically downloads the usage report for all the selected users without performing a deletion. You can refer to the usage report to understand the impact areas and take the necessary action.
8) If you select multiple users and none of them are owners of any content in the template:
   1. Select the users and click on the **Delete** option.
   2. You can select all the users and click on the **Usage** option, which downloads the combined usage report for all the selected users.
   3. A confirmation message is displayed along with **Yes** and **No** options.
   4. If you choose **Yes**, then the system deletes all the selected users.
9) If you select multiple users and a few of them are owners of some elements in the template:
   1. Select the users and click on the **Usage** option.
   2. The system downloads the combined usage report for all the selected users.
   3. Select the **Delete** option.

4. A confirmation message is displayed along with **Yes** and **No** options.
5. If you choose **Yes**, then the system automatically downloads the usage report for the remaining users who are restricted from deletion.
6. Another confirmation message is displayed along with **Yes** and **No** options.
7. If you choose **Yes**, then the system deletes the selected users that are not owners.
   - You can refer to the usage report to further understand why some users cannot be deleted.

10) The push functionality and the copy shells work the same as they did previously. If a user is deleted and the record can no longer be selected, then a push cannot be performed. However, if a user is deleted and the shell template is copied to create a new template, then the deleted user would no longer be included. When a user is deleted and the shell is selected for download as part of a **Component List** in a **Configuration Package**, the deleted user is no longer part of the package. Any existing shells are not affected by the changes made and the deletions performed.

Updating Shells, Groups

You can add new users to shells individually or by adding them to groups, and then adding the groups to the shells. You can assign the user individual permissions, or add the user to a group and apply group permissions.

The Update process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating groups:

- Groups are identified by their unique Group Name.
- All group properties, including permission settings, will be added or updated in the shells that you selected.
- If the group does not already exist, the group will be created with the permission settings. Group membership (user list) will not be updated in the shell.
- If a group of that name exists, the properties and permissions of that group will be replaced with the new group, but not the list of users.
- Users are not automatically added to the group; they need to be added by updating users (group membership).

To add or edit user groups using Update Shells

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell template to update.
4) In the shell type template, navigate to the **User Administration > Groups** log.
5) Select one or more groups from the Groups log.
6) Click **Update Shells** and choose one of the following:

- **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
- **All Shells**: You can use this option to update all shells of that shell type.
- **History**: You can view the update history from past updates or cancel a request before the update begins.

An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.

7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

To delete user groups

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell template to update.
4) In the shell type template, navigate to the **User Administration > Groups** log.
5) If you select a single group in the template:
   1. Select the shell group.
   2. You can click on the **Usage** option, which downloads the usage report for the selected group. This behavior is dependent on the browser you are working in.
   3. The usage report lists all the references of the selected group in the template. You can check if the deletion would impact any area of the usage report.
   4. Select the **Delete** option.
   5. A confirmation message is displayed along with **Yes** and **No** options.
   6. If you choose **Yes**, then the item is deleted and all references of the selected group are removed from the template.
   - The system deletes the group even if the selected group is the only assignee in any workflow BP. You must manually open the BP and save the group for it to move to an **Inactive** status. You can also assign a new user in the workflow.
   - The system should not allow the deletion of the **Project Administrators** group. If you select the **Project Administrators** group and click on the **Delete** option, then a confirmation message is displayed along with an **OK** option. Click on the **OK** option to proceed further. You can select the **Project Administrators** group and click on the **Usage** option to download the usage report for the group.
6) If you select other groups apart from **Project Administrators**:
   1. Select the shell groups.
   2. You can click on the **Usage** option, which downloads the combined usage report for the selected groups. This behavior is dependent on the browser you are working in.
   3. The usage report lists all the references of the selected groups in the template. You can check if the deletion would impact any area of the usage report.
   4. Select the **Delete** option.
   5. A confirmation message is displayed along with **Yes** and **No** options.

6. If you choose **Yes**, then the item is deleted and all references of the selected groups are removed from the template.
   - The system deletes the groups even if the selected group is the only group under the **Assignee** section of any workflow BP. You must manually open the BP and save the group for it to move to an **Inactive** status. You can also assign a new user in the workflow.

7) If you select multiple groups for deletion that include **Project Administrators**:
   1. Select multiple shell groups.
   2. You can click on the **Usage** option, which downloads the combined usage report for the selected groups. This behavior is dependent on the browser you are working in.
   3. The usage report lists all the references of the selected groups in the template. You can check if the deletion would impact any area of the usage report.
   4. Select the **Delete** option.
   5. A confirmation message is displayed along with **Yes** and **No** options.
   6. If you choose **Yes**, then the system displays another confirmation message along with **Yes** and **No** options. If you select **No**, then the operation is aborted.
   7. If you choose **Yes**, then the selected groups, apart from the **Project Administrators** group, are deleted. If you select **No**, then the deletion is not performed.

8) The push functionality and the copy shells work the same as they did previously. If a group is deleted and the record can no longer be selected, then a push cannot be performed. However, if a group is deleted and the shell template is copied to create a new template, then the deleted group would no longer be included.

Updating Shells - Setup Node, Business Process

Go to: **Company Workspace** > **Admin** mode > **Templates** > **Shells** > "Shell template" > **Setup** > **Business Process**.

You can add and update new business processes, or add additional business process setups to existing business processes.

The Update Shell process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

The business process setup is identified by the unique combination of business process name, setup name, and workflow name.

If the business process name does not exist, it will be added to project with the BP Setup and permissions.

If the BP exists, but the BP Setup does not, it will be added to the BP.

If the BP and BP Setup exist, the Setup will be replaced with the new one.

Users and Groups that are part of a BP setup as assignees are added/updated, but not permissions. If a group is created, it will be empty. Users must be added to the group separately through user administration.

BP-related permissions are added/updated (for example, discussion groups, which are available in Classic View only).

To add or update business process setups using Update Shells

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates** > **Shells** in the left Navigator.
3) Open the shell type template to update.
4) In the shell type template, navigate to **Setup** > **Business Processes**.
5) Add any new business processes, if applicable. (The BP must already have been imported into Unifier and configured at the company level.)
6) To add or edit business process setups, select the BP to update in the Business Processes log. Click **Open**. The BP Setup log opens.
7) Create a new setup or modify an existing setup. You may create as many setups as you wish to make available in the shell(s).
8) Select one or more setups from the BP Setup log.
9) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
10) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Conditions for Creating a Business Process setup Configuration Package

When you include a *Workflow Business Process* setup for Configuration Package:

- If it is a first time export, you must include the BP design in the configuration package.
- For subsequent exports, you must include the latest BP design the configuration package.

When you include a *non-Workflow Business Process* setup for Configuration Package:

- If it is a first time export, you must include the BP design in the configuration package.
- For subsequent exports, if you have included the Data Element used in the setup (for example, Auto Creation setup) in the configuration package, then:
  - If published, then it will automatically be included in configuration package, by including the BP setup
  - If not published, then you must include the BP design as well.

At the time of import, the system transfers the setup information of the design object, irrespective of the Configuration status (Active/Inactive).

Oracle recommends that you include your design object for Configuration Package after you change the configuration of your design.

Workflow Setup for Workflow Business Processes

You have the ability to delete (**Delete**, or **Edit** > **Delete**) inactive Workflow setup for Workflow Business Processes in Shell Template so that they are not included when a particular BP setup is included in the component list for configuration package.

Updating Record Properties tab in the BP Setups

When you push the BP setup to selected shells, or all shells, the users and groups who had restrictions to the **Audit log** and **Workflow Progress** tabs, the **Record Properties** tab of the BP setup (in shell template) will be pushed into the shells.

The confirmation message (when pushing BP setup into shells or projects from template) will have an additional information: "Users and groups permissions, in the Record Properties tab, are added to the shell and existing permissions will be updated."

Updating Shells - Setup Node, Dashboards

Go to: **Company Workspace** > **Admin** mode > **Templates** > **Shells** > "Shell template" > **Setup** > **Dashboards**.

You can add new dashboards to shell instances, for users to view. You can assign the user View permission to the shell instance dashboards.

The Update process runs in the background. Depending on the number of shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Some notes about updating shell instance dashboards

- If granted View permission, users can view shell instance dashboards, but cannot modify them.
- If a user added to shell instance dashboard permissions, and that user does not exist in the shell, that user is added to the shell upon update.
- If a user has created My Dashboard in User Mode for a shell, that dashboard is not overwritten by Update Shells.

To add or update shell instance dashboards using Update

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell type] > [shell instance] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Select one or more shell instance dashboards from the Dashboards log.
4) Click UpdateShells and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.

- **All Shells**: You can use this option to update all shells of that shell type.
- **History**: You can view the update history from past updates or cancel a request before the update begins.

  An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.

5) Click Yes if you want to proceed with the update, or No to cancel.

Conditions for Creating a Dashboard setup Configuration Package

Note: You must include the Data Cubes used in the Dashboard.

When you export a Dashboard for the first time, you must include all uDesigner design objects that form the Dashboard data source in the Configuration Package.

For subsequent exports ensure that the design object that uses the Data Element that is specifically used in the setup is present in the Production Published Package. As long as this condition is met, the configuration package creation will be successful. If this condition is not met, then the latest design will have to be included in the configuration package. When the data source is a business process, the setup must also be included in the configuration package; otherwise, the creation process will not complete.

Dashboards Components in the Configuration Package

The system includes the following components of a dashboard in the Configuration Package (.zip file):

Dashboards	Component	Field / Option
Dashboard		Name
Dashboard		Description
Dashboard		Permissions
Dashboard	Tab Block	Tab Name
Dashboard	Tab Block	Tab Layout
Dashboard	Tab Block	Show option
Dashboard	Tab Block	Filters

Dash board	Source Details / Analytics Block	Block Order
Dash board	Source Details / Analytics Block	Block Title
Dash board	Source Details / Analytics Block	Source Name
Dash board	Source Details / Analytics Block	Block Type
Dash board	Analytics Block	URL (URL value will be blank in the Export package. Import process will plug in the default value based on the Unifier Configurator property)
Dash board	Custom Block	Data Cube
Dash board	Custom Block	Show Data From
Dash board	Custom Block	Block Title
Dash board	Custom Block	Display Type
Dash board	Custom Block	Source Grouped By (If Group By option is a design object then that design should also be included in the Configuration Package)
Dash board	Custom Block	Output Type
Dash board	Custom Block	Report On
Dash board	Custom Block	Summary Type
Dash board	Custom Block	Show Result
Dash board	Custom Block	Show Total

Dash board	Custom Block	Decimal Places
Dash board	Custom Block	Currency Format
Dash board	Drilldown Block	Data Cube
Dash board	Drilldown Block	Block Title
Dash board	Drilldown Block	Block Filter Elements (If filter elements are design objects, then they must be included in the Configuration Package as well.)
Dash board	Drilldown Block / Edit Drilldown Details	Title
Dash board	Drilldown Block / Edit Drilldown Details	Show Data From
Dash board	Drilldown Block / Edit Drilldown Details	Display Type
Dash board	Drilldown Block / Edit Drilldown Details	Source Grouped By (If Group By option is a design object then that design must also be included in the Configuration Package.)
Dash board	Drilldown Block / Edit Drilldown Details	Output Type
Dash board	Drilldown Block / Edit Drilldown Details	Report On

Dash board	Drilldown Block / Edit Drilldown Details	Summary Type
Dash board	Drilldown Block / Edit Drilldown Details	Show Result
Dash board	Drilldown Block / Edit Drilldown Details	Show Total
Dash board	Drilldown Block / Edit Drilldown Details	Decimal Places
Dash board	Drilldown Block / Edit Drilldown Details	Currency Format
Dash board	Portlet Block	Name
Dash board	Portlet Block	URL
Dash board	Standard Block	Source Name
Dash board	Standard Block	Data Type (If Data Type option is a design object then that design must also be included in the Configuration Package)
Dash board	Standard Block	Report On
Dash board	Standard Block	Block Title
Dash board	Standard Block	Display Type
Dash board	Standard Block	Show Result

Dash board	Standard Block	Show Total
Dash board	Standard Block	Decimal Places
Dash board	Standard Block	Currency Format

Updating Shells - Setup Node, Gates

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Setup > Gates.

You can update shells with Active or Inactive Gates setups. The Update Shells process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Important Information About Updating Gates (Project Phase Gates) Setups:

- The Gates setup update will completely overwrite any existing Gates setup, or will be added if it did not previously exist.
- Previously scheduled Gates runs are overwritten by the new Gates setup. If the pushed setup is Active new scheduled Gates runs are scheduled according to the schedule in the new setup.
- Both Inactive and Active Gates setups can be pushed in the update.
- After update the Gates setup reflects the status of the template.
- After the update, the Current Phase in the Gates setup is reset to the First Phase.
- After the update, Gates shells will not execute the scheduled refresh if the shell is On-Hold. Gates scheduling will resume automatically when the shell becomes Active.
- If you have permission to create Gates setups, you can update Gates setups using Update Shell, even if you do not have permission to access the individual shells.
- The phase conditions that have been completed already will reset to incomplete, by the system.
- Users and groups specified in the Email Notification field are added if they do not exist.
- Newly-created groups are empty.
- Any conditions that had been previously checked to be ignored will not be checked again, and the information about the user who had checked the ignore option will be lost.
- The project will not set to where it was in the Phase Gates progress prior to template update, if the ignore checkbox has been used for any of the phase completion conditions.

> **Note**: Post update, the next time that the system picks up the scheduled runs, the status of the gate phases may vary depending on the setup.

To update Gates setups using Update Shell

1) Go to the **Company Workspace** tab and switch to Admin mode.

2) Click **Templates > [shell type] > [shell instance]** in the left Navigator.
3) In the shell template, click **Setup and select Gates**.
4) Select a Gates setup.
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
5) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Conditions for Creating Gates setup Configuration Package

When you export the Gates setup for the first time, you must include the data sources for the query condition used in the Gates setup.

For subsequent exports, ensure that the design which uses the Data Element that is specifically used in the setup is present in the Production Published package. As long as this condition is met, the package creation will be successful. If this condition is not met, then the latest design will have to be included in the package.

Gates Components in the Configuration Package

The system includes the following components of Gates in the Configuration Package (.zip file):

Gates Component	Field / Option
Log	Name

Gates Component	Field / Option
Log	Status
Gates / General tab	Name
Gates / General tab	Description
Gates / General tab	Status

Gates Component	**Field / Option**
Gates / Settings tab	Phase name
Gates / Settings tab / Phase Gate Configuration Note: If the option of Start Date and Planned Completion dates are from Schedule sheet, then only the dates will get copied over. The Master schedule sheet will not get copied over.)	All options

Gates Component	Field / Option
Gates / Settings tab / Gate Condition Elements	All Gate Condition Elements. The corresp

Gates Component	Field / Option
Gates / Settings tab / Gate Conditions	All query conditions setup within the Gate

Gates Component	Field / Option
Gates / Settings tab	Advance to next Project ..option

Gates Component	Field / Option
Gates / Settings tab / Additional Information block	All options including Users and Groups

Gates Component	Field / Option
Gates / Settings tab	Feevaluate conditions on every Gates Fun

Gates Component	Field / Option
Gates / Schedule tab	All options including the users and groups

Updating Shells - Setup Node, Planning Manager

A Shell template might have many planning items in the **Development/Test** environment; however, not all of the planning items might be ready for transfer to another environment.

To access the Shell template for Planning Manager, go to the **Company Workspace** > **Admin** mode > **Templates** > "Shell template" > **Setup** > **Planning Manager**

You can select multiple items to include in your configuration package.

Conditions for Creating a Planning Manager setup Configuration Package

When you include the Planning Manager setup information in a Configuration Package for the first time, you must include the corresponding design in the Configuration Package.

For subsequent exports, you do not need to include the latest design, if the design exists in the Published Configuration Package, already.

At the time of import, the system transfers the setup information of the design object, irrespective of the Configuration status (Active/Inactive).

Oracle recommends include your design in the Configuration Package after you change the configuration of your design.

Planning Manager Components in the Configuration Package

The system includes the following components of Planning Manager in the Configuration Package (.zip file):

Component	Field / Option
Planning Manager Setup / <Item Name> / General tab	Setup Name
Planning Manager Setup / <Item Name> / General tab	Description
Planning Manager Setup / <Item Name> / General tab	Help File

Access Control for Planning Manager Setup

The configuration package includes permissions settings of Users and Groups from Shell templates, Planning Manager.

To see the permission settings for Dashboards:

1) Go to the **Access Control** module (Project/Shell > Admin mode > Access Control).
2) Click to expand **Administration Mode Access**.
3) Click to expand **Setup**.
4) Click **Planning Manager** to open the **Module Permission Settings** window.
5) Proceed with adding, modifying, or removing permissions.

Updating Shells - Setup Node, Resource Manager

Go to: **Company Workspace** > **Admin** mode > **Templates** > "Shell template" > **Setup** > **Resource Manager**

You can select and include the Resource Manager in the Configuration Package.

Conditions for Creating a Resource Manager setup Configuration Package

The setup of Resource Manager does not depend on any uDesigner designs and the configuration.

At the time of import, ensure that the Role Based Allocation value is the same between the Configuration Package and the **Production** environment, or destination server.

> **Note**: The above check is applicable only when the setup has already been done.

At the time of import, the system transfers the setup information of the design object, irrespective of the Configuration status (Active/Inactive).

Oracle recommends that you include your design in the Configuration Package after you change the configuration of your design.

Resource Manager Components in the Configuration Package

The system includes the following components of Resource Manager in the Configuration Package (.zip file):

Component	Field / Option
Resource Manager Configuration / Role Based Allocation block	Selected option
Resource Manager Configuration / Resource Sheet Defaults	Timescale Unit
Resource Manager Configuration / Resource Sheet Defaults	Date From
Resource Manager Configuration / Resource Sheet Defaults	Date To

Access Control for Planning Manager Setup

The Configuration Package includes permissions settings of Users and Groups from Shell templates, Resource Manager.

To see the permission settings for Dashboards:

1) Go to the **Access Control** module (Project/Shell > Admin mode > Access Control).
2) Click to expand **Administration Mode Access**.
3) Click to expand **Setup**.
4) Click **Resource Manager** to open the **Module Permission Settings** window.
5) Proceed with adding, modifying, or removing permissions.

Updating Shells - Setup Node, Configurable Modules (Classes)

Go to: **Company Workspace** > **Admin** mode > **Templates** > "Shell template" > **Setup** > "Configurable Manager" > "CM0 Classes"/"Class Name"

Any Configurable Manager of Code and Record type which have classes and which are setup in a Shell template can be packaged as part of Configuration Package.

You can package any Configurable Manager of Code-type and Record-type as part of Configuration Package, if the:

- Configurable Manager has classes
- Configurable Manager was set up in a Shell template

A shell template might have many CM Classes in the **Development/Test** environment; however not all of CM Classes might be ready for transfer to another environment.

Conditions for Creating a CM Class setup Configuration Package

When you include the setup information in the Configuration Package for the first time, you must include the corresponding design in the Configuration Package.

For subsequent exports, you do not need to include the corresponding design in the Configuration Package.

At the time of import, the system transfers the setup information of the design object, irrespective of the Configuration status (Active/Inactive).

Oracle recommends that you include your design object for Configuration Package after you change the configuration of your design.

CM Class Components in the Configuration Package

The system includes the following components of CM Class in the Configuration Package (.zip file):

Component	Field / Option
CM Class Setup / General	Setup Name
CM Class Setup / General	Description
CM Class Setup / General	Help File
CM Class Setup / General	Auto Creator
CM Class Setup / General	Send Error Notification to

Access Control for CM Class Setup

The Configuration Package includes permissions settings of Users and Groups from Shell templates, CM Class.

To see the permission settings for Dashboards:

1) Go to the **Access Control** module (Project/Shell > Admin mode > Access Control).
2) Click to expand **Administration Mode Access**.

3) Click to expand **Setup**.
4) Click **Parts** to open the **Module Permission Settings** window.
5) Proceed with adding, modifying, or removing permissions.

Updating Shells - Configurable Modules Node (Sheets)

Go to: **Company Workspace** > **Admin** mode > **Templates** > "Shell template" > **Setup** > "Configurable Manager" > "CM0 Sheet"/"Sheets Name"

The Generic Cost Sheet templates enables you to have generic cost-codes-based cost sheet, and setup, in Shell templates of Generic Cost Code type (Generic Shells).

You can include the CM0 setup that exists in a Shell template in the Shell Template Configuration Package.

Conditions for Creating a CM Class setup Configuration Package

When you include the setup information in the Configuration Package for the first time, you must include the corresponding design in the Configuration Package.

For subsequent exports, you do not need to include the corresponding design in the Configuration Package.

At the time of import, the system transfers the setup information of the design object, irrespective of the Configuration status (Active/Inactive).

Oracle recommends that you include your design object for Configuration Package after you change the configuration of your design.

CM Class Components in the Configuration Package

The system includes the following components of CM Class in the Configuration Package (.zip file):

Component	Field / Option
CM Class Setup / General	Setup Name
CM Class Setup / General	Description
CM Class Setup / General	Help File
CM Class Setup / General	Auto Creator
CM Class Setup / General	Send Error Notification to

Updating Shells - Rules Node

Rules can be updated in CBS code-based shells.

The Update Shells process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating rules:

- Both active and inactive rules can be pushed.
- Rules are identified by the combination of rule name and the source.
- If the rule does not exist, it will be added.
- If a rule already exists with the same name and source, that rule will be updated. This includes the status: for example, if the rule being pushed is active, and the rule in the shell is inactive, the system will update the existing rule and activate it.
- It is possible to have more than one rule with the same name and source in a project/shell or template. If two or more rules already exist with the same name and source as the rule being pushed, the update will not occur and will give an error.
- When the update process begins, the system will first attempt to validate each rule (equivalent to clicking the Validate button). This will occur whether the rule is active or inactive in the template. If the rule is validated successfully, the system will proceed with the update.
- If the rule fails validation, the rule will not be pushed. The attempt will be captured in the History.

To update rules using Update Shells

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shell** in the left Navigator.
3) Open the shell template to update.
4) In the Shell Template, navigate to **Rules**.
5) Select one or more rules from the log.
6) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
7) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Conditions for Creating a Rules setup Configuration Package

When you package the Rules Setup information for the first time, you must include the following in the package: WRITER: This topic was updated per 17.6: Enhanced Configuration Package

- Design of the Business Processes used in the Rule definition.
- Corresponding designs.

The design the design for Configuration Package.

For subsequent exports, ensure that the design which uses the Data Element that is specifically used in the setup is present in the Production Published package. As long as this condition is met, the package creation will be successful. If this condition is not met, then the latest design will have to be included in the package.

Importing of Rules based on Rule Status

> **Note**: For both Active and Inactive, the system does not check for the existence of the specific CBS codes in the Cost Sheet (Applicable where the Rule definition uses CBS codes).

Rules with Active Status

At the time of Import, ensure that:

- The Cost Sheet or Funding Sheet, used in Rules definition, exists either in the Package or in the destination server.
- The data source is present, as a column, in the Funding sheet.
- The cost sheet columns or the Funding Sheet columns used in Rule definition required for Rule Activation are present either in the package or in the destination server.

When CBS codes are used, ensure that the Cost Sheet used for Rules definition exists either in the Package or in the destination server.

Rules with Inactive Status

The system does not perform any checks at the time of import.

Rules Components in the Configuration Package

The system includes the following components of Rules in the Configuration Package (.zip file):

Component	Field / Option
Rule Properties / General	Name
Rule Properties / General	Description
Rule Properties / General	Control Source
Rule Properties / General	Rule Level

Component	Field / Option
Rule Properties / General	Status
Rule Properties / General	Users / Groups who can override field. Users and groups will be part of the Configuration Package. (Applicable only for Rule level = Per selected CBS Codes and Per selected summary CBS codes)
Rule Properties / General	Notify Users / Groups when overridden field. Users and groups will be part of the Configuration Package. (Applicable only for Rule level = Per selected CBS Codes and Per selected summary CBS codes)
Rule Properties / Rule	Limit expression formula: Formula string. The formula string contains BPs.
Rule Properties / Rule	Data Expression: Might be a formula using BP data sources.
Rule Properties / Rule	Message when condition not met.
Rule Properties / CBS Codes	CBS Codes (Applicable only for Rule level = Per selected CBS Codes and Per selected summary CBS codes)

Updating Shells - Cost Manager Node, Cash Flow

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Cash Flow.

The Cash Flow module enables you to generate and compare Baseline, Actuals (or “spends”), Portfolio, Forecast, and Custom curves in a project or CBS code-based Shell.

You can use a Cash Flow Curve template to create cash flow curves in CBS-code based Shells.

All Cash Flows defined in a shell template will be included in the Configuration Package.

You can select and include multiple items in the Configuration Package.

Conditions for Creating a Cash Flow setup Configuration Package

Detail	Curve type	Component	Check
Project/ Level Summary CBS CBS Commitment	Any	Cost = Distribute amount from cost sheet column ensure that the checks relevant to Cost Sheet are performed. If above conditions are not met, you will see an error.	Cost Sheet in the shell template.
Project/ Level Summary CBS CBS Commitment	Any	Schedule = Use dates from Schedule Sheet	Schedule Sheet in the shell template.
Project/ Level Summary CBS CBS Commitment	Any	Filter set to specific CBS Codes	When the Filter is set to specific CBS codes, ensure that the Cost Sheet in the Shell template has also been included.

Detail	Curve type	Component	Check
Commitment	Any	Commitment Business Processes both Commitment and Change Orders	Commit Business Process selected must be included in the Configuration Package. If this condition is not met, throw an error.

Cash Flow Components in the Configuration Package

The system includes the following components of Cash Flow in the Configuration Package (.zip file):

- Cash Flow content – Detail Level: Project/Shell
- Cash Flow content – Detail Level: Summary CBS
- Cash Flow content – Detail Level: CBS
- Cash Flow content – Detail Level: Commitment

Note: For "Additional checks required" see to Conditions for Creating a Cash Flow setup Configuration Package, in this topic.

Cash Flow content – Detail Level: Project/Shell

Component	Field / Option
Cash Flow Properties / General	All fields
Cash Flow Properties / Curves	All Curves
Cash Flow Properties / Curves / Curve type - Baseline	All fields including the selected options for Distribution, Cost and Schedule 1 - If Distribution = Auto by default profile, the Distribution Profile will be included in the Configuration Package. 2 - If Cost = Distribute amount from cost sheet column, all the cost sheet columns available for selection will be included in the Configuration Package. In addition to this, the value selected for this field will also be included in the Configuration Package. Additional checks required. Note that Cost Sheet must always be included in the Package. 3 - If Schedule = Use dates from Schedule Sheet, the schedule sheet selected in the field should be included in the Package. Additional checks required. DEs selected in the From Date and To Date fields will also be included in the Configuration Package in addition to the possible values of the Schedule sheet DEs.

Component	Field / Option
Cash Flow Properties / Curves / Curve type - Forecast / General	All fields including the selected options for Distribution, Cost and Schedule. Behavior to be the same as the one outlined in Cash Flow / Curves / Baseline
Cash Flow Properties / Curves / Curve type - Forecast / Options	All options selected for the Forecast Curve will be included in the Configuration Package
Cash Flow Properties / Curves / Curve type – Portfolio Budget	All fields selected for the Forecast Curve will be included in the Configuration Package 1 - Additional checks might be needed for Portfolio Manager related Configuration. 2 - Currency is a required field for Portfolio Budget curve. The default value is set to the Project Currency. However this currency might differ from the Project Currency. It could be any of the Active and Future currencies listed in the Exchange Rate table. Therefore, if the currency differs from the Project Currency then in addition to the Currency value specified in this field, the currency and its exchange rate information will also be included in the Configuration Package. Rules for creating Currencies and Exchange Rates - Currency will get created if it does not already exist - Currency attributes such as Code, Name, Symbol etc will not be updated by means of Package import. - Currency tab content will get updated upon every import. If exchange rates defined for currencies in the source shell template do not exist in the destination environment, then a new exchange rate record will get created for that currency and that exchange rate will be set to Active. - The Effective date will be set to the Package Import Date. - The Peg rate will be brought over from the source environment. - The float rate will be brought over if the rate does not exist in the destination environment.
Cash Flow Properties / Curves / Curve type - Actuals	All fields selected for the Forecast Curve will be included in the Configuration Package. Additional checks required.
Cash Flow Properties / Filter	Selected Filter options If Filter = Select Summary CBS OR Select CBS codes, then the selected CBS codes will be included as part of Filter options.
Cash Flow Properties / Options	Decimal Place Option will be included in the Configuration Package.

Component	Field / Option
Cash Flow Properties / Schedule	All options set in the Schedule tab will be included in the Configuration Package.
Cash Flow Properties / Summary	Not applicable in templates
Cash Flow / Permissions	Users and Groups
Cash Flow / Filters	Filters defined for the curves will also be included in the Package

Cash Flow content – Detail Level: Summary CBS

Component	Field / Option
Cash Flow Properties / General	All fields
Cash Flow Properties / Curves	All Curves
Cash Flow Properties / Curves / Curve type - Baseline	All fields including the selected options for Distribution, Cost and Schedule. 1- If Distribution = Auto by default profile per summary CBS, the Distribution Profile for the corresponding Summary CBS code will be included in the Configuration Package. Additional checks required. 2- If Cost = Distribute amount from cost sheet column, all the cost sheet columns available for selection will be included in the Configuration Package. In addition to this, the value selected for this field will also be included in the Configuration Package. Additional checks required. Note that Cost Sheet must always be included in the Package. 3- If Schedule = Use dates from Schedule Sheet, the schedule sheet selected in the field should be included in the Package. Additional checks required. DEs selected in the From Date and To Date fields will also be included in the Configuration Package in addition to the possible values of the Schedule sheet DEs.
Cash Flow Properties / Curves / Curve type - Forecast / General	All fields including the selected options for Distribution, Cost and Schedule. Behavior to be the same as the one outlined in Cash Flow / Curves / Baseline

Component	Field / Option
Cash Flow Properties / Curves / Curve type - Forecast / Options	All options selected for the Forecast Curve will be included in the Configuration Package
Cash Flow Properties / Curves / Curve type – Portfolio Budget	All fields selected for the Portfolio Budget Curve will be included in the Configuration Package. 1- Additional checks might be needed for Portfolio Manager related Configuration. 2- Currency is a required field for Portfolio Budget curve. The default value is set to the Project Currency. However this currency might differ from the Project Currency. It could be any of the Active and Future currencies listed in the Exchange Rate table. Therefore, if the currency differs from the Project Currency then in addition to the Currency value specified in this field, the currency and its exchange rate information will also be included in the Configuration Package. Rules for creating Currencies and Exchange Rates - Currency will get created if it does not already exist - Currency attributes such as Code, Name, Symbol etc will not be updated by means of Package import. - Currency tab content will get updated upon every import. If exchange rates defined for currencies in the source shell template do not exist in the destination environment, then a new exchange rate record will get created for that currency and that exchange rate will be set to Active. - The Effective date will be set to the Package Import Date. - The Peg rate will be brought over from the source environment. - The float rate will be brought over if the rate does not exist in the destination environment.
Cash Flow Properties / Curves / Curve type - Actuals	All fields selected for the Forecast Curve will be included in the Configuration Package. Additional checks required.
Cash Flow Properties / Filter	Selected Filter options If Filter = Select Summary CBS, then the selected Summary CBS codes will be included as part of Filter options. Additional checks required.
Cash Flow Properties / Options	Decimal Place Option will be included in the Configuration Package.

Component	Field / Option
Cash Flow Properties / Schedule	All options set in the Schedule tab will be included in the Configuration Package.
Cash Flow Properties / Summary	Not applicable in templates
Cash Flow / Permissions	Users and Groups
Cash Flow / Filters	Filters defined for the curves will also be included in the Package

Cash Flow content – Detail Level: CBS

Component	Field / Option
Cash Flow Properties / General	All fields
Cash Flow Properties / Curves	All Curves

Component	Field / Option
Cash Flow Properties / Curves / Curve type - Baseline	All fields including the selected options for Distribution, Cost and Schedule. Distribution Case 1: Auto by default profile per CBS, the Distribution Profile for the corresponding CBS code will be included in the Configuration Package. Additional checks required. Note: Cost Sheet must always be included in the Package. Case 2: Use data from Schedule Sheet, the schedule sheet will be included in the Configuration Package. Additional checks required. Case 3: Use data from P6 Source, the P6 source selected in the curve will also be included in the Configuration Package. If Cost = Distribute amount from cost sheet column, all the cost sheet columns available for selection will be included in the Configuration Package. In addition to this, the value selected for this field will also be included in the Configuration Package. Additional checks required. Schedule Case 1: Use dates from Schedule Sheet, the schedule sheet selected in the field should be included in the Package. Additional checks required. DEs selected in the From Date and To Date fields will also be included in the Configuration Package in addition to the possible values of the Schedule sheet DEs. Case 2: Use dates from P6 Source, the P6 source selected in the curve will also be included in the Configuration Package.
Cash Flow Properties / Curves / Curve type - Forecast / General	All fields including the selected options for Distribution, Cost and Schedule. Behavior to be the same as the one outlined in Cash Flow / Curves / Baseline
Cash Flow Properties / Curves / Curve type – Portfolio Budget	All fields selected for the Portfolio Budget Curve will be included in the Configuration Package
Cash Flow Properties / Curves / Curve type - Forecast / Options	All options selected for the Forecast Curve will be included in the Configuration Package

Component	Field / Option
Cash Flow Properties / Curves / Curve type – Portfolio Budget	All fields selected for the Portfolio Budget Curve will be included in the Configuration Package 1- Additional checks might be needed for Portfolio Manager related Configuration. 2- Currency is a required field for Portfolio Budget curve. The default value is set to the Project Currency. However this currency might differ from the Project Currency. It could be any of the Active and Future currencies listed in the Exchange Rate table. Therefore, if the currency differs from the Project Currency then in addition to the Currency value specified in this field, the currency and its exchange rate information will also be included in the Configuration Package. Rules for creating Currencies and Exchange Rates - Currency will get created if it does not already exist - Currency attributes such as Code, Name, Symbol etc will not be updated by means of Package import. - Currency tab content will get updated upon every import. If exchange rates defined for currencies in the source shell template do not exist in the destination environment, then a new exchange rate record will get created for that currency and that exchange rate will be set to Active. - The Effective date will be set to the Package Import Date. - The Peg rate will be brought over from the source environment. - The float rate will be brought over if the rate does not exist in the destination environment.
Cash Flow Properties / Curves / Curve type - Actuals	All fields selected for the Actuals Curve will be included in the Configuration Package. Additional checks required.
Cash Flow Properties / Filter	Selected Filter options If Filter = Select CBS, then the selected CBS codes will be included as part of Filter options. Additional checks required.
Cash Flow Properties / Options	Decimal Place Option will be included in the Configuration Package.
Cash Flow Properties / Schedule	All options set in the Schedule tab will be included in the Configuration Package.
Cash Flow Properties / Summary	Not applicable in templates?
Cash Flow / Permissions	Users and Groups

Component	Field / Option
Cash Flow / Filters	Filters defined for the curves will also be included in the Package

Cash Flow content – Detail Level: Commitment

Component	Field / Option
Cash Flow Properties / General	All fields. Additional checks required for Business Processes.
Cash Flow Properties / Curves	All Curves
Cash Flow Properties / Curves / Curve type - Baseline	All fields including the selected options for Cash flow granularity, Distribution and Commit BPs. Additional checks required for Business Processes.
Cash Flow Properties / Curves / Curve type - Forecast / General	All fields including the selected options for Cash flow granularity, Distribution and Commit BPs. If Distribution Method has a Profile, then the Profile will also be included in the Configuration Package. Behavior to be the same as the one outlined in Cash Flow / Curves / Baseline
Cash Flow Properties / Curves / Curve type - Forecast / Options	All options selected for the Forecast Curve will be included in the Configuration Package

Component	Field / Option
Cash Flow Properties / Curves / Curve type – Portfolio Budget	All fields selected for the Portfolio Budget Curve will be included in the Configuration Package 1- Additional checks might be needed for Portfolio Manager related Configuration. 2- Currency is a required field for Portfolio Budget curve. The default value is set to the Project Currency. However this currency might differ from the Project Currency. It could be any of the Active and Future currencies listed in the Exchange Rate table. Therefore, if the currency differs from the Project Currency then in addition to the Currency value specified in this field, the currency and its exchange rate information will also be included in the Configuration Package. Rules for creating Currencies and Exchange Rates - Currency will get created if it does not already exist - Currency attributes such as Code, Name, Symbol etc will not be updated by means of Package import. - Currency tab content will get updated upon every import. If exchange rates defined for currencies in the source shell template do not exist in the destination environment, then a new exchange rate record will get created for that currency and that exchange rate will be set to Active. - The Effective date will be set to the Package Import Date. - The Peg rate will be brought over from the source environment. - The float rate will be brought over if the rate does not exist in the destination environment.
Cash Flow Properties / Curves / Curve type - Actuals	All fields selected for the Actuals Curve will be included in the Configuration Package. Additional checks required.
Cash Flow Properties / Filter	Selected Filter options If Filter = Select CBS, then the selected CBS codes will be included as part of Filter options. Additional checks required.
Cash Flow Properties / Options	Decimal Place Option will be included in the Configuration Package.
Cash Flow Properties / Schedule	All options set in the Schedule tab will be included in the Configuration Package.
Cash Flow Properties / Summary	Not applicable in templates.

Component	Field / Option
Cash Flow / Permissions	Users and Groups
Cash Flow / Filters	Filters defined for the curves will also be included in the Package

Updating Shells - Cost Manager Node, Cost Sheet

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Cost Sheet

Conditions for Creating a Cost Sheet setup Configuration Package

When the Sheet Setup information is packaged for the first time, the Cost Attribute design must also be included in the configuration package. If this check fails, then the package creation will result in an error. For subsequent exports, the deployed version of the design must match the Published version of the design. This is mainly being done since the package includes the Cost Sheet (CBS) rows and these depend on the deployed design.

This check will not be performed for customers who do not use Cost attribute forms. If the destination server has the cost attribute form, but the Configuration Package does not include the Cost Attribute design, then the import will fail and an error will be displayed.

When the Sheet Setup information is packaged for the first time, the design of any data source used in the column definition of the sheet must be part of the package. If this check fails then the package creation will result in an error. For subsequent exports, check will be made to ensure that the design which uses the Data Element (ex: Status) that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Cost Sheet Components in the Configuration Package

The system includes the following components of Cost Sheet in the Configuration Package (.zip file):

Component	Field / Option
Cost Sheet / Properties / General	Title

Cost Sheet / Properties / General	Description
Cost Sheet / Properties / General	Default View
Cost Sheet / Properties / Structure	Structure option
Cost Sheet / Properties / Structure	All segments
Cost Sheet / Properties / Options	Labels
Cost Sheet / Properties / Options	Forecast Details option
Cost Sheet / Properties / Options	Forecast Inclusion
Cost Sheet / Properties / Options	Forecast Type
Cost Sheet / Properties / Options	P6 Integration: Enable P6 Sources. When this option is selected, and if the Cost sheet has used any of the P6 Data Sources, then Configuration Package will also include the P6 Data sources defined in Standards & Libraries. If the P6 data sources do not exist in the destination then they will get created and will be in Published state. The system currently allows up to 12 P6 data sources to be defined in the server. So at the time of Import, checks will have to be made to ensure that the total number of P6 data sources does not exceed 12.

Cost Sheet / Columns / Column Properties	All options Since the data source of a cost sheet column maybe a Cost BP, additional checked are to be performed at the time of Configuration Package creation to ensure that the BP is included in the Configuration Package as well. If the entry method uses Work Sheet then the Worksheet must be included in the Configuration Package. The package will also include the hidden columns.
Cost Sheet / Columns / Restrictions	Users and Groups setup for Restrictions.
Cost Sheet / Budget Distribution	The Budget Distribution option will be disabled at the Shell template level. Hence user cannot setup any distribution.
Cost Sheet / Fund Assignment order	The Fund assignment option will be disabled a the Shell template level.
Cost Sheet /CBS Codes	All rows which include CBS as well as Summary CBS codes along with the Breadown. Note: If the Cost Codes do not exist in the destination environment i.e if user has not packaged the Cost Codes by selecting the options of Data Structure > Cost Codes at the time of Package creation, then the cost codes used in the Cost sheet will be brought over. However the value/label pair defined in the Cost Code definitions will not be brought over.

Updating Shells - Cost Manager Node, Funding - Funding Sheet

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Funding > Funding Sheet

A CBS Shell template can have a Funding Manager which helps keep track of Funds. Shell Funding sheet can be used to specify the appropriation and assignment of funds from each funding source.

The Funding Sheet setup in shell template is included in the Configuration Package.

Conditions for Creating a Funding Sheet setup Configuration Package

When the Sheet Setup information is packaged for the first time, the Fund Attribute design must also be included in the package, which means that the design must be included in the Configuration Package. If this check fails, then the package creation will result in an error. The deployed version and the Published version of the design must match.

> **Note**: Although you are not packaging the Funding Rows, the Company Fund sheet depends on the deployed version of the design. Fund codes in the Company Fund sheet is used in order to create the fund codes in the shell templates.

This check will not be performed for customers who do not use Fund attribute forms. If the destination server has the Fund attribute form, but the Configuration Package does not include the Fund Attribute design, then the import will fail and an error will be displayed.

When the Sheet Setup information is packaged for the first time, the design of any data source used in the column definition of the sheet must be part of the package. This means that these designs must be included in the Configuration Package. If this check fails then the package creation will result in an error. For subsequent exports, check will be made to ensure that the design which uses the Data Element (ex: Status) that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Funding Sheet Components in the Configuration Package

The system includes the following components of Funding Sheet in the Configuration Package (.zip file):

Component	Field / Option
Funding Sheet Properties / General	Title

Component	Field / Option
Funding Sheet Properties / General	Description
Funding Sheet Properties / General	Display Mode

Component	Field / Option
Funding Sheet Properties / Assignment / Project block	Process Contributing Assignable Funds

Component	Field / Option
Funding Sheet Properties / Assignment / CBS block	CBS Fund Source
Funding Sheet Properties/ Assignment / Assignment Levels block	Assignment Rules

Component	Field / Option
Funding Sheet / Rows	The Fund rows are the ones that exist in t

Component	Field / Option
Funding Sheet / Columns	All columns

Component	Field / Option
Funding Sheet / Columns	All column properties. Since the data source

Component	Field / Option
Funding Sheet / Fund assignment	Fund assignment order will not be carried o

Component	Field / Option
Funding Sheet / Filters	All filters set in Funding sheet.

Updating Shells - Cost Manager Node, Funding - Commitment Funding Sheet

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Funding > Commitment Funding Sheet

A commitment funding sheet is created for each base commit that has been designed for Commitment Funding Sheet.

Funds can be allocated from the Shell template Funding sheet to the Commitment Funding Sheet. This sheet works in conjunction with the Schedule of Values (SOV) sheet to track base commit and change commit line items and balances. Commitment Funding Sheet templates are created and set up in the Templates node, and are used to create the commitment funding sheet structure in a project or shell (or in a project or shell template).

This structure is then used when sheets are created for individual base commit records. A Commitment Funding Sheet in a shell template will be included in the Configuration Package.

The Structure option changes from Create Structure to Update Structure after a selection of the Commitment Funding sheet is made.

If the Structure has not yet been created then an error message will be seen.

This same behavior will be seen in the following logs:

- General Spends SOV
- Payment Applications SOV
- Summary Payment Applications SOV
- Document Manager (Structure creation is not applicable here)

Conditions for Creating a Commitment Funding setup Configuration Package

When the Sheet Setup information is packaged for the first time, the design of any data source used in the column definition of the sheet must be part of the package.

This means that these designs must be included in the Configuration Package. If this check fails then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the design which uses the Data Element (ex: Status) that is specifically used in the setup is present in the Published package.

As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Other dependency checks performed at the time of Import:

When the Sheet Setup information is imported for the first time, the Funding Sheet defined in the shell template must also be included in the package. If this check fails, then the package import will result in an error.

Commitment Funding Components in the Configuration Package

The system includes the following components of Commitment Funding in the Configuration Package (.zip file):

Component	Field / Option
Commitment Funding Sheet Properties / General	All fields
Commitment Funding Sheet Properties / Assignment	All selections

Updating Shells - Cost Manager Node, Schedule of Values - General Spends

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Schedule of Values > General Spends

The General Spends SOV structure setup, existing in a shell template, will be included in the Configuration Package. The structure in the shell template can be created from the SOV templates that exist at the company level.

The Structure option changes from Create Structure to Update Structure after a selection of the SOV Structure is made.

Conditions for Creating a General Spends setup Configuration Package

When the SOV Setup is packaged for the first time, the design of any data source used in the column definition of the sheet must be part of the package. This means that these designs must be included in the Configuration Package. If this check fails then the package creation will result in an error. For subsequent exports, check will be made to ensure that the design which uses the Data Element (ex: Status) that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

General Spends Components in the Configuration Package

The system includes the following components of General Spends in the Configuration Package (.zip file):

Component	Field / Option
SOV Structure Properties/ General	All fields
SOV Structure Properties/ Options	All fields
SOV Structure / Columns	All columns including the data source and formula definitions

Updating Shells - Cost Manager Node, Schedule of Values - Payment Applications

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Schedule of Values > Payment Applications

Any Payment Application SOV structure setup existing in a shell template will be included in the Configuration Package.

The Structure option changes from Create Structure to Update Structure after a selection of the SOV Structure is made.

Conditions for Creating a Payment Applications setup Configuration Package

When the SOV Setup is packaged for the first time, the design of any data source used in the column definition of the sheet must be part of the package.

This means that these designs must be included in the Configuration Package. If this check fails then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the design which uses the Data Element (ex: Status) that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Other dependency checks performed at the time of Import:

When the Pay App SOV Setup done in a shell Template is imported for the first time, Cost sheet defined and setup in the shell template must also be included in the package. If this check fails then the package import will result in an error. For subsequent imports, the Cost sheet setup need not be part of the Import Package.

When the Pay App SOV Setup is packaged for the first time, the BP setup of the Payment Application BP must also be included in the package. If this check fails then the package import will result in an error. For subsequent imports, the Payment Application BP setup need not be part of the Import Package.

Payment Applications Components in the Configuration Package

The system includes the following components of Payment Applications in the Configuration Package (.zip file):

Component	Field / Option
Payment Application Properties / General	All fields
Payment Application Properties / Options	All fields
Payment Application Structure / Columns	All columns

Updating Shells - Cost Manager Node, Schedule of Values - Summary Payment Applications

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Cost Manager > Schedule of Values > Summary Payment Applications

Any Summary Payment Application SOV structure setup existing in a shell template will be included in the Configuration Package.

The Structure option changes from Create Structure to Update Structure after a selection of the SOV Structure is made.

The content is same as the one mentioned in the "Payment Application" section.

Conditions for Creating a Summary Payment Applications setup Configuration Package

When the SOV Setup is packaged for the first time, the design of any data source used in the column definition of the sheet must be part of the package.

This means that these designs must be included in the Configuration Package. If this check fails then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the design which uses the Data Element (ex: Status) that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Other dependency checks performed at the time of Import:

When the Pay App SOV Setup done in a shell template is imported for the first time, Cost sheet defined and setup in the shell template must also be included in the package. If this check fails then the package import will result in an error. For subsequent imports, the Cost sheet setup need not be part of the Import Package.

When the Pay App SOV Setup is packaged for the first time, the BP setup of the Payment Application BP must also be included in the package. If this check fails then the package import will result in an error. For subsequent imports, the Payment Application BP setup need not be part of the Import Package.

Updating Shells - Cost Manager Node, Templates - Commitment Funding Sheet

Go to: **Company Workspace** > **Admin** mode > **Templates** > **Shells** > "Shell template" > **Cost Manager** > **Templates** > **Commitment Funding Sheet**

Commitment summaries contain data for all the Commit Cost BPs, and can be setup in a Shell template. Any Commitment Summaries setup included in the Configuration Package will be included as part of the Shell template Configuration Package.

Conditions for Creating a Commitment Summaries setup Configuration Package

When the Commitment Summaries setup is packaged for the first time, all the BP designs must also be included in the package, which means that the designs must be included in the Configuration Package. If this check fails, then the package creation will result in an error. For subsequent exports, check will be made to ensure that the design which uses the Data Element that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Commitment Summaries Components in the Configuration Package

The system includes the following components of Commitment Summaries in the Configuration Package (.zip file):

Component	Field/Option
Commitment Summary	All columns
Commitment Summary / Columns / Column Properties	All Properties

Updating Shells - Document Manager Node

The Document Manager (DM), within a Shell template, contains the entire folder structure that a particular shell uses to manage all the relevant documents.

You can use the Document Manager template to update the structure and permissions, or just permissions across all shells or to selected shells of the same type. You can apply changes to a single or the entire folder hierarchy in the destination shell. Update rules apply to each sub-option – for example, in the Structure & Permissions option, if a folder does not exist, it will be added

To push DM template changes and update shells:

1) Navigate to **Company Workspace > Admin mode > Templates > Shells > "Shell template" > Document Manager > Documents.**
2) To update the structure and permission:
   a. From the **Update Shells** drop-down menu, select **Structure & Permissions**.
   b. To update all shells, select **All Shells**. To update selected shells, selects **Shells**. From the Shell picker, select the shells and click **Update Shell(s).**
3) To update the permissions:
   a. From the **Update Shells** drop-down menu, select **Permissions**.
   b. To update all shells, select **All Shells**. To update selected shells, selects **Shells**. From the Shell picker, select the shells and click **Update Shell(s).**

The tagged Document Manager with folders setup in a tagged Shell template will be included in the Configuration Package.

Conditions for Creating a Document Manager setup Configuration Package

When the Setup information is packaged for the first time, if the folder properties are based on a DM attribute form, then the DM Attribute design must also be included in the package.

This means that the design must be included in the Configuration Package. If this check fails, then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the design which uses the Data Element that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package. This check will not be performed for customers who do not use DM attribute form.

Document Manager Components in the Configuration Package

The system includes the following components of Document Manager in the Configuration Package (.zip file):

Component	Field / Option
Document Manager	All Folders
Document Manager / Folder	All Permissions which includes users and groups
Document Manager / Folder	All Folder Properties
DM attributes	DM form attributes will get copied over.

Updating Shells - Space Manager Node, Levels Sheet

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Space Manager > Levels Sheet

The Levels Sheet, in Space Manager, provides a sheet view of all the floors and associated spaces for a given Project/Shell. Tagged level sheet in a tagged Shell template will be included in the Configuration Package.

Conditions for Creating a Level Sheet setup Configuration Package

When the Setup information is packaged for the first time, the level design must also be included in the package.

This means that the design must be included in the configuration package. If this check fails, then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the Data Element used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

For Levels Sheet, no checks for inclusion of Configuration setup will be done either at the time of packaging the setup for Configuration Package or at the time of importing the setup in a destination environment. At the time of import, the setup information is brought over regardless of the Configuration status (Active/Inactive) of the design object. However as a best Practice, it is recommended that any time the configuration of design object has changed it must be included in the Configuration Package.

Level Sheet Components in the Configuration Package

The system includes the following components of Level Sheet in the Configuration Package (.zip file):

Component	Field / Option
Levels Sheet Properties	Name
Levels Sheet Properties	Description
Levels Sheet / Columns	All columns. Columns in Levels sheet are the Data Elements from the Levels. Check has to be made to ensure that the latest deployed version of Level design has also been included in the Configuration Package.
Levels Sheet / Columns	Group columns names

Updating Shells - Space Manager Node, Stack Plans

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Space Manager > Stack Plans

The Stack Plan, which is a two-dimensional graphical display of facility or building data derived from Space records for levels, can be setup in a Shell template. The Stack Plans in a shell template will be included in the Configuration Package.

You can select multiple items to include in the Configuration Package.

Conditions for Creating a Stack Plans setup Configuration Package

When the Stack plan Setup information is packaged for the first time, the level and Space designs used in the setup must also be included in the package. This means that the designs must included in the Configuration Package. If this check fails, then the package creation will result in an error. For subsequent exports, check will be made to ensure that the design which uses the Data Element that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Configuration Information:

For Stack Plans, no checks for inclusion of Configuration setup will be done either at the time of packaging the setup for Configuration Package or at the time of importing the setup in a destination environment. At the time of import, the setup information is brought over regardless of the Configuration status (Active/Inactive) of the design object. However as a best Practice, it is recommended that any time the configuration of design object has changed it must be included in the Configuration Package.

Stack Plans Components in the Configuration Package

The system includes the following components of Stack Plans in the Configuration Package (.zip file):

Component	Field / Option
Stack Plan Properties / General	Name
Stack Plan Properties / General	Description
Stack Plan Properties / General	Include levels option
Stack Plan Properties / Options	Space Type. Space type is a required field in Stack Plans. Tthe latest deployed version of the associated Space type must also be part of the Configuration Package.

Updating Shells - Schedule Manager Node, Schedule Sheets

Go to: Company Workspace > Admin mode > Templates > Shells > "Shell template" > Schedule Manager > Schedule Sheets

The selected Schedule Sheets in Schedule Manager, in the selected Shell template, will be included in the Configuration Package.

The Schedule Sheets can be created by using templates at the company-level.

Conditions for Creating a Schedule Sheets setup Configuration Package

When the Setup information is packaged for the first time, then the Schedule Attribute and the Resource Assignment attribute designs must also be included in the package.

This means that the design must be included in the Configuration Package. If this check fails, then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the design which uses the Data Element that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the package.

Schedule Sheets Components in the Configuration Package

The system includes the following components of Schedule Sheets in the Configuration Package (.zip file):

Component	Field / Option
Schedule Sheet Properties/ General	All fields. Custom calendars should also be included in the Package.
Schedule Sheet Properties / Gantt Chart	All fields
Schedule Sheet Properties / Tracking Gantt	All fields
Schedule Sheet Properties / Options	All fields
Schedule Sheet Properties / Schedule	All fields
Schedule Sheet / Activities	No activity related information will be packaged, meaning no rows will be included.
<Schedule Sheet Name> / Scope Management Setup (Applicable for shell templates)	No Scope setup will be brought over since the scope is tied to an activity.
Schedule Sheet / Data Mapping	All fields. Dependency checks for inclusion of Schedule Attribute and Resource Assignment forms will be performed to see if the relevant designs are part of the package.
Schedule Sheet / Budget and Progress Setup	All applicable options
Schedule Sheet / Column	All columns defined in the sheet. If column definition is based on Cost Sheet definition, then the Cost Sheet must also be included in the configuration package. If cost sheet column does not exist, then an error will be displayed.

Updating Shells - Reports Node

You can add and update user-defined reports.

The Update Shell process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Important information about updating reports in Project/Shell:

- Reports are identified by the combination of Name and Data Type.
- Report names do not have to be unique.
- If the report name and data type does not exist, the new one will be added.
- - The original owner of the report is added to the Users or Groups of the report in the receiving Project/Shell (Permission tab).
- The administrator of the receiving Project/Shell becomes the report owner.
- If a report exists with the same name and data type in the receiving Project/Shell, the existing report will be replaced with the new report, and the following information will be according to the new report:
  - Report updates
  - Added or changed Users or groups
  - Added or changed permissions

To add or update user-defined reports using Update Shells

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell template to update.
4) In the shell type template, navigate to the **Reports > User-Defined Reports** log.
5) Add a UDR to the shell type template, or select UDR to edit. Define properties.
6) Select one or more reports from the User-Defined Reports log.
7) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**:You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
8) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Updating Shells - Access Control Node

You can edit access control parameters and update across shells.

The Update Shell process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

- Modules are identified by name.
- If the module exists in the shell, the module is updated, users/groups

are created or updated, and permissions are updated for the module.

- If the module does not exist, the module is added to the shell. Users/groups are created and permissions are created for that module.

To update access control using Update Shells

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell template to update.
4) In the shell-type template, navigate to **Access Control** and assign user or group permissions to the modules as needed.
5) Click the **Update Shells** button. The Update Shells window opens, displaying the list of modules for which the access control settings can be updated.
6) Select the module(s) that you wish to update.
7) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
8) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Updating Cost Sheet Columns in a Shell

Cost sheet columns can be updated in CBS code-based shells.

The Update Shell process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About cost sheet columns:

- A column is identified by a unique data source.
- If the cost sheet does not exist in the shell, the column is not added.
- If the shell cost sheet is present but the column does not exist, the column definition is created, and the column is added. Column restrictions are added. Users/Groups are created or updated.
- For formula columns, be sure to first push the columns or data sources that make up the formula (if they don't already exist in the cost sheet), then push the formula column.
- Any new column that is created will use the column to its immediate left as the reference point for positioning. When a column is added to the cost sheet via an update, this means: If the column to the left of the column that is being pushed exists in both the template and cost sheet, the column will be positioned in the cost sheet according to its position in the template. If the column to the left of the column being pushed exists in the template but does not exist in the cost sheet, then the column will be added to the end (far right) in the cost sheet.

Cost Column Shell Updating Rules

If a cost sheet column of the same name exists, it will be replaced according to the following matrix.

If this template (source):	Is used for this shell (destination):	The template will:
Single Date Source	Column exists	Update the column
	Column does not exist	Create column with the same definition
Logical Data source (Formula entry)	Logical Data source Column Exists (Formula entry)	Update and replace the formula
	Logical Data source column exists (Manual entry)	Not update the column or formula
	Column does not exist	Create column with same definition
Logical Data source (Manual entry)	Logical Data source Column Exists (Manual entry)	Update the column
	Logical Data source Column Exists (Formula entry)	Update the column and change it to manual entry
	Column does not exist	Create column with same definition

To add or update cost sheet columns using Update Shells

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the template to update.
4) In the shell type template, navigate to **Cost Manager > Cost Sheet**. Create or open the Shell Cost Sheet.
5) From the cost sheet, click **Columns** to open the Columns log. Add or edit cost sheet columns as needed.
6) From the **Columns Log** window, select the column to push. Only one column can be updated at a time.
7) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
8) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update schedule of values structure

You can update the SOV structure for general spends or payment applications in CBS code-based shells.

The Update Shell process runs in the background. Depending on the number of records and shells you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating the schedule of values structure:

- Update Shell can be used to create or update the SOV structure. If the structure already exists, it will be updated. If not, it will be created (restrictions apply for payment applications; see below).
- When creating or updating the structure of Payment Applications SOV and Summary Payment Applications SOV, the Payment Application Business Process must be set up in the target shell first. If the business process has an active setup, then Update Shell will create or update the structure.

To update SOV structure using Update Shells

1) Go to the **Company Workspace** tab and switch to Admin mode.

2) Click **Templates > Shell** in the left Navigator.
3) Open the shell template to update.
4) In the Shell Template, navigate to **Cost Manager > Schedule of Values**. Select one of these options: **General Spends**/**Payment Applications**/**Summary Payment Applications**.
5) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
6) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update commitment funding structure

You can update the structure used to create commitment funding sheets in CBS code-based shells.

The Update Shells process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating the commitment funding sheet structure:

- Update Project can be used to create or update the commitment funding structure in the project. If the structure already exists, it will be updated. If not, it will be created.
- Updating the structure in a project will not affect commitment funding sheets that already exist. New sheets will reflect the updated structure.

To update commitment funding structure using Update Shell

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shell** in the left Navigator.
3) Open the shell template to update.
4) In the shell template, navigate to **Cost Manager > Funding > Commitment Funding Sheet**.
5) Click **Update Shells** and choose one of the following:

- **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
- **All Shells**: You can use this option to update all shells of that shell type.
- **History**: You can view the update history from past updates or cancel a request before the update begins.

An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.

6) Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update cash flow properties and permissions

You can push cash flow detail curve properties and permissions from a shell template to a shell. This is available for CBS-code based shells and templates.

The Update Shell process runs in the background. Depending on the number of records and projects you are updating, it can take a considerable amount of time to complete. The process is complete when the End Date column in the Update History window shows the complete date.

Notes:

About updating cash flow curve properties:

- Both detail curve properties and permissions are pushed from the template to the project.
- Cash flow detail curves are identified by name.
- If a detail curve with the same name exists in the project, it will be replaced. All properties, including detail level and time scale, and permission settings will be updated.
- If a detail curve with the same name does not exist in the project, a new one will be created.
- Users and groups will be added if they do not exist. If a group is created, it will be empty.
- In order to push a curve, the destination project must have a cost sheet.
- Commitment detail level curves will not be pushed.
- A Summary CBS curve cannot be pushed to a project where the cost sheet is flat.
- After a successful update, the updated destination curves will be refreshed.

To update cash flow curve properties and permissions using Update Shell

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shell** in the left Navigator.
3) Open the shell template to update.

4) In the shell template, navigate to **Cost Manager > Cash Flow**.
5) Add a cash flow curve to the shell template, or select one to edit. Define properties.
6) Select a curve from the Cash Flow log.
7) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
8) An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a shell is updated, this action cannot be undone. Click **Yes** if you want to proceed with the update, or **No** to cancel.

Update generic cost sheet columns and rows

You may have a large number of codes that are used within the Generic Cost Manager. In addition you may have a large number of shells in your implementation. To update codes and columns in your generic cost manager sheets with a minimal effort, you can push columns in a project or shell template generic cost sheet from the Columns Log to cost sheets.

Notes:

About updating shell instance dashboards:

- A cost sheet must already exist in the destination shell. Pushing a column from a template will not create a cost sheet that can receive the column.
- You can push one column at a time.
- If a source column is a single data source, then the destination column will be created with that single data source if it does not already exist. (Column A or B in example below)
- If a source column is a formula with only single data sources, then pushing the source column will create that column in the destination cost sheet, if it does not already exist. (Column C in example below)
- If a source column is a formula with columns included in the formula, as long as all constituent columns contain single data sources, the source column can be pushed; for any columns that do not exist in the destination cost sheet, the formula will be changed to a single data source in the formula. (Column D in example below)
- If a source column is a formula with constituent columns that include logical data sources, the logical data source must exist in the destination cost sheet. The formula for the logical data source may

be different in the destination cost sheet. Any column that contains a single data source will follow the rule above. (Column F in example below)

Column	A	B	C	D	E	F
Column Name	Original Commitment	Change Orders	Pending Commitments	Total Commitments	Trends	Forecast
Data Source	Purhcase_Order (Approved)	Change_Orders(Approved)	CM011	CM012	Trends(Open)	CM013
Formula			Purchase_Order (Pending) + Chanage_Orders (Pending)	Original Commitment + Change Orders		Total Commitments + Trends

To add or update generic cost sheet columns from a template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell-type template to update.
4) In the shell template, navigate to **Configurable Modules > Generic Cost Manager**.
5) Select the **Generic Cost Manager Sheet** template and click the **Structure** button.
6) In the Generic Cost Manager Sheet log, select the cost sheet template and then click the **Columns** button. The Columns Log window opens.
7) Select a cost sheet column.
8) Click **Update Shells** and choose one of the following:
   - **Shells**: You can use this option to select one or more shells to update. When the update window opens, it lists all shells in the project. You can use Find to isolate the shells you want to update. The find window contains data elements from the Find form that was designed in uDesigner. When you have isolated the shells to update, click the Update button and select either Selected Shell(s) or All Filtered Shells.
   - **All Shells**: You can use this option to update all shells of that shell type.
   - **History**: You can view the update history from past updates or cancel a request before the update begins.

   An Alert window opens letting you know that you are about to push changes to the selected shells; there is no undo for the update.
9) Click **Yes** if you want to proceed with the update, or **No** to cancel.

To update generic cost sheet rows from a template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells** in the left Navigator.
3) Open the shell template you want to update.
4) In the template, navigate to **Configurable Modules > Generic Cost Manager**.
5) Select the template and click the **Structure** button.
6) Select a row or rows to push to the project/shell level generic cost sheet. You can select multiple rows by holding down the Shift or Ctrl keys as you click on the rows.

   Unifier will update leaf-level rows, but not summary rows.

7) Click **Update Shells** and choose one of the following:
   - **Shells**: allows you to choose which shell(s) to update. You can use Find to search for specific shells to select from the complete list of shells. You can select as many shells as you want to update. The Page and Display fields display on the Shell Update window, but are disabled in this case.
   - **All Shells**: updates all active and on-hold shells
   - **History**: allows you to view the update history from past updates or cancel a request before the update begins.

   An Alert window opens, detailing the information that will be updated. Read the message carefully, as once a shell is updated, this action cannot be undone.
8) Click **Yes** if you want to proceed with the update, or **No** to cancel.

View update history

You can view details about previously updated shell modules.

To view Update Shell History

1) In the shell type template, navigate to the module to view the update history.
2) Click the **Update Shells** button and choose **History**. The Update Shells: History window opens. It lists any previous incidents of using Update Shells.
3) Select an instance from the list and click **Open**. The History Details window opens, detailing the module information that was updated. History Details displays:
   - Requestor: User who initiated the update process
   - Shells: Either user-selected or all shells
   - Submitted date: When the update request was submitted
   - Start date: When the update process started
   - End date: When the update process ended

Cancel a shell update request

You can cancel an update request that has not yet started; that is, any request that does not have a status of **In Process** or **Finished**.

To cancel a shell update request

1) In the shell type template, navigate to the module in which you want to cancel the update request.
2) Click the **Update Shells** button and choose **History**. The Update Shells: History window opens.
3) Select an update that has not yet started.
4) Click **Cancel Request**.

Setting Up View Forms in Shell Attributes

The shell details page (**Details**) displays the **View Forms** tab. To access the shell details page, go to Company Workspace > Admin mode > Company Sponsored Shells > shell type > shell instance.

The **View Forms** tab is available in all shell types (single shell or multiple instance shell) details page, when there are View forms defined and deployed for that shell type. The **View Forms** tab is available in all shell types, when there are View forms defined and deployed for that shell type. The **View Forms** tab is available in all shell types, when there are View forms defined and deployed for that shell type.

The **View Forms** tab is not available:

- If the design does not have a View form.
- For shell designs deployed prior to this upgrade.

In the **View Forms** tab, click the add option (plus icon) to add the View forms (from a list of forms displayed in the **Select View Forms** window) that are associated with the shell. You, the administrator, can select multiple View forms to add. After adding the View forms, you can remove or change the forms sequence. You can use the gear icon options to remove multiple View forms.

Once you add the View forms and click **Add**, the system opens the **User and Group Picker** window which displays all active users or groups that are associated with the Shell. Multiple users and groups can be added to the viewers list.

Click **Done** when finished. The Details page will split in two and the right side displays the **Permissions Settings** block along with the **Add Viewers** field.

If you assign users and groups to a View form, then the assigned users and groups can see the **General** tab of the form, only.

If the users or groups have permission to view multiple View forms, then they will see the View forms based on the sequence listed in the Details window, under the **Form Name** block.

Click **Done** when finished.

If a user or group has access to multiple View forms, then the user or group will see the first View form that they have access to, based on the sequence of the View forms listed.

For example, if user 'U1' has access to View Forms VF01 and VF02 both, and when U1 views the General tab of the shell details, then the VF01 is displayed if the VF01 is the first View form in the sequence order of forms displayed.

Setting Up the Automatic Update of Shell Status

At the Company level, you can define the setup of the automatic update of project statuses of active projects based on triggering conditions which are defined using various data sources as parameters. For example:

- A selected activity on the schedule sheet is in the Completed status
- A single-record business process record is set to a specified status
- A business process workflow reaches a specified status

Depending on the setup and the conditions that are set, the status of the shell can change from Active to a non-active status (On-Hold, View-Only, or Inactive). You can define multiple setups for each shell. After you define these setups, they can be used on shell instances, or on templates to enable the automatic update of shell status.

The data sources that you use in the triggering conditions can be either from shell level or from the Company level. This data sources can be business processes, sheets or attribute forms. You can define the frequency at which Unifier evaluates the conditions to see if a particular active shell should change its status, and can define a list of users or groups to be notified when the shell status is changed. The highest frequency is daily.

This automatic update of shell status can be useful for users that have a large number of shells and want many of these shells to change their status based on certain triggering conditions, and thus the users do not have to search for and modify these shells manually. For example, you can define a setup at the Company level that contains a triggering condition that changes of the status of an active shell On-Hold if the shell funds consumption exceeds the funds appropriated for that shell. This allows the shell manager to review the shell and take appropriate action. If, in this case, the shell manager is able to get additional funding for the shell, the Administrator can change the shell status back to Active to restart the shell activities.

> **Note**: Automatic shell status update can change the status of a shell from Active to an inactive status. If you want the inactive shell to status to revert to Active, you must activate the shell manually.

Step 1: Create setups - general information.

Step 2: Verify the order of shell statuses.

Step 3: Define shell status triggering conditions.

Step 4: Define the schedule for automatic update of shell status.

Step 5: Activate the automatic update of shell status.

Step 6: Define permissions.

Create an automatic shell status update setup

Multiple setups can be defined at the company level and then used to configure individual shells.

> **Note**: You must have imported a shell attribute form that contains the uuu_au_setup_picker data element to be able to setup the automatic update of shell status.

To create a new shell status update setup

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Workspace > Auto-update Status Setup**. The Auto-Update Status Setup log opens.
3) Click **New**. The Auto-update Status Setup window opens. There are three tabs: General, Settings, Schedule.
4) In the **General** tab, enter a Setup Name, which displays in the log, and an optional Description.

5) In the **Settings** tab, define the order of the non-active statuses and the status change query and trigger conditions. For details, see ***Choose the order of non-active statuses (Settings tab)*** (on page 485) and ***Define status change query and trigger conditions (Settings tab)*** (on page 485).
6) In the **Schedule** tab, you can schedule the shell status update. See ***Define shell status update schedule (Schedule tab)*** (on page 486).
7) Once you have defined the setup, you must activate it to be able to apply it to a shell. See ***Activate or deactivate an auto-update status setup*** (on page 487).

Note: You must deactivate a setup to be able to modify it.

Choose the order of non-active statuses (Settings tab)

By default the order of the listed statuses is **On-Hold**, **View-Only**, and **Inactive**. These are listed on the left side of the **Settings** tab in the Status pane. You can change the order using the **Move Up** or **Move Down** buttons. You can change the order of the non-active statuses. The order of the statues is significant because the triggering conditions for the statuses are evaluated in the order in which they are listed on this tab, with the verification of the triggering conditions occurring for each condition listed in turn.

For example, if the conditions for the first listed status are not met, then the conditions for the next listed status are evaluated. If the conditions for that status are not met, then the triggering conditions for the third status conditions are evaluated. As soon as the first match occurs, Unifier will automatically change the shell status and does not perform further evaluation.

To reorder non-active shell statuses

1) Open the Auto-update Status Setup window and click the **Settings** tab.
2) In the Status pane, select the status you want to move.
3) Click the **Move Up** or **Move Down** button to reposition the selected status.
4) Click **Apply** to save changes, or **OK** to save changes and exit the window.

Define status change query and trigger conditions (Settings tab)

The **Conditions Elements** section allows you to define condition criteria per element. Elements can be selected from all Unifier data sources and modules available at the Company level.

In this field:	Do this:
Notify users and groups on Status change	Allows you to define the users and groups who will receive status change notification.
Email content	Enter the content of the email you want to send to notified users and groups. This content appears in the Additional Information section of the email.

To define query and trigger conditions

1) Under Conditions Elements, click **Add**.

2) Select a Data Type, and click **OK**. The Query Condition window opens.
3) Complete the **General** tab by entering a name for the query and a brief description. The Data type and Element is auto-populated from the selection you make on the Query tab.
4) Click the **Query** tab.
5) Click **Add**.
6) Complete the **Query** tab:
   - **Data Element:** Click the Select button. The Data Element Picker opens. The list is generated from the data type you chose in the General tab. If the data element is a picker, pull-down or radio button, the Value field will display the values entered in the data set tab of for the data definition associated with the data element. For a full list of data elements and data types, refer to the *Unifier Reference Guide*.
   - **Label:** The label defaults to the data element name. You can enter a different label.
   - **Condition:** Define Gate Condition Element Condition. The condition options vary dynamically depending on the selected Data Element. The screen shots below list out the various options for different Data Element types. Examples include equals, does not equal.
   - **Values:** Specify value. The Values field varies dynamically depending on the selected Data Element and Condition. (For example, if the element is a text box, the condition might be Contains, and value might be one or more letters to search for. If the element is a pull-down or other data definition with a data set, you will select a value from the data set.)
7) Select the trigger conditions.
8) Click **OK**.

Define shell status update schedule (Schedule tab)

You can define a schedule to check the conditions for the automatic update in the Auto-update Status Setup window, Schedule tab.

The maximum frequency that Unifier will verify whether triggering conditions are met is daily. If you have a need for greater frequency of verification, you must monitor the shell with the shell manager and then change the shell status manually as needed. For example, if the triggering condition verification is performed in the morning, and the shell funds are being spend during the course of the day, the shell could exceed its budget before the condition verification occurs the next morning, and the shell status is automatically changed.

In this field:	Do this:
Enable Scheduled Runs	Select this checkbox to enable scheduled evaluating of the automatic update status. Deselecting this checkbox will disable the scheduler, and any scheduled future runs will be canceled immediately. The scheduled evaluation is disabled for the last status in the list, provided all conditions are met, and the Enable Scheduled Runs checkbox is automatically deselected.
Frequency	Choose Frequency of the Scheduled Runs (Daily, weekly, monthly, quarterly, yearly)

Range of Recurrence	You can specify a date on which the Scheduled Runs will end, or no end date.

Activate or deactivate an auto-update status setup

You must activate a setup in order to be able to apply it to a shell.

> **Note**: You must deactivate a setup to be able to modify it.

To activate or deactivate a shell status update setup

1) To activate or deactivate a new setup to use in shells, go to the Company Workspace tab and switch to Admin mode.
2) Click **Company Workspace > Auto-update Status Setup**. The Auto-Update Status Setup log opens.
3) Select a setup in the log.
4) Click the **Status** button. You can choose **Active** or **Inactive**.

Set permissions for automatic update of shell status

To set permissions for automatic status update:

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Company Workspace > Auto-update Status Setup**. The permissions are:
   - **Create:** Allows the creation of new auto-update status setups, edit existing auto-update status setups and activate or deactivate auto-update status setups.
   - **Modify:** Allows the edit existing auto-update status setups and activate or deactivate auto-update status setups. This permission excludes the ability to create a new auto-update status setup.
   - **View:** Allows viewing of existing auto-update status setups.

How to Set Up Gates

Before you begin: Verify the list of phases resides in the Phase data definition pull-down data set. This is the same list that is used when selecting a phase manually in the shell properties window. You can add or modify the default list as needed. This list makes the phases available for any shell instance or shell type template; for each shell or template, you select which of the phases to use. Create any business processes that you plan to use to drive gates conditions and phase completion.

Step 1: Define Phases. For each shell instance or shell type template, you define the list of phases to include in the setup, choosing from the entire list in the Phase data set.

Step 2: Define Gate Conditions. For each phase, define one or more gates conditions. A gate condition is a combination data element and trigger condition that enable transition to the next phase.

Step 3: Schedule Gates runs. The gates run the validation of gate conditions. You can schedule runs automatically. This is optional.

Step 4: Activate the Gates setup.

Step 5: Define permissions.

> **Note**: If you create a new shell by copying a shell template or an existing shell, any existing gates setup in the source shell is copied into the new shell, including the gates status. The gates phases are restarted at the first phase in the new shell, and the scheduled gates run is activated.

Example of a gates setup and conditions

You will be setting up phases in gates to represent the actual phases of a shell. For the shell to advance from one phase to another, certain conditions must be met. This example will discuss phases, conditions, and using business processes in the context of the conditions to advance a shell from one phase to another.

For example, phases for shell Zero could be:

- Preliminary
- Investigation
- Definition
- Measurement
- Analysis
- Execute
- Control

Previously, you have set up two business processes to use in the conditions for your gates setup. These are:

- **Schedule:** A single record business process that is updated manually by a shell manager by checking checkboxes for the various phases such as Definition Phase Complete? or Measurement Phase Complete?
- **Funding:** a workflow business process that is automatically updated thorough the steps of the workflow.

As the shell manager checks the checkboxes in the phases as represented in the Schedule business process, the gates runs keep checking the statuses of the checkboxes. As they are checked off, the project advances to the next phase.

The exception to this procedure is the transition from the Analysis phase to the Execute phase. Additional approval is needed for funding in order for the project to advance from Analysis to Execute. The Funding business process is included in the conditions for the Analysis phase. This business process must have the status Construction Approved and have a value of greater than zero for the Analysis phase to be exited and the Execute phase entered for the project.

Define the phase list

To view the phase list

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Data Structure > Data Definitions** in the left Navigator.
3) Click **Basic**.
4) Select the Phase data definition and click **Open**. The Modify Data Definitions window opens.
5) Click the **Data Set** tab. The active phases on this list will be available for phase setup.
6) Modify the list as needed. Any changes you make here will be reflected in new gates set ups. Current setups will not be affected.

Create a gates setup

You can create a gates setup in shell templates, and in individual shells. There can be one setup per shell instance.

To create a new gates setup

1) Do one of the following:
   - To create the setup in a shell type template, go to the Company Workspace tab and switch to Admin mode. Click **Templates > Shells** in the left Navigator. Open the shell template.
   - To create the setup in a shell instance, go to the Company Workspace tab and switch to Admin mode. Click **Company Sponsored Shells** in the left Navigator. Open the shell instance.
2) Choose **Setup > Gates**. The Gates Setup log opens.
3) Click **New**. The gate setup is created automatically. Double-click the setup, or select from the list and click **Open**. The Gates Setup window opens. There are three tabs: General, Settings, Schedule.
4) In the **General** tab, enter a Setup Name, which displays in the log, and an optional Description. At this point, Status is Inactive by default.
5) In the **Settings** tab, define phases and gates conditions.
6) In the **Schedule** tab, you can schedule regular gates.

Delete a Gates Setup

This section describes how to manually delete a gates setup from a shell.

> **Note**: You can delete a gates setup from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Open the project or shell and in the left navigation pane, click **Setup** > **Gates**.
2) Select a Gates setup for deletion.
3) Click **Delete**.

Note: System prompts the user asking to confirm deletion of the gates setup.

4) Click **Yes** to delete the Gates setup.

Add phases to the gates setup (Settings tab)

Select which of the phases to use in the shell or shell template from the available phase list. You can reorder them as necessary for the shell instance or shell type template.

To add phases to the new gates setup

1) Open the Gates Setup window and click the **Settings** tab.
2) In the **Phases** pane, click the **Add** button. The Select Phases window opens, displaying the list of available phases.
3) Select one or more phases to add to the list. To select multiple phases, hold down the **CTRL** or **SHIFT** keys while selecting.
4) Click **OK**. The phases appear in the Phases list.

   The order in which the phases appear on the list is the order they will be followed in the shell. The first phase on the list will be the first phase of the shell.

Access gate configuration view

To access the gate configuration view

Select a phase. The gate configure view opens in the right pane. See the following table for more information about the gate configuration view.

The **Phase Gate Configuration** section in the navigator lists the Phases for the current shell. The visual order of the Phases depends on the Order specified in the General tab.

The **Gates Conditions Elements** section allows you to define condition criteria per element. Gate Elements will be selected from all Unifier data sources and modules available in a particular shell (for the Sponsoring company).

In this field	Do this
Start Date	The Start date for a particular Phase can be manually set or auto populated from a Schedule Sheet by linking it to a particular activity or milestone (activity with zero duration and marked as milestone) where it will update dynamically based on the start date associated with this activity. If there are multiple Start dates, choose the Start date used to set Gantt Charts in Schedule Manager. The start date must fall within Shell date ranges.
Planned Completion	Can be manually set or auto populated from a Schedule Sheet by linking it to a particular activity or milestone (activity with zero duration and marked as milestone) where it will update dynamically based on the start date associated with this activity. If there are multiple End dates, choose the End date used to set Gantt Charts in Schedule

	Manager. **Note**: Dates are for reporting only. Phases cannot be date driven.
Advance to Next Phase...	This checkbox enables automatic phase advancement. Select the checkbox if you want the shell to move automatically to the next phase once all Gate Elements for a particular Phase have been checked.
Notify users on Phase Completion	Allows you to define users who receive phase completion notification. You can configure the body text in the notification (similar to the business process Setup on the End Step, where you can specify the message text content.
Reevaluate conditions on every Gates run	When selected, this checkbox specifies that processing always starts at the First phase during a scheduled Gates Run/Refresh. You might have to scroll down to see this checkbox. If the checkbox is not selected for a phase: ▸ If the phase is currently incomplete, incomplete conditions are evaluated and completed conditions are skipped ▸ If the phase is currently complete, phase processing is skipped If the checkbox is selected in a phase: ▸ Every condition in that phase is reevaluated. Including conditions that were met ▸ All conditions (except conditions that were marked as "ignore" manually) are marked as incomplete at the beginning of every Gates run and refresh. Saved Gates run (PDF) from prior runs persist. Processing will stop at a Phase where first un-met condition is encountered. By default this checkbox is deselected.

Configure gate elements

To add a Gate Condition Element

1) In the Gates Setup window, gate configuration view, select a phase and click **Add**. The Data Type window opens.
2) Select a **Data Type** from the drop down menu.
3) Click **OK.** The Edit Gate Condition window opens.
4) Complete the **General** tab: Enter a Name for the Gate Element. This can be the name of the data element or any descriptive name. This appears on the Gate Conditions Elements list. You can add an optional Description.
5) Click **Apply** to save changes, or **OK** to save changes and exit the window.

To define query and trigger conditions

1) In the Edit Gate Condition window, click the **Query** tab.

2) Under Query Conditions, click **Add**. The Query Condition window opens.
3) Complete the **Query** tab:

   Data Element: Click the Select button. The Data Element Picker opens. The list is generated from the data type you chose in the General tab. If the data element is a picker, pull-down or radio button, the Value field will display the values entered in the data set tab of for the data definition associated with the data element. For a full list of data elements and data types, refer to the *Unifier Reference Guide.*

   - **Label**: The label defaults to the data element name. You can enter a different label.
   - **Condition**: Define Gate Condition Element Condition. The condition options vary dynamically depending on the selected Data Element. The screen shots below list out the various options for different Data Element types. Examples include equals, does not equal.
   - **Values**: Specify value. The Values field varies dynamically depending on the selected Data Element and Condition. (For example, if the element is a text box, the condition might be Contains, and value might be one or more letters to search for. If the element is a pull-down or other data definition with a data set, you will select a value from the data set.)

Change the order of phases

To change the order of the phases in a gates setup

Select a phase and click the **Move Up** or **Move Down** button.

Define gates runs schedule (Schedule tab)

You can define a gates run schedule in the Gates Setup window, Schedule tab. This run evaluates gates conditions, and marks completed conditions as Complete. The update process can also be invoked manually in user mode. The scheduler engine is a background process.

In this field:	Do this:
Enable Scheduled Gates Runs	Select this checkbox to enable scheduled updating of Gate Elements. Deselecting this checkbox will disable the scheduler, and any scheduled future runs will be canceled immediately. The scheduled gates runs are disabled in the last phase provided all conditions are met, and the Enable Scheduled Gates Runs checkbox is automatically deselected.
Frequency	Choose Frequency of the Scheduled Gates Runs (Daily, weekly, monthly, quarterly, yearly)
Range of Recurrence	You can specify a date on which the Gate Runs will end, or no end date.
Auto-email as PDF Attachment to Gates creator	Select this checkbox to enable automatic emailing of the scheduled run results as a PDF attachment. The report displays the current status of each phase and gate condition.

Activate or deactivate a gates setup

Activating a gates setup will enable the scheduled gates runs. After activation, if you need to edit the gates set up, you will need to deactivate it first.

You can make edits while the setup is inactive, including: adding or removing phases; reordering phases; add, modify or remove conditions within a phase.

Some notes about activating/deactivating gates setup:

- Reactivating an active shell: If you temporarily deactivate a shell that is in process, and then reactivate it, the gates check will start over at the first phase. This is because the setup needs to check all phases for new phase additions or new gate conditions that may have been added. You can manually update the phases by clicking the Refresh button for gates in User Mode. This will evaluate all phases starting from the first phase, even if the phase has been marked Complete, and mark the first phase as the current phase. Be aware this may trigger email notifications regarding gates advancement, as set up in the Settings tab (where the users who are notified are defined), and those users' email subscription settings (User Preferences).
- While a gates set up is Inactive: No scheduled gates run will be done. To manually advance phases in User Mode Gates for the shell, the gates setup must be active.
- View-Only and Inactive shells: If a shell has the View-Only or Inactive status, the gates setup is inactivated, and you must manually reactivate the setup.

Set user permissions for gates

To grant User Mode Gates permissions:

In Access Control or Permissions window, navigate to **User Mode > Shells/Projects (Standard) > Gates**. The permissions are:

- **Change Phase**: Allows the user to change gates phases.
- **Modify and Refresh**: Allows the use to modify gates and refresh gates.
- **Refresh**: Allows the user to refresh gates.
- **View**: Allows the user to view gates.

Editing Multiple Shells at once with Bulk Edit

If you have a large number of shells that need similar edits, you can use bulk edit to update all of them at once. You can update a maximum of 200 records using bulk shell edit. The bulk edit must be defined in uDesigner, and you must have the Allow Bulk Edit permission set on the shells in order to use the bulk edit.

The bulk edit function works only on fields from the action form (upper form) for the current step. It cannot be used to edit the following :

- Auto-populated fields
- Fields in a dynamic data set
- Read-only fields

- Fields from line items
- System-generated fields, such as record number, status, or due date

Notes:

- An Integration interface must be created for Bulk Edit to work with Shells.
- You can use bulk processing to update users in shells. See ***Managing Users in Bulk*** (on page 198) for details.

To edit shells using bulk edit

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells** in the left Navigator.
3) Select one or more shells, or perform a Find to search for a group of shells to work with. You can select the shells from the shell log or the Find log.
4) Choose **Edit > Update > Bulk Edit**. The Bulk Edit window displays. The fields displayed in this window depend what was specified in uDesigner for the shell.

   The Bulk Edit form includes all editable fields for the shell. All system-generated elements and formula columns are automatically recalculated during the bulk edit for each record.
5) Modify the Bulk Edit form as needed.
6) Select the **Update** checkbox for the fields you want to update. The checkbox is automatically selected when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.
7) Click **Update**. This launches the bulk update of the selected records.

   The Bulk Actions Status window opens after you click **Update**. This window allows you to monitor the progress of the bulk update.
8) Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

About Shell Dashboards

Shell dashboards display project data in an at-a-glance format. You can control the dashboard appearance and content and make it specific to the shell with which you are working; however, shell dashboards cannot pull data from across shell hierarchies. For example, consider two anchor shells, which are seen as tabs, one is labeled "Capital Projects," and one is labeled "Facilities." The Capital Projects dashboard can display data from all levels of the Capital Projects hierarchy; however, it cannot display Facilities data because Facilities is the root of a separate, independent hierarchy.

Two types of dashboards are available in project shells:

1) **My Dashboard:** All shells have a personal dashboard that a user can define if he or she has Setup permission. A user can configure My Dashboard in User Mode using the Edit Dashboard window. Users can select My Dashboard from the View Dashboard drop-down list on each shell.

2) **Shell dashboards:** Shell dashboards allow users to view shell and subordinate shell data. This differs from My Dashboard in that a user cannot share his or her personalized dashboard. Administrators can create multiple shell dashboards per shell and push them via templates. Users can select this type of dashboard to view from the View Dashboard drop-down list on each shell. These dashboards are maintained at the shell level and are available to any user to view (but not edit) provided the user has permissions.

Each shell dashboard has at least one tab and can have up to five tabs. The default tab name is Summary, which you can change. The default shell dashboard layout contains these four blocks:

- **Image**: Displays the image your company administrator uploaded for the shell.
  - In the dashboards, if there are multiple images, then Unifier displays all of the images as rolling images.
  - When a shell has multiple images, Unifier uses the first image from the list to print the shell image through custom prints and reports.
- **Items Requiring Your Attention**: Contains items that are generally listed on the Unifier Home page, such as tasks and messages.
- **Details**: Lists shell details, including shell number, shell name, administrator, and other details.
- **Links**: List of links configured for the shell by your company administrator.

On each tab, you can select a different layout to which you can add blocks of these types:

- **Standard**: Use this selection to view project data from, for example, business process, manager, users, and active tasks.
- **Portlet**: Use this selection to view an external URL, such as a web cam, a frequently visited website, or Analytics application.

  To view Analytics in the **Portlet** block, you need to perform additional and required configurations in OBIEE in order to allow the OBI analysis to render properly. Go to:
  - Oracle Help Center: http://docs.oracle.com/en/
  - Middleware > Middleware Documentation
  - Oracle Fusion Middleware > Oracle Fusion Middleware Documentation
  - Products > Oracle Business Intelligence Enterprise Edition
  - Oracle Business Intelligence Enterprise Edition [latest edition] > Books
  - Administration > System Administrator's Guide for Oracle Business Intelligence Enterprise Edition
  - Advanced Configuration Reference > Making Advanced Configuration Changes for Presentation Services > Protecting Pages in Oracle BI EE from Attack
- **Drilldown**: Use this selection to slice and dice project-shell data.
- **Custom**: Use this selection to view data from the current shell, subordinate shells, or both (cannot cross hierarchies).
- **Analytics**: Use this selection to access the link to the Analytics application.

Setting shell instance dashboard permissions

To set shell instance dashboard permissions:

1) Go to the **Company Workspace** tab and switch to Admin mode.

2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access > Permissions for Shells / Projects (Standard) > Setup > Dashboards**.
4) Set the permissions as needed:
   - Setup: Administrators can create a shell instance dashboard.

Creating a shell dashboard in a template

You can create new dashboards in shell templates and push them to shells.

To create a dashboard in a shell template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell name] > [project shell template] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Click **New**. The Dashboard Properties window opens.
4) Enter the dashboard name and an optional description. The dashboard name must be unique within the shell.
5) Click **OK**. The dashboard is listed in the log.
6) Select the dashboard in the log and click **Open**. The default view of the shell dashboard opens.
7) Choose **Edit > Dashboard**. The Edit Dashboard window opens.

> **Note**: You might not see data in parts of the dashboard if you do not have specific permissions to access data cubes.

You can edit a dashboard in an established project shell. For details, refer to the *Unifier User Guide*.

Copy a shell dashboard

You can create new shell dashboards by copying and modifying existing dashboards. Copying a shell dashboard does not copy the permissions associated with the dashboard, but will copy all other dashboard information.

To copy a shell dashboard

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell name] > [project shell name] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Select a shell dashboard.
4) Click **Copy**.
5) Enter the name of the new dashboard and an optional description.
6) Click **OK**. The dashboard is listed in the log.
7) Select the dashboard in the log and click **Open**. The shell dashboard opens.
8) Choose **Edit > Dashboard**. The Edit Dashboard window opens.
9) Modify the new dashboard as needed and **OK**.

Modify shell instance dashboard properties

To modify shell instance dashboard properties:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell type] > [shell instance] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Select a shell instance dashboard.
4) Click **Properties**.
5) Modify the dashboard name or description as needed.
6) Click **OK**.

Delete a shell instance dashboard

To delete a shell instance dashboard

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell type] > [shellinstance] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Select a shell instance dashboard.
4) Click **Delete**.

Find a shell instance dashboard

To find a shell instance dashboard

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [shell type] > [shell instance] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Click **Find**.
4) Enter the search criteria and click **Search** (or press Enter). Unifier displays all the dashboards that met the search criteria you entered.

Set user or group permission for a shell instance dashboard

To set user or group permission for a shell instance dashboard:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Company Sponsored Shells > [shell type] > [shell instance] > Setup > Dashboards** in the left Navigator. The Dashboards log window opens.
3) Select a shell instance dashboard.
4) Click **Permissions**.
5) Add users or groups as needed. Select the **View** permission.
6) Click **Apply** to save or **OK** to save and exit.

Migrating standard projects to CBS shells

You can migrate one or multiple standard projects to CBS shell types that you specify. After migration, the new CBS shell is created in the shell hierarchy in the location you specify, and the standard project is no longer listed in the project log in Unifier. All of the data that existed under the standard project can then be accessed from the newly-created CBS shell.

> **Note**: When you migrate a standard project to a CBS shell, you cannot undo the migration and return the shell to the standard project form. The migration cannot be reversed, so be sure that you want to perform the project-to-shell migration.

After you migrate standard projects to CBS shells, you can use the features that shells offer, such as:

- Hierarchical distribution, visualization and navigation of capital projects when organized under shell hierarchies based on business needs
- Configurable dashboards
- Roll up of cost data across the shell hierarchy

Migration limitations

The following are some migration limitations for you to consider:

- The shell type must be a CBS shell. You cannot migrate standard projects to generic shells, only to CBS shells.
- Shell name is limited to 128 characters, and shell description is limited to 250 characters. However, standard project name is limited to 250 characters, and the project description is limited to 2000 characters. In order for the migration from project to CBS shell to be successful, you must modify the project name and description to be within the limits for these fields that exist for the shells (128 characters for a shell name, and 250 characters for a shell description).
- The standard project name cannot contain any special characters, such as:

  /\:*?"<>|
- You cannot migrate a standard project to a single instance (top level) shell. You can only migrate to multiple-instance shells.
- Even if the destination CBS shell type has auto-numbering setup, the migration cannot incorporate the new shell into the shell auto-numbering, but instead copies the project number while creating shell. The new shell is identified by the project number of the original project.
- You will have to set up a new configurable shell dashboard for the new shell that is created by the migration. Any existing project summary set up does not migrate to the new shell.
- If any business processes, planning items, assets, and configurable managers in the original project use project pickers, then you will have to recreate the link between these objects and the new shell.
- Migration from a standard project to a CBS shell cannot be reversed. Once the migration is complete, the standard project is converted to a CBS shell, and the information from that project resides in the newly-created CBS shell.

Migration Considerations

Before you migrate:

- Be sure that you have Integration defined for the CBS shells you plan to use for migration
- Examine the shell hierarchy of your CBS shells and determine the location for the new migrated shells. You can migrate several projects at once into a shell type, creating a new shell instance under that shell type for each migrated project.
- Examine the set ups for the original projects and also for the destination shells, and think about the mapping from the project to the shell. You might have to add data elements on the project side or the shell side to ensure that the data you need is migrated correctly and completely. For example, the shell name is limited to 128 characters, and shell description is limited to 250 characters. However, standard project name is limited to 250 characters, and the project description is limited to 2000 characters. In order for the migration from project to CBS shell to be successful, you must modify the project name and description to be within the limits for these fields that exist for the shells (128 characters for a shell name, and 250 characters for a shell description).
- As a best practice, do not migrate projects that have the Active status. Modify the projects as needed to get them as finished as possible and then put them in the Inactive status before migration. Make your project as complete as you can before you migrate it to a CBS shell.
- Test your migration in your **Test** environment before implementing it in your **Production** environment to ensure that the migration is successful and yields the desired result.
- You can use user-defined reports to gather data regarding which projects to migrate and the location they should occupy in the shell hierarchy.
- Understand that migration cannot be undone; when you migrate a project to a CBS shell, you cannot go back to that project. The project is converted completely to a CBS shell when the migration completes successfully.

Migration mapping of project data elements to shell data elements

The following table shows the automatic mapping of original project data elements to destination CBS shell data elements. These data elements define the fields shown on the project or shell setup window tabs. This mapping occurs automatically during the migration. When a standard project is migrated to a CBS shell, the project's data element values are automatically populated in the equivalent shell data element as listed in the table:

Standard project data element	CBS shell data element	Comments on action during migration
General tab of CBS shell		
Project Number	Shell Number	One-to-one mapping occurs.
Project Name	Shell Name	One-to-one mapping occurs.
Description	Description	One-to-one mapping occurs.
Administrator	Administrator	One-to-one mapping occurs.
Project Status	Shell Status	One-to-one mapping occurs.

Auto-update Status Setup	Auto-update Status Setup	Optional on the Shell Attribute form; if not present on the Shell form, is ignored during migration.
Currency tab of CBS shell		
Currency Name	Currency Name	One-to-one mapping occurs for all defined currencies.
Rate	Rate	One-to-one mapping occurs for all defined currencies.
Type	Type	One-to-one mapping occurs for all defined currencies.
Hedge Rate	Hedge Rate	One-to-one mapping occurs for all defined currencies.
Hedge Amount	Hedge Amount	One-to-one mapping occurs for all defined currencies.
Default Currency	Default Currency	One-to-one mapping occurs.
Options tab of CBS shell		
Project Image	Image	One-to-one mapping occurs.
Project Phase	Phase	One-to-one mapping occurs.
Links tab of CBS shell		
Name	Name	One-to-one mapping occurs for all defined links.
URL	URL	One-to-one mapping occurs for all defined links.

Migrate projects to shells

Before you begin: See the considerations and mapping discussed in Creating a Business Process record from a template.

Step 1: Export the migration template. Export the CSV template. This template will vary depending on the data elements included in the configuration of a particular shell type. This template contains the fields and format that the system needs to migrate the standard projects to CBS shells. See ***Export the migration template*** (on page 501).

Step 2: Modify the exported CSV template. Be sure that you have the correct project information ready to enter into the template. After you convert a standard project into a CBS shell, you cannot reverse the conversion. See ***Modify the exported csv template*** (on page 501).

Step 3: Initiate migration. Import the completed CSV file. See ***Initiate migration of standard projects to CBS shells*** (on page 502)

Step 4: View migration history. See ***View migration history*** (on page 503).

Step 5: Test for shell creation. See ***Test for CBS shell creation*** (on page 503).

You export the template, then modify it and import it. You will export the template from a selected CBS shell, and then import the modified template back into the same CBS shell to complete the migration.

Export the migration template

To export the migration template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > <CBS shell type>**.

> **Note**: The shell type must be for a CBS shell. You cannot migrate standard projects to generic shells, only to CBS shells. You cannot migrate a standard project to a single instance (top level) shell, only multiple-instance shells.

3) In the shell type log, choose **Export Template > Project Migration Template**.
4) Download the template to the desired location. The template you download will be specific to the shell type of the log from which you exported the template.

Modify the exported csv template

Be sure that you have the correct project information ready to enter into the template. After you convert a standard project into a CBS shell, you cannot reverse the conversion.

> **Note**: You can use user-defined reports to gather data regarding which projects to migrate and where they should be in the shell hierarchy.

To modify the template

1) Open and edit the CSV template, per the template content, and the description of the template content in this section. It is recommended that you migrate projects that are not in the Active status. The content of the migration template will vary depending on the shell type into which you choose to migrate.

   The exported template is organized in three sections:

   - Instructions: This section at the top of the template explains how to fill in the template to initiate the migration. Do not modify this text.

- Mapping: This section maps the available standard project attributes with the user-defined CBS shell attributes. Use this section to create mapping for data elements that you have added in addition to the data elements listed in the table in ***Migration mapping of project data elements to shell data elements*** (on page 499). The Mapping section lists all the project attributes which are not automatically mapped. If you use custom project attributes, these attributes be listed and mapped in this section. The project data elements are static; you add the shell data elements to complete the mapping. The values in this section are overwritten by any literal values that you add in the Project section.
- Project: This section lists the Project Number and Location, and the use- defined CBS shell attributes as column headings. Project Number and Location are mandatory; the other columns are not, and are based on the attributes listed in the Mapping section. This list does not include the automatically-mapped shell attributes such as Shell Name or Shell Number. Add a row for each project you want to migrate, and enter the Project Number and the Location. The location should be delimited with /. For example: /Capital Project/Buildings/Tool Sheds. Add the literal values that are to be changed during the migration.

> **Note:** Projects are identified by the Project Number for migration. Be sure that you enter the correct project numbers for standard projects you want to migrate to CBS shells.

2) Save the template CSV file.

Initiate migration of standard projects to CBS shells

You can migrate several projects at once into a shell type, creating a new shell instance under that shell type for each migrated project. Before you initiate the migration, ensure that you have the Create permission on the destination shell type, in order to create the shell instances from the migrated projects. You exported the template from a selected CBS shell, and then import the modified template back into the same CBS shell to complete the migration.

> **Note**: You cannot undo the migration of standard projects to CBS shells after the migration completes successfully. Verify that you have completed the CSV migration template correctly, especially in terms of the Project Number.

To initiate migration

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [CBS shell type]** in the left Navigator.
3) In the shell type log, choose Import > Migrate Projects into Shells.
4) Browse for the CSV file and click **OK**.

   This imports the migration template and performs validations on the data. The migration is a background process. Each project listed in the CSV file is migrated into a CBS shell based on the mapping and values provided in the CSV. Project migration is either successful or not successful. Validation is performed before migration, and if there are any errors, a project is not migrated. Errors can include incorrect mapping or invalid format of the project rows (including changing column order or adding or removing columns).

View migration history

You can view the status of each submitted migration by using the Migration History.

To view migration history

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Sponsored Shells > [CBS shell type]** in the left Navigator.
3) In the shell type log, choose **Import > Migration History**.

   Each submitted migration is listed in Migration History with one of these statuses:

   - **Not Started**: The migration process has not started.
   - **In Progress**: The migration process is in progress.
   - **Completed Successfully**: The migration of all standard projects completed, and the corresponding CBS shells have been created.
   - **Completed with Errors**: The migration of standard projects has completed, however, there were some errors that prevented the migration of some of the projects to CBS shells.

   Potential migration errors:

   - Location entered is invalid. This error can occur if the location does not exist or is inactive in the shell hierarchy.
   - Cannot create an instance of the shell type under the location entered; does not exist in the shell hierarchy.
   - Project number could happen to be the same as the number of an existing shell in the hierarchy. Shell numbers must be unique.
   - String values are entered incorrectly. Enter the labels for sting values.
   - The standard project name is limited to 250 characters, and the project description is limited to 2000 characters. In order for the migration from project to CBS shell to be successful, you must modify the project name and description to be within the limits for these fields that exist for the shells (128 characters for a shell name, and 250 characters for a shell description). Any error can result if the project name or project description are longer than the character limits for the shell name and shell description.
4) If any of the projects did not migrate due to errors, you can view the CSV with the rows that have errors by clicking the Completed with Errors status hyperlink.

   This link allows you to download the CSV containing any errors. This file is in the same format as the submitted CSV, with all mapping information retained. However, in the Project section, only the rows which have errors in them are shown with an additional column added containing error comments. You can use this CSV file to review the errors and then re-import the file after you correct the errors.
5) Click **Close** to close the Project Migration History window.

Test for CBS shell creation

Ensure that your new CBS shell is created correctly and contains the attributes that you expect:

- The shell instance should be accessible in Administrator and User Mode (for Unifier and Unifier Mobile) under the parent shell it was migrated to.

- Users should be able to navigate to the business process and other manager data under the new CBS shell.
- Shell creation will trigger email notification.
- User/groups membership should remain same as on the original standard project.
- All the auto-population, reverse auto-population, linked elements, and other settings should work as they did on the original standard project.

Internationalization and CSV Files

Importing and exporting data in Unifier can be done by using a Comma-Separated Values (CSV) data file or a CSV template file. This section explains how the availability of different languages (Internationalization) impact the various CSV files created, used, imported, or exported.

> **Note**: Number formatting is not supported for Symbols that are based on a right-to-left language such as official languages of Afghanistan or Hebrew.

Generic CSV files

Language preferences are detected from the **Preferences** settings (**Region Format**), for both CSV data files and CSV template in:

- All column headers
- All informational text

If importing a CSV file fails, the import error file displays the system generated error messages in the preferred language.

If importing a CSV file fails because of form validation errors, then the custom error message displays the message in the preferred language.

> **Notes**:
>
> - If translation is not available for a custom error message, then the source string is displayed.
> - Before importing a CSV file, always check the **Preferences** settings to see the allowed format and number formatting.
> - When importing, or exporting, a CSV file, the date format follows the **Preferences** window (**Region Format**) Date Format settings.

Additional information about exporting and importing CSV files

When importing and exporting of a CSV file is conducted by users with two different language settings (for example, French and German), the data entered into an exported file must match the original language set.

Example

The CSV template Export has been done in French and the template is being used by a German User. If the German User enters data without changing the column structure and Import the file, the Import action will fail and an error message will appear in German, indicating the error.

Internationalization and Web Services

About Web Services

New records can be created and line items added using Integration through Web Services. Also, the Unifier Schedule Manager integrates with Primavera scheduling software by way of Web Services.

> **Note**: Integration through Web Services must be coordinated with an Oracle Primavera representative.

As Project Administrator, you can receive email notification of the successful creation of a shell instance, for shells that are created manually, through Web Services or a CSV file upload, or through auto-creation. This notification can be set up in email notifications in uDesigner. Also, you can set your **Preferences** to control whether you receive these notifications.

Refer to the *Unifier Reference Guide* for data elements you can use with Web Services.

Web Services and Internationalization

The output data generated by Web Services is always in the source language.

> **Note**: If a record (Example: Business Process) is created by using Web Services and the Data Definition (DD) label includes a non-ASCII string, then the record creation will fail.

Number formatting of data

When you enter numeric data in XML, you can use the decimal point (period) and negative sign (dash), only.

Examples

XML Tag: <Committed_Amount>100.99</Committed_Amount>

XML Tag: <Credited_Amount>-1423.99</Credited_Amount>

Get Web Services

You can use the Get Web Services call methods to get various attributes of Shell, CBS, and the list of Business Process records, Shells, and User defined data.

When a Get call is executed, all the input content in the response XML will be in the language of the source strings.

Number formatting does not apply to the numeric data and the decimal point is a period. The negative numbers are displayed with the minus sign before the numeric data, for example, -12345.99.

> **Note**: Number formatting is not supported for Symbols that are based on a right-to-left language such as official languages of Afghanistan or Hebrew.

Internationalization (Email Notifications)

When Unifier generates an email notification, the language used for that email is based on the recipient's in **Preferences**.

Email notifications for scheduled User-Defined Reports (UDRs), Gates, and so forth, have two components:

- Text
- Attachments

If a Business Process (BP) email notification contains an attachment with the record information, then the Custom Strings and number formatting in the attachment is according to the **Preferences**.

If a scheduled UDR is sent as a part of an email attachment, the language in the PDF attachment is according to the **Preferences** of the UDR owner; however, the email text content is according to the recipient's User Preferences.

When a UDR is generated manually and saved by a User, the language in the PDF attachment is according to the **Preferences** of the User who generated, or ran, the UDR.

If a scheduled job such as Project Gates, where the "Auto-email as PDF attachment to users and groups" option is selected, the language in the PDF attachment is according to the User Preferences of the creator of the job (Project Gates creator).

When a manual refresh of the Gates is requested, the language in the PDF attachment is according to the **Preferences** of the User who requested the refresh.

Internationalization (Support for Tools)

When used within Unifier,the following tools support internationalization:

- Oracle Map, AutoVue Server, Flex replacement (O charts)

> **Note**: The Unifier Plug-ins do not support internationalization.

Oracle Map viewer supports internationalization for Tier 1 languages. Refer to the *Oracle Map Viewer User Guide* for more details.

The language displayed in the map, and the following subsequent areas, is according to the language selected in the **Preferences** of the user:

- View map for BP records from log
- Shell Landing Page
- Map Picker in Log Find
- Map Picker in Bulk Edit
- View Map when invoked from the BP record

> **Note**: eLocation services, which is used for geocoding, does not support internationalization. As a result, the map labels are displayed in English. If a User enters a label in a different language, then the Find feature

does not provide the desired results.

Internationalization (BI Publisher Custom Reports)

The Oracle Business Intelligence Publisher (BI Publisher or BIP) Reports support internationalization as follows:

Custom Report (Report File tab) window

If there are no templates available for the report,the Custom Report window (Report File tab) displays according to the default settings.

To upload the translated XLIFF files and report layout, click **Add** to open the Add Template and Files window, enter data in the required fields, and click **OK**.

Notes:

- The non-RTF templates do not support internationalization.
- You can change the template type when the template is in Creation stage, only. Once you create a template, you cannot change the template type. Use the report designer to create a new template with the desired template type and remove the template that is no longer needed.

In the Custom Report window (Report File tab), the only editable column is the Default column, which allows you to set the default template by selecting (check-box) the corresponding template.

Note: The system sets the first template, or XLIFF file, that you upload as the default template.

Use **Modify** in the Custom Report window (Report File tab) to modify an existing template. Once you click Modify, the Modify Template and Files window opens which allows you to modify the template and the translated XLIFF file for that template. When finished, click **OK**.

Use **Download** in the Custom Report window (Report File tab) to download a template and the corresponding translated XLIFF file, in a zip file.

External Data Model BI Publisher Reports

If you want to download the data model of a template, select the template and click **Download** in the Custom Report window (Report File tab). When the download is complete for an External BIP report, the data model is included.

Non-RTF type template

BIP supports RTF templates and XLIFF files. If the report designer selects a non-RTF type template, the Browse option in the Modify Template and Files window (Translated XLIFF files for the Template section) will be disabled.

Custom Report (Query tab) window

Queries based on Data Definition (DD) support internationalization and number formatting associated with internationalization according to the **Preferences** settings.

Queries based on Data Views do not support internationalization and formatting because raw data is being used.

Queries based on Ad-Hoc support internationalization and number formatting associated with internationalization according to the **Preferences** settings.

Internationalization (Dashboards)

Shell Dashboards

The Shell Dashboards support Internationalization and number formatting for System Strings as well as Custom Strings according to the **Preferences** settings.

Custom Dashboards

Custom Dashboards have two components:

- Data cube
- SWF file

The SWF file uses the data cube and the labels are created when the user selects the Download XML option from the Custom Dashboard log and downloads the generated XML. The language used in the generated XML is based on the **Preferences** settings for both System Strings and Custom Strings.

> **Note**: If you change the language, you need to recreate the SWF (Small Web Format) file in order to generate a translated XML. If there are no caching of data in the Dashboard, the translation takes place, but if there caching of data in the Dashboard, then there will be no translation.

Internationalization (Help Files)

Unifier Help files do not support Internationalization and are not translated.

> **Note**: You can translate the Help files, using a third party translator, and display the files based on the your **Preferences** settings. This includes uploading a single PDF with multiple language help information.

Internationalization (Spell Check)

The Spell Check feature does not support Internationalization.

> **Note**: If the language selected in your **Preferences** is not English, the Spell Check option will not be available.

Internationalization (Date and Time Zone Formats)

Date formats

The following additional date formats support Internationalization:

- MM/DD/YYYY
- DD/MM/YYYY
- MM/DD/YY
- DD/MM/YY
- MM-DD-YYYY
- DD-MM-YYYY
- MM-DD-YY
- DD-MM-YY
- DD.MM.YYYY
- YYYY-MM-DD
- MMM/DD/YYYY
- DD/MMM/YYYY
- YYYY/MMM/DD
- M/D/YYYY
- M/D/YY
- D/M/YYYY
- D/M/YY
- YY/M/D
- YYYY/M/D
- YY/MM/DD
- YYYY/MM/DD

Time Zone formats

The Time Zone setting is based on the Coordinated Universal Time (UTC) and support Internationalization.

Note: The time format for all dates is: HH:MM AM.

Internationalization (Audit Log)

Within the Audit log, the following columns support Internationalization according to the **Preferences**:

- Event
- Description
- Field

For Event, Description, and Field columns, System Strings are and Custom Strings can be translated.

Unifier Activity Manager and Master Rate Sheet

This section covers the following topics:

- **Activity Manager module**
  Project/Shell > User mode > Activity Manager
- **Master Rate Sheet module**
  Company Workspace > User mode > Master Rate Sheet

The **Activity Manager** module contains the following nodes:

- **Activity Sheet**
- **Rate Sheet**

The **Activity Sheet** node, captures project scheduling data coming from P6. A single activity sheet in Unifier will be mapped to multiple project schedule sheets, which are created by way of integration. You have the option to view activities present in a P6 Project mapped to Unifier Shell, in Activity Sheet, by selecting the corresponding P6 Project ID in the project drop-down present inside the Activity Sheet. The Project drop-down will contain the list of all P6 projects mapped to the shell and selecting a project from this drop-down will load the respective scheduling data (activities) in Activity Sheet.

A project in P6 can be a current schedule project or a baseline schedule project. Over the project life span, a user can create multiple baseline projects which are mapped to a current schedule project. While sending data from P6, a baseline project sheet is created for the Project baseline (and not for Primary baseline, Secondary baseline, or Tertiary baseline, etc.). As a result, every project from P6 will have a baseline project sheet and current schedule project sheet (which will have the scheduling information i.e. activities, assignments, etc.). If a P6 project has only current schedule, then Unifier treats the planned data in current schedule as the baseline.

The project sheets which are created in Unifier by way of integration are grouped under a single activity sheet that can be selected to perform Earned Value (EV) analysis. Fields related to costing can be updated in Unifier and re-costed for a resource loaded schedule. You can assign a rate sheet to a resource loaded projects present in the activity sheet from the activity sheet log, but if you want to perform an operation at the project sheet level, then you can open the activity sheet, select the project and schedule type, while working on the Activity Sheet.

You have the option to switch between current schedule and baseline schedule for the project that you have selected from the drop-down list.

At the log level there are tabs corresponding to:

- Schedule
- History

At the activity sheet level, the following tabs are present:

- General

To view Activity Sheet you must have the appropriate permissions.

> **Note**: You can create user-defined reports (UDRs) from the Activity Sheet Data Elements (DEs).

The **Rate Sheet** node captures the list of resources and roles (based on the latest data available in activity sheet) and corresponding rates from the master rate sheet. In P6, users can assign a role, or resource, to an activity under the **Assignments** tab of an activity for any project. The rates (Price/Unit) for assigned roles and resources are managed at global level in P6, which can then be used in a project while doing the costing (calculating Present Value, Earned Value, etc.) of the project depending on the rate source (resource, role or override) corresponding to that assignment in an activity.

For a resource loaded schedule, we need rates corresponding to roles and resources for costing of any project in Unifier. There will be two types of rate sheets in Unifier:

- Master Rate Sheet (at company workspace)
- Rate Sheet (at Shell) explained in the subsequent sections.

For a cost loaded schedule, we do not do any calculations in Unifier and use the data directly from P6.

In P6, rates are assigned to a role or resource at global level. To maintain the consistency, we will import the P6 global data to Unifier company workspace. This data will be captured under a new entity called Master Rate Sheet. The rate sheet being created through P6-Unifier integration will be saved as 'Master Rate Sheet' under a new node in company workspace called Master Rate Sheet.

Under company workspace, we will only have one Rate Sheet called 'Master Rate Sheet'. So, users are not allowed to create a copy sheet of the Master Rate Sheet under company workspace. This sheet will contain rates for both roles and resources, users will be able to toggle between resource and role rates from the display. By default, the rates present in master rate sheet will be used across all the resources and roles present in all activity sheets across all shells unless user has assigned another rate sheet present at the shell level to the activity sheet/project.

The **Get Data** synchronization that created the activity sheet also populates the activity sheet with the:

- Scheduling data (activities along with assignments and spread data) from the P6 projects mapped to the current shell in the **Integration** tab.
- Role and resource rates data from the Master Rate Sheet for the mapped projects.

> **Note**: Subsequent updates of CBS Code, Role Rate, and Resource Rate in P6 will not trigger the update of the CBS Code (in the **Activity Sheet**) and Role Rate and Resource Rate (in the **Master Rate Sheet**) in Unifier. This is to prevent data in Unifier to be overridden by updates in P6.

Activity Manager Permissions

You can use the following options to grant permission to **Activity Sheet** under **Activity Manager** node.

Access Control

For **Activity Sheet**, go to **Company Workspace** > **Admin** mode > **Access Control** > **User Mode Access** > **Shells / Projects (Standard)** > **Activity Sheet**.

Grant any of the following available permissions:

- **Get Data**

  If enabled, the user will be able to take action 'Get Data' for system **Activity Sheet** which will update the system **Activity Sheet** from P6.

  When enable, the **View** permission will be enabled, automatically. If you deselect the **View** permission, Unifier deselects the **Get Data** permission. You cannot assign the **Get Data** permission without the **View** permission, but you can assign the **View** permission without the **Get Data** permission.
- **Send Data**
- **View**

  If enabled, the user will be able to view the **Activity Sheet** node along with the activity sheets present in that node (if any).

For **Rate Sheet**, go to **Company Workspace** > **Admin** mode > **Access Control** > **User Mode Access** > **Shells / Projects (Standard)** > **Rate Sheet**.

Grant any of the following available permissions:

- **Full Access**
- **Create**

  If enabled, the user can create a **Rate Sheet**.
- **View**

  If enabled, the user will be able to view the Rate Sheet node at Company Workspace along with the Master Rate Sheet present in that node (if any).

Permission Templates

For **Activity Sheet**, go to **Company Workspace** > **Admin** mode > **Standards & Libraries** > **Permission Templates**.

Open the template, click the **Permissions** tab, and assign permissions.

Under **Modules For** section, scroll to **User Mode Access** > **Shells / Projects (Standard)** > **Activity Sheet**, and assign permissions. See the description of permissions under Access Control, above.

For **Rate Sheet**, go to **Company Workspace** > **Admin** mode > **Standards & Libraries** > **Permission Templates**.

Open the template, click the **Permissions** tab.

Under **Modules For** section, scroll to **User Mode Access** > **Shells / Projects (Standard)** > **Rate Sheet**, and assign permissions. See the description of permissions under Access Control, above.

Setting Up the Business Processes

Information is entered and stored in Unifier using electronic business process forms and routed via configurable workflows. Business processes -- and their workflows, logs, and even search parameters -- can be created and designed in uDesigner. They are then imported into Unifier, configured for use, and set up for use in specific projects, shells or the company workspace.

Setting up business processes for use in Unifier consists of the following steps:

Step 1: Import and deploy business processes from uDesigner.

Step 2: Configure the BPs. This configuration enables the BP to be set up for use. It consists of establishing the record number sequence, determining which BP log the records will be stored in, and activating workflows.

Step 3: Set up the BPs. After configuring, BPs must be set up for use at the company level or in individual projects or shells. For workflow BPs, you can create multiple setups that allow you to use the same BP form with any number of customized workflows.

Step 4: Grant permissions. After setting up and activating a business process, you must grant User Mode permission to all users (including yourself) who will need to view records or participate in a workflow.

Note: Not all BPs work in all areas of Unifier. ***Business Process Functionality in Unifier*** (on page 602) for a table listing all available business processes and the functional areas in Unifier in which they are available for use.

In This Section

Master Log - Business Processes Node

The **Master Log - Business Processes** node is located in the **Home** page of Unifier.

The **Master Log - Business Processes** node allows you to access all or a subset of records of the same type, in a single log that spans multiple shells or projects. The **Master Log - Business Processes** node lists all business process types at the shell/project level in separate nodes for each type. This includes workflow, non-workflow, and multiple record business processes.

> **Note**: The company-level and single-record business processes are not listed under the **Master Log - Business Processes** node.

For example, your company might have a shell hierarchy of buildings. A dispatcher who is responsible for translating service requests into work orders could use the **Master Log - Business Processes** node to create and edit work order records for any building shell from a single, "master" log, rather than drilling into each building shell to access the records.

The **Master Log - Business Processes** node can also be filtered to display only certain records. For example, a regional Lease Manager might need to access all of the active leases in the system that have lease amounts greater than $50,000 per year. Using the filter feature, the lease manager could display these leases in the Master Log, thereby making his/her work easier.

> **Note**: If you do not grant users the permission to view or access any of the business process types listed under the **Master Log - Business Processes** node, then the users will not see the **Master Log - Business Processes** node in the **Home** page.

Setting the Master Log - Business Processes **node permissions**

You must give explicit permission(s) to users access the **Master Log - Business Processes** node. You can grant permissions for users to access all business processes in the Master Log, or to individual business process types. To view business process records, users must also:

- Be an active member in the project, shell, or sub-shell
- Have access to at least one business process in the **Master Log - Business Processes** node

All shell/project business processes in the system (except inactive and single-record BPs) are listed alphabetically in their corresponding **Master Log - Business Processes** node.

To set permissions for **Master Log - Business Processes** node:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **User Mode Access** > **Home** > **Master Log** > **<business process>**.
4) Set the permissions as needed:
   - **View:** Users can view all business process records across all projects and all records in the shell hierarchy (subject to their highest level of shell membership in the hierarchy) independent of whether or not they are assignees on or have permissions to view and manage individual records within a particular Shell or Project. These users can also view saved searches.
   - **Allow Bulk Edit:** Users can select one or more records within a Master Log and perform Bulk Edit on business process records. Selected records can potentially span across multiple shells. Users having this permission automatically have View permissions.

Advanced Logs and Standard Logs

For Business Processes, Shells, the Space Manager, and code-and-record-based managers, you can design either a Standard log, or an Advanced log for display in Data Pickers. An Advanced Log creates an extra navigation structure that makes it easier for the user to choose records to work with.

> **Note**: The default elements and fields (log layout, view, search, etc.) that are defined in the Standard Log, in uDesigner, determine the Standard user interface elements and fields of all logs.

Importing Business Processes (BPs)

All designs, including Business Processes, are designed in uDesigner and deployed to Unifier. See ***Importing Configuration Packages*** (on page 303).

Configuring Business Processes (BPs)

Business process configuration allows you to configure and activate the company-level information for each business process you will use. After business processes are deployed from uDesigner, they are available for use. Configuring allows activation of the business process and specific workflow schema that can be used in projects, shells, or the company level.

The "Enable for Mobile Application" checkbox must be selected for BPs that you want to be used in the Unifier Mobile App.

Configuration consists of:

- Activating or deactivating a BP (deactivating an active BP will also deactivate all of its setups)
- Determining which BP log the BP records will be stored in (e.g., project logs, shell logs, company logs, Data Manager, etc.)
- Establishing the BP record numbering sequence
- For workflow BPs, activating the workflows that will be allowed for use with the BP
- Creating a custom-designed print layout that can be used to print BP records

> **Note**: Configuration of the Data Picker and Data Elements (and when applicable: Unique and Auto Sequence settings) must be done in uDesigner.

Accessing Business Process configuration log

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Configuration > Business Process** in the left Navigator. The **Configuration - Business Processes** log opens. The log lists the Business Processes that have been imported into Primavera Unifier.

The newly imported Business Processes are inactive by default and are activated during configuration. The ID column shows the short code used to identify the Business Process, as defined in uDesigner. During configuration, you can choose to include this identifier as part of the record number (for example, if a BP has an ID of `uaici`, individual record numbers created for the BP might be `uaici-0001`, `uaici-0002`, etc.).

Create Custom-Designed BP Print Layout (Custom Print tab)

In the Business Process Configuration window, the Custom Print tab allows you to customize the layout of a document, using either MS Word® (leveraging the XML style design) or PDF format (using Adobe® LiveCycle® Design View.)

You can use the custom print templates to print one record at a time. The document shows all the values of the record that are available. This feature is similar to Print Preview for HTML or PDF. The only difference is that you can custom design the format for the selected record.

Unifier automatically generates the XML schema, which is used to define the custom layout in Word or in LiveCycle. For a given business process, you can export the schema and use it to develop your own customized template. You then save the template and upload it to Unifier.

With This button:	Do this:
Export Schema	Creates a custom print template using the PDF or Word option.
Download	Select a template and click Download to use a prepared custom template.
Upload, Rename, or Remove	Add, change, or remove the custom template. Select the template from the list and click the relevant button.

Rename an existing template

In the Custom Print window, you can make changes to the names of existing templates.

1) Select the template from the list and click **Rename**.
2) In the Rename window, make the changes in the **Title** field.

> **Note**: If the template you chose was a MS Word template, there will be an additional field, Export As. This allows you to export the template as a different name.

3) Click **OK**.

Preparing to build a custom print PDF template

Prior to starting, make sure Adobe LiveCycle Designer has been downloaded to your computer.

1) In the Business Process Configuration log, open the desired business process form.
2) Click the **Custom Print** tab.

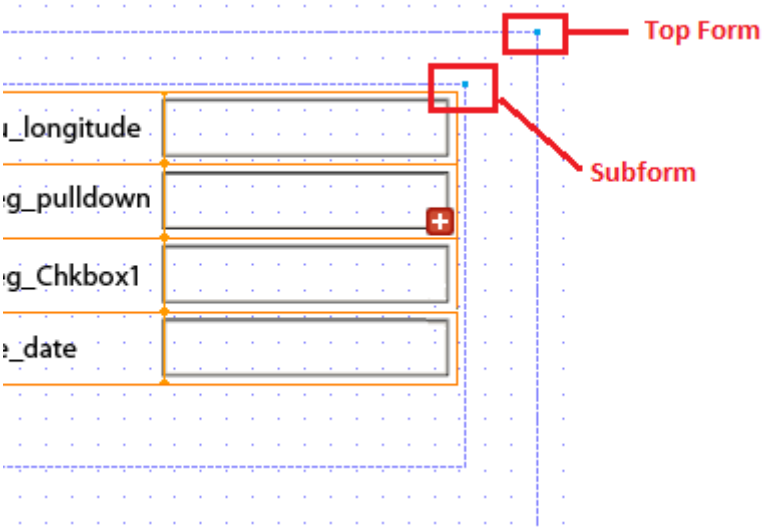
3) Click the **Export Schema** drop-down and select **Schema for PDF**. A pop-up window appears.
4) Save the XSD schema file to a location.
5) Open Adobe LiveCycle and click **File > New Blank document**.
6) Click **File > New Data Connection**.
7) Name the new connection and select **XML Schema**.
8) Click **Next**.
9) In the **Select XML Schema File** field, click the browse button and find the XML Schema file you just saved.
10) In the **Options** section, select **Embed XML Schema**.
11) Click **Finish**. The XSD tags appear in the Data View tab on the left pane of LiveCycle.

> **Note**: The tag naming scheme is a combination of LiveCycle and Unifier names. The first word before the underscore is LiveCycle's term, for example, "task," "form," and "lineitem." Everything after the first underscore is a Unifier data element. For a full list of the Unifier data elements definitions (XSD tags), see "XSD tags used in creating a PDF template" below.

Building the template

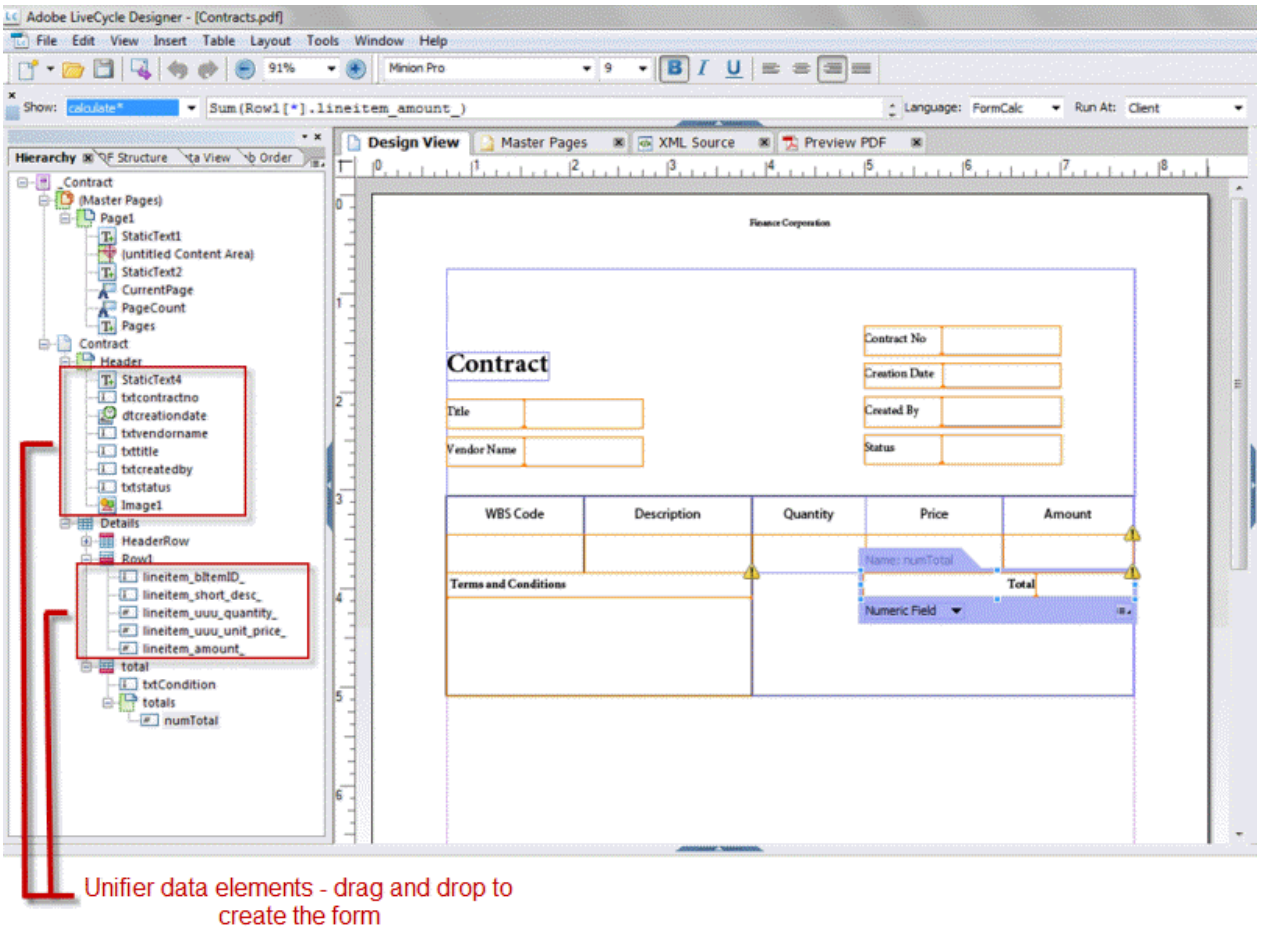
From the XSD tag list in the Data View tab on the left pane of LiveCycle and drag and drop your tags onto the template. For Attachments, Comments, Tabs and Workflow tags, special care needs to be made to ensure that the tags do not overlap in the printed output.

1) Select an Attachment, Comment, Tab or Workflow tag and drag and drop it onto the template, for example, "Attachments." The XSD tags display as a group inside a frame ("subform") with four small squares at each corner of the frame. The subform frame rests inside a frame called "top form."



2) Right-click on the subform's frame corner and choose **Palette > Objects**. The Object tab opens on the right side of the LiveCycle window.

3) In the **Content** field, select **Flowed**.
4) Right-click on the top form's frame corner and choose **Palette > Objects**.
5) In the **Content** field of the Object tab, select **Positioned**.
6) To add current workflow steps to the template, use the Task_Details tags.



7) When finished, click **File > Save**.

Uploading the template into Unifier

1) In Unifier Custom Print window, click **Upload**.
2) Navigate to the saved LiveCycle template and upload it. The name of the template appears in the Custom Print screen.

   The user can now print the business process record using the PDF template option (File > Print Preview > Custom.) The printed output will look similar to this:

XSD tags used in creating a PDF template

Below is a list of all the default XSD tags imported from Unifier into LiveCycle. Comments and attachments are recursive and repeatable. For example, an upper form can have comments with attachments. Line items can have attachments and comments to the attachments recursively

Type of tag Name Description	Type of tag Name Description	Type of tag Name Description
Standard Element	▸ Shell_Logo - shell or project logo / image ▸ Shell_Number - shell or project number ▸ Shell_Name - shell or project name	▸ Applicable to all types of BP records ▸ Use these tags to have project/shell information as part of the printed output
Task_Details	▸ Assigned_To ▸ CC ▸ Sent_For ▸ Task_Due_Date ▸ Task_Status ▸ Task_Note ▸ Sub_Workflow ▸ Sub_Workflow_Due_Date	▸ Tags appear in the task section of a BP record ▸ Use these tags to print out the current step of the workflow ▸ Applicable to all types of BP records
Upper_Forms	▸ <upper form1 name> - name of the upper form, Example: contract view form ▸ <Elements from form1> - elements within upper form ▸ <upper form2 name> - name of the upper form, Example: contract action form ▸ <Elements from form2> -elements within the upper form	▸ Tags for all the upper forms available for a BP. Example: view form, action form etc. ▸ Applicable to all types of BP records
Tabs	▸ <tab1 name> - name of the tab ▸ Line_Items - line item tag that encloses all the elements within the line item	▸ Use these tags to include the information in the line item tabs in the printed output. The printed output will show the name of the line item tab name with the line items under it. ▸ Elements of each tab are listed under the corresponding tab.

	▸ * element1 - the data *element name ▸ *element 2 ▸ *element n ▸ Repeat for all other tabs	▸ Applicable to all BP types except: Simple and Document type (Without Folder)
General_Comments	▸ Comment ▸ Comment_Date ▸ Commenters_Name ▸ Commenters_Company ▸ <Attachments> - the tag that encloses the attachments for the comment	▸ Tag that encloses all comments and their related attachments ▸ Applicable to all BP types
Record_Attachments	▸ <Attachments> - Tag that encloses the attachments ▸ Title ▸ File_Name ▸ Revision_Number ▸ Issue_Date ▸ File_Size ▸ <Comments> - tag that encloses comments for attachments	▸ Tag that encloses the attachments related to the BP record ▸ Applicable to all BP types
Workflow_details	▸ Workflow_Steps - tag that encloses the steps within a workflow ▸ Step_Name ▸ Step_Assignee ▸ Assignee_Company ▸ Step_Status ▸ Step_Action ▸ Step_Completion_Date	▸ Tags for the workflow details of a workflow BP record ▸ Applicable to all workflow BP types ▸ Use these tags to include the current BP workflow step in the printed output

To create a customized XML template in Word

1) In the Business Process Configuration log, open the desired business process form.
2) Click the **Custom Print** tab.
3) Click the **Export Schema** drop-down and select Schema for Word 2003. The File Download window opens prompting you to save the file. Click Save.
4) Open a new Microsoft Word document.
5) Import the XSD file into Word by selecting **Tools > Templates and Add-ins**.
6) Click the **XML Schema** tab and click **Add Schema**.
7) Navigate to the bp_schema.xsd file and click **Open**.

   In the Schema Settings window, type a unique name for the schema in the **URI** and **Alias** field (for example, "Submittal"). The name you enter for the alias appears in the list of available schemas in the Templates and Add-ins window.

   > **Note**: Do not select the Schema validate options checkbox.

8) Click **OK**. An MS Word document opens with a list of available Unifier BP tags under "XML Structure" on the right side of the window.
9) To add XML tags to the Word document, enter text (e.g.,**xxx_project_name** to print Project Name) and click the **project_name tag** that is available as part of the XML structure.

   > **Note**: For custom print to work properly, do not add XML tags to the header and footer.

   The text will be surrounded with project_name tag. You can follow this process for any element.
10) To print line item information, first select the text for all the line item elements and select the appropriate XML tags. Then select all the elements that are part of the line items and click the _bp_lineitems tag.

    By doing this you are enclosing all line item elements within the_bp_lineitems XML tag. At runtime, Unifier will know that the elements that are part of _bp_lineitems should be printed for each line item of the BP. Elements that are part of the upper form are prefixed with "form_", and detail form elements are prefixed with "lineitem_".
11) Turn off the XML tags before saving.
12) Click **File > Save As**. Name the document, and select XML format for the save option. The document must be saved in XML format. Now you are ready to upload the completed document through the Business Process Configuration window.
13) In the Business Process Configuration window, on the Custom Print tab, click **Upload**. The File Upload window opens.
14) Browse and select the Word file you created. You can enter document title, rev. no., and issue date.
15) Click **OK** to save and close the window.

Configure and Activate a BP

The following procedure describes how to configure and activate a business process. If the business process form contains a data picker, you will also have to configure the data picker.

To configure and activate a business process

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Business Process** in the left Navigator. The Configuration - Business Processes log opens, displaying the BPs that have been imported into your company.
3) Select a business process and click **Open > General**. The Configuration window for the business process opens.
4) Complete the **General** tab according to the table below Step 9.

   In this tab, you can specify the log in which the BP records will appear, the numbering sequence for the records, the status, and record termination restrictions. The tab also shows whether the BP is company, project, or shell level.
5) Click the **Workflow** tab (applicable for workflow BPs only). Business processes may have multiple workflows that have been defined in uDesigner. Use this tab to activate one or more workflows that have been imported with the BP. Non-workflow BPs will not appear in this tab.
6) Click the **Custom Print** tab. This tab is optional. It allows you to customize the BP layout of a Word document. See ***Create Custom-Designed BP Print Layout (Custom Print tab)*** (on page 519)
7) When you have completed the configuration information, you can make the BP available for setup and use by changing the status to active in the **General** tab.
8) When the window is complete, click **OK**.

Fields on the **General** tab:

In this field:	Do this:
Level	Displays whether the BP is company, project, or shell level, as determined in uDesigner.
Default Location	Choose where the BP records will be stored. Some BP types will default to a log and cannot be changed. Note: If you are using the user configurable Navigator, you may not see the BP in the User Mode log immediately, even after granting permissions. You need to manually move the BP into the correct User Mode node.
Sequence Policy	This determines how the record numbers for each BP record are sequenced. The record number is displayed on the form and in the Business Process log. **Company Based:** Record numbering starts with this number on the first record of the first project or shell and is sequential on each record after that, no matter what project a BP record is created in. **Project/Shell Based:** Record numbering starts over in each new project or shell, and is sequential within the project or shell.

Sequence Format	The prefix and starting number that will be used for BP record numbers. Use **Base Commit's Record Number**: This is for identifying workflow Change Commits (Line Items with CBS Code Cost BPs) at the project or shell level. For this type of change commit, you can use the base commit's record number as part of the prefix for the change commit's record number. This will clearly identify the base commit to which the change commit refers. It will also provide sequential numbering for the change commits so that users can see how many change orders have been initiated for the base commit. To specify this addition to the prefix number, you need to include a separator, such as a period, and a starting number for the change commits. The maximum number of characters for the starting number is 8. For the total format, including the base commit's record number and the sequential numbers, the maximum number of characters is 20. For example, a base commit record might be numbered PO-00123456. For a change commit record that refers to this base commit, the change commit record number could be PO-00123456, followed by a separator (such as -) and a number for the change commit. The sequence format for change commits attached to this base commit could be numbered: PO-00123456-*001* PO-00123456-*002* PO-00123456-*003* **Note**: This numbering sequence will be frozen once it is used for a change commit in a project or shell. Any change to this numbering sequence will only affect change commits created in a new project or shell.
Business Process Log	If standard, the option **Standard** is selected.
Record Creator	Options available are: ▸ **Do not allow to terminate record** ▸ **Allow to modify record** ▸ **Do not allow to transfer ownership of records**

Enable audit of record print	Deselected by default. If selected, the user can view the audit log entries for print and discover the number of times that a record has been printed. When you select this option, the following user actions on a record will create an audit entry: ▸ Printing from BP record ▸ Single & Bulk Printing from the BP log. ▸ Single & Bulk Printing from the Task log **Note**: For bulk print, the number of entries seen in the audit log will be the same as the number of records that were printed by way of the bulk print action.
Enable for Mobile application	Selecting this option enables the BP to be used for mobile app. The Cost Type: Line Items with Both CBS and WBS Codes business process cannot be enabled for mobile application.
Record Creator	This option gives administrators more control over who can edit or terminate a BP record once it is created. Do not allow to terminate record. If selected, once a BP record has been created, the owner or creator cannot terminate it. If not selected, after a BP record has been created, the owner or creator of the record can terminate it. **Caution**: Any user with terminate workflow permission for the BP, regardless of BP record ownership, will be able to terminate a record for that BP, regardless of whether this option is selected. **Allow to modify record**. If selected, the creator or owner of the record will be able to modify the record at any time, whether or not s/he is the assignee on a step. **Do not allow to transfer ownership of records**: If selected, the record creator cannot transfer the ownership of records to another user.
Status	**Active** enables the BP to be set up and used to create BP records. **Inactive** prevents set up or use of the BP.

Configure a Query for a Query Based Data Element on a BP

You can configure a Query, for a Query-based data element, on a BP. The Query-based data elements give you the ability to query data from business processes and manager sheets, and display the results on a business process. For example, you can create a small cost report on a business process. This reduces referring back to the cost sheet while a user is working in the business process.

When a Query-based data element (Query Based Data Element) is added in a BP Form, you can define the query on which the element gets refreshed (trigger element).

Example

Go to: **Company Workspace** > **Admin** mode > **uDesigner** > **Business Processes** > **Action items - Home** > **Upper Forms**.

Add a Query-based data element in an Upper form of a BP and deploy it.

Go to the **Configuration** Tab > **Business Process**> **Required BP** and open it to see the **Query** tab.

During configuration, for each query-based data element (up to five per business process), you can define a query formula and any conditions that will filter query results. For example, if you want to see the total project commitment, which includes the original commitment amount plus any changes to the original commitment, you can build a query formula to show that value from the cost sheet. You may limit, or filter, the query results by adding a condition. You also define the refresh condition that will prompt a data update for these query-based data elements. When a user opens the business process, Unifier looks at the refresh condition to determine if it can display the last calculated value or values in the business process.

Notes:

- This feature is not available for company-level, single-record business processes.
- The difference between a refresh condition and a trigger. A refresh occurs when a user opens a business process. A trigger works when the business process is already open and a user changes a value in a "trigger element" on that form. The trigger element prompts Unifier to run the query again and dynamically update the value in the query-based field.

To configure the query

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Navigate to **Configuration** > **Business Process**. The Configuration-Business Processes log opens, displaying the BPs that have been imported into your company. Click **Business Process Setup** in the left Navigator.
3) Select the business process that contains the query-based data element, click **Open** and go to the **Query** tab.
4) Under **Query Conditions**, click the **Add** button. The Define Query window opens.

   The Define Query window shows two sections, a **Definition** section and a **Condition** section.

   Fields in the **Definition** section:

   - **Data Element**: Select the data element you want to configure. The list shows only the query-based data elements on the form.
   - **Data Type**: Select the source from which Unifier will extract the values (e.g., a column in the CBS Cost Sheet or a business process).
   - **Datasource**: Click the **Select** button and on the Formula Creation window that appears, build a formula to calculate the value you want to see in the field on the BP form. For information on creating a formula for a query, see About Queries.
5) If you want, you can specify a condition to filter the data that is extracted by the definition.

A condition is not mandatory for a query definition, but your results will be more refined if you build a condition.

a. Click the **Add** button. The **Add Query Condition** window opens.
b. Use the instructions under About Queries to complete the query condition.
c. Click **OK**.

6) On the **Define Query** window, click **OK**.
7) On the **Data Elements Configuration** window, under Refresh Conditions, click the **Add** button. The **Refresh Condition** window opens. Fields in the **Refresh** section:
   - **Data Element**: Select the data element you want to prompt the field refresh.
   - **Condition**: Select the condition this data element must meet to prompt the refresh.
   - **Values**: Enter or select the value this data element must contain to prompt the refresh.
   - **AND/OR**: Select the "And" or "Or" condition between multiple queries.
8) Click **OK**, then click **Close** on the Data Elements Configuration window.

Configure a BP workflow (Workflow tab)

Workflow business processes may have one or more workflows, which, along with the BP settings, control how BP records flow through the steps of the creation, response, review, and approval process. Workflows are designed in uDesigner and included with the BP. You must activate the workflows that you plan to set up and use.

> **Note**: This is applicable for workflow BPs only. Non-workflow BPs will not display this tab.

To configure and activate a workflow

1) In the Business Process Configuration window, click the **Workflow** tab.
2) To activate a workflow, select the workflow and click **Activate**.
3) Alternatively, you can select a workflow and click **Modify**. The Workflow Configuration window opens.
   - In the **General** tab, you can edit the name or description if necessary.
   - You can change the status to active in this tab.
   - To view the steps of the workflow, click the **Step** tab.
   - Click **OK** to exit the Workflow Configuration window.
4) If you have edited or added a workflow to an existing business process and re-imported, you may need to add the new workflow. Click **Add** to add newly defined workflows, if any exist.
5) Click **Apply** to save your changes, and **OK** to exit the Business Process Configuration window.

Create a custom XML template in MS Word

In the Business Process Configuration window, the Custom Print tab allows you to customize the layout of a document, using either MS Word® (leveraging the XML style design) or PDF format (using Adobe® LiveCycle® Design View.)

You can use the custom print templates to print one record at a time. The document shows all the values of the record that are available. This feature is similar to Print Preview for HTML or PDF. The only difference is that you can custom design the format for the selected record.

Unifier automatically generates the XML schema, which is used to define the custom layout in Word or in LiveCycle. For a given business process, you can export the schema and use it to develop your own customized template. You then save the template and upload it to Unifier.

To create a custom XML template in MS Word

1) In the Business Process Configuration log, open the desired business process form.
2) Click the **Custom Print** tab.
3) Click the **Export Schema** drop-down and select Schema for Word 2003. The File Download window opens, prompting you to save the file.
4) Click **Save**.
5) Open a new Microsoft Word document.
6) Import the XSD file into Word by selecting **Tools > Templates and Add-ins**.
7) Click the **XML Schema** tab and click **Add Schema**.
8) Navigate to the bp_schema.xsd file and click **Open**.
9) In the Schema Settings window, type a unique name for the schema in the **URI** and **Alias** field (for example, "Submittal").

   The name you enter for the alias appears in the list of available schemas in the Templates and Add-ins window.

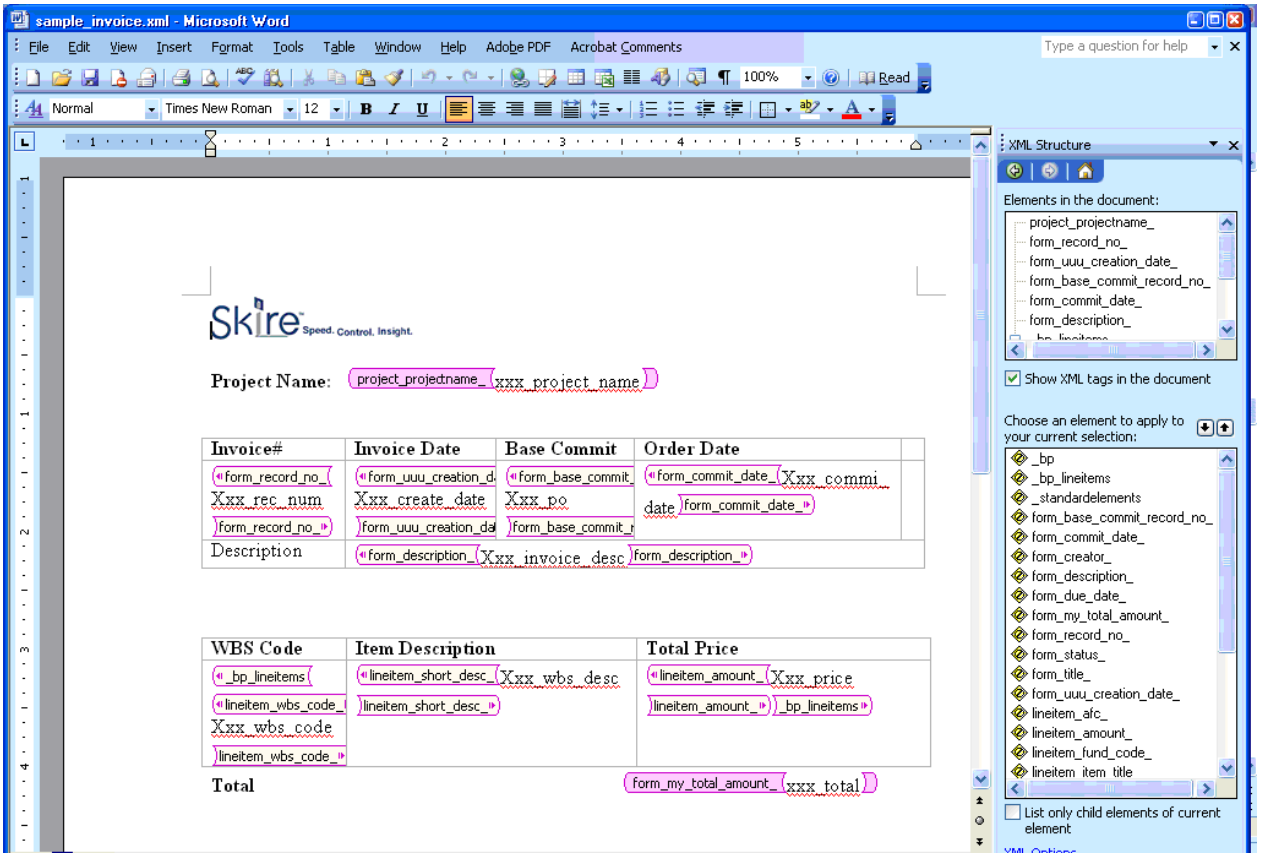
   > **Note**: Do not select the Schema validate options checkbox.

10) Click **OK**. An MS Word document opens with a list of available Unifier BP tags under "XML Structure" on the right side of the window.
11) To add XML tags to the Word document, enter text (e.g., xxx_project_name to print Project Name) and click the project_name tag that is available as part of the XML structure.

    > **Note**: For custom print to work properly, do not add XML tags to the header and footer.

    The text will be surrounded with project_name tag. You can follow this process for any element.
12) To print line item information, select the text for all the line item elements and select the appropriate XML tags. Then select all the elements that are part of the line items and click the **_bp_lineitems** tag.

By doing this you are enclosing all line item elements within the _bp_lineitems XML tag. At runtime, Unifier will know that the elements that are part of _bp_lineitems should be printed for each line item of the business process. Elements that are part of the upper form are prefixed with "form_", and detail form elements are prefixed with "lineitem_".



13) Turn off the XML tags before saving.
14) Click **File > Save As**. Name the document, and select **XML format** for the save option. The document must be saved in XML format. Now you are ready to upload the completed document through the Business Process Configuration window.
15) In the Business Process Configuration window, on the Custom Print tab, click **Upload**. The File Upload window opens.
16) Browse and select the Word file you created. You can enter the document title, rev. no., and issue date.
17) Click **OK** to save and close the window.

Creating BP Log Views in Admin Mode

When users configure Business Processes (BPs), they can create log views for the BPs, also.

Log views are the views which drive the content and behavior of the BP logs seen at run time. The Administrators can create customized "default" log views that meet the requirements of the company and users.

> **Note**: Users can create the view in each project for the BPs that the users have access to, only.

This topic explains the following:

- BP Log Views
- BP Log Views at Runtime
- BP Log Views and Configuration Package

BP Log Views

BP log views can be created for:

- Project-level BPs
- Company-level BPs

The views defined for the BPs are applicable to both BP logs and Master Log - Business Processes log.

The **Business Process** node (**Company Workspace** > **Admin** mode > **Configuration**) has the following sub-nodes:

- **Action Items**
- **Log Views**

The **Log Views** sub-node, seen in all types of BPs, enables you to:

Create your log view, similar to creating BP logs in **User** mode.

- Reorder the BPs.
- Change the status of a BP.
- Delete inactive views.

> **Note**: Users must have "Configuration" permission before they can access the **Log Views** node or create new log views.

The **Log Views** log has the following features:

- Toolbar
  - **Create**: To enable the administrator create a new view. Refer to the *Unifier User Guide* (Tasks log) for details.
  - **Actions**: To take one of the following two actions: Check the status of a view (**Status**) or delete a view (**Delete**).

    Status identifies whether a view is active or inactive.. You can select one or more views, click **Status**, and activate or deactivate a view.

    Delete enables you to delete a view. You can delete a view that has been marked as inactive. If you select multiple views and delete, only the inactive views will be deleted.
  - **Find on Page**: To find a specific view on the displayed page.
- Columns
  - **No.**: The system-generated number to help the user identify the sequence of the views.

Changing the sequence of the views (moving them up or down on the page) will result in change of the system-generated number.

At least one BP log view must be active. The administrator cannot deactivate all BP log views.

The user cannot create two BP log views with the same name for a single BP.

When a user changes the sequence of the BP log views that were initially provided according to the BP configuration, Unifier retains the user's sequence even if the administrator makes changes to the sequence.

If an administrator creates new BP log views, Unifier appends the new BP log views to the end of the BP log views list.

- **Name**: The name of the view.
- **Status**: Active or Inactive
- **Last Modified Date**: The date that the view was last modified. For a new view this will be the creation date. The field is blank for existing system-defined views, for the first time when no modifications have been done.
- **Last Modified By**: The name of the user who last modified the view. The field is blank for existing system-defined views, for the first time when no modifications have been done.

The gear icon ( ), which appears when you click on a record, has the following options:

- **Move Up**: To move a record up on the log. This option is not available for the first view on the log.
- **Move Down**: To move a record down on the log. This option is not available for the last view on the log.
- **Status**: Active and Inactive. If a view is Active, then the status option will be Inactive.
- **Delete**: To delete a view. This option is not available for an Active view.

BP Log Views at Runtime

BP log views will be a part of BP configuration. Only active views will be seen at runtime. All active views pertaining to a BP can be seen by all user who have access to the log (BP logs and Master Log - Business Processes log). System provided views can also be modified in the Log Views to better suit your business needs.

- **All Records**
- **Records Created by Me**
- **Records Received by Me**
- **Records Created and Received by Me**
- **AI view**
- **Create New View**
- **Manage Views**

BP Log Views and Configuration Package

Use the **Log Views** node (**Company Workspace** > **Admin** mode > **Configuration Package Management** > **Component Lists** > **Configuration** > **Log Views**) to include the designs for the selected log views in your configuration package.

BP log views in Component list/Configuration Package:

The users can include BP log views and deployed designs.

The users can include updated BP log views without any changes to the underlying columns used in View definition.

When the configuration package is imported, it replaces any existing BP log views that were created by the administrator.

> **Note**: The BP log view component will be included as part of impact analysis report, error report, and print report.

Customizing Email Subject Line

When you send Unifier task notification emails from various trigger points, you can customize the email subject line to provide more context to those notifications. You must have the permissions to configure Business Process to access the node Customize Email Subject. The customized email subject can be a combination of simple text, shell information, data elements from the Business Process Upper forms, and Workflow steps.

> **Note**: The email subject lines can be configured only for workflow-type business processes.

The **Customize Email Subject** node contains a table of email types and preferred languages. You can configure email subject line in multiple languages as set in the Company Preferences. The language that is set to "Active" in the **Internationalization** node is the only language displayed in the right pane.

To Customize the Email Subject Line

1) Click **Configuration** > **Business Process** > select a Business Process name from the right pane > select **Customize Email Subject**.
2) In the language column, select the Configure icon for the email type.

   > **Note**: The preferred language must be selected as "Active" in the **Internationalization** node.

3) In the window that appears, enter or edit the subject line in the free form text field.

   > **Note**:
   >
   > The subject line can be a combination of simple text, shell information, data elements from the BP Upper Forms, and Workflow steps.
   >
   > The maximum number of characters must be less than 299..Select the data element from the grid that follows.

4) Select the data elements from the grid that follows.

   > **Note**: <DE Label> is displayed if the selected data element does not hold a value in the runtime.

5) Click **Save**.

   The language column shows the email subject line corresponding to the email type.

See Also

Internationalization Node Properties 891

Configuring Business Process Configuration Package

If tagged for Configuration Package, the system allows you to include the following configurations in the Business Processes:

- General setup
  All the fields included in the General Configuration (General tab).
- Custom Print
  Word and PDF templates, if any.
- BIP Custom Print
  All the BIP Custom Print in the Custom Prints and Reports.
- Workflows
  All configured Workflows.
- Query
  All queries that have been configured based on data elements.

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

General Procedures for Setting up Business Processes

Business processes must be set up before use. The general procedures apply to company-level and project-or shell-level business processes, with some differences.

Workflow Business Processes

Workflow business processes can have one or more BP setups, which define the workflow setup options. These include configuring the workflow and each step. These options control step behaviors as the BP moves through the steps of the workflow. Each step can have an associated duration and the workflow (consisting of all the steps) can have an overall duration, which facilitates project or shell data flow-through and tracking. BP setup is the process of choosing a configuration, assigning users or groups to each step, configuring the actions they can take on that step, and setting the durations.

You may want to create multiple workflows per BP to accommodate different ways for the workflow to operate. For example, you can configure an RFI workflow with or without a coordinator. You may or may not have a need for both workflows on your project or shell.

Non-workflow Business Processes

For non-workflow business processes, one setup is allowed. Setup includes adding the list of users who can create a new non-workflow BP.

Set up of auto-creation of business processes or line items

Both workflow and non-workflow BPs support auto-creation. Auto-creation can be based on a:

- Condition that is met
- Date that passes
- Condition and a date
- Frequency (at periodic intervals, for example)
- Condition and frequency

You can auto-create BPs or line items from the upper form or the detail form, using creator elements. See ***Set up auto-creation for a non-workflow BP or planning item*** (on page 541) for non-workflow auto-creation setup and ***Set up auto-creation for a workflow BP*** (on page 557) for workflow auto-creation.

Auto-creation of BPs based on workflow steps

You can specify that some workflow BPs include steps during the workflow that enable the auto-creation of BPs from an S-Step. ***Define the Business Process Workflow*** (on page 561) for details.

Special setups

There are special setup procedures for blanket purchase order BPs and Request for Bid (RFB) BPs. There is an additional option for auto-creation of a commitment-level cash flow curve in setups for base commit business processes.

Loading a Business Process

Loading the business process is part of setting it up. In this step, you will be loading the configured business process into the area where it should reside—the Company Workspace, a shell, or a standard project. This step filters the business processes by company, shell, or project level, thereby narrowing the number of BPs so that the users do not have to sift through your company's entire list of BPs.

When you load a business process, you also load the permission infrastructure and the ability to grant permissions for this BP.

To load a business process

1) Go to the **Company Workspace** tab and switch to Admin mode.
   - To load a BP into the Company Workspace, click **Company Workspace > Business Process Setup** in the left Navigator.
   - To load a BP into a shell, click **Company Sponsored Shells > [shell type] > [shell] > Setup > Business Process** in the left Navigator.
   - To load a BP into a standard project, click **Company Sponsored Projects > All > [project] > Setup > Business Process** in the left Navigator.
   - To load a BP into the templates for a project, click **Templates > Projects (Standard) > All > [template].** Then select **Setup > Business Process** in the left Navigator.

- To load a BP into the templates for a shell, click **Templates > Shells** > in the left Navigator. Then choose the **[shell type] > [template]**. Then select **Setup > Business Process** in the left Navigator.

2) Click **New**. The New Business Processes window opens, showing the business processes that are available for loading.
3) Select the business process you want to load and click **OK**. Unifier displays the business process in the right pane.

Setting Up a Non-Workflow Business Process

This procedure is applicable to project, shell, and company level non-workflow business processes. Be sure you have added the business process to the log first.

Basic non-workflow set up in General tab and Settings tab

To set up a non-workflow business process - General Tab

1) Open the project or shell, or (for a company-level business process) go to the **Company Workspace** tab, and switch to Admin mode.
2) Navigate to the Business Processes log.
3) Select the non-workflow BP and click **Open**. The Setup log opens on the **General** tab.
4) Click **New**. The Business Process Setup window opens.
5) Complete the tabs as described below and click **OK**.
6) Click **Yes** to activate the BP and make it available to users, or click **No** to keep the BP inactive until a later date.

In this field:	Do this:
Setup Name	Enter a unique name (required field).
Description	Enter a description. This is optional, but recommended.
Help File	Allows you to add a custom PDF help file.
Default Record Status	Use this field in setting up the creation of non-workflow business processes. The status you enter here will be used as the beginning status for a record created using any method—manual, integration, or auto-creation of any type.
Send error notification to:	Specify the user to receive error notifications.
Save Record Information to Document Manager	Select this check box if the records produced by this business process should be automatically saved in the Document Manager. If you select this option, Unifier will send a copy of the business process' records, along with their comments and attachments, to a specified folder* in the Document Manager. The owner of the published record will be the assignee of the business process that published it. If the record already exists in the folder, the record will be published as a revision. If the path to

	the folder is invalid for any reason, the record will be sent to the **Unpublished Documents** node. Depending on how you set up the business process, it can be automatically published to the Document Manager whenever an email notification is sent regarding the status of the business process. * This folder is identified on the business process with this data element **uuu_dm_record_info_path**. For information about this element, refer to the *Unifier Reference Guide*.
Default Record format for Notification and Document Manager	This option has two purposes: ▸ If you want notification sent to users whenever a business process record is created or modified, use this option to specify the format in which you want the notification to be sent. ▸ If you have checked the **Save Record Information to Document Manager** check box, use this option to specify the format in which the business process records should be saved.
Cash Flow: Default Template	This option only appears in CBS code-based Base Commit business processes. It allows you to enable the auto-creation of a commitment-level cash flow curve at runtime for the business process record. The curve is based on the selected commitment-level cash flow template, and is created when the record is completed. Click **Add** and choose a template. For more information, see ***Setting Up Auto-Creation of Cash Flow Curves from Contracts*** (on page 585).

Settings tab

Add the creator and editor on the **Settings** tab:

In this field:	Do this:
Creator(s)	Click **Select** to choose the creators of the BP, those users who may create a new BP record from this setup.
Editor(s)	Optionally, click **Select** to choose users and/or groups who can edit the business process without being granted explicit record-level permission. This allows users other than the assignee to edit the business process record. The Editors field can include users and groups that are also entered under Creator(s). The Editors can be added on these BP types: ▸ Line Item ▸ Cost (all types, including Lease and Line Item with Multiple

	Codes) ▸ Document ▸ Simple ▸ RFB ▸ Text Users or groups that you add as Editors can open and edit any record that they can see listed in the business process log, per their view access permission. Access permissions are **View User Records**, **View Company Records**, or **View All Records**. The user who is designated as an Editor must have at least one of these permissions to be able to view the record in the log to access it to edit.
Allow Quick Calendar Entry	Click **Select** and choose the users and/or groups who will be allowed to use the quick entry feature to reserve the object of this business process, or to edit or delete it from the calendar. **Note**: This option will appear only on those business processes that have been calendar-enabled by design.

Selecting BIP Custom Print (Format > Custom)

The following is a list of conditions applicable to BIP Custom Print.

- Only Published BIP Custom print templates can be selected while setting up the Business Process; however, if you make any changes to the Published template and do not re-publish it to BI server, the selected template will continue to remain in the Business Process (BP) setup option. Any record information sent as email attachments will contain data from the last published version existing in the BI server.
- If the BP setup has been done in a Project/Shell template, then when you update the setup information onto instances of Projects/Shells, the setup gets pushed.
- If you delete the BIP Custom Print template selected in the BP Setup window, then the system removes the deleted BIP Custom Print template from the BP setup.
- If the system does not generate the print output, for example due to server issues, then the email attachment, which contains the record information, generates an error message.
- Custom Print template included in the BP setup can be exported in the Configuration Package. By virtue of tagged BP design, the corresponding BP Setup from the tagged Shell template will also be included. If the Custom Print Template is not tagged, then the Configuration Package export will result in an error.

> **Note**: If the BIP Custom Print output could not be generated because of connection issues to BIP Server or inconsistencies in between Custom Print on Unifier and BIP Server, then notification emails for Business Process modification will have an "error.html" document (as an attachment) instead of a record information document. If the record information is Published to Document Manager, then a 0 KB document will be published to the Document Manager.

Set up email notification for a non-workflow BP

Use the **Notification** tab to set up automatic email notifications to users and groups whenever a non-workflow business process is created or modified, either manually, or via auto-creation, reverse auto-population, CSV, or integration.

> **Note**: If the business process has been designed to allow users to include additional users or groups in the email, the email notification will be sent to them as well.

1) Use the information in the table below to complete the Notification tab.
2) Click **Apply** to save your changes and **OK** to exit.

In this field:	Do this:
Send notifications to	Click **Select** and choose those users or groups that should be notified whenever a non-workflow business process is created or modified.
Notify creator on record modification	By default, this check box is checked. If you do not want the BP creator to be notified when the business process is modified, de-select this check box.
Notification triggering events	The fields you select here will tell Unifier when to notify the users or groups.
Create Record	Select this check box if notification should go out whenever a record is created.
Edit Upper Form	Select this check box if notification should go out whenever the upper form of a record is edited.
Add/Edit/Delete Line Items	Select this check box if notification should go out whenever a line item is added to the record, edited, or deleted from the record.
Add General Comments	Select this check box if notification should go out whenever comments are added to a record.
Add/Remove Attachments	Select this check box if notification should go out whenever attachments are added to or removed from a record.
Attachments	The fields you select here will tell Unifier how to add attachments to the record.
Include both record and line item attachments	Select this check box if the notification should include both the record and the line item attachments.
Include record information as	Select this check box if the notification should

attachment	include the record information as an attachment.
Override default format	If you have specified a default record format on the General tab, you can use this check box to override the default format. For example, you can use the General tab to specify that the default record format for both email notifications and records saved in the Document Manager be in PDF format. If necessary, you could then use the Override default format check box to override the format and choose Custom for the notification only.
Format PDF/Custom	Select the form. The attachments are PDF or a custom format. BI Publisher (BIP) Custom Prints are available to be selected for the Notification format. For custom format, select the print format defined for the business process.

Set up auto-creation for a non-workflow BP or planning item

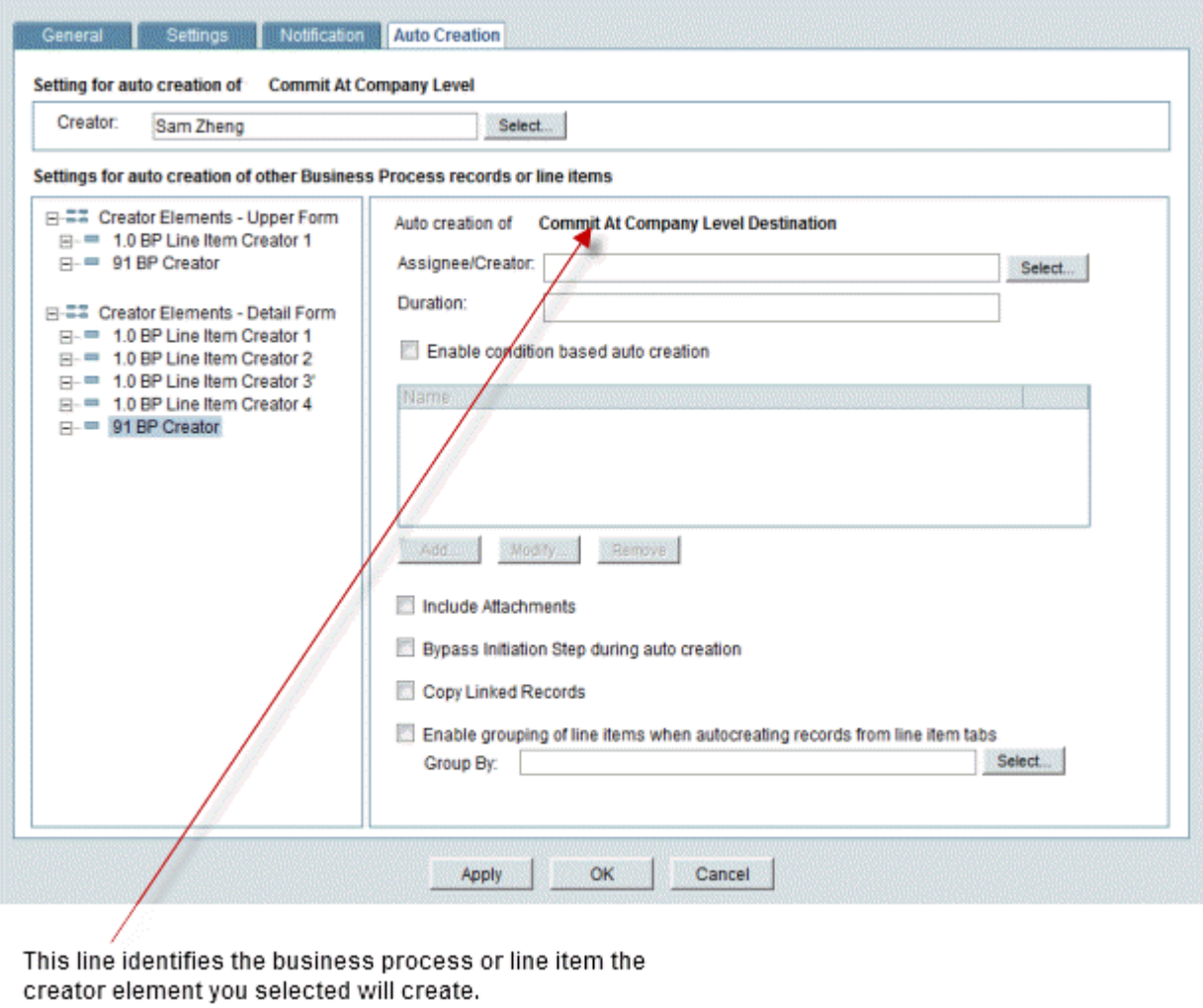
On the Auto-Creation tab, you can set up the auto-creation of another record or line item for the business process you are setting up. You can also set up the auto-creation for other business processes that will be spawned by this business process.

For information about auto-creating business processes, see ***Auto-creating a Business Process record or Planning Item Based on conditions or frequency*** (on page 581).

To set up auto-creation of a non-workflow business process or planning item

1) Click the **Autocreation** tab.
2) Under **Settings for auto creation of** [*name of the business process, planning item, or line item you are setting up*], in the **Creator** field, click the **Select** button and choose the name of the auto-creator.

3) Under the section **Settings for auto-creation of other business process records or line items**, select the BP creator element under the upper or detail form.

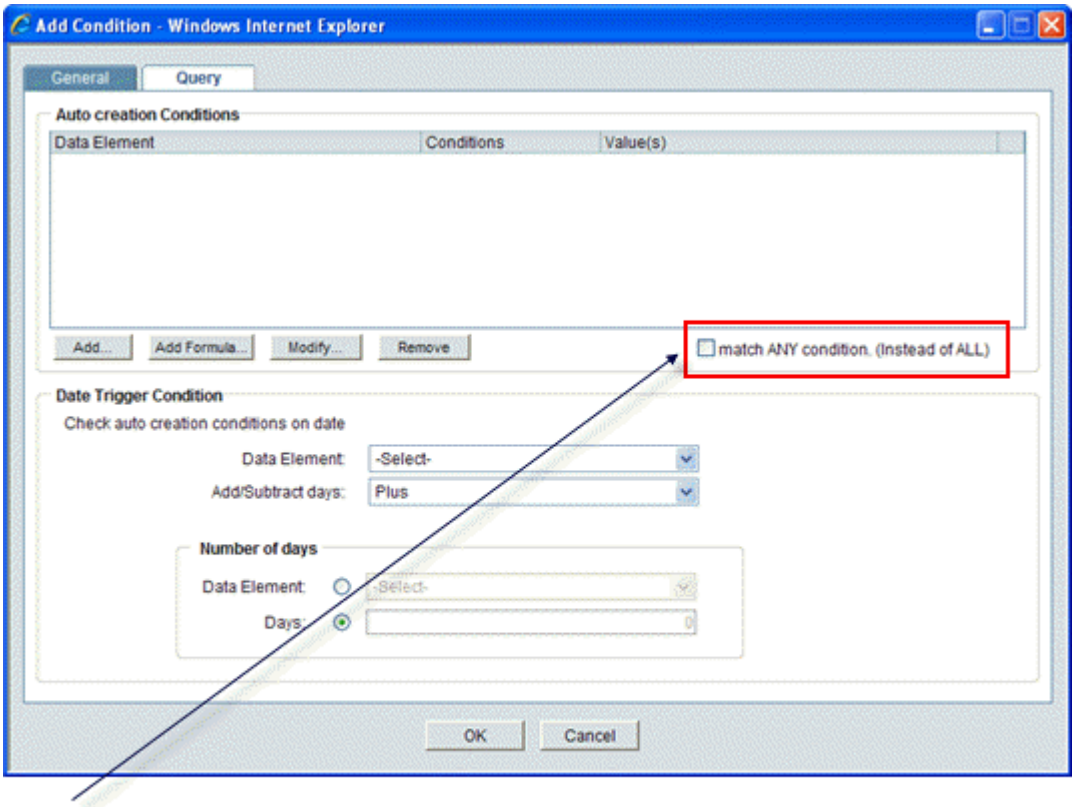


4) (Not an option for line item creation.) In the **Assignee/Creator** field, click the **Select** button and choose the name of the user or group who should assume ownership of the auto-created record.
5) Ignore the **Duration** field.
6) To create the conditions that will trigger the auto-creation, select the **Enable condition based auto creation** check box and continue as follows:

> **Note**: If you leave this check box un-checked, the BP, planning item, or line item will be available for manual creation only.

   a. To add a trigger condition, click the **Add** button. The Add Condition window opens.
   b. On the **General** tab, enter a name for the trigger and a description.

c. Click the **Query** tab.



Select this check box if the query can match any single condition to extract the information. If the query must match ALL conditions, leave this check box unmarked.

The Query tab is where you will define the conditions the data must meet before Unifier will auto-create the new business process record or line item.

In the upper section of the window, you can specify that a field on the business process form:

- Must meet a certain criteria or value
- Must meet a certain value based on a formula using the numeric fields on the form

Click the Add button to specify a condition for a field on the business process form. Click the Add Formula button to create a formula that the value of the field must meet. Use the information in the ***Queries*** (on page 51) section to complete the query.

In the lower section of the window, you can specify a date condition that will trigger the auto-creation. Use the information in the ***Queries*** (on page 51) section to complete the query.

Notes:

Date condition triggers are not available for line item auto-creation.

About Date Triggers:

- If you want to create a continual date trigger condition, make sure you use the Date Trigger Condition section of the window to create it.

Although you can also create a date trigger using a formula in the upper section of the window, Unifier will process the triggers differently.

- The conditions you specify in the upper section of the window will be processed only once, when the user clicks the Finish Editing button on the form. However, the date conditions you specify in the DateTrigger Condition section will be processed daily.
- This behavior is important to consider when you are creating a date condition that occurs in the future. A date trigger specified under the Date Trigger Condition section will be processed daily, and will, therefore, "catch" the trigger condition when the future date occurs.

d. Click **OK**.

7) If you want the auto-created record or line item to include attachments from the original (source) record, select the **Include Attachments** check box.

Note: This step is not applicable for Document type business processes.

If you select this option:

- Any record-level attachments made to the source record will appear at the record level of the destination record.
- Any attachments made to the line items of the source record will appear at the line item level of the destination record.

8) (Not an option for line item creation.) If you want to bypass the I step that this auto-creation normally creates, select the **Bypass initiation step during auto creation** checkbox.

If you select this option, the auto-created BP or planning item will skip the initiation step and will appear in the user's Tasks Log and BP Log or Planning Item Log with the status that was specified on the General tab of the business process setup window. For more information, see ***Auto-creating a Business Process record or Planning Item Based on conditions or frequency*** (on page 581).

9) If you want to copy any records that are linked to the original record, select the **Copy Linked Records** check box.

10) (Not an option for line item creation.) If you are creating a record from a detail form, you can group line items into a single record. To do so, select the **Enable grouping of line items when autocreating records from line item tabs** check box.

In the Group By field, click **Select** and select the data element (or elements) you want to group by. If the values in these data elements match for any of the line items, Unifier will auto-create a single record for them. For more information, see ***Grouping line items into single records*** (on page 582).

Note: If you leave the Group By field blank, Unifier will auto-create a single record containing all the line items on the source record.

11) Click **Apply** to save your changes, or **OK** to save and exit the window.

Set up record and line item copy options

Use this feature to set up copy options for users when they copy a record with line items and references.

The options you specify here will give the Unifier user the ability to copy specific (rather than all) line items, as well as the ability to include attachments and linked records, and retain or remove references to auto-created records.

To set up these options, you must create a condition the data element must meet in order for the line item to be included for these copy options.

For example, you could create a set of options specifying that all line items with a status of "open" be copied, and their attachments be included in the copy. Using this example, you could set up a weekly meeting minutes business process that automatically generates action item business processes for each task that arises from the meeting. Using these copy options, you could roll over action items that are still open to the next week's meeting minutes.

At runtime, the options you set up here will be given to users to choose from when they copy records.

> **Note**: These options are not available for Payment Applications.

To set up copy options

1) Open the business process for which you want to set up the copy options.
2) Click the **Record Copy** tab. The Record Copy Setup window opens.
3) Click the **Add** button. The Copy Condition Setup window opens.
4) In the **Name** field, enter a name for this copy setup. The name should be unique, and can be up to 250 characters long.

   This is the name that will appear on the list of copy options the Unifier user will see when they copy a record or line item.
5) (Optional) In the **Description** field, enter a description of what this setup does.

   > **Tip**: It's a good idea to include a precise description of what the copy options are for the setup. This description will appear on the list of copy options the Unifier user will see when they copy the record, and a good description will tell them exactly what will be copied. You can enter up to 4000 characters.
6) Under the **Condition** area of the window, click the Add button. The Query Condition window opens.
7) In the **Data Element** field, select the of the field on the line item form that you want to use to identify which lines items can be copied.
8) In the **Condition** field, select the operator Unifier should use to test the data element you selected.

   A condition is a state or restriction the value in the data element (field) must meet. A condition of the value might be that it must be equal to a certain number (maybe 10) or that it must contain a certain string of letters (such as "due date of").

If the data element meets the condition you specify, Unifier will include this line item on the list the user can choose from. Use the information in the ***Queries*** (on page 51) section to complete the query.

9) Click **OK**.

10) On the **Copy Condition Setup** window, specify these additional copy options as shown in the table below.

11) Click **OK**.

Select this checkbox:	To:
Include Attachments	Include attachments in the copy operation.
Copy Linked Records	Include any linked records in the copy operation.
Retain reference to auto-created business process records on record upper form	Keep the references to business processes that were auto-created from the upper form.
Retain reference to auto-created business process records on line items across all tabs	Keep the references to business processes that were auto-created from the line item (detail) form. This applies to all line items from all tabs.

Single-record business processes

Single-record business processes store information that you use repeatedly in your projects. Think of them as file cabinets where you keep things like: industry standards; federal, state, and local regulations and statutes; policies; and FAQs. You can have multiple single-record business processes in a project, each with its own information focus. From these single-records you can auto-populate fields in business processes, including constant values.

To facilitate single-sourcing of your data, create the single-record business process in the project or shell template prior to creating your project from the template. When you clone a project or shell template, you have the option to select BP Setup, which not only copies all business process setups, but all single-record business process records and their data.

Data copied from single record business processes includes:

- Attachments to records and line items, if applicable
- All data pickers (Business Process, Configurable Managers, Shell Manager, User Attributes)
- Any other pickers except business process pickers
- Linked elements
- Permissions associated with the single-record business process

Copying a single record business process does not include:

- Business process pickers
- Linked records
- Linked mail
- General comments

You can also use CSV or web services to clone a shell or project template that contains the single record business process.

To create a single-record business process

Before you begin:

- Ensure you have Setup permission for the business process. See ***Edit user or group permissions using Access Control*** (on page 208)
- Follow the directions to set up a non-workflow business process. See ***Basic non-workflow set up in General tab and Settings tab*** (on page 537)

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates** in the left Navigator.
3) In the left Navigator, click **Projects (Standard) > [project] or Shells > [shell]** and on the right pane, open the template in which the single-record business process resides.
4) In the left Navigator, click **Information > General**.
5) On the right pane, open the single-record business process record and complete all required fields.
6) Click **Save** or **Finish Editing**, as appropriate. Both actions save the record, but Save leaves the record in Edit mode, and Finish Editing leaves the record in a read-only state.

> **Caution**: If you click Finish Editing and the record is in a terminal status you will not be able to edit that record again.

7) Assign record permissions as appropriate.

Set up View Forms for Non-Workflow Business Processes

As an Administrator, for non-workflow BPs, you can set up different view forms such that details that are relevant to users are seen.

> **Note**: Up until now, a non-workflow business process had only one form (Action form) that held all the data.

Assigning view forms to non-workflow BPs enables administrators to control the visibility of certain data to various users or groups.

You can create view forms for all:

- Non-workflow BPs regardless of the type.
- Non-workflow BPs existing at both Project and Company Level
- Non-workflow BPs of both Single Record and Multiple records

Furthermore, the validations applicable to all:

- Non-workflow BPs that have one Action form, only.
- Non-workflow BPs that have multiple view forms.

To add, remove, or edit view reports open the non-workflow BP and follow the instructions in the ***Set up View Forms for Workflow Business Processes*** (on page 573) section of this guide.

If users have access to a deployed view form and that view form is deleted in uDesigner, then at runtime, the a user opens the BP record, Unifier checks that user's permission to any of the BP view forms that exist in the setup. If the use does not have access to any of the BP view forms that exist in the setup, the Unifier displays the Action form for that BP in view-only mode.

Important information about deleting View Forms

As indicated in the *Unifier uDesigner User Guide*, you can design a BP form (in the Staging environment), add view forms associated with a BP form design to the Business Process Setup (View Forms tab), assign permissions to users and groups for the individual view forms, and deploy the view forms so they can be accessed through the record preview in the log (Logs and Company Logs) for viewing record details.

Due to the system limitations, an anomaly occurs when you delete a view form from the Business Process Setup. The following explains this anomaly:

You have created and deployed the following view forms for a BP form ABC:

- VF01
- VF02
- VF03

You decide to delete one of the view forms. As a result, you navigate to uDesigner, delete the view form (for example, VF01), and ensure that the deleted view form has been remove from the Business Process Setup.

You decide to add a new view form (for example, VF04), for the BP form ABC, so you proceed to add the new view form in uDesigner and deploy the new view form, VF04.

At this point, due to the system limitations, the system will automatically add the newly created view from, VF04, to the Business Process Setup using the users and groups assignments originally assigned to the deleted view form, VF01. Furthermore, the availability of this added new view form (in the Business Process Setup) goes against the method that is used to deploy a new view form.

As an administrator, you must ensure that in such scenario, you open the newly created view form and assign appropriate permissions.

Additional information about View Forms for Non-Workflow Business Processes

If a view form that users have access to gets deleted in uDesigner, then at runtime (when a user opens the Non-Workflow BP record), Unifier checks to see if the user has permission to any of the view forms that exist in the BP Setup, or not. If the user does not have access to any of the other view forms, then Unifier displays the default form, the Action form, in view mode.

Set up Record Properties for Non-Workflow Business Processes

In both Non-Workflow BPs and Workflow BPs (at the company, shell, and project levels) you (the administrator) can use the **Record Properties** tab to establish:

- The availability or visibility of the BP form properties tabs for users and groups.
- The ability to download attachments when users and groups access the BP records in user mode.

The **Record Properties** tab has the following sections:

Top: For setting up restrictions (setting restriction is done through **Edit Restrictions**)

Left: For Upper Form and Line Item (detail forms) properties and setting up restrictions for downloading attachments from the Upper Form and Line Items (detail forms). The left section displays all of the record tabs seen in both upper and detail forms. In case of Simple type and Text type BPs, only the upper form properties tabs will be seen. The Upper Form or Line Item properties options that were hidden in uDesigner will not be displayed.

Right: Users info (users or groups who cannot see the properties)

The **Record Properties** window displays read-only view of the all the users and groups who are restricted to the visibility of selected tabs, or to download of attachments for selected tabs, in **Edit Restrictions** window. You can duse the **Edit Restrictions** button to apply restrictions to users and groups.

Restricting the **Audit Log** and **Workflow Progress** options below will result in the automatic update of the same options in **Permissions Settings** of **Access Control**. The same operation applies in reverse.

The **Attachments** in **Upper Form Properties** section will not be shown for the system-defined **Line Item** tab in the Document type BP.

The additional section **Do not allow download of Attachments** will show the users and groups who are restricted to download the attachments from **Upper Form** or **Line Item** tabs in the business process record, when the attachments are visible.

The first tab seen in the **Do not allow download of Attachments** is the **Upper Form Attachments** followed by the **Line Item** tabs names (for example Guages & Meters or Components) which will be in same order as seen in the **Line Item Properties**.

The **Upper Form Attachments** tab will not be shown for the Text type and Document type BPs. Additionally, the system-defined tab will not be shown for the Document type BP, under the **Do not allow download of Attachments** section.

The tabs seen in the **Upper Form** and **Detail Form** properties will be based on each BP type.

The tabs shown in **Upper Form** and **Line item Properties** will be in the same order seen in the BP record at run time.

The **Upper Form Properties** and **Line Item Form Properties** which are already hidden in uDesigner will not be shown in this list.

Example

If Linked Records and Linked Mail tabs, from the Upper Form Properties, are set to be hidden in uDesigner > Record Properties, then those two tabs will not be seen in the BP Setup under Upper Form Properties. Similarly, if the user-set Attachments tab in the Upper Form Properties is hidden in uDesigner > Record Properties, then in the BP Setup > Record Properties the user will not be able to see the following tabs:

- Do not allow download of Attachments

  Upper Form Attachments
- Upper Form Properties

  Attachments

Adding tab visibility and download of attachments restrictions to users and groups

You can add restrictions to the users and groups through the **Edit Restrictions** option. The restricted users and groups will be seen on the right-hand block for the property selected on the left-hand side.

Edit Restrictions window:

When you click the **Edit Restrictions** option, a window displays which enables you to select or add user and groups and assign attribute form restrictions. The **Select Users/Groups** block (the left pane of the window) will be empty if there are no existing restrictions; otherwise, the block will list the existing restricted users and groups. Use the **Remove** option to remove the users and groups listed in this block. You can select one or more users or groups and select the **Remove** option to remove users or groups from the tab visibility restrictions.

In the right-hand section of the window, you can access and hide all of the following form properties:

Hide All Upper Form Properties

- Attachments
- Do not allow download of Attachments
- Comments
- Linked Records
- Linked Mail
- Workflow Progress
- Audit Log
- Reference Records

Hide All Line Item Properties

- <Line item tab1 name> Attachments
- Do not allow download of Attachments
- <Line item tab2 name> Linked Records

- <Line item tab2 name> Attachments
- Do not allow download of Attachments
- <Line item tab2 name> Linked Records

The **Detail Form Attributes** will be shown based on the **Line Item** tabs available in the selected business process. Additionally, users and groups can be restricted to download the attachments only from the business process record.

If a single user or group is selected on the left-hand side, then the selected user or group's existing restrictions will be shown.

The **Cancel** and **Save** options will remain disabled if you do not make any changes in the right-hand block. If you select a user or group and change the restriction options, the the **Cancel** and **Save** options will be enabled. The **Cancel** and **Save** options enable you to save or cancel the changes that have made in the right-hand block.

Once you close the **Edit Restrictions** window, the restricted users and groups will be added in **Record Properties** window.

You can select multiple rows in **Users/Groups** section, edit the restriction check boxes, and save or cancel your changes.

If multiple users or groups (on left-hand block) are selected, then the existing restrictions will not be shown in the right-hand block.

In the Attachments case, a user who has restrictions to Download will be able to view or access the attachment but cannot download or save to a local system.

Users/Groups window

When you click **Add**, the **User/Group** window opens. This picker window displays all of the users and groups that are available and selected. Once the users and groups are added, you can select the users or groups (from the left-hand block) and set the hide permissions for the form attributes (in the right-hand block).

> **Note**: Users or groups cannot be removed from the User/Group Picker window. You can use this picker window to add additional users and groups to the Edit Restrictions window. You can remove your added users and groups by selecting one or multiple rows in the Selected Users/Groups block.

After you add restrictions in the **Edit Restrictions** window the left-hand block displays the list of all users and groups with restrictions to the form attributes. When you select a form attribute such as **Audit Log** or **Comments**, the right-hand block displays the list of all the restricted users and groups. A user who has restricted access to selected record attributes like **Audit Log**, **Comments**, or **Linked Mail** viewing in the business process record will not see those tabs.

Example

User U1 has "Hide Upper Form Properties - Comments and Linked Records." At run time, when user U1 creates a new business process record or opens an existing record, both the Comments and the Linked Records tabs will not be seen in the record.

Attachments

When a user is restricted to only the download of the attachments, in user mode the user can view the attachments in the business process record but will not be able to download them. The **Download** option is removed from **Attachments** tab and also in **Review** window.

In this case a restricted user who views the attachment in native view the attachment will open in Unifier viewer, in read-only mode.

A restricted user will not be able to receive the attachments through email notifications received from a business process record for which the user has restrictions to download attachments.

Line item Attributes

You can assign restrictions to users and groups for the Detail Form properties (**Attachments** and **Linked Records** for each **Line Item** tab). These additional Detail Form attributes will be seen only for the business processes that have the Detail Form defined in them.

The Detail Form properties seen in the Record Properties window will vary for each business process and is based on the design, in uDesigner.

Users and groups can be restricted to download attachments from the **Line Item** tab, similar to the Upper Form, as described in the **Attachments** section above.

Additional information

Users and Groups who have permissions to "Hide Record Audit Log" and "Hide Task Statuses" are added to the restricted users and groups viewers list in the "Record Properties" tab, in the business process setup.

All of the record level and Line Item tab restrictions are available for all business processes (company, shell, and project levels) that supports standard UI.

The restrictions are applicable to all users or creators, task assignees, step editors, record editors, and CC'd users who are part of the workflow in the record.

Visibility of tabs will be applicable to both Action and View Forms when user has tab restrictions to the BP.

For Non-Workflow BPs, "Workflow Progress" (under the Upper Form properties) will not be available in the Record Properties, both at the design and at the setup level.

For Company-level BPs, "Linked Mail" will not be available in Form Properties.

For Simple and Text-type BPs, the option to hide the Detail Form properties will not be available.

For Document-type BPs, "Attachments" will not be seen in Upper Form Properties and system defined tab in Line Item Properties.

> **Note**: The additional restrictions are not applicable to bid users. Bidders will be able to see all the attributes even though requestor have restricted access.

When certain form properties are hidden in uDesigner, for a business process, then those form properties will not be shown in the Record Properties tab in the BP setup.

Users or Groups who have record tabs view restrictions, in the BP setup, then at run time those selected tabs will not be seen in the business process record. This is applicable to both company sponsored and partner users.

Assigning restrictions to users and groups will impact their ability to see the record properties tabs (tabs in the right-hand pane, when the user opens a record) of the following nodes:

- Logs
- Drafts
- Tasks
- Master Log
- Company Log
- Single-Record BP Log
- Portal BP Log

Set up Permissions for Record Properties Tab (Non-Workflow)

To set up permissions for the **Record Properties** tab:

1) Go to **Company Workspace** and switch to the **Admin** mode.
2) Click **Company Sponsored Shells** to expand and click to select the <BP NAME> and open the BP (Workflow or Non-Workflow).
3) Click **Setup** to expand.
4) Click **Business Process**, open <SETUP NAME>, and click the **Records Properties** tab.

Setting Up a Workflow Business Process

These procedures are applicable to project, shell, and company-level workflow business processes.

Important information

Once a workflow record is created by using any workflow schema (unique combination of Setup Name + Workflow Name), the workflow record continues to reference the workflow schema even if the Status of the workflow schema has been set to Inactive.

This condition includes workflow records that are in the following statuses:

- Draft
- Initiation Step (I-Step)
- Also, this condition includes any workflow record at any other step in the workflow.

If there is an Active BP Template, then the Template continues to create records referencing the Inactive workflow schema. For instructions on creating a template, see Create BP Templates and Schedule BP Creation.

Basic workflow set up in General tab

To set up a workflow business process

1) From the Business Processes log, select a BP and click Open. The Setup log opens.
2) Click New. The Select Workflow window opens.
3) Click the Workflow selection list and click OK. The Business Process Setup window opens.

Note: You may configure a setup for multiple workflows by repeating this

procedure for each workflow available for the business process.

4) Complete the General tab (see the table below).

In this field:	Do this:
Setup Name	Enter a unique name (required field).
Description	Enter an optional description of the setup.
Help File	Allows you to add a custom PDF help file.
Auto Creation Workflow	The workflow to use for the auto-created BP. ***Workflow setup in General and Setting tabs*** (on page 560).
Auto Creator	Select the name to use as the creator of any auto-created records of this BP.
Auto Action	Select the step to use as the first step in the workflow of auto-created records.
Send error notification to	Specify the user to receive error notifications.
Default Record format for Notification and Document Manager	This option has two purposes: ▸ If you want notification sent to users whenever a business process record is created or modified, use this option to specify the format in which you want the notification to be sent. ▸ If you have checked the Save Record Information to Document Manager check box, use this option to specify the format in which the business process records should be saved.

Selecting BIP Custom Print (Format > Custom)

The following is a list of conditions applicable to BIP Custom Print.

- Only Published BIP Custom print templates can be selected while setting up the Business Process; however, if you make any changes to the Published template and do not re-publish it to BI server, the selected template will continue to remain in the Business Process (BP) setup option. Any record information sent as email attachments will contain data from the last published version existing in the BI server.
- If the BP setup has been done in a Project/Shell template, then when you update the setup information onto instances of Projects/Shells, the setup gets pushed.
- If you delete the BIP Custom Print template selected in the BP Setup window, then the system removes the deleted BIP Custom Print template from the BP setup.
- If the system does not generate the print output, for example due to server issues, then the email attachment, which contains the record information, generates an error message.

- Custom Print template included in the BP setup can be exported in the Configuration Package. By virtue of tagged BP design, the corresponding BP Setup from the tagged Shell template will also be included. If the Custom Print Template is not tagged, then the Configuration Package export will result in an error.

> **Note**: If the BIP Custom Print output could not be generated because of connection issues to BIP Server or inconsistencies in between Custom Print on Unifier and BIP Server, then notification emails for Business Process modification will have an "error.html" document (as an attachment) instead of a record information document. If the record information is Published to Document Manager, then a 0 KB document will be published to the Document Manager.

Designate additional editors for Business Process records

Normally, the editors of any record must be an assignee on the step of the workflow. However, there are times when a record may need editing by someone other than the step assignees. For example, the owner of a purchase order record should be able to attach revised documents to the PO at the end step of the workflow. Or, an engineer who has sent a task to an architect realizes that some drawings are missing from the record. The engineer should be able to attach the documents to the record, even though the task assignee is now the architect.

The Settings tab is where you can designate non-assignee editors for business process records. (These editors must have permission to at least view the record.) Editors designated on this tab can open records and modify the upper or line item content of the record. Changes made by these editors are recorded in the audit log. Whereas step assignees will see the form that is attached to a step, the record editors you designate on this tab will see a specific form for editing. This form must be specified in uDesigner when the business process is created.

> **Note**: The editors you specify on this tab are record-level editors. You can designate additional editors at the step level when you set up the workflow. See ***Define the Business Process Workflow*** (on page 561)

To designate additional editors for records.

1) Click the **Settings** tab.
2) In the **Record Editor(s)** field, click the **Select** button and choose the users or groups who should have editing privileges on this record.
3) Click **Apply** to save these settings.

Set up email notification for a workflow BP

Use the **Notification** tab to set up automatic email notifications to users and groups whenever a non-workflow business process is created or modified, either manually, or via auto-creation, reverse auto-population, CSV, or integration.

Note: If the business process has been designed to allow users to include additional users or groups in the email, the email notification will be sent to them as well.

1) Use the information in the table below to complete the Notification tab.
2) Click **Apply** to save your changes and **OK** to exit.

In this field:	Do this:
Send notifications to	Click Select and choose those users or groups that should be notified whenever a non-workflow business process is created or modified.
Notify creator on record modification	By default, this check box is checked. If you do not want the BP creator to be notified when the business process is modified, de-select this check box.
Notify Assignee of Record Modification	Select this check box if you want the assignee(s) on a step to be notified whenever the business process record is edited.
Notify Cc on Record Modification	Select this check box if you want the users who have been Cc'd on a step to be notified whenever the business process record is edited.
Notification triggering events	The fields you select here will tell Unifier when to notify the users or groups.
Edit Upper Form	Select this check box if notification should go out whenever the upper form of a record is edited.
Add/Edit/Delete Line Items	Select this check box if notification should go out whenever a line item is added to the record, edited, or deleted from the record.
Add General Comments	Select this check box if notification should go out whenever comments are added to a record.
Add/Remove Attachments	Select this check box if notification should go out whenever attachments are added to or removed from a record.
Attachments	The fields you select here will tell Unifier how to add attachments to the record.
Include both record and line item attachments	Select this check box if the notification should include both the record and the line item attachments.
Include record information as attachment	Select this check box if the notification should include the record information as an attachment.

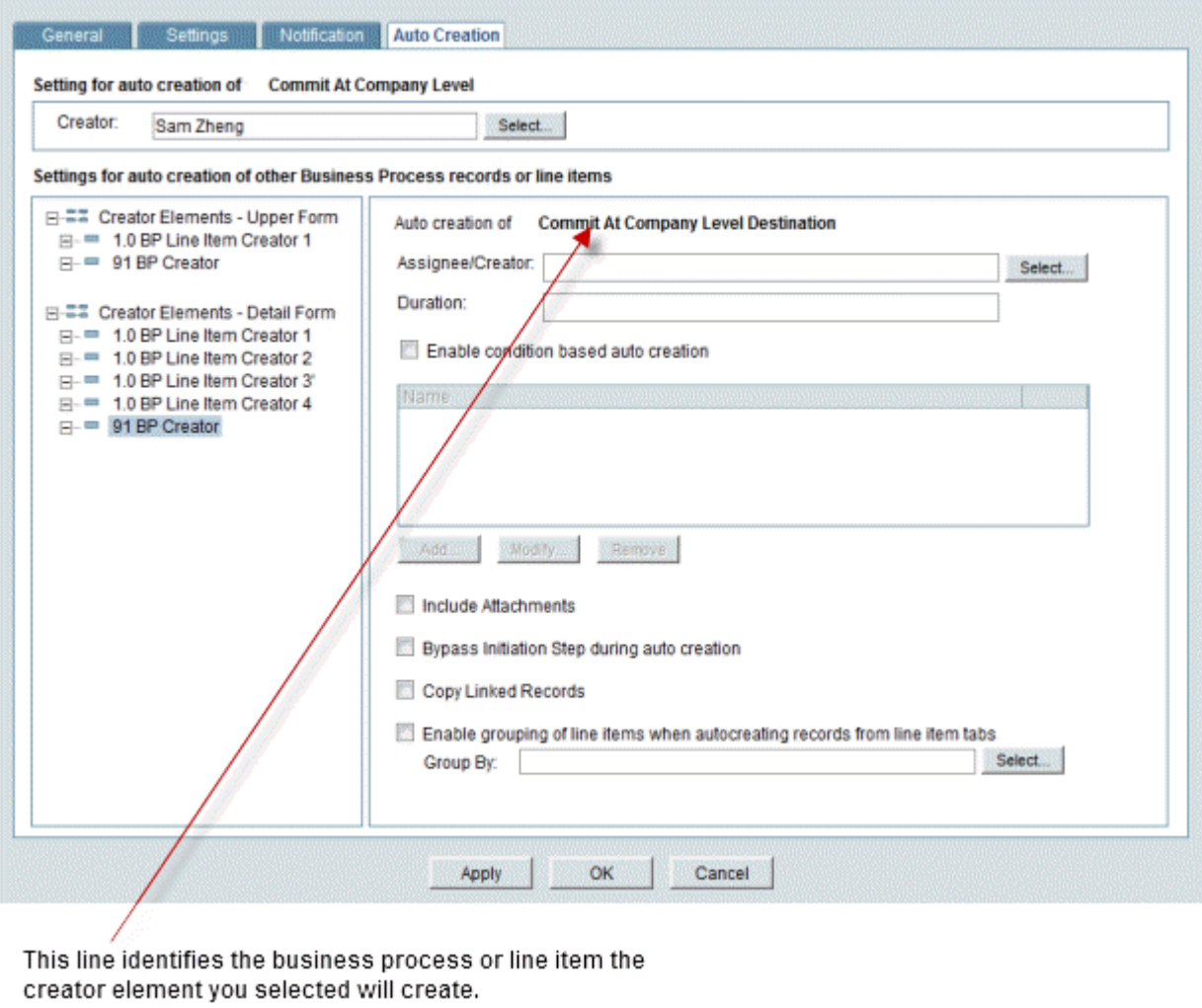
Set up auto-creation for a workflow BP

On the Auto-Creation tab, you can set up this business process to automatically create another record or line item for this business process. You can also set up this business process to automatically create other business processes, planning items, or line items if the form includes a creator element.

For information about auto-creating business processes or planning items, see ***Auto-creating a Business Process record or Planning Item Based on conditions or frequency*** (on page 581).

To set up auto-creation of a workflow business process

1) Click the **Autocreation** tab.
2) Under **Settings for auto creation of** [*name of the business process, planning item, or line item you are setting up*], complete the following fields as shown in the table below (at the end of this topic).
3) Under the section **Settings for auto-creation of other business process records or line items**, select the creator element under the upper or detail form.



This line identifies the business process or line item the creator element you selected will create.

4) (Not an option for line item creation.) In the **Assignee/Creator** field, click the **Select** button and choose the name of the user or group who should assume ownership of the auto-created record.
5) (Not an option for line item creation.) In the **Duration** field, specify the duration of the workflow for the auto-created record.
6) If you want the auto-created record to include attachments from the original (source) record, select the **Include Attachments** check box.

   If you select this option:

   - Any record-level attachments made to the source record will appear at the record level of the destination record.
   - Any attachments made to the line items of the source record will appear at the line item level of the destination record.

   > **Note**: This step is not applicable for Document type business processes.

7) (Not an option for line item creation.) If you want to bypass the I step that this auto-creation normally creates, select the **Bypass initiation step during auto creation**.

   If you select this option, the auto-created BP will skip the initiation step and will appear in the user's BP log at the appropriate step in the workflow. (For more information, see ***Auto-creating a Business Process record or Planning Item Based on conditions or frequency*** (on page 581).)
8) If you want to copy any records that are linked to the original record, select the **Copy Linked Records** check box.
9) (Not an option for line item creation.) If you want to group line items into a single record, select the **Enable grouping of line items when autocreating records from line item tabs** check box.

   In the Group By field, click Select and select the data element (or elements) you want to group by. If the values in these data elements match for any of the line items, Unifier will auto-create a single record for them. For more information, see ***Grouping line items into single records*** (on page 582).

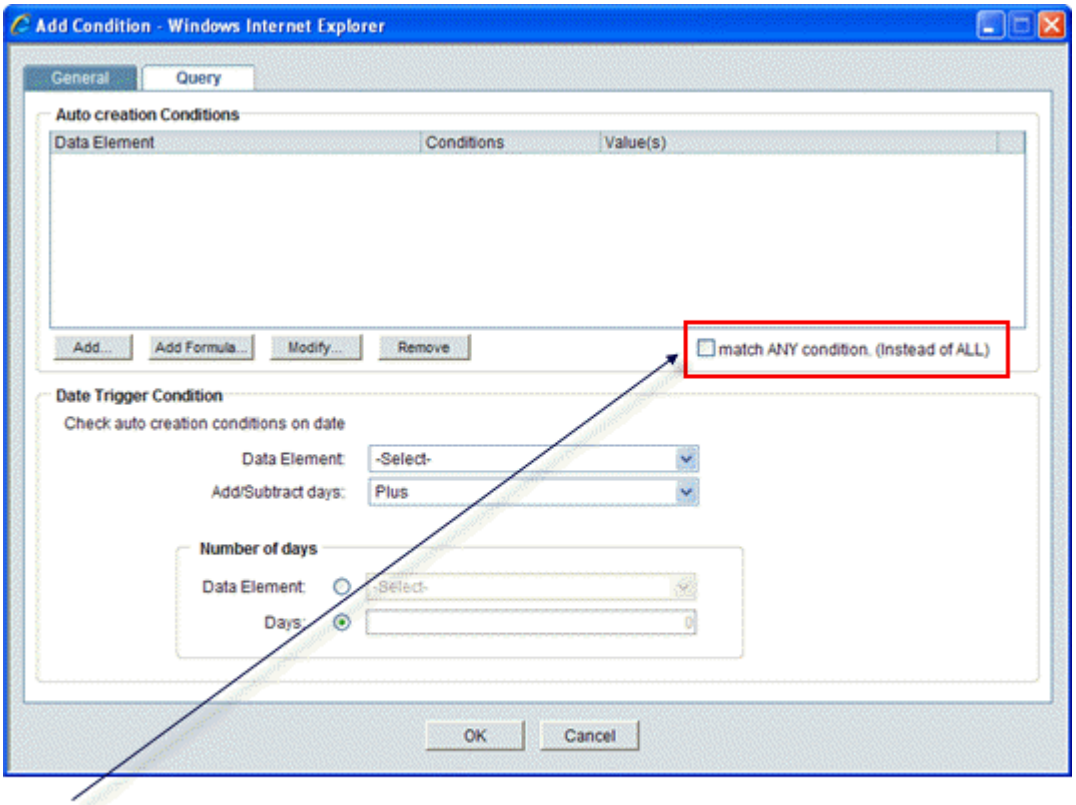
   > **Note**: If you leave the Group By field blank, Unifier will auto-create a single record containing all the line items on the source record.

10) To create the conditions that will trigger the auto-creation, select the **Enable condition based auto creation** check box and continue as follows:

    > **Note**: If you leave this check box un-checked, the BP, planning item, or line item will be available for manual creation only.

    a. To add a trigger condition, click the **Add** button. The Add Condition window opens.
    b. On the **General** tab, enter a name for the trigger and a description.

c. Click the **Query** tab.



Select this check box if the query can match any single condition to extract the information. If the query must match ALL conditions, leave this check box unmarked.

The Query tab is where you will define the conditions the data must meet before Unifier will auto-create the new business process record.

In the upper section of the window, you can specify that a field on the business process form:

- Must meet a certain criteria or value
- Must meet a certain value based on a formula using the numeric fields on the form

Click the Add button to specify a condition for a field on the business process form. Click the Add Formula button to create a formula that the value of the field must meet. Use the information in the ***Queries*** (on page 51) section to complete the query.

In the lower section of the window, you can specify a date condition that will trigger the auto-creation. Use the information in the ***Queries*** (on page 51) section to complete the query.

Notes:

Date condition triggers are not available for line item auto-creation.

About Date Triggers:

- If you want to create a continual date trigger condition, make sure you use the Date Trigger Condition section of the window to create it.

Although you can also create a date trigger using a formula in the upper section of the window, Unifier will process the triggers differently.

- The conditions you specify in the upper section of the window will be processed only once, when the user clicks the Send button on the form to send the form to the next step in the workflow. However, the date conditions you specify in the Date Trigger Condition section will be processed daily.
- This behavior is important to consider when you are creating a date condition that occurs in the future. A date trigger specified under the Date Trigger Condition section will be processed daily, and will, therefore, "catch" the trigger condition when the future date occurs.

d. Click **OK**.

11) Click **Apply** to save your changes, or OK to save and exit the window.

In this field:	Do this:
Setup	Specify the workflow setup that the auto-created business process or planning item should use.
Creator	Click the **Select** button and choose the name of the person or group who should assume ownership of the auto-created record.
Action	Specify the step in the workflow that should be used as the first step in the workflow of the auto-created BP or planning item records.

Workflow setup in General and Setting tabs

This section explains how to set up workflows. Workflow setups can be time-consuming. Unifier offers other options of copying or importing workflow setups. To use these options, see ***Copying Workflow Setups from Other Schemas*** (on page 587) or ***Importing Workflow Setups from One Environment to Another*** (on page 593).

1) In Administration mode:
   - To set up a workflow in a company level business process, click the Company Workspace tab and, in the Navigator, go to Company Workspace > Business Process Setup.
   - To set up a workflow in a project/shell level business process, click the project or shell tab and, in the Navigator, go to Setup > Business Process.
2) On the right pane, double-click the business process you want to set up.
3) In the Navigator, click **Workflow Setup** and on the right pane, double-click the name of the workflow you want to set up.

   The Workflow Setup window opens.
4) Complete the **General** tab for the workflow. See the table below.

5) Click the **Settings** tab to configure the workflow. ***Define the Business Process Workflow*** (on page 561).
6) When the setup is complete, return to the General tab and click the **Error Check** button. This validates the setup, including checking that all steps have assignees. An error window opens identifying any errors that will prevent the setup from being activated.
7) If there are no errors, click **OK** in the Setup window. You will be prompted to activate the BP. Click **Yes** to activate the BP and make it available to users, or click **No** to keep the BP inactive until a later date.

In this field:	Do this:
Setup Name	Enter a workflow business process setup name.
Description	Enter an optional description of the workflow setup.
Status	Select Active or Inactive.
Error Check	Click to check the workflow for errors when the workflow setup is complete.
Default format of record information attached to email notification	Select PDF of Custom. If you select Custom, click Add to choose the custom print format.

Define the Business Process Workflow

In the Settings tab of the Business Process Setup window, you can configure the workflow details. The workflow step settings are arranged in a tree structure, showing all of the steps. From here you can set up the overall workflow setup, individual step setting, steps that lead to conditional routing, links with auto-creation of business process, and sub-workflow settings. These procedures are applicable to project- and company-level workflow business processes.

Overall Workflow Settings

The following describes the settings for the overall workflow. Select the top option in the left navigation pane to access these settings. Click the scroll bar on the right to scroll down the window and view all fields.

In this field:	Do this:
Enable Workflow Duration	When **Yes** is selected, records created with this instance will be marked as late when the defined amount of time passes.
Workflow Duration	You can optionally set the duration of the workflow.
Override Workflow Due Date	User can override the due date for the workflow. Be sure to select Yes for this option if you are using Scope Management and have selected Enforce Activity Finish Date for the

	Record Due Date for the activity business process. ***Setting up Scope Management for Activities*** (on page 830).
Project Phase (*Project-level BPs only*)	Setup is valid only during the specified project phase. This is not applicable for company level BPs.
Notify users or groups on workflow completion	Selected users or groups will be notified once the workflow is complete.

Settings for Standard Workflow Steps

This setup is for standard workflow steps. The Settings tab displays the steps that are available for the selected BP, and therefore will vary depending upon how the BP has been designed in uDesigner. Not all selections discussed below will be available for all workflow steps. In addition, depending on the BP design, not all fields will be editable. The following is an example of a creation step. Click the scroll bar on the right to scroll down the window and view all fields.

Select a workflow step to access these settings.

About Create and End Steps

The Create and End steps in a workflow have unique characteristics you should be aware of during the design and set up of the workflow.

	In uDesigner	**In Unifier Administration**
For the Create step	You can rename the Create step to something else if you want. You can place only outgoing links on the Create step. You can attach only action forms to the Create step. You cannot send a link back to the Create step. If the workflow requires that a form be sent back to the creator (Create step), add a separate "back step" or "revision step" that will send the form back to the creator.	You cannot "Cc" users on the Create step. A workflow cannot send a link back to the Create step. If the workflow requires that a form be sent back to the creator (Create step), the workflow design should include a separate "back step" or "revision step" that will send the form back to the creator. If your workflow includes such a "back step," specify **match step <Creation>** for the Assignees on that step.

	In uDesigner	In Unifier Administration
For the End step	You cannot rename the End step. You can place only incoming links on the End step You can attach either an action form or a view form to the End step.	You can "Cc" users on the End step. You can send the form to the editors who have been assigned to the form. You can add comments to a business process at the End step, and also at any status in a workflow, including "terminated.".

In this field:	Do this:
Step Name	You can click the link to view a graphical representation of the workflow, with the current step highlighted. Be aware that workflows can often be very large. If you are viewing a large workflow, you can enlarge the canvas screen to make it easier to see all the steps to the workflow progression. To enlarge the canvas, you can drag the window sides until the workflow fits in the window, or you can quickly maximize the canvas. To maximize the canvas, click the icon in the upper-right corner of the window. To restore the canvas window to its normal size, click the Restore icon.
Description	Enter an optional description to help identify the workflow.
Duration	Choose the time length for this step.
Override Task Due Date	Allows user to override due date for an individual task.
Allow Decline Step Task	Click **Yes** if you want the assignees to have the ability to decline an action on an assigned task.
Enable Step for Integration	Click the radio button if you want this step to be available for integration with an external system, such as Web Services. If you make the step available for integration, the user can use the external system to view a read-only copy of the BP at that step. **Note**: If you select this option, the Completion Policy field (see below) will be set to "Single," and the Assignment Policy field for the following step must be set to "Preassigned."

In this field:	Do this:
Assignment Policy	For **User Select** (default), the individual who creates a record (such as an invoice) from this workflow instance can choose the users to assign to this task from the list of assignees for this step. For **Preassigned**, every user on the assignee list is automatically assigned to the step when the record is created.
Assignees	Select the users to assign to this step. These users will receive task notifications, instructing them to take action at this step. When you click the **Select** button, you can choose one these options: **User Picker:** Unifier displays the User/Group Picker window. Choose one or more users or groups to add as assignees. **Dynamic:** Choose a step in the workflow from the Select Step pop-up window. The assignees from that step become the assignees used on this step. You cannot choose Dynamic when adding assignees to the first step (Creation) in the workflow. You can constrain the list of assignees for this step by selecting the Additional conditions to filter assignees check box. To constrain the list of assignees, you need to create a query to filter the assignees using criteria you specify. To do this, click the Define button and specify a field comparison. For information on creating this type of query, use the information in the ***Queries*** (on page 51) section to complete the query. The filter conditions defined are executed, as AND/OR, depending on the checkbox: **Show results matching any condition (instead of All)**
Allow Cc	Allows assignees to add cc users who will receive a view-only copy of the BP record. Choose one of the options: **No:** Does not allow sending copies to other users. **Yes:** Click **Select** to create the list of users or groups from whom the BP users can choose to Cc. (This option also activates the Allow Add Cc functionality.) **Preassigned:** Click **Select** to choose the users who will be automatically cc'd. No other users can be copied. **Preassigned and Allow Add Cc:** Click **Select** to choose the users who will be automatically cc'd. The Allow Add Cc option is set to Yes. **Note**: You cannot allow Ccs on the Create step. You can constrain the list of Cc users for this step by selecting the Additional conditions to filter Cc users checkbox. To constrain the list of Cc users, you need to create a query to filter the Cc users using criteria you specify. To do this, click the Define button and specify a field comparison. For information on creating this type of query, use the information in the ***Queries*** (on page 51) section to complete the query. The filter conditions defined are executed, as AND/OR, depending on the checkbox: **Show results matching any condition (instead of All)**

In this field:	Do this:
Allow Add Assignees	Allows assignees to add additional assignees in addition to those defined in the Assignees field to the current step. Assignees can add the additional assignees *before accepting the task*. This is done by clicking the **Edit** menu and choosing **Add Assignees to Current Step**. For example, user A has been sent a BP for review. User A wishes to add user B as an assignee to the review step as well. Before clicking Accept Task, user A chooses Edit > Add Assignees to Current Step and adds user B. User B is notified (depending on email preferences) of the new task. Both user A and user B can accept the task and participate in the review step of the workflow. **Note**: You cannot add assignees on the Create step.
Allow Add Cc	This option has two functions: 1. When the Allow Cc field is set to Preassigned and Allow Add Cc, this option is set to Yes automatically. It enables BP users at runtime to copy additional users on a BP step that already has a preassigned cc user. This is done on the action form of the BP during the regular workflow step by selecting the Cc button. Click **Select** and choose the users/ or groups that can be copied. 2. This option becomes available (choose Yes or No) if Allow Cc is set to Yes. Similar to Allow Add Assignees, this option allows assignees to send a copy of the current step of the BP to additional users in addition to those defined in the Add Cc field. Assignees can add the additional cc users before accepting the task. This is done by clicking the **Edit** menu and choosing **Copy Users to Current Step**. For example, user A has been sent a BP for review. User A wishes to add user B as an assignee to the review step as well. Before clicking Accept Task, user A chooses Edit > Add Assignees to Current Step and adds user B. User B is notified (depending on email preferences) of the new task. User A can accept the task and participate in the review step of the workflow. User B can review the view-only copy. Note: You cannot add Ccs on the Create step.

In this field:	Do this:
Step Editors	Optionally, you can define one or more editors per each defined step in the business process workflow setup. Editors are users who can edit the business process without being granted explicit record-level permission or as assignees of the step. This allows users other than the assignee to edit the business process record. If you are an Editor on a business process step, you can open and edit any record on the step. Editors can be added on these BP types: Line Item Cost (all types, including Lease and Line Item with Multiple Codes) Document Simple RFB Text The Editor functionality has these attributes: The user who is designated as an editor must have a minimum of View User Records to the BP log in question. All edits are done through the BP Log. Editors cannot edit a workflow record until the task assignee accepts the task, and saves the draft. Editors cannot be defined on the creation step of a business process. Editors can be defined on the end step. Editors can be defined on a workflow step only if the Completion Policy is Single. (Unifier will generate an error if Completion Policy is set to All Majority or Consensus.) Editor on a task receive notification each time a draft is created. If multiple editors and the assignee are editing the business process record draft, the data saved by the last update will overwrite all previous updates. Edits performed on the End step of a workflow business process affect the record directly, as no draft exists. Edits that occur on the end step are captured in the audit listing the editor who performed the edit. Edits performed by record editors appear in the Audit log. Note: You cannot assign editors on the Create step.
Discussion Group (Classic View only)	Specify assignees for discussion groups on the BP. Note: You cannot assign discussion groups on the Create step.

In this field:	Do this:
Step Revisiting	If a step is rejected and sent back for clarification or editing, this option determines to whom the BP can be sent back (which assignees will be available for selection): **Include only previous action takers:** Only the assignee users who were selected when the workflow moved into that step originally are eligible to be reselected. **Include all step assignees:** All assignee users are eligible to be selected. Note: You cannot specify step revisiting on the Create step.
Completion Policy	Choose one of the following: **Single:** If any assignee completes the task, no matter which action is taken, the record moves forward to the next step. **All-Majority:** All assignees are required to respond. If there is no clear majority, Unifier uses the resolving action to determine what path through the workflow to take. **All-Consensus:** All assignees are required to respond. If there is no consensus (all must agree on the action), Unifier uses the resolving action to determine what path through the workflow to take. **Note**: You cannot assign a completion policy on the Create step.
Advance workflow when next step is determined	Select this option if you want to allow the user to choose that a step be completed without all assignees having to act on it, if the result can be determined without the assignee action. This is to prevent unnecessarily wait for all users to take action on the record before moving it to next step. Note: If you select the Completion Policy as "All - Majority" or "All - Consensus", then Unifier enables this checkbox. The checkbox is unchecked by default.
Resolving Action	This moves the step to either a following step, a previous step, or a conditional step that essentially "re-addresses" the task. This step must be completed before the workflow can continue. The assignees on this resolving action step can include the original task assignees and can also include new assignees. Note: You cannot assign a resolving action on the Create step.
Overdue Policy	You can choose to send late notifications to all assignees if the step passes its duration. Note: You cannot assign an overdue policy on the Create step.

In this field:	Do this:
Commenting	You may select either of these options regarding commenting. These refer to the general comments on BP forms, as well as comments regarding individual file attachments on document-type BPs. **Allow hiding of comments:** Allows users to hide comments. The comments will remain as part of the record, and administrators and others with permissions can view the comments, which are not visible to others without the view permission. **Allow deletion of comments:** Allows users with permission to delete comments previously added to the BP record. **Allow cc users to add general comments:** Allows users copied on a step to add general comments without accepting the task. Not available on the end step. Notes: - You cannot include comments on the Create step. - Task assignees can also add general comments without accepting the task if they have been given the **Add General Comments** permission on the business process. With this permission, they can add a general comment to any BP record they can view (workflow or non-workflow), regardless of the workflow step (including the End step), and regardless of the assignee or Cc settings. For more information on this permission, refer to the Permissions chapter in the *Unifier Reference Guide*.
Email Response: Enable response via email	By default, this checkbox is unchecked. When enabled, this allows users who receive email that is sent out when a workflow reaches the current step to respond and take actions in Unifier via email. The checkbox appears on all workflow steps other than the creation step. The email that the user receives includes hyperlinks to workflow actions. When you are taking an action in a Workflow by way of email, if you include attachments, the attachments can be seen under the General Comments section of the BP record. **Notes**: - You cannot enable email response on the Create step. - To enable the attachment of files to email responses to workflow actions, this option must be selected as well as the Add Attachments option on the Options tab in the Action Form design in uDesigner.

In this field:	Do this:
Email Attachments: Include both record and line item attachments Include record information as attachment	Select to specify the content and format of email attachments. You can include business process record and line item attachments, as well as business process record information. Also, you can override the attachment format set in the General tab if necessary. **Note**: You cannot enable email attachments on the Create step.
Override default format	If you have specified a default record format on the General tab, you can use this check box to override the default format. For example, you can use the General tab to specify that the default record format for both email notifications and records saved in the Document Manager be in PDF format. If necessary, you could then use the Override default format check box to override the format and choose Custom for the notification only. **Note**: Hidden comments on a particular step in the Workflow and permission settings applied to certain data in the UI are retained in the custom print output.
Email Content	You can add additional information that will be sent out as part of task notification. **Note**: You cannot add additional information on the Create step.
Cash Flow Default Template	This option only appears in CBS code-based Base Commit business processes. It allows you to enable the auto-creation of a commitment-level cash flow curve at runtime for the business process record. The curve is based on the selected commitment-level cash flow template, and is created upon being sent from the step. Click Add and choose a template. For more information, see ***Setting Up Auto-Creation of Cash Flow Curves from Contracts*** (on page 585).
Additional Information Save Record information to Document Manager	Select this check box if the record information (including BP comments and attachments) should be automatically saved at this step in the Document Manager.

About Completion Policies, Resolving Actions, and Their Statuses

As administrator, you will set a completion policy on each step in a workflow. This policy determines when the step is complete and where the step proceeds from there. A step can be complete under the following conditions:

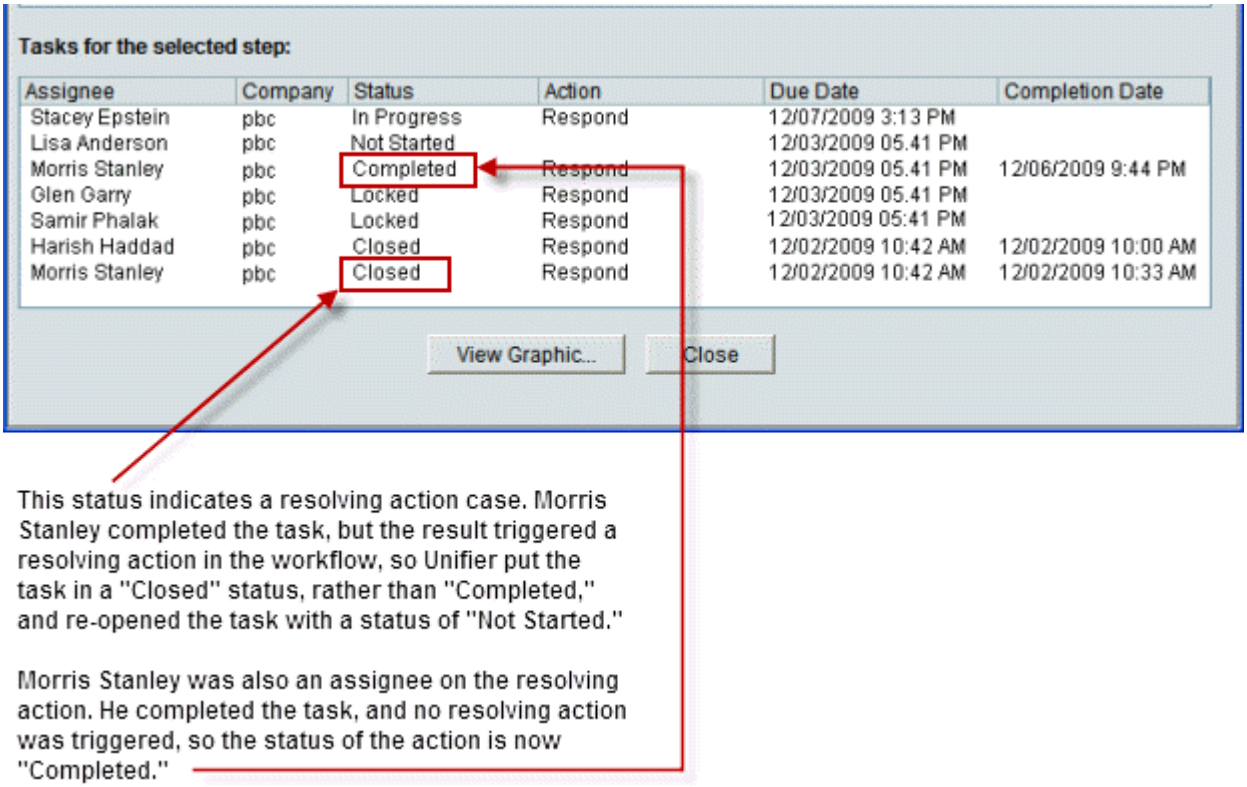
- Any single user can accept a task and complete it, and the record will move forward to the next step. This is called a **single** completion policy.
- All assignees to the task have responded to it and a majority has agreed on the action that moves the record forward to the next step. This is called an **all-majority** completion policy. If there is no clear majority on the action, Unifier will use a *resolving action* to determine how the record moves forward.
- All assignees to the task have responded to it and all assignees have agreed on the action that moves the record forward to the next step. This is called an **all-consensus** policy. If there is no consensus on the action, Unifier will use a *resolving action* to determine how the record moves forward.

A **resolving action** moves the step to either a following step, a previous step, or a conditional step that essentially "re-addresses" the task. This step must be completed before the workflow can continue. The assignees on this resolving action step can include the original task assignees and can also include new assignees.

The statuses you see on this window are internal to Unifier and are used only to display the status of the workflow step relative to the completion policy. These statuses are:

- **Not Started:** The assignee has not accepted the task.
- **In Progress:** The assignee has accepted the task.
- **Locked:** This status is used when the step has a single completion policy and one of the assignees accepted the task. This status denotes those assignees who were also assigned to the task, but because of the single completion policy, the task was locked and these assignees no longer have access to it.
- **View Only:** This status indicates that this user was cc'd on the task, but is not expected to take action on the task.
- **Completed:** This status is given to an assignee's action if the task was finished and needed no resolving action. At any step, a task can have only one status of "Completed."
- **Closed**: This status is given to an assignee's action if the task was finished, but triggered a resolving action. The task will either return to a previous step, move forward to a next step, or divert to a conditional step, which will resolve the condition and move the task forward in the workflow. The step the action moves to for resolution will show a status of "Not Started." The number of times the task shows a "Closed" status indicates the number of times the step has been revisited.

To illustrate:



Settings for Conditional Routing Steps

Conditional routing steps are child nodes of the steps that lead to the condition routing. Auto-routing steps are shown with a diamond in front. Set up routing conditions on these steps.

Remember that the next step in the business process workflow will be dependent upon the value entered on the BP for the data element. When you are finished setting up this conditional routing step, the Settings tab will show two steps that represent the two options for the step that follows this auto-routing step. You define both of them, but the BP will follow just one of them based on the trigger.

In this field:	Do this:
Condition Name	Name of the condition. Can be configured for each setup.
Resolving Condition	Select this checkbox if this routing action goes to a step that is meant to resolve the condition.
Operator	**AND:** All the conditions that are defined should be satisfied to satisfy a condition. **OR:** At least one of the conditions should be satisfied to satisfy a condition.

Trigger Elements	Elements that are selected as part of design. Value of these elements will be resolved to route workflow. Can be one or more elements depending upon design.

Settings for Auto-Create Steps

Some steps include the ability to auto-create other records, depending on the status of the previous step. It is displayed as a child node from which the link is drawn out. For document-type BPs, the auto-creation of BP records will also copy attachments from the original record.

In this field:	Do this:
Auto-create records	Choose one of the following: **As per workflow design:** Auto-create BPs that were configured as part of the design in uDesigner. **Based on user selection during execution:** During execution, user will be given a list of BPs that are selected under workflow design in uDesigner. User can choose which BP record should be auto-created. **Process list:** Select a list of BPs for which the system will auto-create records during execution.

Settings for Sub-Workflows

A sub-workflow is a mini workflow within a main workflow and is part of the uDesigner workflow design. It is a grouping of one or more steps. A sub-workflow node will be child node of the main workflow and a sibling of other steps and sub-workflow nodes.

In this field:	Do this:
Sub-workflow Name	You can click the link to view the graphic of the sub-workflow.
Description	Capture more information about the sub-workflow.
Enable Sub-workflow duration	Similar to the main workflow. A duration can be set for the group of steps.
Overall Sub-workflow duration	Similar to the main workflow. Overall duration for the group of steps.
Override Sub-workflow due date	Similar to main workflow. User can override sub-workflow due date during execution.

Set up View Forms for Workflow Business Processes

A view form is the read-only version of a business process form that appears when the recipient first opens the form. Unifier uses the view form to show a preview of the record in the log. The view form enables the user to view record details. The fields in a view form cannot be edited. A view form may also be used when the designer does not want the user to be able to change the data on the form.

> **Note**: Business process forms can only be printed from a view form.

As an Administrator, you can set up different view forms such that details that are relevant to users are seen. Up until now, there was no provision to assign view options to specific users or groups. That is to state that the users with only "View" permission could see the entire form and there was no way to control which segments of the form could be viewed. With this enhancements you can set user-permissions so users can view the entire form, a portion of the form, or a limited set of data on the form, for record preview in the log as well as for viewing record details.

When you set up a workflow business process (all levels and record instances), you can use the **View Forms** tab of the **Business Process Setup** window to set up different view forms such that details that are relevant to users are seen. To access the **View Forms** tab:

1) Go to your project or shell and switch to the **Admin** mode.
2) From the left-hand Navigator click **Setup** to expand and click **Business Process** sub-node.
3) Open the business process that you want to set up different view forms for.
4) Select an item under the **Setup Name** column and open.
5) Click the **View Forms** tab to open.

Use the steps above to remove, move up, or move down existing view forms.

From the **View Forms** tab:

- You can add view forms to a BP setup.
- Assign settings to users and groups for individual view forms.
- Apply your settings to task assignees and copied (cc'd) users who view the record.
  - If ask assignees and copied (cc'd) users have restricted access to only one of the view forms listed in the window, then that view form will be displayed at runtime.
  - If ask assignees and copied (cc'd) users have access to none of the view forms listed in the window, then the step form will be displayed at runtime.
  - For copied (cc'd) users the restricted view form will be seen both from Notifications and Logs.

> **Note**: If the users or groups have permission to view multiple view forms, then they will see the view forms based on the sequence listed in this window.

To add a view form:

1) In the **View Forms** tab, click **Add** to open the **Select View Forms** window.

2) Under the **View Forms** column, a list of view forms from the BP design is displayed. Select as many forms as you need and click **OK** to add the view forms.
3) After the form has been added, the right section will display the **Permission Settings** block. The **Permission Settings** block contains the **Viewers** field. Use the **Select** option to see the users or groups picker (**Users/Groups**) and add. The list of users and groups seen here will be the same as the ones seen when assignees are being set up in the workflow setup.

An administrator can select the view forms that need to be set up for a given project or shell. The design for a BP can have multiple view forms, but for a select project template, or shell template, the administrator can set up one view form, only.

If users have access to a deployed view form and that view form is deleted in uDesigner, then at runtime, the a user opens the BP record, Unifier checks that user's permission to any of the BP view forms that exist in the setup. If the use does not have access to any of the BP view forms that exist in the setup, the Unifier displays the Action form for that BP in view-only mode.

Important information about deleting View Forms

As indicated in the *Unifier uDesigner User Guide*, you can design a BP form (in the Staging environment), add view forms associated with a BP form design to the Business Process Setup (View Forms tab), assign permissions to users and groups for the individual view forms, and deploy the view forms so they can be accessed through the record preview in the log (Logs and Company Logs) for viewing record details.

Due to the system limitations, an anomaly occurs when you delete a view form from the Business Process Setup. The following explains this anomaly:

You have created and deployed the following view forms for a BP form ABC:

- VF01
- VF02
- VF03

You decide to delete one of the view forms. As a result, you navigate to uDesigner, delete the view form (for example, VF01), and ensure that the deleted view form has been remove from the Business Process Setup.

You decide to add a new view form (for example, VF04), for the BP form ABC, so you proceed to add the new view form in uDesigner and deploy the new view form, VF04.

At this point, due to the system limitations, the system will automatically add the newly created view from, VF04, to the Business Process Setup using the users and groups assignments originally assigned to the deleted view form, VF01. Furthermore, the availability of this added new view form (in the Business Process Setup) goes against the method that is used to deploy a new view form.

As an administrator, you must ensure that in such scenario, you open the newly created view form and assign appropriate permissions.

Set up Record Properties for Workflow Business Processes

In both Non-Workflow BPs and Workflow BPs (at the company, shell, and project levels) you (the administrator) can use the **Record Properties** tab to establish:

- The availability or visibility of the BP form properties tabs for users and groups.
- The ability to download attachments when users and groups access the BP records in user mode.

The **Record Properties** tab has the following sections:

Top: For setting up restrictions (setting restriction is done through **Edit Restrictions**)

Left: For Upper Form and Line Item (detail forms) properties and setting up restrictions for downloading attachments from the Upper Form and Line Items (detail forms). The left section displays all of the record tabs seen in both upper and detail forms. In case of Simple type and Text type BPs, only the upper form properties tabs will be seen. The Upper Form or Line Item properties options that were hidden in uDesigner will not be displayed.

Right: Users info (users or groups who cannot see the properties)

The **Record Properties** window displays read-only view of the all the users and groups who are restricted to the visibility of selected tabs, or to download of attachments for selected tabs, in **Edit Restrictions** window. You can duse the **Edit Restrictions** button to apply restrictions to users and groups.

Restricting the **Audit Log** and **Workflow Progress** options below will result in the automatic update of the same options in **Permissions Settings** of **Access Control**. The same operation applies in reverse.

The **Attachments** in **Upper Form Properties** section will not be shown for the system-defined **Line Item** tab in the Document type BP.

The additional section **Do not allow download of Attachments** will show the users and groups who are restricted to download the attachments from **Upper Form** or **Line Item** tabs in the business process record, when the attachments are visible.

The first tab seen in the **Do not allow download of Attachments** is the **Upper Form Attachments** followed by the **Line Item** tabs names (for example Guages & Meters or Components) which will be in same order as seen in the **Line Item Properties**.

The **Upper Form Attachments** tab will not be shown for the Text type and Document type BPs. Additionally, the system-defined tab will not be shown for the Document type BP, under the **Do not allow download of Attachments** section.

The tabs seen in the **Upper Form** and **Detail Form** properties will be based on each BP type.

The tabs shown in **Upper Form** and **Line item Properties** will be in the same order seen in the BP record at run time.

The **Upper Form Properties** and **Line Item Form Properties** which are already hidden in uDesigner will not be shown in this list.

Example

If Linked Records and Linked Mail tabs, from the Upper Form Properties, are set to be hidden in uDesigner > Record Properties, then those two tabs will not be seen in the BP Setup under Upper Form Properties. Similarly, if the user-set Attachments tab in the Upper Form Properties is hidden in uDesigner > Record Properties, then in the BP Setup > Record Properties the user will not be able to see the following tabs:

- Do not allow download of Attachments

Upper Form Attachments

- Upper Form Properties

Attachments

Adding tab visibility and download of attachments restrictions to users and groups

You can add restrictions to the users and groups through the **Edit Restrictions** option. The restricted users and groups will be seen on the right-hand block for the property selected on the left-hand side.

Edit Restrictions window:

When you click the **Edit Restrictions** option, a window displays which enables you to select or add user and groups and assign attribute form restrictions. The **Select Users/Groups** block (the left pane of the window) will be empty if there are no existing restrictions; otherwise, the block will list the existing restricted users and groups. Use the **Remove** option to remove the users and groups listed in this block. You can select one or more users or groups and select the **Remove** option to remove users or groups from the tab visibility restrictions.

In the right-hand section of the window, you can access and hide all of the following form properties:

Hide All Upper Form Properties

- Attachments
- Do not allow download of Attachments
- Comments
- Linked Records
- Linked Mail
- Workflow Progress
- Audit Log
- Reference Records

Hide All Line Item Properties

- <Line item tab1 name> Attachments
- Do not allow download of Attachments
- <Line item tab2 name> Linked Records
- <Line item tab2 name> Attachments
- Do not allow download of Attachments
- <Line item tab2 name> Linked Records

The **Detail Form Attributes** will be shown based on the **Line Item** tabs available in the selected business process. Additionally, users and groups can be restricted to download the attachments only from the business process record.

If a single user or group is selected on the left-hand side, then the selected user or group's existing restrictions will be shown.

The **Cancel** and **Save** options will remain disabled if you do not make any changes in the right-hand block. If you select a user or group and change the restriction options, the the **Cancel** and **Save** options will be enabled. The **Cancel** and **Save** options enable you to save or cancel the changes that have made in the right-hand block.

Once you close the **Edit Restrictions** window, the restricted users and groups will be added in **Record Properties** window.

You can select multiple rows in **Users/Groups** section, edit the restriction check boxes, and save or cancel your changes.

If multiple users or groups (on left-hand block) are selected, then the existing restrictions will not be shown in the right-hand block.

In the Attachments case, a user who has restrictions to Download will be able to view or access the attachment but cannot download or save to a local system.

Users/Groups window

When you click **Add**, the **User/Group** window opens. This picker window displays all of the users and groups that are available and selected. Once the users and groups are added, you can select the users or groups (from the left-hand block) and set the hide permissions for the form attributes (in the right-hand block).

> **Note**: Users or groups cannot be removed from the User/Group Picker window. You can use this picker window to add additional users and groups to the Edit Restrictions window. You can remove your added users and groups by selecting one or multiple rows in the Selected Users/Groups block.

After you add restrictions in the **Edit Restrictions** window the left-hand block displays the list of all users and groups with restrictions to the form attributes. When you select a form attribute such as **Audit Log** or **Comments**, the right-hand block displays the list of all the restricted users and groups. A user who has restricted access to selected record attributes like **Audit Log**, **Comments**, or **Linked Mail** viewing in the business process record will not see those tabs.

Example

User U1 has "Hide Upper Form Properties - Comments and Linked Records." At run time, when user U1 creates a new business process record or opens an existing record, both the Comments and the Linked Records tabs will not be seen in the record.

Attachments

When a user is restricted to only the download of the attachments, in user mode the user can view the attachments in the business process record but will not be able to download them. The **Download** option is removed from **Attachments** tab and also in **Review** window.

In this case a restricted user who views the attachment in native view the attachment will open in Unifier viewer, in read-only mode.

A restricted user will not be able to receive the attachments through email notifications received from a business process record for which the user has restrictions to download attachments.

Line item Attributes

You can assign restrictions to users and groups for the Detail Form properties (**Attachments** and **Linked Records** for each **Line Item** tab). These additional Detail Form attributes will be seen only for the business processes that have the Detail Form defined in them.

The Detail Form properties seen in the Record Properties window will vary for each business process and is based on the design, in uDesigner.

Users and groups can be restricted to download attachments from the **Line Item** tab, similar to the Upper Form, as described in the **Attachments** section above.

Additional information

Users and Groups who have permissions to "Hide Record Audit Log" and "Hide Task Statuses" are added to the restricted users and groups viewers list in the "Record Properties" tab, in the business process setup.

All of the record level and Line Item tab restrictions are available for all business processes (company, shell, and project levels) that supports standard UI.

The restrictions are applicable to all users or creators, task assignees, step editors, record editors, and CC'd users who are part of the workflow in the record.

Visibility of tabs will be applicable to both Action and View Forms when user has tab restrictions to the BP.

For Non-Workflow BPs, "Workflow Progress" (under the Upper Form properties) will not be available in the Record Properties, both at the design and at the setup level.

For Company-level BPs, "Linked Mail" will not be available in Form Properties.

For Simple and Text-type BPs, the option to hide the Detail Form properties will not be available.

For Document-type BPs, "Attachments" will not be seen in Upper Form Properties and system defined tab in Line Item Properties.

> **Note**: The additional restrictions are not applicable to bid users. Bidders will be able to see all the attributes even though requestor have restricted access.

When certain form properties are hidden in uDesigner, for a business process, then those form properties will not be shown in the Record Properties tab in the BP setup.

Users or Groups who have record tabs view restrictions, in the BP setup, then at run time those selected tabs will not be seen in the business process record. This is applicable to both company sponsored and partner users.

Assigning restrictions to users and groups will impact their ability to see the record properties tabs (tabs in the right-hand pane, when the user opens a record) of the following nodes:

- Logs
- Drafts
- Tasks
- Master Log
- Company Log
- Single-Record BP Log
- Portal BP Log

Set up Permissions for Record Properties Tab (Workflow)

To set up permissions for the **Record Properties** tab:

1) Go to **Company Workspace** and switch to the **Admin** mode.
2) Click **Company Sponsored Shells** to expand and click to select the <BP NAME> and open the BP (Workflow or Non-Workflow).
3) Click **Setup** to expand.
4) Click **Business Process**, open <SETUP NAME>, and click the **Records Properties** tab.

Creating, Adding, and Deleting Business Process Help Files

Oracle provides standard business processes.

For Cloud

If you need to download, deploy, and access a local copy of the business processes help files, download the help.zip. Contact your cloud administrator for more information.

For On-Premises

If you need to download, deploy, and access a local copy of the business processes help files, download the help.zip file and follow the instructions in the *Unifier Installation Guide*.

You can also develop your customized business process and create your own help files.

> **Note**: The help files must be in Adobe Acrobat PDF format.

You can add the help file to new or existing business process setups. If you add the help file after individual business process records have already been created, the help file will not be available to the existing records; however, it will be available immediately from the business process log or in any new business process that is created after the help file has been added.

> **Note**: Custom business process help files can be added to project-level or company-level BPs.

To create a custom business process help file

1) Be sure that you have installed on your system Adobe Acrobat or other software application that includes a plug-in allowing the ability to create a PDF file.
2) In Microsoft Word or a similar software application, write the business process instructions that you wish to be made available to other business process users. Save the business process help file, but do not close it.
3) With your business process help file still open, do one of the following to create a PDF file. This will depend on how your system is set up.
   - **Print to PDF file**: Click the **File** menu and choose **Print**. From the Printer drop-down list, select **Adobe PDF** as the printer, and click **OK**. Name the PDF file and click **OK**.
   - **Save as PDF file**: Click the **File** menu and choose **Save as PDF**. Name the PDF file and click **OK**.

   The PDF file will be generated, and can be viewed using Adobe Acrobat Reader.

To add a custom business process help file to a new or existing business process setup

1) In Administration Mode:
   - For a business process at the company level, go to the **Company Workspace** tab and click **Company Workspace > Business Process Setup**.
   - For a business process in a project or shell, open the project or shell and, in the Navigator, click **Setup > Business Process**.

> **Note**: Even though the help file is added to an individual setup window, it is automatically added to all setups for that business process. The help file will be available immediately to all users with access to the business process log in User Mode, and will be available to any individual business process record created after adding the help file.

2) Select the business process from the log and click **Open**. The Setup log for the business process opens.
3) Click **New** to create a new setup, or select an existing setup from the log and click **Open**. The Business Process Setup window opens.
4) In the **General** tab, click the **Help File Add** button. The File Upload window opens.
5) Click **Browse** and navigate to the help file that you want to add. The help file must be an Adobe Acrobat PDF file. Click **OK** to attach the file and close the File Upload window.
6) When you have completed the Business Process Setup window, click **OK**.

To delete a business process from an existing setup

> **Note**: You can delete a business process from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Open the project or shell and in the left navigation pane, click **Setup** > **Business Process**.
2) Select a business process for deletion.
3) Click **Delete**.

> **Note**: System prompts the user asking to confirm deletion of the business process.

4) Click **Yes** to delete the business process.

To access the business process Help link

1) In User Mode, navigate to the business process log.
2) Click the **Help** menu, then click the business process name, which appears at the bottom of the **Help** menu. If a business process help file has been added to the business process form setup, the PDF file will open.
3) You can also access the file from business process form. Open a business process record, click the **Help** menu, and click on the business process name.

Auto-creating a Business Process record or Planning Item Based on conditions or frequency

Using uDesigner, users can design a form that automatically creates a new business process (BP), line item, or planning item from a source form to a destination (auto-created) form after certain criteria are met. Users who have modify ownership permissions in the source record can enable auto-creation. You can override conditional auto-creation and immediately invoke the auto-creation manually if needed.

This type of auto-creation automatically generates a new record based on:

- A condition, such as a dollar amount
- A frequency, such as a daily or weekly time frame

> **Note**: Line items cannot be created with a frequency trigger.

- Both a condition and a frequency

When a business process or line item reaches the trigger(s), the form will automatically create a new record or line item. This type of auto-creation uses a BP Creator, Planning Item Creator, or BP Line Item Creator data element on the upper and/or detail form to generate the new business process(es), line items, or planning item(s).

You can use auto-created business processes to manage repeated events, such as:

- **Line items of lease business process generating payment request business process records:** A lease business process with a pre-generated payment schedule can use this functionality to generate payment request records at appropriate preset days in advance of the payment due date to be routed for approvals.
- **Preventive maintenance business process line items generating work orders business process records:** A preventive maintenance type business process (Preventive Maintenance Book) can be set up to create work orders for assets at periodic intervals depending on the service needs of the asset.

  For example, if you wanted to use auto-creation to create a work order business process to order maintenance on a vehicle, you would first create a preventative maintenance business process (the source business process) and have your administrator set up the auto-creation of a work order for vehicle maintenance business process (the destination business process) to order the work on the vehicle.

  In this example, the uDesigner user set up which business process is the source business process and which is the destination business process. The company administrator specifies the conditions and defaults for the auto-creation. End users can set up the periodic auto-creation, based on their needs.
- **Create action items from meeting minutes:** Create and assign tasks to different people creating a fully automated flow for routing of action items from meeting minutes.
- **Create a planning item**: Create a planning item when an initiative business process has been approved. The planning item could then be fleshed out with details, such as budgets, locations, personnel.

- **Add a new line item to an existing record**: You can add a line item to an existing business process. For example, a submittal registry record could contain line items that auto-create separate submittal business process forms for each contractor on a project. In the course of work, you might realize that the original submittal registry record is missing a submittal for an architectural drawing. You could submit a new submittal business process form that would add the missing architectural drawing submittal to the original registry record.

For Line Item Creation:

- Users cannot create a line item on a record that is at a terminal or terminated status.
- For line items created on a non-workflow cost type business process, the cost amount(s) will roll up to the Cost Sheet.
- For line items created on workflow cost type business process, the cost amount(s) will NOT roll up to the Cost Sheet.

After a new **workflow** record is created, Unifier sends it to the assignees as an **initiation task (I Step)** that appears on the user's Tasks log and the business process log to which the record belongs. If a new record is sent as an initiation task, the user must accept the task to manually launch the record.

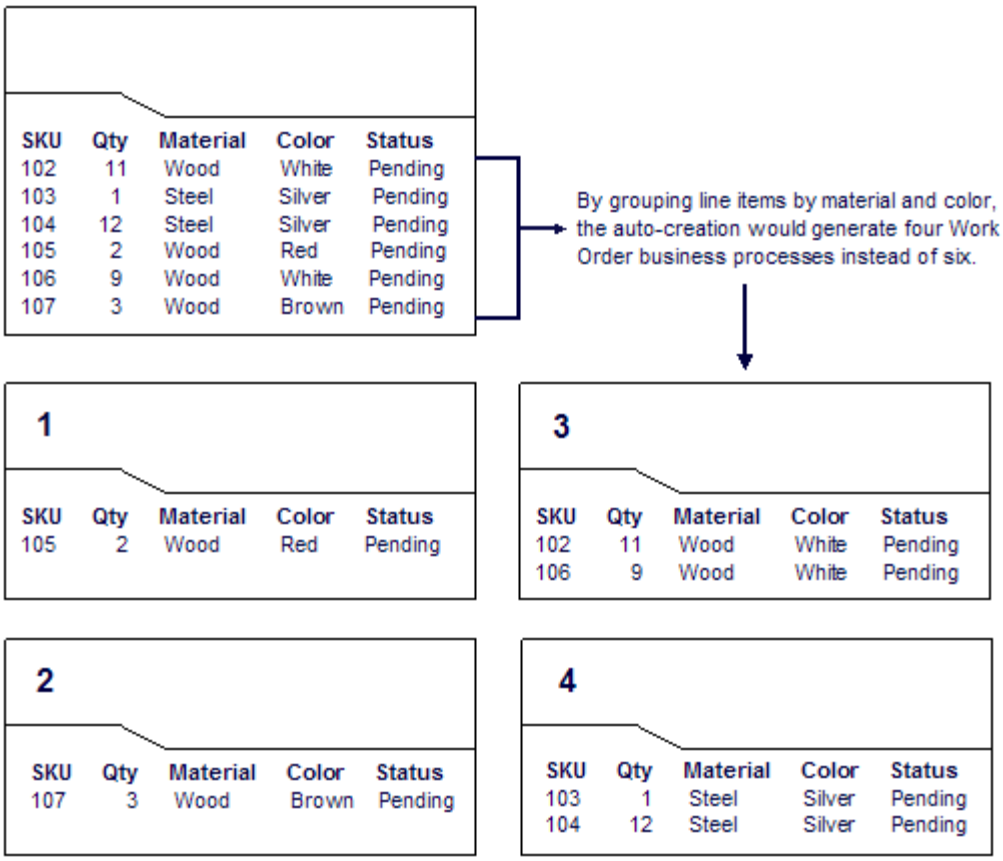
> **Note**: Regardless of the number of assignees or creators, only one user may accept the I-Step task.

After a new **non-workflow** record is created, Unifier sends it to the designated creators as an **initiation task (I Step)** that appears on the user's Tasks log and the business process log to which the record belongs. The user must accept the task to view the record.

Grouping line items into single records

Unifier auto-creates new business process records using a BP Creator element. If this element is on the upper form of the business process, it will auto-create a single record. If the BP Creator element is on the detail or line item form, it will auto-create a record for every line item on the source record. For example, if source tab A has a BP Creator element and 10 line items, and source tab B has the same BP Creator element and 7 line items, 17 new records will be auto-created.

Sometimes, however, creating a record for every line item is cumbersome. You can end up with 17 records that differ in only one aspect, such as a color. For cases like this, you can group line items for auto-creation in order to create fewer generated records. In a simple example for a lumber yard order, you might have doors made of wood or steel, both in colors of white and red. You could group the line items according the material (wood or steel) and color (red or white) to create fewer work order records.



Notes:

- If the auto-created business process is set up to include line item attachments, the attachments will be appended to the upper form of the destination business process if it is not a line item type.
- If the auto-creation uses a date trigger, Unifier will ignore this grouping feature.
- Unifier will not group line items if:
  - The steps in the workflow are of different duration
  - The task assignees are different
  - The locations (such as shells) are different

See also ***Set up auto-creation for a non-workflow BP or planning item*** (on page 541) and ***Set up auto-creation for a workflow BP*** (on page 557).

Bypassing the I Step

During business process setup you can set up an auto-created workflow BP to skip the **Initiation** step and send the record directly into the workflow, where it normally arrives at the first step after the **Create** step (or the first step in a conditional routing). For a workflow BP, you can specify the schema, the step in the workflow that the record should use as its first step, the workflow duration, and the name of the person or group who will be the owner of the auto-created record. When the record is created, data will roll up to the manager sheets at the appropriate status; however, if Unifier encounters errors or invalid data, the record will remain at the Create step, and roll-ups will not occur until the user resolves the errors.

For a non-workflow BP, you can set up an auto-created record to skip the Initiation step. In this case, the non-workflow BP will be created and will appear in the BP log in either an "edit" or "finish edit" mode. If it appears in an "edit" mode, the user will have to open the record and add or correct information on the form. If it appears in a "finish edit" mode, the record is considered complete, and data will roll up to manager sheets.

Auto-Creation Protocol for Bypassing the I Step

Auto-creation uses details specified in the BP Creator element to create the record. If these details are not present in the BP Creator element, the auto-creation feature will use the following protocol to attempt to create the record.

For a Non-Workflow BP	For a Workflow BP
Checks for owner specification: Checks the source BP setup Checks the destination BP setup If no owner can be identified, sends an error notification to those specified in source BP	*Checks for owner specification:* Checks the source BP setup Checks the destination BP setup If no owner can be identified, sends an error notification to those specified in source BP.
Checks for status: Checks the destination BP setup If no status found, creates the record and puts it into "edit" mode for user to correct.	*Checks for a workflow schema:* Checks the destination BP setup If no schema is specified, the record will be sent as an I Step to the user's Tasks log and the BP log to which the record belongs. The user must accept the task to manually launch the record.
	Checks for an action specification Checks the destination BP setup If no action is specified, the record will be sent as an I Step to the user's Tasks log and the BP log to which the record belongs. The user must accept the task to manually launch the record.

Rules for Checking Conditions for Auto-Creation

There are rules that govern when Unifier scheduler checks the conditions for auto-creation, and then if the conditions are met, auto-creates the BP.

Rule 1

The Company Administrator selected the Enable Auto creation checkbox for BP Creator when the auto-creation was set up in Unifier.

If the Enable Auto creation checkbox is checked, it implies system based auto-creation, and the BP Creator Select button is not displayed in User Mode.

For non-workflow BPs: The condition check occurs on **Finish Edit**. If condition met, creates record and shows the link for the auto-created BP. If no condition is specified auto-creates records and shows the link for the auto-created BP.

For workflow BPs: The condition check occurs on **Send**. If end step reached and Action Form is used on End Step, the condition check occurs on **Save** instead of **Send**. If condition met, creates record and shows the link for the auto-created BP. If no condition specified blindly creates records and shows the link for the auto-created BP.

If the Enable Auto creation checkbox is not checked, it implies manual creation.

For non-workflow BPs: The condition check does not occur on **Finish Edit**.

For workflow BPs: The condition check does not occur on **Send**.

BP Creator- Select button shown in User Mode so that the user can create the business process manually. If clicked, creates BP record without checking any condition, and creates record and shows the link.

Rule 2

Date Trigger Condition check: Are checks on the specified Date Data Element. Setting this up implies that condition checks are done on a date instead of Finish Edit/Send in case of Non workflow and Workflow respectively provided a link does not already exist next to BP creator element. If a link already exists, it will not create any new records for that BP Creator element in the chosen line item of the record.

Rule 3

Trigger Condition check based on frequency (Periodic): Are checks on frequency for BP Creator elements with Enable Auto creator checked. If specified, these are the only time condition checks are done. This overrides any other checks for date. This is the only method to create multiple records even if a link already exists and a record has already been creator for this BP Creator element. The link created using this will always point to last auto-created record.

Setting Up Auto-Creation of Cash Flow Curves from Contracts

An additional cash flow option is available on the setup window for CBS code-based base commit business processes. This option enables the automatic creation of a commitment cash flow curve for each base commit record in a project or shell. In order to do this, you simply designate a commitment-level cash flow template to use for the auto-created curve.

For workflow business processes, this option is available in the Workflow Setup window Settings tab for every step other than the Create step. At runtime, when the record is sent from that step, the cash flow curve auto-creation is triggered and the curve is created in the Cash Flow log for the project or shell.

> **Note**: The permissions will get copied over to the created Cash Flow.

For non-workflow business processes, this option is available in the Business Process Setup window on the General tab. At runtime, the cash flow curve auto-creation will be triggered when the Finish Edit button is clicked on the BP record.

When copying a cash flow to create a new one, all permissions will be copied to the new cash flow curve.

The following procedures describe enabling the auto-create cash flow option. See ***Setting Up a Non-Workflow Business Process*** (on page 537) and ***Setting Up a Workflow Business Process*** (on page 553) for more details on setting up business processes.

> **Note**: This option is available for base commit business processes only; that is, cost-type business processes with sub-type of "Line Items with CBS Code," and classification of "Base Commit." For all other types of business processes, this option will not display. The cash flow curves that are auto-created are based on commitment detail level curve templates (either company-level, or curves created in project or shell templates).

To enable auto-creation of commitment-level cash flow curves in non-workflow base commit BP records

1) Navigate to the **Business Process Setup** window for the base commit business process.
   a. Open the project/shell (or project/shell template) and switch to Admin mode.
   b. In the left Navigator, click **Setup>Business Process**. Double-click the base commit business process from the log.
   c. Double-click the business process again to open the Business Process Setup window.
2) On the **General** tab, locate the Cash Flow Template field.
3) Click **Add**. The Cash Flow Templates window opens. It lists all commitment detail-level cash flow templates created in the Company Workspace (In Standards & Libraries > Cash Flow >Templates) or in project or shell templates (in the Cash Flow node).
4) Choose a template and click **Select**.

> **Note**: Entering a template in this field enables the cash flow auto-create feature. To disable this feature, click the Remove button to remove the cash flow template from the field.

5) Click **OK** to save and exit the Business Process Setup window.

   At runtime, a commitment cash flow curve will be created in the project or shell when the base commit record is complete -- that is, the user clicks the Finish Editing button on the record. The data used for the cash flow curve will be taken from the line item values on the record at the time the record is sent.

To enable auto-creation of commitment-level cash flow curves in workflow base commit BP records

1) Navigate to the Business Process Setup window for the base commit business process.
   a. Open the project/shell (or project/shell template) and switch to Admin mode.
   b. In the left Navigator, open Setup>Business Process. Double-click the base commit business process from the log.
   c. Click Workflow Setup, then double-click a setup name (or create a new BP setup) to open the Workflow Setup window.
2) Click the **Settings** tab.
3) Select any step other than the Create step. Scroll down the Step Configuration options and locate the Cash Flow: Default Template field.
4) Click **Add**. The Cash Flow Templates window opens. It lists all commitment detail-level cash flow templates created in the Company Workspace (in Standards & Libraries>Cash Flow>Templates) or in project or shell templates (in the Cash Flow node).
5) Choose a template and click **Select**.

   Note: Entering a template in this field enables the cash flow auto-create feature. To disable this feature, click the Remove button to remove the cash flow template from the field.

6) Click **OK** to save and exit the Workflow Setup window.

   At runtime, a commitment cash flow curve will be created in the project or shell when the base commit record is sent from the selected step. The data used for the cash flow curve will be taken from the line item values on the record at the time the record is sent. If record line item values are edited during the course of the workflow, then the curve values will update the next time the curve is refreshed.

   Note: This option is not available in the Create step. If you designate a cash flow template in more than one workflow step, the cash flow curve will be created at the first step in which this option is enabled; the auto-creation will be ignored in any subsequent steps, because only one cash flow curve can be created per base commit record.

Copying Workflow Setups from Other Schemas

Some workflows can encompass many steps, as well as conditional routing and sub-workflows. Most of your time as administrator can be spent setting up the workflow schemas in your company. To make setting up workflow schemas easier and faster, Unifier provides you the option of copying existing setups from other workflow schemas.

For example, if you have set up a large schema for an approval process that includes separate workflows for different provisos, you can copy the setup of one schema to another workflow, and make incidental changes where necessary, rather than set up the entire workflow schema again.

Or, if you have a complex schema for setting up a project or shell, you can copy that schema to set up a different project or shell in your same Unifier environment.

You can copy a setup from here:	To here:
A business process in the Company Workspace	The same business process in the same Company Workspace If any users or groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A project template for a business process	Another project template for the same business process If any users or groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A business process in a project	A project template for the same business process If any users or groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A shell template for a business process	Another shell template (of any shell type) for the same business process If any users or groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A business process in a shell	A shell template (of any shell type) for the same business process If any users or groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.

Business Processes Must Match

In all cases, the business process name, type, sub-type, classification, studio owner, and version number must match or the copy function will fail.

About the version number

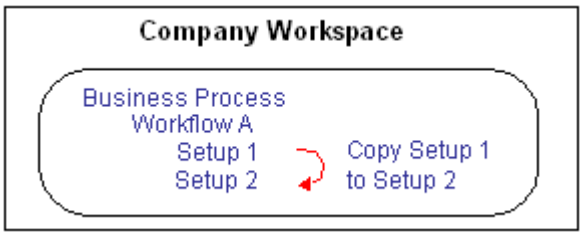
The number in the Version column of the business process log shows the uDesigner version number. This number represents the number of times the design has been changed from Draft mode to Complete.

The uDesigner module automatically increments the version number whenever a design is returned to Draft mode. When the draft is changed to Complete, it shows that number. This version of the design in uDesigner may or may not be the version that is active in Unifier.

The version number that appears on this log in Unifier shows the last deployed version that was imported. This number may not match the version number uDesigner, but it is the last active version of the design in Unifier. The version number of the BP you are copying from must match the version number of the BP you are copying into.

At the Company Level, Copy a Setup from Another Setup in the Same BP

In this copy action, you copy a setup to another setup in the same business process in the same company workspace.



To copy a workflow setup

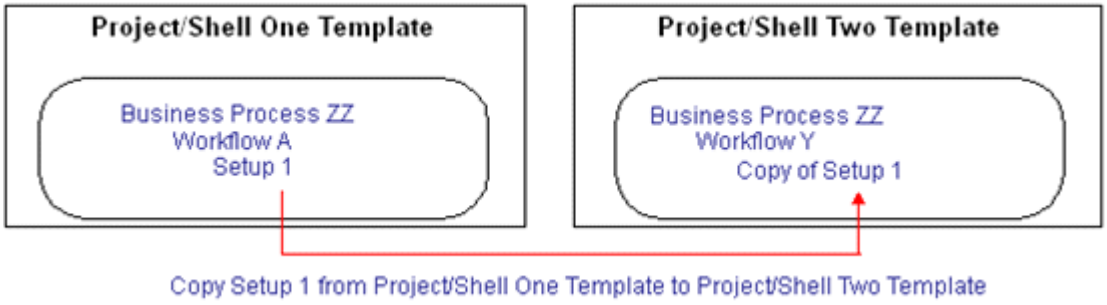
1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Workspace > Business Process Setup** in the left Navigator.
3) On the right pane, double-click the business process to open it.
4) In the Navigator, click **Workflow Setup**, and in the right pane, select the setup you want to copy.
5) Click the **Copy** button. The Workflow Setup window opens.
6) On the **General** tab, enter a name and description for the new setup and make the status **Active** or **Inactive** as necessary.
7) Click **Apply**.
8) Click the **Settings** tab. The **Settings** tab opens, showing the workflow of the setup you copied.

   On this tab, you can make any changes you want to the setup you copied to accommodate the new setup.
9) To save the new setup, click **OK**.

   If you made the setup **Active**, Unifier will perform an error check on the new setup and notify you of any errors it encounters; otherwise, the error check will not occur until the setup is activated.

Copy a Setup from One Project/Shell Template to Another

In this copy action, you copy a setup from a business process in one project/shell template to the same business process in another project/shell template.



To copy a setup from one project/shell template to another

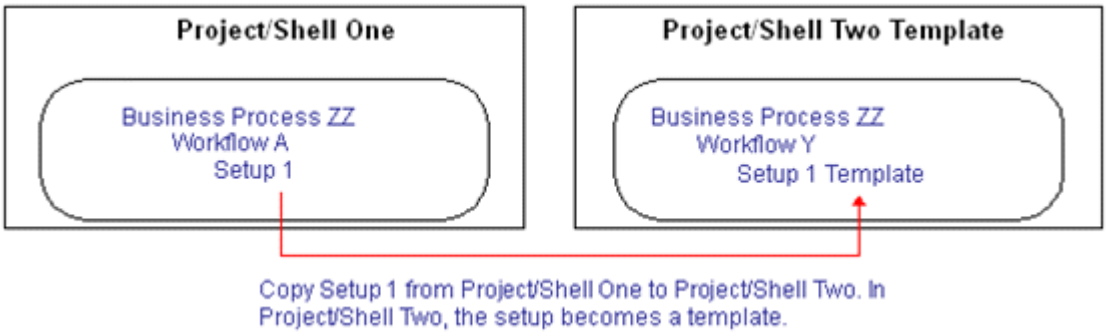
1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Do one of the following:
   - To copy a setup into a BP in a standard project **template**, click **Templates > Projects (Standard) > All** in the left Navigator. In the right pane, double-click the project that contains the BP you want to copy the setup into.
   - To copy a setup into a BP in a shell **template**, click **Templates > Shells > [shell type]** in the left Navigator. In the right pane, double-click the shell that contains the BP you want to copy the setup into.
3) In the Navigator, click **Setup > Business Process**.
4) In the right pane, double-click the name of the business process into which you want to copy the setup.
5) In the Navigator, click **Workflow Setup**.
6) Click the **Copy From** button and choose **Templates**. A copy window opens, listing all the workflow templates for that BP that exist in all the projects and shells in your environment.
7) Select the template you want to copy and click **Copy**. The Workflow Setup window opens.
8) On the **General** tab, enter a name and description for the new setup and make the status **Active** or **Inactive** as necessary.
9) Click **Apply**.
10) Click the **Settings** tab. The Settings tab opens, showing the workflow of the schema you copied.

    On this tab, you can make any changes you want to the setup you copied to accommodate the new setup.
11) To save the new setup, click **OK**.

    Unifier adds the template to the workflow setup log. If you made the setup **Active**, Unifier will perform an error check on the new setup and notify you of any errors it encounters; otherwise, the error check will not occur until the setup is activated.

Copy a Setup from a Project/Shell to a Template

In this copy action, you copy a workflow setup from a business process in a project or shell and make it a template in the BP you copy the setup **into**.



To copy a setup from a project/shell to a template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Do one of the following:
   - To copy a setup into a BP in a standard project template, click **Templates > Projects (Standard) > All** in the left Navigator. In the right pane, double-click the project that contains the BP you want to copy the setup into.
   - To copy a setup into a BP in a **shell** template, click **Templates > Shells > [shell type]** in the left Navigator. In the right pane, double-click the shell that contains the BP you want to copy into.
3) In the Navigator, click **Setup > Business Process**.
4) In the right pane, double-click the name of the business process into which you want to copy the setup.
5) In the Navigator, click **Workflow Setup**. The right pane lists the workflow setups that currently exist for this business process.
6) Click the **Copy From** button and choose **Project/Shell**.

   A copy window opens, listing all the workflow setups for that BP that exist in all the projects and shells in your environment.
7) Select the setup you want to copy and click **Copy**. The Workflow Setup window opens.
8) On the **General** tab, enter a name and description for the new setup and make the status **Active** or **Inactive** as necessary.
9) Click **Apply**.
10) Click the **Settings** tab. The Settings tab opens, showing the workflow of the setup you copied.

    On this tab, you can make any changes you want to the setup you copied to accommodate the new setup.
11) To save the new setup, click **OK**.

    Unifier makes a template of the setup you copied and adds the template to the workflow setup log. If you made the setup **Active**, Unifier will perform an error check on the new schema and notify you of any errors it encounters; otherwise, the error check will not occur until the setup is activated.

Importing Workflow Setups from One Company to Another Company In the Same Environment

Unifier provides you the option of copying existing workflow setups into other workflows in your company (***Copying Workflow Setups from Other Schemas*** (on page 587)).

In addition to that option, you can import workflow setups from one company to another company in your environment, such as from one company in the **Development** environment to another company in the same **Development** environment.

This import option is critically useful if your company is undergoing a significant reorganization or redesign, and the current designs in your Unifier environment are no longer sufficient.

You can import a setup from here:	To here:
A business process in a Company Workspace	The same business process in another Company Workspace If any groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A project template for a business process	A project template for the same business process in another company If any groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A shell template for a business process	A shell template (of the same shell type) for the same business process in another company If any groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.

Business Processes Must Match

In all cases, the business process name, type, sub-type, classification, studio owner, and version number must match or the copy function will fail.

About the version number

The number in the Version column of the business process log shows the uDesigner version number. This number represents the number of times the design has been changed from Draft mode to Complete. The uDesigner module automatically increments the version number whenever a design is returned to Draft mode. When the draft is changed to Complete, it shows that number. This version of the design in uDesigner may or may not be the version that is active in Unifier. The version number that appears on this log in uDesigner shows the last design version that was imported. This number may not match the version number in uDesigner, but it is the last active version of the design in uDesigner. The version number of the BP you are copying from must match the version number of the BP you are copying into.

To import a workflow setup from one company to another company

1) In Administration mode, go to the Company Workspace tab and click **Company Workspace** > **Business Process Setup** in the left Navigator.
2) Open the business process you want to import the setup into.
3) In the Navigator, click **Workflow Setup**, and click the **Import** button. The Unifier sign in window opens.

   This is where you sign in to the company from which you want to import a workflow setup.
4) Enter the following information:
   - **Company Short Name**: This is the identifier for the company that you are signing in to.

- **Authentication Key**: This is the key of the company that you are signing in to. This key was set up at the time the company was configured. It is like a password that provides import access to the BPs of the company you want to import from.
- **Unifier URL**: (Optional) This is the web address of the Unifier server you want to sign in to. If you leave this field blank, Unifier will assume you are importing within the same environment.

> **Note**: The Unifier at this URL must be the same version number as the Unifier you are working in. The import function does not work across companies with different versions of Unifier.

5) Click **OK**.

   The import window opens, listing the matching workflow setups (active and inactive) that currently reside in the company you have signed in to for the business process you selected under the Company Workspace node.

6) Select the workflow setup(s) you want to import and click the **Import** button.

   Unifier imports the workflow setup(s) using the following guidelines:

   - If a setup does not currently exist in the destination company, the import will happen immediately and Unifier will mark the new setup **Inactive**.
   - If a setup already exists, Unifier will verify that you want to replace the existing setup with the one you are importing. If you import the setup, Unifier will replace the existing setup and mark the new setup **Inactive**.

7) Click the **Close Window** button.
8) In the right pane, double-click the setup you imported. The Workflow Setup window opens.
9) On the **General** tab, enter a name and description for the new setup and make the status **Active** or **Inactive** as necessary.
10) Click **Apply, then c**lick the **Settings** tab. The Settings tab opens, showing the workflow of the setup you copied.

    On this tab, you can make any changes you want to the setup you imported to accommodate the new setup.

11) To save the new setup, click **OK**.

    Unifier adds the setup you imported to the workflow setup log. If you made the setup **Active**, Unifier will perform an error check on the new setup and notify you of any errors it encounters; otherwise, the error check will not occur until the setup is activated.

Importing Workflow Setups from One Environment to Another

Unifier provides you the option of importing existing workflow setups from one company to another in the same environment (see ***Importing Workflow Setups from One Company to Another Company In the Same Environment*** (on page 591)).

In addition to that option, you can also import workflow setups from one environment to another, such as from **Development**/**Test** environment to your **Production** environment.

> **Note**: To support the import function, the versions of the environments must match. For example, you cannot import a setup from one version of

Development environment to a different version of Unifier.

You can import a setup from here:	To here:
A business process in a Company Workspace	The same business process in another Company Workspace If any groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A project template for a business process	A project template for the same business process in another environment If any groups are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.
A shell template for a business process	A shell template (of the same shell type) for the same business process in another environment If any are defined in the setup, they will be copied over if they do not already exist; matching will be done on the name.

Business Processes Must Match

In all cases, the business process name, type, sub-type, classification, studio owner, and version number must match or the copy function will fail.

About the version number

The number in the Version column of the business process log shows the uDesigner version number. This number represents the number of times the design has been changed from Draft mode to Complete. The uDesigner module automatically increments the version number whenever a design is returned to Draft mode. When the draft is changed to Complete, it shows that number. This version of the design in uDesigner may or may not be the version that is active in Unifier. The version number that appears on this log in uDesigner shows the last design version that was imported. This number may not match the version number in uDesigner, but it is the last active version of the design in uDesigner. The version number of the BP you are copying from must match the version number of the BP you are copying into.

Import a Setup From One Company to Another Company

In this import action, you import a setup from one company to a setup in the same business process in another company.

To import a workflow setup from one company to another company

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Company Workspace > Business Process Setup** in the left Navigator.
3) Open the business process you want to import the setup into.
4) In the Navigator, click **Workflow Setup**, and click the **Import** button. The Unifier sign in window opens.

This is where you sign in to the environment from which you want to import a workflow setup.

5) Enter the following information:
   - **Company Short Name**: This is the identifier for the company that you are signing in to.
   - **Authentication Key**: This is the key of the company that you are signing in to. This key was set up at the time the company was configured. It is like a password that provides import access to the BPs of the company you want to import from.
   - **Primavera Unifier URL**: This is the web address of the Unifier server you want to sign in to.

     Note: The Unifier at this URL must be the same version number as the Unifier you are working in. The import function does not work across environments with different versions of Unifier.

6) Click **OK**.

   The import window opens, listing the workflow setups that currently reside in the environment you have signed in for the business process you selected under the Company Workspace node.

7) Select the workflow setup(s) you want to import and click the **Import** button.

   Unifier imports the workflow setup(s) using the following guidelines:
   - If a setup does not currently exist in the destination environment, the import will happen immediately and Unifier will mark the new setup **Inactive**.
   - If a setup already exists, Unifier will verify that you want to replace the existing setup with the one you are importing. If you import the setup, Unifier will replace the existing setup and mark the new setup **Inactive**.

8) Click the **Close Window** button.

9) In the right pane, double-click the setup you imported. The Workflow Setup window opens.

10) On the **General** tab, enter a name and description for the new setup and make the status **Active** or **Inactive** as necessary.

11) Click **Apply, then c**lick the **Settings** tab. The Settings tab opens, showing the workflow of the setup you copied.

    On this tab, you can make any changes you want to the setup you imported to accommodate the new setup.

12) To save the new setup, click **OK**.

    Unifier adds the setup you imported to the workflow setup log. If you made the setup **Active**, Unifier will perform an error check on the new setup and notify you of any errors it encounters; otherwise, the error check will not occur until the setup is activated.

Import a Setup for a BP to a Project/Shell Template for the Same BP in Another Environment

When importing to a shell template, the source and destination shells must be of the same type.

To import a BP setup to a project/shell template in another environment

1) Go to the Company Workspace tab and switch to Admin mode.

2) Do one of the following:

- To import a setup into a BP in a standard project template, click **Templates > Projects (Standard) > All** in the left Navigator. In the right pane, double-click the project template that contains the BP you want to import the setup into.
- To import a setup into a BP in a shell template click **Templates > Shells > [shell type]** in the left Navigator. In the right pane, double-click the shell template that contains the BP you want to import the setup into.

3) In the Navigator, click **Setup > Business Process**.
4) In the right pane, double-click the name of the business process you want to import the setup into.
5) In the Navigator, click **Workflow Setup**. The right pane lists the workflow setups that currently exist for this business process.
6) Click **Import** to open the sign in window.

   This is where you sign in to the environment from which you want to import a workflow setup.
7) Enter the following information:
   - **Company Short Name**: This is the identifier for the company that you are signing in to.
   - **Authentication Key**: This is the key of the company that you are signing in to. This key was set up at the time the company was configured. It is like a password that provides import access to the BPs of the company you want to import from.
   - **Primavera Unifier URL**: This is the web address of the Unifier server you want to sign in to.

     Note: The Unifier at this URL must be the same version number as the Unifier you are working in. The import function does not work across environments with different versions of Unifier.
8) Click **OK**.

   The import window opens, listing all the workflow setups for that BP that exist in all the projects (if you chose a project template) or shells (if you chose a shell template) in the environment you signed in to.
9) Select the setup you want to import and click **Import**, then click **Close Window**.
10) In the right pane, double-click the setup you imported. The Workflow Setup window opens.
11) On the **General** tab, enter a name and description for the new setup and make the status **Active** or **Inactive** as necessary.
12) Click **Apply**.
13) Click the **Settings** tab. The Settings tab opens, showing the workflow of the setup you imported.

    On this tab, you can make any changes you want to the setup you imported to accommodate the new setup.
14) To save the new setup, click **OK**.

    Unifier adds the setup you imported to the workflow setup log. If you made the setup **Active**, Unifier will perform an error check on the new setup and notify you of any errors it encounters; otherwise, the error check will not occur until the setup is activated.

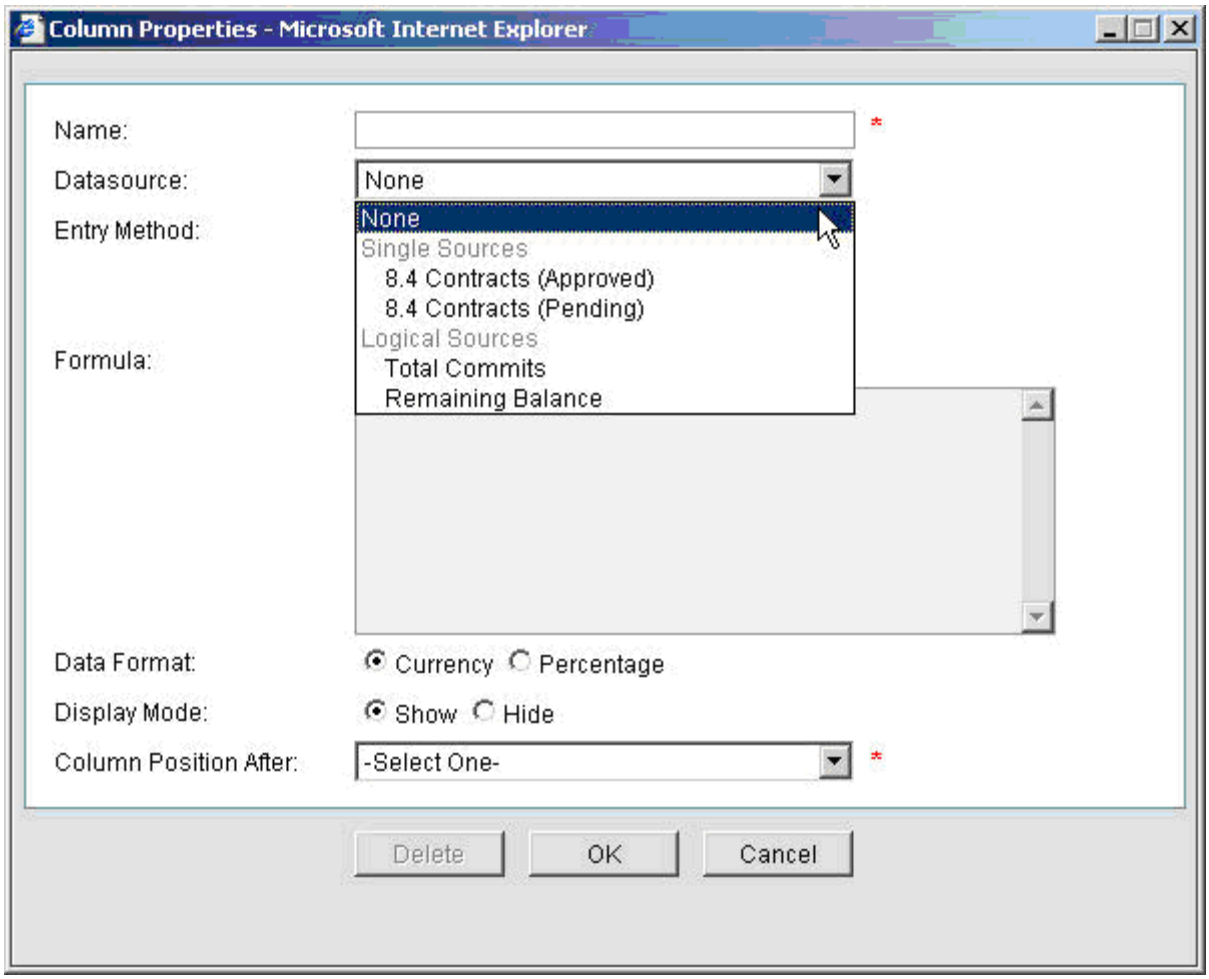
Setting Up a Blanket Purchase Order Summary Template

If you have set up a company-level blanket purchase order (a uDesigner created, company-level cost subtype commit BP), you must then set up a summary template to enable validation against individual commit BPs that reference the blanket PO.

To set up the summary template for a blanket PO

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Company Workspace > Business Process Setup**. The business process log opens.
3) In the log, double-click the name of the blanket PO business process. A setup log opens.
4) On the log, select the business process and click the **Summary Template** button.
5) You may add additional columns as needed. Click **Columns**, then click **New**. Complete the Column Properties. The data source choices for columns include:
   - **Single source:** All active cost BPs for your company (and their statuses), regardless of project. You determine which statuses you want to appear on the sheet. If you import and set up cost BPs that might reference the blanket PO, be sure to add them to the summary sheet template to track them against the total.
   - **Logical source:** Total commits and remaining balance. These should be set up as formulas, where total commits is the sum of the commits that you added as columns, and the remaining balance is the difference between the original amount and total commits.

To enable validation, include a total commits column to keep track of commit BPs that reference the blanket PO, and a remaining balance column to ensure that you do not exceed the original amount.



Setting Up a Base Commit Business Process

A Base Commit classification of a Cost Type Business Process (BP) can create a schedule of values; a General Spends classification can create an invoice at the CBS level.

Use the Base Commit BP for:

- For monies committed to be spent; for example, a contract or purchase order.
- For creating a Schedule of Values (SOV) sheet for a General Spends, Payment Applications, or Summary Payment Applications.
- Note: In Standard Cost Manager, the Base Commit BP creates a Schedule of Values (SOV) sheet.

With the Base Commit type of BP, you can:

- Reference against a company-level commit BP
- Enforce the line items against a company-level commit amount

- Create a commitment summary when the BP is in a terminal status
- Consolidate line items

From this type of BP, you can:

- Select only a General Spends type of commitment summary
- View commitment summary line items only by individual line items, or grouped by commit codes

To set up the for a Base Commit BP:

1) Go to the project and switch to **Admin** mode.
2) In the left Navigator, click the **Setup** node.
3) In the left Navigator, click **Business Process** to open the **Business Process Setup - Current View**/log.
4) Select the business process that you want to set up and open.
5) In the **Business Process Setup** window, **General** tab, enter values.
6) Continue on with entering values in the **Settings**, **Notifications**, **Auto Creation**, and **Record Copy** tabs.
7) When finished, click **Apply** and **OK**.

Removing Restrictions Related to the Multiple Payment Application Submissions (Remove SOV restrictions)

When you create a Workflow BP record, the BP record shall remain in progress (in-flight) until the record reaches its terminal stage.

You can set up a Base Commit type of BP that is based on an existing Schedule of Value (SOV), and in progress (in-flight), to accommodate:

- Multiple Payment Application records can be created for the same commit record.
- Multiple Negative Change Orders can also be created for a given Base Commit.
- Payment application when a *negative change order* is in-flight.

  A *negative change order* refers to a Change Commit (change order) that has been issued to deduct the original committed contract amount. In Unifier, this means that a user has created a record of Change Commit BP type with negative line item amounts.

In the **Business Process Setup** window, **General** tab, you have the option of applying or removing restrictions on multiple payment applications or multiple negative Change Commit in the Base Commit BP. This enables users to create:

- Create and submit a Payment Application when another Payment Application is in progress.
- Create and submit a Payment Application when a Change Commit (change order), with a negative line item, is in progress.
- Create and submit a Change Commit (change order), with a negative line item, when a Payment Application is in progress.
- Create and submit a Change Commit (change order), with a negative line item, when another Change Commit (change order), with a negative line item, is in progress.

Note: The options listed above are available for Base commits of SOV

type = Payment Applications or Summary Payment Applications.

Additional information about removing SOV restrictions

Users can modify this option (Remove SOV restrictions) at any time except when all the Payment Applications and Negative Change Orders that refer to the BP have reached the terminal step.

When you select or deselect this option (Remove SOV restrictions) in an existing Workflow template that you plan to use for updating existing Workflow schema in the destination Project/Shell, then the selected SOV restriction option (existing in the BP setup level) will get updated in the Project/Shell instance.

When you select or deselect this option (Remove SOV restrictions) in an existing Workflow template that you plan to use to create new Workflow schema in the destination Project/Shell, then the selected SOV restriction option (existing in the BP setup level) will not get updated in the Project/Shell instance.

When you select or deselect this option (Remove SOV restrictions) in an existing Workflow template that you plan to use to create new Workflow schema in the destination Project/Shell, and if this new Workflow schema are used in the Auto Creation tab of the BP setup, then the selected SOV restriction option (existing in the BP setup level) will get updated in the Project/Shell instance.

When the SOV restriction option setup is ready and you include the BP in the Configuration Package, if there are any in progress (in-flight) records for the Payment Application, or Change Commit (change order), then the import will be successful but the system does not update the setup information for that BP.

Setting Up a Request for Bid (RFB) Business Process

A Request for Bid (RFB) business process allows companies to invite bids from multiple vendors. The Request for Bid process requires the following components to operate in Primavera Unifier:

- **Master Vendor BP (Vendor Master BP)**: A simple or Line Item type BP (Company level) that lists the available vendors who can be invited to bid. A company can have only one master vendor BP. Unifier allows your company to only designate one Vendors business process as the RFB master vendor list.
- **Requestor form**: This is the BP form the Primavera Unifier user uses to distribute bid requests from vendors.
- **Bidder form**: This is the BP form the vendors use to submit their bids.
- A **workflow** for the requestor form: This workflow or workflows can be used to approve the RFB before inviting bids, to distribute the RFB, and to approve the final bid award.
- (Optional) A **bid comparison sheet**: This is a sheet designed specifically for your company for the purpose of comparing the bids you receive from vendors. (If your company has not designed one, Primavera Unifier provides a default sheet you can use.)

Verify the RFB Has Been Designed Correctly

In uDesigner:

1) Verify that the correct vendor list is linked to the RFB.
   a. Open your vendor master (Master Vendor BP/Vendor Master BP) business process properties and click the **Options** tab.
   b. Make sure the field **Use this process as RFB master vendor list** is checked. This option links the vendor list to your RFB.
2) Make sure the correct vendor list has been specified as the RFB's reference process.
   a. Open the RFB and click **Reference Processes** in the Navigator.
   b. Verify that the RFB references the correct vendor BP.

In uDesigner, for the RFB business process (BP), you can select a BP Data Picker that references a Line Item type BP that can be used to filter the available bidders in the Option tab.

The BP Data Picker that is available for selection is the one that has been added to the Requestor Upper Forms.

The selected BP Data Picker points to the Line Item type BP that contains the BP Data Picker (BP Picker) that is in the Detail Form and subsequently points to the Master Vendor BP/Vendor Master BP, at the Company level.

The following explains the workflow:

- In the RFB BP, the Options tab enables you to set the data picker that you need to connect to the Line Item type BP.
- The Requestor BP form contains the data picker that points to the Line Item type BP.
- In the Line Item type BP, the Details Line Item record contains the BP Data Picker/BP Picker that is required to connect to the Vendor BP.
- The Data Picker/BP Picker points to a Master Vendor BP/Vendor Master BP record at the Company level. You can use the query condition, on the data picker, to filter the list of vendors.
- The Vendor BP contains the list of vendors who are available for bidding.

Set Up a Bid Management Account in Primavera Unifier

To enable the vendors to sign in to Primavera Unifier and submit bids, you need to create a "bidder" account. In the preferences you set up for this account, you need to specify certain settings to make the bidding process possible. You will enter this bidder's account in your company's preferences.

> **Tip**: Do not link the bid management account to an actual user in your company. Create this account strictly for the bidding process so that you can set up the account preferences specifically for bidding. If you set up a special "bid management" user account, you can prevent users from inadvertently changing the settings.

1) To set up this "bidder" account, add the bidder as a user. See ***User Administration*** (on page 165).
2) Sign in to Primavera Unifier as the user with the bidder account.
3) From the top right-corner of your window, click your **User Name** to open a contextual menu.
4) Click the **Preferences** link. The User Preferences window opens.

5) Click the **Options** tab.
6) Set the **Time Zone** field to match that of the bid requestor's (either your company's time zone, or the zone from which the bid invitation is sent).

   If your bidders are in a different time zone from yours, this will protect them from mistakenly submitting bids after the bidding process is closed.

Set Up the RFB in Unifier

To set up the RFB (in Administration Mode):

1) Follow the standard procedures to import (***Importing Business Processes (BPs)*** (on page 518)), configure (***Configuring Business Processes (BPs)*** (on page 518)), and set up (see ***General Procedures for Setting up Business Processes*** (on page 535)) the RFB.
2) Define a link for the bidders to use to submit bids:
   a. Go to the **Company Workspace** tab and switch to **Admin** mode.
   b. In the left Navigator, click your company name. The company landing page opens.
   c. Click the **Open** button. The Edit Company properties window opens.
   d. Click the **General** tab.
   e. In the **Bid Access URL** field, finish the URL address (usually with the name of your company).

      This is the link that will appear on the bid invitation you send to the bidder. The bidder will use this link to sign in to Unifier and submit a bid.
   f. In the **Bid Management Account** field, enter the account name of the user who will be managing the bids that your company receives.

      This is the account that contains the bidder's preferences you created using the instructions under ***Set Up a Bid Management Account in Primavera Unifier*** (on page 601).

Business Process Permission Settings

Refer to the *Unifier Reference Guide* for permission settings.

Business Process Functionality in Unifier

Not all BPs work with all functional areas of Primavera Unifier. This table lists the available BPs and the areas in which the BP works.

Type	Subtype	Classification	Project (Standard)	Shell (CBS)	Shell (Generic)	Company
Cost	Commit at Company level	-				X
Cost	Line item with CBS code	Generic	X	X		
Cost	Line item with CBS	Transfer	X	X		

	code					
Cost	Line item with CBS code	Base Commit	X	X		
Cost	Line item with CBS code	Change Commit	X	X		
Cost	Line item with CBS code	General Spends	X	X		
Cost	Line item with CBS code	Payment Applications	X	X		
Cost	Line item with fund code	Generic	X	X		
Cost	Line item with fund code	Transfer	X	X		
Cost	Line item with both fund and CBS code	Generic	X	X		
Cost	Line item with both fund and CBS code	Transfer	X	X		
Cost	Line item with company account code	Generic				X
Cost	Line item with company account code	Transfer				X
Cost	Line item with asset code	-				X
Cost	Line item with multiple codes	Generic			X	
Cost	Line item with multiple codes	Transfer			X	
Cost	Line item with multiple codes	Base Commit			X	
Cost	Line item with multiple codes	Change Commit			X	
Cost	Line item with multiple codes	General Spends			X	
Cost	Line item with multiple codes	Lease			X	
Line item	-	-				X

Line item	-	-	X	X	X	
RFB	-	-	X			
Simple	-	-				X
Simple	-	-	X	X	X	
Document	With folder structure	No detail form	X	X	X	X
Document	With folder structure	With detail form	X	X	X	X
Document	Without folder structure	No detail form	X	X	X	X
Document	Without folder structure	With detail form	X	X	X	X
Text	-	-	X	X	X	X
Resource	Resource booking	-	X			
Resource	Time sheets	-				X

Query-Based Tab in Business Processes

The Query tab allows access to all Business Processes/Space/Level records, related to a Business Process, by way of Query-based Tab (QBT).

Example

If you need to see all approved Spaces related to your BP, you can use the QBT to query/fetch those records. Once a Query-based Tab (QBT) is successfully created and deployed using uDesigner, the Query Tabs appear in the Unifier required BP, in User mode.

A Query-based tab (QBT) is a mini business process log that displays a filtered list of a business process records in the tab line item list. The QBT can be used in all:

- Line Item business processes
- Cost business processes
- Space business processes
- Document-type business processes

Example

A contract QBT can display just the change orders issued against the contract. Another QBT can display only invoices against the contract. Records displayed in the QBT line item list are from the same level (shell/project or company.)

QBTs are not supported in the following business processes:

- Simple
- Resource
- Text
- Request for Bid (RFB)
- Project/Shell creation

In uDesigner, the "**Query Items**" is a new parent node in the Business Processes (left-hand Navigator) with two sub-nodes:

- **Query Tabs**

  To define the QBTs that will be added to the business process. Query tabs can be created as long as the maximum number of tabs (fifteen) has not been reached.
- **Summary Elements**

  To define summary data elements to be added to the **Upper Form** of the business process. The summary elements specify the type of summary information (average/count/total/maximum/minimum) that will be shown from the selected query tab, for example, the total amount of records in the tab.

As a pre-process to defining the Query tab in the business process, you need to use a reference picker in one of the upper forms of the business process, Space, or Level from where you want to create the Query tab. For defining a Query tab, click on the **Query Tabs** link in uDesigner, click **New**, and select a business process, Space, or Level. The system allows you to create a maximum of fifteen tabs in uDesigner, including the QBT.

Query-based tab enables the user to:

- View a filtered list of business process records associated with the parent business process.

  Once the QBT in a business process is correctly configured and deployed, the QBT appears in the business process (**User** mode) for which the QBT has been configured.
- Create a new business process from the QBT in the same Project/Shell, where the parent business process resides.

  Users can create new business process records from the QBT provided that the users have permission to create business process records for the Project/Shell that contains the business process.
- Copy a business process in the same location as the parent business process.

  Users can copy a business process either with or without attachments. In addition, a user can copy any of the records, in the QBT, and create a new business process record.

  > **Note**: Users can copy one record at a time.

  When the user copies a business process record in order to create a new business process, the new business process record contains all the information present in the copied/based business process record.. So, in case of business records with attachments, the user has the option of including or excluding (copying or not copying) the attachments when copying a business process record.
- Search for business process records based on user-entered criteria.

  Users can find any record from the list of records included in the QBT.

> **Note**: The fields available for the Find feature must be defined in the uDesigner for the business process.

Use the **Properties** option (log toolbar) to configure the tab. The options are:

- Line Items
  - Standard
  - Gauges & Meters
  - Hide current tab

User-Defined Report (UDR) and Query-Based Tab

Users will be able to use the **Summary Elements**, from any of the QBTs, in any of the UDRs that the user wants to use if the UDR is based on the same business process record.

Query Tab and Document-type Business Process

The Document-type business processes support QBTs and Line Item tabs along with the existing standard tab.

To define the Query tab in a Document-type business process, you must add a reference picker in the Upper Form of the business process that you want to run the query against. This includes business process picker, new data definition, or business process picker for the destination business process.

When users click the **Properties** option, for an **Upper Form** on a Document-type business process, the **Options** tab displays the following:

- Standard Tab (for Document-type business process)
- Line Item Tab (similar options across each line item type tab)
- Query Based Tab (similar options across each QBTs)

Standard Tab (for Document-type business process)

- Hide current tab
- Add/Copy Line Items
- Remove Line Items
- Allow Modification of Line Item, except when status is
- Allow Line Item Status to be modified
- Add Attachments
- Remove Attachments
- Append Line Item Folder Structure to Auto Publish Path
- Make Attachment to a Line Item mandatory
- Allow comments
- Allow marking of comments as 'Final'
- Additional
  - Allow linking Mailbox
- Attachment Source
  - Unifier Folders

  - My Computer

Line Item Tab (similar options across each line item type tab)

- Hide current tab
- Add/Copy Line Items
- Remove Line Items
- Allow Attachments to the line item
- Allow Modification of Line Item, except when status is
- Allow Line Item Status to be modified
- Additional
  - Allow linking Mailbox
- Attachment Source
  - Unifier Folders
  - My Computer

Query Based Tab (similar options across each QBTs)

- Hide Tab
- Additional
  - Allow linking Mailbox
- Attachment Source
  - Unifier Folders
  - My Computer

To create a QBT:

1) Go to the **Company Workspace**, switch to the **Admin** mode, and click to expand the **Business Processes** node.
2) Open a line item, or a Cost business process.
3) In **Query Items** node, select **Query Tabs**.
4) Click **New** to create a new query tab, and then define query conditions for the tab in Item Logs.

   You can click **New** or **Copy** to create a record.

To view, or use, a QBT

1) Go to the parent business process log in Project/Shell.
2) Open a record to view the QBT.

> **Note**: The source business process of the QBT must be active in order for the tab to display.

See the following for more information about creating QBTs.

Creating Query-Based Tab in Business Processes

To create a Query tab, go to **Company Workspace** > **Admin** mode > **uDesigner** > **Business Processes**:

1) Select a business process.
2) From the left-hand Navigator, click **Query Items** to open the sub-nodes.
3) Click **Query Tabs**.
4) Click **New**.
5) In the **Select Business Process** window, click the drop-down list (under Select Business Process/ Attribute field), select a business process or attribute, and click **OK** to open the **Query Tab** window.
6) In the **Query Tab** window, enter values in the **Name**, **Description**, and **Reference Picker** fields (this is to filter records in the Query tab).

   The value for the **Reference Picker** field is auto-populated when a user creates a new business process record based on a QBT. In such a case, the record number of the parent record will be auto-populated and the user can edit the number and change it to a desired record number. Once the business process record is successfully created, the reference graph shows the intended business process record.
7) When finished, click **OK**.
8) From the left-hand Navigator, click **Item Logs** (previously, the Line Item List node) to begin designing the log. You can have a total of 8 (eight) tabs, including the Query tabs.

   The log for the **Items Log** (previously, the Line Item List node) has several columns. The column, "**Type**," enables you to distinguish between the Detail Form line items list and the Query Items. The "**Tab Name**" column appears before "**Name**" column. Define query conditions in the setup for filtering the list of records returned at runtime.
9) Click to open the **Query items** widow and click the **Query** tab to begin setting your condition.
10) Click **Add** to open the **Query Condition** window. If you do not add a query, the tab returns all the records, based on the reference process.
11) Select and enter values in the **Data Element** and **Condition** fields. You can add multiple conditions. the system performs the query with "And" operand, on the conditions.
12) From the left-hand Navigator, go to the **Upper Forms** node to configure the Query tab options, similar to the **Detail Forms**.
13) Complete your business process.
14) Deploy the business process form.

Additional information:

Within a selected BP, the **Query Items** sub-node provides the following two links:

- **Query Tabs**
- **Summary Elements**

Query Tabs

You can use the **Query Tabs** sub-node to define and maintain the various Query tabs that are defined within the business process.

General Tab

In the **General** tab, you can enter the name, description, and reference picker for the required QBT.

In case, you have already included the reference picker in the Upper Form of the business process, the reference picker appears in the drop-down list of the **Reference Picker** field. In this case, the **Name** field is populated with the name of the business process, but you can change the name of the QBT, if necessary. The name and reference pickers are mandatory fields on the **General** Tab, so you cannot create a QBT if you have not included the reference picker on the Upper Form of the business process.

Query Tab

The **Query** Tab of the QBT is used to create a query to filter the results, displayed within the QBT, based on any particular condition.

To access the Query Tab, go to **Item Logs** sub-node, open the QBT that was created, and switch to the **Query** tab.

> **Note**: It is not mandatory to have a query, so in case no queries are defined all records display in the QBT, in User mode.

You can define multiple queries within the Query tab.

The Query Tabs log page allows you to:

- See all the Query Tabs
- Create a new QBT (New).
- Open an existing QBT to review or change content (Open).
- Delete an existing QBT (Delete).

Summary Elements

You can use the summary elements on the Upper Form of the business process to show the data that is being exchanged. You can use the following types of the summary elements in QBT:

- Average
- Count
- Total
- Maximum
- Minimum

You can define multiple summary elements. To create summary elements:

1) Go to **Company Workspace** > **Admin** mode > **uDesigner** > **Business Processes**.
2) Go to your business process, click **Summary Elements** node and use the QBT to create your summary elements. After defining the summary elements, click **OK** to save.

The log page for the **Summary Elements** node allows you to:

- See all the Summary Elements.
- Create a new Summary Element (New).
- Open an existing Summary Element to review or change content (Open).
- Delete an existing Summary Element (Delete).

Once you create the summary elements, you can include them in the Upper Form of your business process.

Setting Up Updates for Business Process Records

Business Processes (BPs) can be associated with specific Project or Shell (Project/Shell-level BP), or they can be applicable for the entire Company (company-level BP) and not to be specific to a Project/Shell. The Administrator (Project/Shell or Company) determines which forms are to be used and how the workflows operate.

To set up a BP record to receive updates in a Company or Project/Shell, do one of the following:

For a **Company**, switch to the **Admin** mode > **Company Workspace** > **Business Process Updates**

For a **Project/Shell**, switch to the **Admin** mode > **Company Sponsored Shells** > **Business Process Updates**

In This Section

Company Workspace and Business Process Updates

To update a Business Process (BP) in the Company Workspace, go to **Company**, switch to the **Admin** mode > **Company Workspace** > **Business Process Updates**.

Business Process Updates Log in Company Workspace

The Business Process Updates log in **Company Workspace** allows you to set up updates from a template to a record, at the Company level. The log consists of the following:

Menu

- File
- Edit
- View
- Help

Toolbar

- New
- Cancel Request
- Open
- Find
- View Details

> **Note**: These options can be accessed through the Business Process Updates log window menu options.

Columns

- Name
- Source Business Process
- Source Business Process Record
- Submit Date
- Schedule date
- Start Date
- Completion Date
- Status
- Requested By

The functions of the elements in the Business Process Updates log are explained in the proceeding sections.

Company Workspace and Preventive Maintenance Type BP

Preventive Maintenance Business Process (BP) Line Items generate Work Order BP records. You can set up a Preventive Maintenance type BP (Preventive Maintenance Book) to create Work Order BP records for assets at periodic intervals according to the service needs of the asset.

The Work Order BP records refer to a Preventive Maintenance type BP (Preventive Maintenance Book) in order to view all the Work Order BP records for that Preventive Maintenance type BP (Preventive Maintenance Book).

The Business Process Updates log in Company Workspace allows you to set up updates from a PM Book Template to a PM Book record, at the Company level.

The following explains the following toolbar options:

> **Note**: These options can be accessed through the Business Process Updates log window menu options.

- **New**
- **Cancel Request**
- **Open**
- **Find**
- **View Details**

The **New** option enables you to create new update requests from the PM Book Template type, and the log displays all the PM Book Template updates that exist at the Company level.

The drop-down list of the **New** option lists all the BPs of PM Book Template type that have been set up in the Company Workspace. If a BP is not Active, or it does not have Active setups, then the system does not include the BP in this list.

> **Note**: If there are no BPs that have Active setups, the **New** option will be disabled.

When you select a BP from the New option list, the BP record selection window opens which enables you to select the source PM Book Template record for the update.

The BP record selection window contains the log elements/options that have been set in the Business Process Configuration.

The toolbar of the BP record selection window has the same option as the Data Picker window.

The **Cancel Request** option enables you to cancel a scheduled update. You can only cancel a request that has not started (i.e., you can cancel a record that is not stamped with a Start Date.). You can cancel multiple requests. After you cancel an update request, the system changes the:

- Status of the request to: Not Started
- Schedule option to: None

The **Open** option enables you to view the request details; however, depending on the status of a record, this option may not be available, as explained here:

- If the Status of a record is "Completed/In Progress/Error/Failed," then the log window has a Close option. In this case, you can only view the update request details.
- If the Status of a record is "Not Started/Not Scheduled," then the update setup window opens.

The **Find** option enables you to search for a particular request in the log, using the following search parameters:

- **Name**
- **Source Business Process**
- **Source Business Process Record**
- **Status**

> **Note**: The logical operators are the same as in any String or Pull Down field.

The **View Details** option enables you to view the details of an update request. When you click this option, the system opens a report in PDF format that outlines the details of all of the PM Book records that were updated successfully and those that were not.

PM Book Record Update Window

After you select the source PM Book Template record for the update, the **PM Book Record Update** window opens which contains multiple tabs. These tabs are based on the PM Book Template design and are not query-based tabs.

> **Note**: Depending on the design of the Asset Business Process in uDesigner, you may see other tabs (Detail Form tabs) in the PM Book Record Update window. For example, you can see Time Schedules tab, Gauge Meter Schedules tab, and so forth.

The following describes each tab in details:

- **General tab**

  The General tab is fixed and has the following fields:

  - **Name** (required)
  - **Description** (optional)
  - **Source Business Process** (read-only): The value in this field is the name of the PM Book Template Business Process.
  - **Source Business Process Record** (read-only): The value in this field is the number of the PM Book Template record that is the source of the update.
  - **Schedule** (block): This block has two fields (date and time picker) impacting the schedule of the update (Date and None). The date that you select must be greater than the current date and time.

- **Main Form tab**

  The Main Form tab is fixed. The fields in this tab enables you to update the Upper Form field values of the PM Book record from the Upper Form field values of the PM Book Template record.

  The Data Elements in the Main Form tab are based on the Data Elements that exist in the PM Book Template.

  By default, all Data Elements are selected. Use the check box next to Data Element to select or deselect all other Data Elements.

  The order of the fields are based on the Upper Form design.

  Use the **View Record Details** option to open a read-only copy of a record. This is to assist the user with reviewing the existing values of the PM Book Template record.

- **Detail Form** tabs (Other tabs)

  The **Update PM Book Records** window displays tabs based on the design of the Detail Form (**uDesigner** > **Business Processes** > **PM Book Templates** > **Design Form**). For example, if the Detail Form contains Time Schedules and Gauge Meter Schedules, then the Update PM Book Records window displays the Time Schedules tab, Gauge Meter Schedules tab, in addition to the fixed tabs (General tab and Main Form tab).

  The Detail Form tabs enables you to select the Line Items that need to be updated in the auto-created PM Book records, form the PM Book Template.

  The following elements are available in each Detail Form tab:

  Line Items

  From this block, you can specify the Line Items that you want to get updated in the PM Book records, from the PM Book Template. The Line Items block displays all Line Items that exist in the selected template record and includes the following information about each Line Item:

  - **Line No.**

    The line number of the Line Item in the PM Book Template. The line number in the PM Book record may not have a one-to-one connection with the line number existing in the BP Book Template.
  - **Short Description**
  - Line Item Details

    Each Line Item has a **View**, hyperlink, option that enables you to view the Line Item details, in View only mode.

Data Elements - <name> **tab**

This section displays the list of applicable Data Elements. Use the Data Element check box to select/deselect all elements. The Line Items listed here exist in the auto-created PM Book record.

When an Asset auto-creates a PM Book record, the Line Items, and contents, are copied over from the PM Book Template record associated with the Asset. The system associates a unique "guid" for each of the Line Items in the PM Book record and maintains a reference to the Line Items in the parent PM Book Template record. Since such a reference exists, the Line Item in the parent PM Book template record is changed, and the corresponding Line Item in the destination PM Book record is updated by means of this Push update.

New line items can only be added to the Time based tab. If new Line Items are added to the PM Book Template record, you need to conduct a push to add the new Line Items to the PM Book record, as new Line Items. The Data Elements of the PM Book records are updated as part of this push.

If the Line Items do not exist in the auto-created PM Book records, then the system creates the Line Items. The new Line Item creation, in the PM Book records, follow the Line Item auto-creation logic, and the new Line Item creation does not refer to the Data Elements section of the tabs, at the time of update. The tab mapping that has been set in the design of the Asset BP forms the basis for copying over the field values in the PM Book records.

Project/Shell and Business Process Updates

To update a Business Process (BP) in the Project/Shell, go to **Project/Shell**, switch to the **Admin** mode > **Company Sponsored Shells** > **Business Process Updates**.

Business Process Updates Log in Project/Shell

The Business Process Updates log in **Project/Shell** allows you to set up updates from a template to a record, at the **Project/Shell** level. The log consists of the following:

Menu

- File
- Edit
- View
- Help

Toolbar

- New
- Cancel Request
- Open
- Find
- View Details

> **Note**: These options can be accessed through the Business Process Updates log window menu options.

Columns

- Name
- Source Business Process
- Source Business Process Record
- Submit Date
- Schedule date
- Start Date
- Completion Date
- Status
- Requested By

The functions of the elements in the Business Process Updates log are explained in the proceeding sections.

Project/Shells and Preventive Maintenance Type BP

Preventive Maintenance Business Process (BP) Line Items generate Work Order BP records. You can set up a Preventive Maintenance type BP (Preventive Maintenance Book) to create Work Order BP records for assets at periodic intervals according to the service needs of the asset.

The Work Order BP records refer to a Preventive Maintenance type BP (Preventive Maintenance Book) in order to view all the Work Order BP records for that Preventive Maintenance type BP (Preventive Maintenance Book).

The Business Process Updates log in **Project/Shell** allows you to set up updates from a PM Book Template to a PM Book record, at the **Project/Shell** level.

If you link your Time and Meter Schedules within a PM Book BP, you can avoid generating multiple PM work orders if a meter-schedule occurs sooner than a time-schedule, or vice versa. The following scenario provides a good example for this feature:

> A commercial vehicle is scheduled for an oil change either when it reaches 5000 miles (meter) or 12 months (time) after the last oil change, whichever is reached first. If the vehicle reaches 5000 miles prior to 12 months, then Unifier generates a PM work order and automatically prevents a second PM work order when the 12 months time-frame comes. Conversely, if 12 months passes and the vehicle does not reach 5000 miles, then Unifier generates a PM work order and automatically prevents a second PM work order when the vehicle reaches 5000 miles.

To prevent generating an additional work order, in such a case, you can use the "**uuu_rec_related_family_id**" data element to link the meter-schedule and the time-schedule within a PM book or PM book template. To update the "**uuu_rec_related_family_id**" data element from PM Book templates to use for all PM Books, go to either of these locations:

- Shell (**Admin** mode >**Business Process Updates** node > **Setup**

- **Company Workspace** tab (**Admin** mode > **Company Workspace** > **Business Process Updates**)

Once selected, all of the PM Books will be updated with correct values from the related PM Book Template, according to the push schedule defined within this log.

See the ***Company Workspace and Preventive Maintenance Type BP*** (on page 612) section for details.

Setting Up the Asset Manager

About the Asset Manager

The Asset Manager module is part of the company workspace. It is used to manage assets and depreciation. This manager allows users to can track assets and depreciation on their associated asset sheets. It allows users to enter company assets, set up depreciation schedules for them, and classify them into categories to make managing them more efficient. Ultimately, users can gather these assets onto a sheet to track asset depreciation in monthly, quarterly, or yearly increments.

The Asset Manager uses four depreciation methods: straight line, double decline, sum of year digits, and manual depreciation. For each method, asset depreciation is calculated for the entire life of the asset over a specified period. For example, if an asset is depreciating over two years and you specify a monthly depreciation increment, then the asset's value is recalculated each month for two years from the date of acquisition.

The Asset Manager allows you to:

- Create, organize, and manage company assets
- Define an unlimited number of asset classes, and design an asset attribute form per asset class
- Create assets: manual, templates, or import
- Apply multiple asset depreciation methods: straight line, double decline, sum of years digits, manual
- Track an asset's total cost of ownership (roll up maintenance-related costs from projects or company-level BPs to specific company account codes)

The Asset Manager does not directly use business processes; rather, it uses attribute forms to create asset classes and detail forms to create the assets themselves. In Unifier, an asset class maps assets to company account codes, tracks asset costs and depreciation, and keeps the company account sheet updated with current asset values. In addition, the manager uses reference processes to extract the asset's acquisition cost from a company-level BP.

In User Mode, the **Asset Management** node lists the names of every class. These nodes are where users create and modify new assets, set up their depreciation schedules, and refresh assets to recalculate their values and update the asset class sheet and the company account sheet.

Asset Sheets: You can track assets and depreciation on asset sheets. There is one asset sheet per class, listing details about each asset in that class, plus an asset summary sheet, which helps you track all of your assets in one place.

Asset Classes: Assets are grouped in classes (for example, buildings, equipment, etc.). The detail forms that are used to enter asset information can be configured in uDesigner, per class. For example, you can design and use different forms for entering information about your company's building assets and equipment assets. Each asset exists as a unique record.

Asset Codes: Asset codes are generated automatically when assets are created. The asset code will be built using different data elements defined on the asset form as segments. At runtime, the asset code is built automatically based on the data element values selected. A tree structure is automatically built to access these assets based on the asset codes. Assets with the same segment values will be grouped together to form a hierarchy.

> **Note**: User permissions are granted per asset class or sheet. If you cannot view any part of the Asset Manager to which you require access, contact your company administrator.

Setting up the Asset Manager

Asset class forms must be designed in uDesigner. An asset class is a way to group assets of a similar type together. Examples of asset classes are buildings, vehicles, computer equipment, etc. Asset class forms are used to create new assets within each asset class, with a different form for different classes. The classes, forms, and corresponding logs are designed in uDesigner.

Step 1: Design the asset classes and forms in uDesigner and deploy them into Unifier.

Step 2: Configure and activate each class. This enables assets and asset sheets to be created for the class. It also enables projects to be associated with assets by creating asset categories for project creation.

Step 3: Grant template administration permissions.

Step 4: Create asset templates. These can be used to create assets under an asset class in User Mode.

Step 5: Set up a depreciation schedule in an asset template or in individual company assets.

Step 6: Create assets under asset classes in User Mode. You can create assets manually or by copying a template. If you did not set up the depreciation schedule in a template, you can do it per asset (Step 5).

Step 7: Set up the asset sheets. Asset sheets are maintained in User Mode.

In This Section

Importing Asset Classes

All designs, including asset classes, are designed in uDesigner and deployed to Unifier. See ***Importing Configuration Packages*** (on page 303).

Configuring the Asset Manager

Once an asset class has been imported, it must be configured and activated to create assets. Asset classes are listed in the Asset Manager configuration log automatically after importing, with a default status of inactive.

To configure an asset class

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Configuration > Asset Manager**. The Asset Manager log opens. Any asset classes that have been designed in uDesigner will be listed in the log.
3) Select an asset class record from the log window and click **Open**. The asset class window opens.
4) Complete the **General** tab as described in the following table.
5) In the **Custom Print** tab, utilizing MS Word's XML schema, you can create a customized printed output. This is similar to creating custom-designed BP print layout as explained in the Create Custom-Designed BP Print Layout (Custom Print tab) section.
6) To make the asset class active, click **Active** for the status. This will enable assets and asset sheets to be created in User Mode. The asset class is also available to use as a project category.
7) Click **OK**.

In this field:	Do this:
Sequence Format	Define the sequence used to create record numbers for new assets created for this class in User Mode. This is similar to business process numbering. Each time a new asset is created under this asset class, this sequence format will be used. Note: A sequence format change will not take affect once an asset is created under an asset class.
Help File	You can upload a PDF file as a help file for the Asset Manager. This file will be available from the asset class log window and individual asset record.
Auto Creator	Specify the auto-creator.
Status	Active or Inactive. Activating the configuration will make the class available in User Mode and Administration Mode to create assets, asset sheets, and asset templates. It also makes the asset class available as a project category in which to create projects that are associated with the assets.

Configuring Asset Manager Configuration Package

The following configurations can be included in the Asset Manager Configuration Package:

- General setup (in General tab)
  All the fields included in the General Configuration (General tab).
- Custom Print
  Word and PDF templates, if any.
- BIP Custom Print
  All the BIP Custom Print in the Custom Prints and Reports.

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

Grant asset class template permissions

Once you have activated an asset class configuration, you can create asset class templates that can be used to quickly create assets within the class.

When you activate a new asset class in the configuration window, you must grant permission (to yourself, another administrator, or a group such as company administrators) to administer asset class templates and create assets in user mode.

Creating and Managing Asset Templates

You can create one or more asset class templates that can be used to create assets within the class.

To access asset class templates

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Assets** in the left Navigator and select the asset class for which you want to create a template. The templates log for the class opens. The log lists any templates that have been created for the asset class.

   The columns that appear on the log will depend on the asset class design. The design controls the appearance of the asset form, the log, and which fields you can search on using the Find button. This is true for templates as well as assets created in User Mode.

To search for an asset template

In the asset template log, click the **Find** button. You can search for the template based on fields available on the asset form used for the template. These fields will vary depending upon the design for your company.

Create an asset template

The following describes how to create a new asset template manually.

To manually create an asset template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, select the asset class under **Templates > Assets**. The templates log for the class displays.
3) Click the **New** button. The Create New asset form opens.

   This form is similar to a non-workflow business process form. The form has two sections:

   - **General**: In the upper portion of the form, enter all the details about the asset. The fields on this form depend on the asset class attribute form design.
   - **Standard** tab: You can choose to define the depreciation schedule in a template. ***Creating a Depreciation Schedule*** (on page 624). Setting up the depreciation schedule is optional and can be defined in User Mode for each asset. Before you can set up a depreciation schedule, you must first save the form.
4) Click **Save** to save changes to the upper form, or **Finish Editing** to save and close the form.

Create a new template from an existing template or asset

You can create a template by copying an existing asset or a template from the same class.

To copy an existing template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Assets** in the left Navigator and select the asset class for which you want to create a template. The templates log for the class opens.
3) Select an asset class template from the log and click **Copy > Template**. The form opens with the information from the original template.
4) Make changes as needed and click **Finish Editing** to save the new template.

To copy an asset

1) Select **Copy > Asset**. The Copy from Asset window opens. Assets from the same class are displayed in this list.
2) Select an asset and click **Copy** to create a template. You can click **Find** to search for an asset by name.

To edit an asset template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Assets** in the left Navigator and select the asset class under which the template resides. The templates log for the class opens.
3) Select the template and click the **Open** button. The asset class form opens.

   Note: If you previously clicked the **Finish Editing** button for the form, you can make it editable again by clicking the **Edit** button at the top of the form.

4) To edit the depreciation schedule, click the **Depreciation Setup** button.

To delete an asset template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Assets** in the left Navigator and select the asset class under which the template resides. The templates log for the class opens.
3) Select the template and click the **Delete** button. Click **Yes** to confirm.

Creating a Depreciation Schedule

Each asset can be depreciated based on the depreciation definition associated with it. Depreciation of an asset will be based on acquisition cost, acquisition date, salvage value, etc. The Asset Manager will perform these calculations for each asset and update the asset form. These calculations can be shown on the asset class sheet and asset summary sheet, and can be optionally rolled up to the company accounts sheet.

> **Note**: Before you can create a depreciation schedule for an asset, you must populate the data set for the SYS Depreciation Name data definition. To do this, use the instructions under ***Adding and Managing Data Sets*** (on page 77).

Depreciation calculation for an asset will be based on the selected method. The following methods are available:

- Straight line method
- Double decline method
- Sum of year digits
- Manual

Regardless of which method is used, depreciation for an asset will be calculated from the specified asset acquisition date to the end of the depreciation period.

These are the input parameters to calculate depreciation:

- Acquisition date
- Acquisition cost
- Salvage value
- Depreciation period
- Factor% (only for double decline method)
- Timescale units

Depreciation output values:

Output Value	Description
Net book value	Book value of an asset as of a particular period
Cumulative depreciation	Accumulated depreciation cost of an asset over a period of time
Current period depreciation	Depreciation cost of an asset for a particular period

Straight line method

This method is the simplest of all depreciation methods. Depreciation for each time period (timescale units) will be calculated by dividing acquisition cost by depreciation period. If asset has salvage value, it should be considered while calculating depreciation.

Without Salvage

Timescale Units	Formula to Calculate Depreciation per Period
Monthly	Acquisition Cost / (Depreciation Period * 12)
Quarterly	Acquisition Cost / (Depreciation Period * 4)
Yearly	Acquisition Cost / (Depreciation Period * 1)

With Salvage

Timescale Units	Formula to Calculate Depreciation per Period
Monthly	(Acquisition Cost – Salvage Value) / (Depreciation Period * 12)
Quarterly	(Acquisition Cost – Salvage Value) / (Depreciation Period * 4)
Yearly	(Acquisition Cost – Salvage Value) / (Depreciation Period * 1)

Net Book Value = Starting Book Value – Current Period Depreciation

Starting Book Value = Net Book Value of Previous Period

Starting Book Value of First Period = Acquisition Cost

Example

An asset with an original cost of $3,000 is depreciated yearly over three years beginning January 1, 2006, using the straight line method with no salvage value.

- Depreciation beginning January 1, 2006 means that the acquisition date is 12/31/2006. This can be the purchase date of an asset or when the asset was put into service.
- The asset form is updated with current period depreciation, net book value, and cumulative depreciation periodically based on timescale units. If the timescale units are years, these data elements on the asset detail form should be updated every year with the calculated values displayed on the depreciation sheet. In this example, the asset detail form will be updated every January.

The depreciation table would look like this:

Period	Starting Book Value	Current Period Depreciation	Net Book Value	Cumulative Depreciation
12/31/2006	3000 (Acquisition	1000	2000 (3000-2000)	1000

	Cost)			
12/31/2007	2000 (Previous Net Book Value)	1000	1000 (2000-1000)	2000
12/31/2008	1000 (Previous Net Book Value)	1000	0 (1000-1000)	3000

Double decline method

This method allows depreciation of an asset at an accelerated pace. The following formula is used while calculating depreciation per period.

Current Period Depreciation = Net Book Value of Previous Period x Factor x (1/n)

Net Book Value = Starting Book Value – Current Period Depreciation

Starting Book Value = Net Book Value of Previous Period

- Starting Book Value of First Period = Acquisition Cost
- Factor = Value entered while defining the depreciation definition (enter a percentage value, usually 200% or 150%
- n = Number of depreciation periods

Salvage value is not considered while calculating depreciation for each period. But the acquisition cost – accumulated depreciation value should not go below the salvage value. For any depreciation period, if the acquisition cost – accumulated depreciation value goes below the salvage value, the depreciation for that period should be reduced so that the total value of the asset does not go below the salvage value.

Example

An asset value is $140,000. It will be depreciated over five years, and the factor entered is 200%. The depreciation rate for this method is 200% x (1/5) = 40%.

The first period calculation is 140,000 x 40% = 56,000.

Sum of year digits

The following formula is used for this method:

Current Period Depreciation = (Cost – Salvage Value) * [Factor]

The calculation factor depends upon the depreciation period and will change for each period based on the following formula, where *n* is the number of depreciation periods:

Fraction for first year = n / (1+2+3+4+5…n)

Fraction for second year = (n-1) / (1+2+3….n)

Fraction for third year = (n-2) / (1+2+3+…n)

Manual

With the manual method, you enter the current depreciation value for each period on the depreciation sheet. The net book value and cumulative depreciation are calculated automatically based on the depreciation value. Depreciation is calculated for each time period and displayed on the depreciation sheet. Once the depreciation calculation sheet is updated, the asset detail form is updated.

Example

An asset with an original cost of $3,000 is depreciated yearly over three years beginning January 1, 2006. The salvage value is $500.

The initial depreciation sheet shows the following:

Period	Current Period Depreciation	Net Book Value	Cumulative Depreciation
12/31/2006	0	3000	0
12/31/2007	0	3000	0
12/31/2008	0	3000	0

Net book value and cumulative depreciation are calculated, read-only fields.

Enter the depreciation amounts for each period. The net book value and cumulative deprecation are calculated as follows:

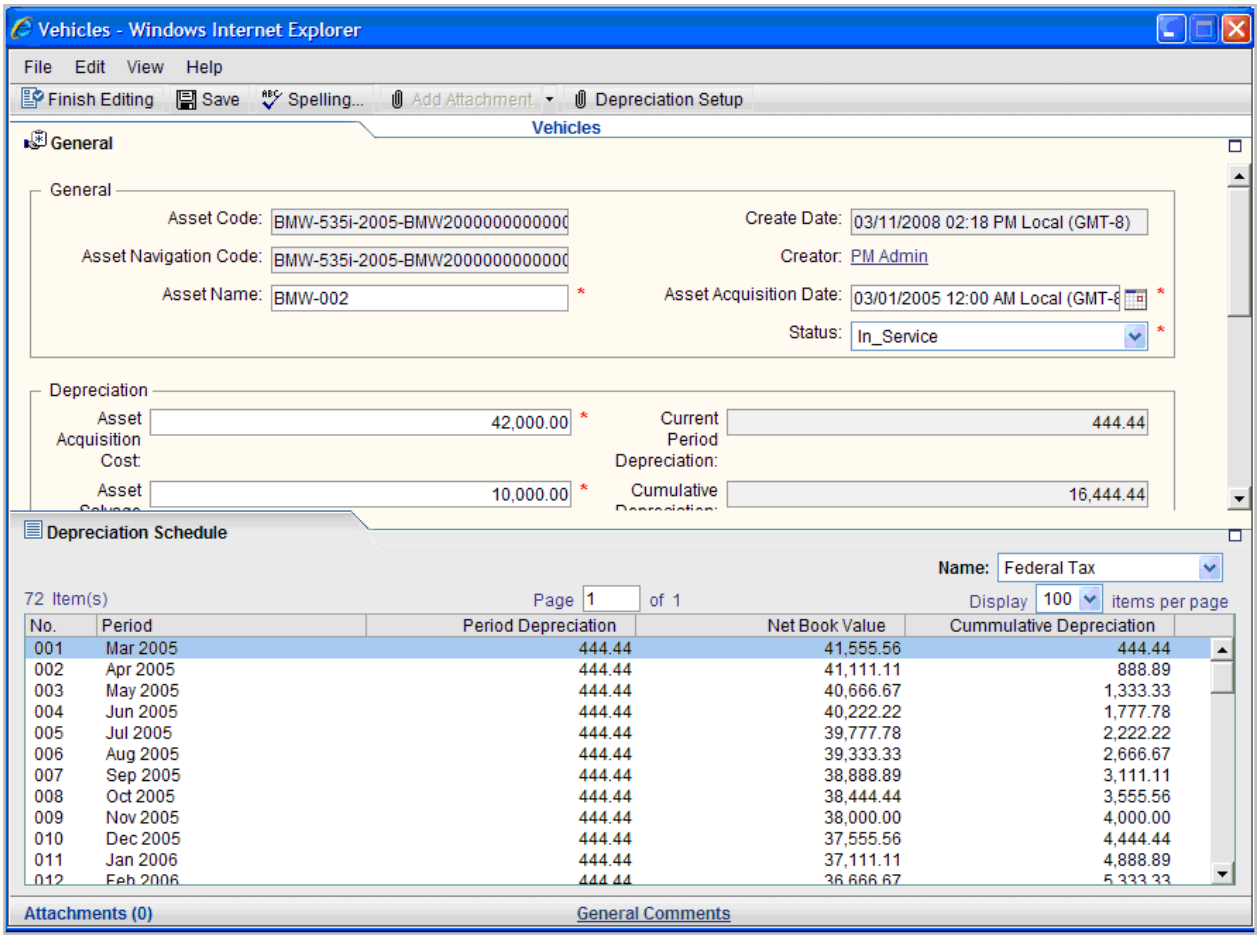
Period	Current Period Depreciation	Net Book Value	Cumulative Depreciation
12/31/2006	500	2500	500
12/31/2007	1000	1500	1500
12/31/2008	1000	500	2500

Set up a depreciation schedule

You can set up the depreciation of an asset template after the general information has been completed, and you have clicked the Save or Finish Editing button. This is optional in a template.

Depreciation schedule columns are predefined. Columns are populated based on the depreciation calculation. Below is a sample depreciation schedule.

Note: Before you can create a depreciation schedule for an asset, you must populate the data set for the SYS Depreciation Name data definition. To do this, use the instructions under ***Adding and Managing Data Sets*** (on page 77)



To set up depreciation

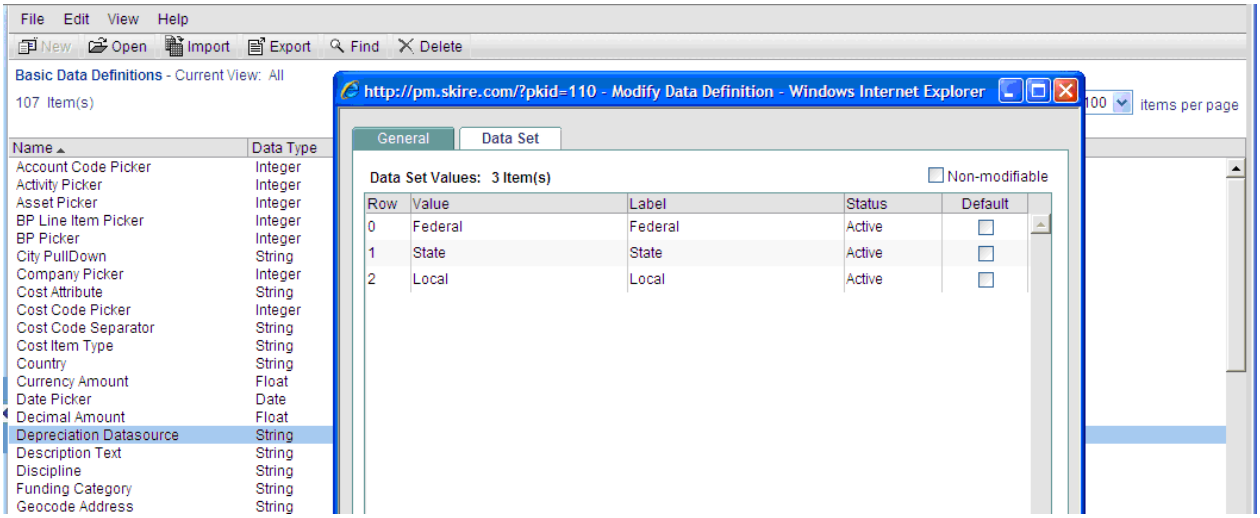
1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Asset Manager** in the left Navigator and select the asset class. The asset log for the class opens.
3) Click the **Open** button. The asset class form opens.

   If you previously clicked the **Finish Editing** button for the form, you can make it editable again by clicking the **Edit** button at the top of the form.
4) Click the **Depreciation Setup** button. The Depreciation Setup window opens.
5) Add a row by clicking the **Add Row** button.
6) Complete the information for the depreciation setup as described in the table below.
7) Click **OK** to save and exit the window.
8) When the asset template is complete, click **Finish Editing**.

In this field:	Do this:
Default	Choose one of the depreciation methods to use as a default for the assets that are created based on this template. This is optional.
Name (required)	Select from the drop-down list. The list is managed in the depreciation data source data definition.
Depreciation Method (required)	This drop-down lists the following depreciation methods: Straight line method Double decline method Sum of years digits Manual
Timescale Units (required)	This value determines the frequency of asset depreciation: **Months:** Asset will be depreciated every month **Quarters:** Depreciate asset quarterly **Years:** Depreciate asset yearly
Factor%	This is required for the double decline depreciation method. It is the value entered while defining the depreciation definition. Enter a percentage value, usually 200% or 150%.

Verify the depreciation data source list

The list of available depreciation data sources is managed in the depreciation data source data definition data set. Below is a sample depreciation data source list.



Setting Up and Managing Asset Sheets

Asset sheets are created automatically when asset classes are imported and activated. Asset sheets are listed in the Asset Sheet log window in the User Mode Asset Manager. There is one sheet per asset class, plus an asset summary sheet that summarizes all asset sheets. Assets are added to asset sheets as rows automatically, listed by the segmented asset code. In the asset summary sheet, the rows are the asset classes.

The asset summary sheet displays information of all asset sheets. It displays total values from individual asset class sheets. The asset summary sheet is created automatically once the first asset class is imported. Asset classes imported into Unifier are automatically added as rows.

Columns can be added to asset sheets. Some examples of columns include:

- To capture data from the asset form.
- Business processes—Company-level BPs with line items with asset code subtype are available; only the Amount field is available.
- Project cost columns—Most columns from project cost sheets are available; only the Amount field is available. This is available when projects are created under asset categories.
- Manual entry or formula columns

Users with create permission on asset class sheets will be allowed to create and define columns.

Create an asset sheet column

Columns can be added to asset sheets. These columns can be used to capture data from the asset form, business processes, or manually entered data on the sheet. Users with create permission on asset class sheets are allowed to create and define columns.

To create a new asset sheet column

1) In the asset sheet, click the **Columns** button in the menu bar. The Asset Sheet Columns Log opens.
2) In the menu bar click **New**. The Column Properties window opens. Complete the window as described in the following table.

In this field:	Do this:
Name	The Name field is populated with the data source value selected.
Datasource	Select a data source. The drop-down list lists the data elements found on the asset class form. This list also shows data elements based on SYS Numeric Logical Datasource, Sys Date Logical Datasource, Sys Business Process Datasource, and Sys Project Cost Datasource data definitions. Data sources of type SYS Numeric Logical Datasource, SYS Date Logical Datasource, Sys Business Process Datasource, and Sys Project Cost Datasource can only be used once.

	Examples include: Business processes: Company-level BPs with line items with asset code subtype are available. Only the Amount field is available. Project cost sheet: Columns defined with Sys Project Cost.
Entry Method	Choose one of the following data-entry methods to use for the column. The available choices vary depending on the data source selected. Options include: **Manual entry:** User enters data directly into the cell, or data is rolled up from another source, such as the asset form. **Formula:** Options are Numeric, Date Difference, and Date Add. **Data Type:** This option is applicable if the data source is SYS Business Process, a business process or information from the project cost sheet. After selecting the data type, click **Define** to choose the data element or define a formula based on the data element.
Date Format	Specify how you want the column data to appear. This is applicable to numeric columns. Options are: ▸ **Show as Percentage:** Data entered in a column will display in percentage format. For example, if a user enters 0.25, it will display as 25%. ▸ **Decimal Places:** Select the number of decimal places to display. ▸ **Use 1000 Separator (,):** Data entered is formatted with a separator; for example, 1,000, not 1000. ▸ **Negative Number Format:** Select how negative values will be displayed on the sheet: with a negative sign or in parentheses.
Display Mode	Select **Hide** to make the column invisible to users, or **Show** to display it.
Total	This controls what displays in the bottom summary row for each column: ▸ **Blank:** Summary row will remain blank. ▸ **Sum of All Rows:** Displays the sum total of all row values for this column. ▸ **User Formula Definition:** Formula entered in the Formula field will apply to the summary row.
Column Position After	Select a column from the list. This determines the position of the column on the sheet.

To copy a column

1) In the Column log, select a column and click **Copy**. The Column Properties window opens.

2) Make changes as necessary for the new column. You must change at least the data source.

Add a column for business process data

You can add a column that captures data from a selected business process. The business process must be company level of type line items with asset code.

You can roll up data directly from the business process or create a formula for the column based on the data.

To add a column for business process data

1) Open the Asset Sheet to which you want to add a column.
2) Click the **Column** button, located in the sheet tool bar.
3) In the Column Properties window, choose a data source of type **Sys Business Process**.

   This allows you to link the column to a company-level business process of type line items with asset code.
4) For the entry method, choose **Data Type** and click the **Define** button. The Define Data Type window opens. The window is similar to a formula window.
5) Click the **Select** button and select a business process from the list. The list includes only company-level BPs with the line items with asset code subtype. Only the Amount field is available. You can optionally use the field to define a formula.
6) Click **OK**. Save the column definition.

Add a column for project cost data

You can add a column that captures data from a project cost sheet, allowing you to link assets with project cost data. You can roll up data directly from the project cost sheet or create a formula for the column based on the data.

To add a project cost data column

1) Create a new column.
2) In the Column Properties window, choose a data source of type **SYS Project Cost**.
3) For the entry method, choose **Data Type** and click the **Define** button. The Define Data Type window opens. The window is similar to a formula window.
4) Click the **Select** button and select from the list. The list includes data sources that are available while defining a project cost sheet, such as an assigned budget, revised budget, all cost business processes, and project cost 1 to project cost 25. Only the **Amount** field is available. Data from the project will be rolled up to an asset class sheet in the base currency. You can optionally use the field to define a formula.
5) Click **OK**. Save the column definition.

Add a formula column

You can add a formula column to the sheet for data sources that are based on either the data definitions SYS Numeric Logical Datasource or SYS Date Logical Datasource.

You can define formulas for the following types:

- **Numeric:** This option is available if the data source is SYS Numeric Logical.
- **Data Difference:** This option is available if the data source is SYS Numeric Logical. It is used for formulas that calculate the difference between two dates.
- **Date Add:** This option is available if the data source is SYS Date Logical. It can be used to add values to a date to calculate a new date.

To create a numeric formula

1) In the column Properties window, choose **Formula** and select **Numeric**.
2) Click **Create**. The Create Formula window for numeric formulas opens.
3) Select either **Item** or **Sheet** from the data type drop-down list. Item lists data elements that are defined on the form. Sheet lists columns that are already defined on sheet.
4) Build a formula by doing the following:
   - To include a data source in the formula, select the data source from the list and click **Select**.
   - Click a mathematical modifier (plus, minus, and so on) and numbers on the keypad.
5) When the formula is complete, click **OK**.

To create a date difference formula

1) In the column Properties window, choose **Formula** and choose **Data Difference**. Click **Create**. The Date Difference window opens.
2) For Earlier Date and Later Date, click **Select**. Select a data element. The list includes date type data elements from the form or existing date type columns on the sheet.
3) Choose one of the following:
   - **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.
   - **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.
   - **Show Partial Day**
4) Click **OK**.

To create a date add formula

1) In the column Properties window, choose **Formula** and choose **Data Add**. Click **Create**. The Date Add window opens.
2) For the **Date** field, click **Select** and choose a data element from the list.
3) For the **Add** field, click **Select** and choose a data element from the list.
4) Choose one of the following:
   - **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.
   - **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.
5) Click **OK**.

Create an asset summary sheet column

You can add columns to the asset summary sheet to display information from individual asset sheets. Available data types are the columns on the asset summary sheet.

Edit asset details from the asset sheet

You can edit asset detail information directly from the asset sheet, without having to open the asset form.

- Modify data elements from the asset when defining columns.
- Data elements are editable from the asset class sheet.
- Changes made to elements from the sheet will be reflected on the asset detail form automatically.
- Data elements that are editable and not required are editable from the sheet.
- Conditions under which a data source is not editable from a sheet object include:
  - All pickers except the Date picker
  - Data elements that are of SYS Logical Datasource formulas
  - Data elements that are SYS Business Process Datasource and SYS Project Cost Datasource

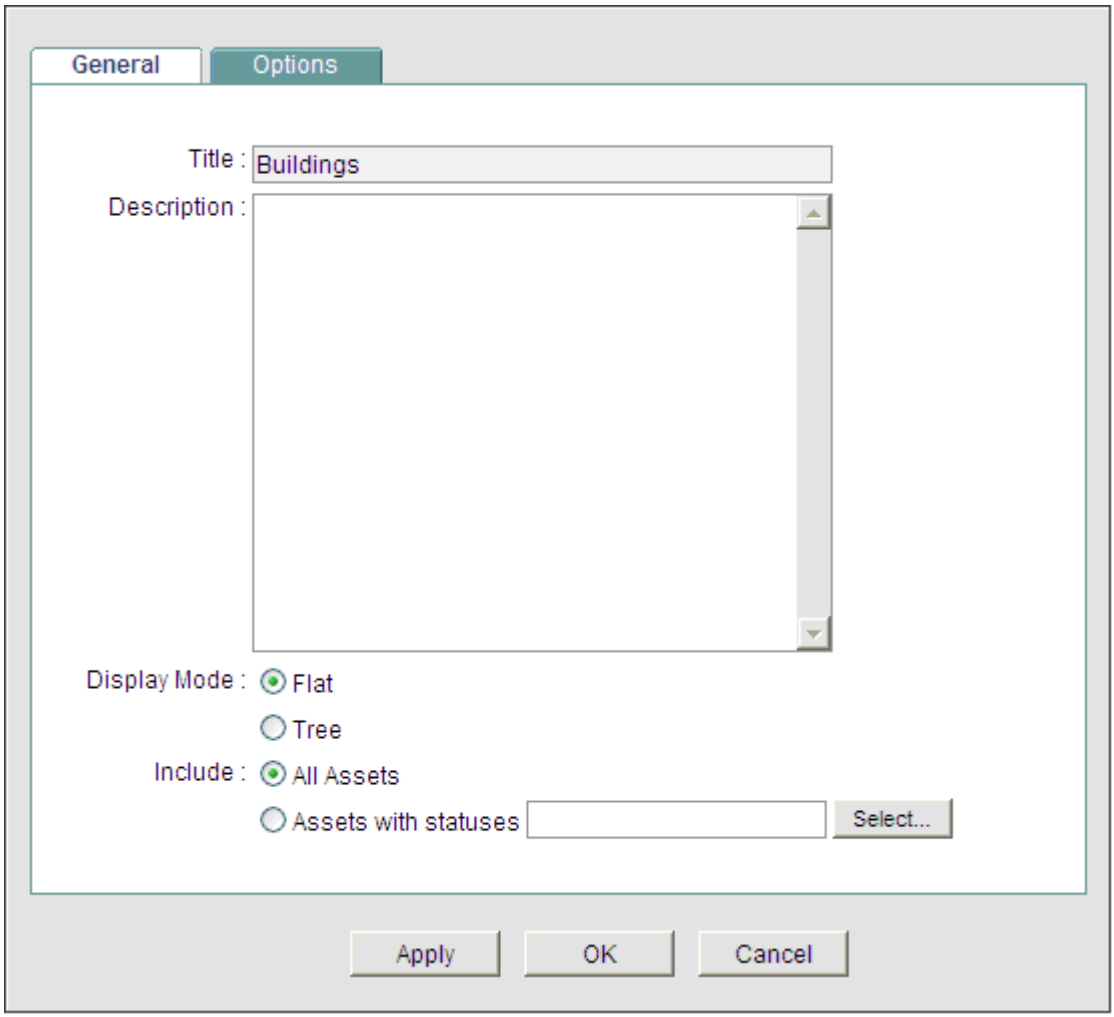
Managing Asset Sheet Properties

The Properties window for the asset sheet maintains the name and display options. You can also track asset value by associating a column on an asset sheet with a company account code. The company accounts sheet must be defined and account codes created before you can perform this mapping.

To open the asset summary sheet Properties window

1) In the Asset Sheets log, select the asset summary sheet and click the **Properties** button.
2) Complete the **General** tab as described in the following table.

3) In the **Options** tab, asset sheet columns can be mapped to company account codes. The total value of the column will roll up to the company accounts sheet.



In this field:	Do this:
Title	This is the name of the asset sheet, which reflects the class name and is read only.
Description	Enter an optional description.
Display Mode	Choose one of the following: **Tree:** Lists the asset codes in a hierarchical manner based on the code segments and mimicking the tree structure in the Navigator. **Flat:** Lists the codes in a flat structure.
Include	Choose one of the following: **All Assets:** All asset records created in the class will be displayed on the sheet

	Assets with statuses: Click **Select** and choose one or more statuses from the list. Only assets with one of the selected statuses will be displayed on the sheet.

Map asset sheet columns to company account codes

You can track asset value by associating a column on an asset sheet with a company account code. The company accounts sheet must be defined, and account codes must be created before you can perform this mapping.

Notes:

- You can map an asset sheet column to more than one account code. For example, Column A can be mapped to both Account Code X and Account Code Y. This means that the total will display for both account codes in that column. However, each account code can be mapped only once. Account Codes X and Y cannot be mapped to any other columns; that is, you cannot map two columns of an asset sheet to a single account code.
- If you remove a column from the asset sheet that is associated with an account code, the mapping will be lost.

Once mapping is done, data from the asset sheet is rolled up to the accounts sheet under the Assets data source, which can be used to define an accounts sheet column. Only the total value will be rolled up.

Whenever there is change to an asset sheet column, that column data (total value) will roll up to the accounts sheet based on the mapping.

Following are the triggering conditions under which data is rolled up to the accounts sheet:

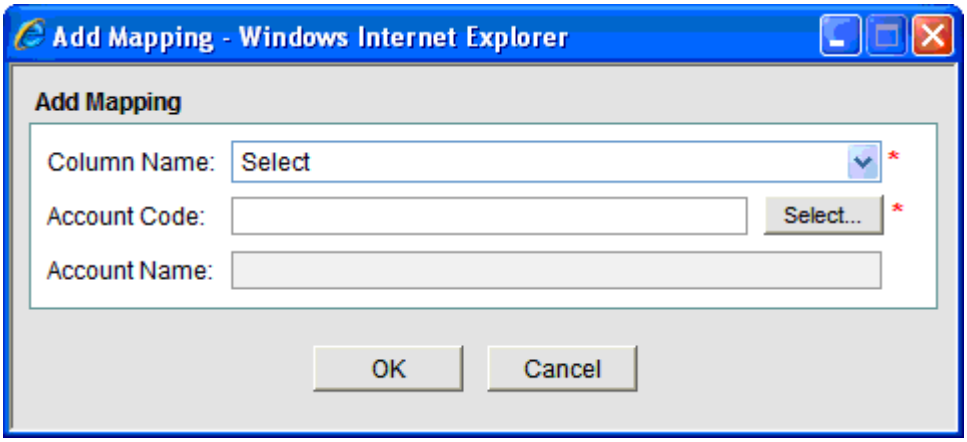
- When a column is mapped to an accounts sheet after the Properties window of the asset sheet is saved.
- When a column mapping is changed or removed on the asset sheet properties window.
- When a column in the asset sheet gets updated due to changes in the asset or asset sheet.

Note: The process used to update the accounts sheet with mapped asset sheet data runs in the background. After mapping an asset column to the accounts sheet or updating the asset sheet data, the change may not be reflected in the accounts sheet immediately.

To map an asset sheet column to a company account code

1) In User mode, go to the Company Workspace tab and open the Asset Sheets log in the left Navigator, select an asset sheet, and click the **Properties** button. The Properties window opens.

2) Click the **Options** tab, then click the **Add** button. The Add Mapping window opens.



3) Use the table below to complete the fields in this window.
4) Click **OK**.

In this field:	Do this:
Column Name	The drop-down list lists all columns that are defined on the asset sheet. Select the column you want to map to the account sheet.
Account Code	Click **Select**. A picker window opens displaying active codes from the accounts sheet. Select a code and click **Open**.
Account Name	This field is populated with the name of the account code chosen in the previous field.

To modify or remove mapping

Select a row and click **Modify** to edit mapping, or **Remove** to remove mapping. You cannot map two columns of an asset sheet to a single account code.

Associating Projects with Asset Classes

You can associate one or more projects with an asset. This allows you to manage assets using projects with full project functionality (cost sheet, business processes, etc.).

The asset class is added to the list of available categories that can be used to organize projects. By default, the new asset class categories are inactive. You must activate them to use them.

To associate a project to an asset class:

- Activate the asset classes as project categories. This enables projects or project templates to be created under the asset category.
- Create a new project or project template under the asset. Creating a project under the new asset category allows you to associate a project with an asset. You cannot associate an existing project to an asset.

To activate asset classes and use them as project categories

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Configuration > Shell Manager**.
3) Select **Projects (Standard)** and click the **Open > General** button. The Configuration Projects (Standard) window opens.
4) Click the **Organize** tab.
5) Select the asset class on the list and click the **Active** button. The asset class can now be associated with a project.
6) Click **OK**. Click **Yes** to confirm.
7) Click **OK** to save and exit the Edit Company window.

> **Note**: You must grant user permission to yourself or other users or groups to view the new category.

To create a new project under an asset

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) select the asset class category under one of the following in the left Navigator:
   - **Templates > Projects (Standard)> project >Asset Manager > [asset class category]**
   - **Company Sponsored Projects > project >Asset Manager > [asset class category]**
3) Create a new project or project template under the asset class category.
4) Complete the project or project template properties window.

   When created under an asset class, an Asset picker is preset on the General tab.
5) In the Asset field, click the **Select** button. The Assets window opens, listing the assets created under the asset class.
6) Select an asset from the list and click **Open**.

   Selecting an asset is not required for project templates, but is required when creating new projects. This selection cannot be edited. The asset is displayed in the Projects log.

> **Note**: The Asset picker is not available on projects or templates that are not created under category nodes based on asset classes.

Setting Up the Code-Based and Records-Based Configurable Manager

Configurable manager, as well as classes, forms, and corresponding logs are designed in uDesigner (Configurable Modules) and deployed to Unifier. You must also define the business processes that work with the configurable manager.

> **Note:** Assign a specific name for the configurable manager in uDesigner. The generic term used in the instructions is configurable manager.

Step 1: Design code-based and records-based configurable manager in uDesigner (Configurable Modules).

Step 2: Setup the Business Process Data elements under the Options tab and deploy the manager. After the manager has been deployed, classes can be designed and deployed.

Step 3 Set permissions.

Step 4: Configure the code and records-based manager.

Step 5: Set the template administration permissions.

Step 6: Create template sheets and add columns.

Step 7: Set permissions for the user.

In This Section

Setting Permissions to Import Configurable Managers

You must have modify permission under Access Control > Administration Mode Access > Data Structure Setup > Configurable Modules to import configurable managers. You can set view permissions to allow users to view configurable modules.

Importing Code and Records-Based Configurable Managers

All designs, including configurable managers, are designed in uDesigner and deployed to Unifier. See ***Importing Configuration Packages*** (on page 303).

> **Note**: Importing Forms that Contain Data Pickers: Data pickers point to a data source for the records they display. If that data source—the BP, shell, or manager class—to which the picker is pointing is not already in Unifier, you will receive a warning. The business process will not operate correctly until the data source is imported.

Deleting a Material Inventory Manager

This section describes how to manually delete a record under Material Inventory Manager from a shell template.

> **Note**: You can delete a record under Material Inventory Manager from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Open the project or shell and in the left navigation pane, click **Setup** > **Material Inventory Manager**.
2) Select a record from Material Inventory Manager for deletion.
3) Click **Delete**.

> **Note**: System prompts the user asking to confirm deletion of the record.

4) Click **Yes** to delete the record from the Material Inventory Manager.

Setting Permissions to Import Classes

Classes must be deployed before you can set permissions. Set permissions based on existing permissions for the Company > uDesigner.

Importing Classes for Code and Records-based Configurable Managers

To import a class into the Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Configure configurable manager classes

Imported configurable manager classes are listed in the manager configuration log, with a default status of inactive.

To configure a configurable manager class

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > [configurable manager]** in the left Navigator. The Configurable Manager log opens. The log lists the classes.
3) Select a class record from the log window and click **Open**. The Configuration window opens.
4) Complete the **General** tab as described in the table below.
5) On the **Custom Print** tab, using MS Word's XML schema, you can create a customized printed output (similar to ***Create Custom-Designed BP Print Layout (Custom Print tab)*** (on page 519)).
6) To make the class active, click **Active**. This enables classes and sheets to be created in User Mode. The class is also available to use as a project category or shell type.
7) Click **OK**.

In this field:	Do this:
Sequence Format	Define the sequence of the record numbers for records created for this class in User Mode. This is similar to business process numbering.
Help File	You can upload a PDF file to use as a help file for the manager.
Auto Creator	Select the auto-creator.
Status	Activating the configuration makes the class available in User Mode and Administration Mode for creating records, sheets, and templates.

Run an error check on a class

To error-check imported classes:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **uDesigner > [configurable manager]** in the left Navigator to open the Configurable Manager log.
3) Select one or more classes in the log. To select multiple classes, press the **Ctrl** key or **Shift** key while selecting the classes.
4) Click the **Error Check** button. After validation, the error check window opens, listing any errors that were found.
5) To fix the errors, make the changes in uDesigner.

Configure a Data Picker for the Manager

If your code-and-record-based manager includes a data picker or a user data picker, it must be configured to examine and extract the records that should appear on the picker list. To do this, you need to create a database query. (For more information on data pickers, see the *Unifier uDesigner User Guide*. And for more information on queries, see Queries.

Once you have set up the query or queries for a data picker, and the picker is active in Unifier, the queries will be launched whenever:

- The user clicks the data picker field on a form
- The business process is auto-created
- A record is created or updated through integration (both CSV and Web Services)
- The data picker is updated via reverse-auto-population

For more information on data pickers, see "About Data Pickers" and "About User Data Pickers" in the *Unifier uDesigner User Guide*.

In addition to setting up queries to extract records for the picker, you can configure the picker to filter the records that the query returns so that only certain records appear on the picker. This is particularly convenient, for example, if the manager attribute form contains a user data picker that automatically assigns users to an object as it is created.

To configure a data picker

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **uDesigner** > **[design object]** in the left Navigator to open the design log window.
3) Select the design and click **Open** > **Data Picker** to open the **Data Picker Configuration** window.
4) In the left pane, click the name of the data picker.
5) Create the query.

   The query will search the database and extract the records to display on the data picker. The query will filter the records returned from the database according to a condition or conditions you specify. The condition(s) will "test" a field on the form to see if it passes or fails the criteria. If the field passes the criteria, Unifier will include it on the data picker.

   a. Click the **Add** button. Unifier displays the **Add Query Condition** window.
   b. In the **Data Element** field, select the field on the business process that you want to test with the condition.

      For example, the condition might be that the status field on the shell must be "Active."

      The window expands to show an active Condition field and additional fields where you can specify the query criteria.

      > **Note**: If any field in the query or queries is subsequently removed from the configurable manager attribute form, the entire query operation will be ignored. That is, if one query fails because a field was removed from the design, Unifier will ignore all the queries. If a field has been removed from a design, you must amend the query.

   c. In the **Condition** field, select the condition the value in the field must meet.

      The remaining fields on this window vary, depending on the data element and the condition you specified. For help in completing these fields, use the information in the ***Queries*** (on page 51) section to complete the query.
   d. Repeat steps a through c to include additional query conditions.
6) (Optional) Filter the returned records.

This filtering option appears on configurable manager attribute forms that contain user data pickers. This option will filter the list of groups or users that appear on the picker. Use the instructions in the table below to filter the returned records.

7) When you have finished, click **OK**.

In this field:	Do this:
Filter list of Users/Groups based on Project/Shell Membership	Select this checkbox if you want to filter the list of users on the picker to show only those with project or shell membership. In operation, Unifier will auto-populate and reverse-auto-populate the data picker with all users or groups, regardless of this checkbox. However, at runtime, Unifier will filter the picker for the user if you select this checkbox. **Note**: If you select this option, the rest of the filtering options will be disabled.
Group Membership	Select the group from which you want to specify a user or users. The drop-down list shows all the groups that are at the company level.
Project/Shell Membership.	If you want Unifier to add these users to the shell membership, select the Add user to Project/Shell checkbox. If you want to also add these users to the group under the shell, select the Add user as a member to the selected group checkbox **Note**: To use this option, the user data picker must be on the upper form, not the detail form.
Show results matching any condition	If the checkbox is checked, the query conditions will be "OR." When this option is selected, the value in the AND/OR column will be updated to "OR." If the checkbox in unchecked, the value in AND/OR column will be "AND." If the checkbox is checked, then records satisfying any of the query conditions would be displayed at run-time. If the checkbox is unchecked, then records which satisfy all of the query conditions will be displayed.

Setting Template Administration Permissions

After you have configured a configurable manager, you can create templates to use with the manager.

When you activate a new class, you must grant permission to yourself, another administrator, or a group such as company administrators to administer class templates and create classes in User Mode.

You must have administrator permission granted under Access Control > Administration Mode Access > Data Structure Setup > Configurable Modules to administer configurable managers.

Managing Class Template Sheets (Classic view)

You can create one or more class templates for each class for each configurable manager.

Create a class template

You can create a new class template manually or by copying an existing template that is the same class as the new template.

To manually create a class template

1) In Administration Mode, go to the **Company Workspace** tab and click **Templates > Configurable Modules** in the left Navigator.
2) In the Navigator, select the configurable manager. The templates log for the classes opens.
3) Click the **New** button. Select the class for which you want to create the new template. The Properties window opens. Complete the window as described in the following table and then click **OK**.

In this field:	Do this:
Title	Enter the name of the sheet, which reflects the class name and is read only.
Description	Enter an optional description.
Display Mode	Choose one of the following: **Tree:** Lists the codes in a hierarchical manner based on the code segments, mimicking the tree structure in the Navigator. **Flat:** Lists the codes in a flat structure.
Picker	Choose one of the following to include: **All Records:** All records created in the class are displayed on the sheet. **Records with statuses:** Only records of the selected status are displayed on the sheet. Click **Select** and choose one or more statuses from the list.

To copy an existing template

1) To copy a template from the company level, select a class template from the log and click **Copy > Template**. The Properties window opens with the information from the original template.
2) To copy a template from the project or shell level, click **Copy > Project** or Copy > shell name.
3) Make changes as needed and click **OK** to save the new template.

To access configurable manager class templates

1) In Administration Mode, go to the Company Workspace tab and click **Company > Templates > Configurable Modules**.

2) In the Navigator, select the configurable manager. The templates log for the classes opens.

To search for a class template

In the class template log, click **Find**. You can search for the template based on the fields available on the form used for the template. These fields vary depending on the design.

Add columns to sheet templates

You can add columns to configurable manager sheet templates. You can use these columns to capture data from business processes or manually entered data. You can add columns to the template, but cannot add rows.

Users with create permission on class sheets are allowed to create and define columns.

To add a sheet column

1) Open the sheet.
2) Click **Columns**. The Columns Log opens.
3) Click **New**. The Column Properties window opens. Complete the window as described in the following table.

In this field:	Do this:
Name	The Name field is populated with the data source value selected. You can change this name as desired. It is helpful, but not required, to use a unique name.
Datasource	Select a data source. You can use a data source only once; however, you can use the column in a formula. For example, if one data source is Commits (Approved), and another is Change Commits (Approved), you can add them together in a new column called Total Commits (Approved).
Entry Method	Choose the data-entry method to use for the column. The choices available depend on the data source selected. The options include: ▸ **Manual entry:** Users can enter data directly into the cell, or data is rolled up from another source, such as the form. ▸ **Formula:** The options are **Numeric**, **Date Difference**, and **Date Add**. See ***Add a formula column*** (on page 632) for details on adding formula columns. ▸ **Data Type:** Applicable if the data source is SYS Business Process, a business process, or information from the project cost sheet. After selecting the data type, click **Define** to choose the data element or define a formula based on the data element.
Data Format	Specify how you want the data in numeric columns to appear. ▸ **Show as Percentage:** Data displays as a percentage. For example, if a user enters 0.25, it displays as 25%. ▸ **Decimal Places:** Select the number of decimal places to

	display. **Note**: If the data element was defined in uDesigner with a specific decimal amount, it will override any decimal amount you specify here. ▸ **Use 1000 Separator (,):** Data uses a separator for thousands. For example, 1,000 with a comma, not 1000. ▸ **Negative Number Format:** Select whether negative values are displayed with a negative sign or in parentheses.
Display Mode	Select **Hide** to make the column invisible to users, or **Show** to display it.
Total	Controls what displays in the bottom summary row for each column: ▸ **Blank:** The summary row remains blank. ▸ **Sum of All Rows:** Displays the sum total of all row values for this column. ▸ **Use Formula Definition:** Use the formula entered in the Formula field.
Column Position After	Determines the position of the column on the sheet. Select a column from the list.

To copy a column

1) In the Column log, select a column and click **Copy**. The Column Properties window opens.
2) Make changes as necessary for the new column. You must change at least the data source.

Copy sheets under project or shell templates

You can copy one sheet for each project or shell template.

To copy a sheet under a project or shell template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Templates > Projects > All** or Company > Templates > Shells > [shell].
3) To copy a template from the company level, select a class template from the log and click **Copy > Template**. The Properties window opens with the information from the original template.
4) To copy a template from the project or shell level, click **Copy > Project** or **Copy >** shell.
5) Make changes as needed and click **OK** to save the new template.

Deleting Sheets Template

This section describes how to manually delete a sheet associated with code-based or record-based Manager from a shell.

> **Note**: You can delete a sheet associated with code-based or record-based Manager from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Go to **Company Workspace**, open the project or shell and in the left navigation pane, click **Templates** > **Configurable Modules** > **Material Inventory Manager** > **Sheets**.
2) Select a sheet associated with code-based or record-based Managers.
3) Click the Delete icon.

> **Note**: System prompts the user asking to confirm deletion of the sheet.

4) Click **Yes** to delete the sheet from the code-based or record-based Managers.

Manage sheet properties

The Properties window for the sheet maintains the name and display options.

To open the summary sheet Properties window

In the Configurable Manager Sheets log, select the sheet and click the **Properties** button.

In this field:	Do this:
Title	This is the name of the sheet, which reflects the class name and is read-only.
Description	Enter an optional description.
Class	Read-only field that displays the class associated with the sheet.
Display Mode	Choose one of the following: **Tree:** Lists the codes in a hierarchical manner based on the code segments, mimicking the tree structure in the Navigator. **Flat:** Lists the codes in a flat structure.
Picker	Choose one of the following to include: **All Records:** All records created in the class are displayed on the sheet. **Records with statuses:** Only records of the selected status are displayed on the sheet. Click **Select** and choose one or more statuses from the list.

Managing Class Template Sheets (Standard view)

View Code-Based Managers Log

For details on how to view the code-based managers log refer to the *Unifier Managers User Guide*.

View Code- and Record-Based Managers Log

For details on how to view the code- and record-based managers log refer to the *Unifier Managers User Guide*.

Setting User Permissions for Code and Records-Based Managers

For users to be able to work with the configurable manager class sheet, you must set user permissions for the class sheet under Access Control > User Mode Access > Company Workspace > configurable manager name > Class Sheets.

Setting Up the Cost Manager

Unifier Cost Manager consists of several modules designed to help you track and manage cost in projects, shells, programs, and across the company. Setup of the cost manager modules includes the following.

In This Section

Cost Manager Overview

The Cost Manager consists of the modules and features listed below.

Cost Sheets

Project/Shell cost sheet: The project or shell cost sheet is a detailed accounting of the project's or shell's budget and costs. It works much like a spreadsheet within Unifier that calculates and maintains the project or shell cost information stored in the project or shell. The project or shell cost sheet rows contain unique CBS codes (or cost codes), which can be used to link project or shell or program costs to the general ledger for finance. Cost information can be entered manually, pulled from work packages or worksheets, or rolled up automatically from business processes when transactions occur in Unifier.

Program cost sheet: Program cost sheets are created automatically once a project cost sheet has been created in at least one project within the program. The columns of the program cost sheet can be set up to allow cost sheet data to roll up automatically from individual project cost sheets. The Program Cost Sheet will display cost data for all projects (within the program) that have a status of Active, On-hold, or View-Only. The currency used is the company base currency. Projects on the program cost sheet are sorted automatically by ascending project number. As new projects are added to the program, and cost sheets are created for them, the new projects will be automatically added to the program cost sheet.

Company cost sheet: The company administrator can create a company-level cost sheet to display cost data across project or shells. Projects or shells on the company cost sheet are added by default as project- or shell-level cost sheets are created. Only active and on-hold projects or shells should be rolled up to a company-level cost sheet. Projects and shells are listed in order by project or shell number in an ascending order. Data rolls up to the company cost sheet columns from individual project or shell cost sheet columns by data source. The data displayed on the program cost sheet is view only.

Work packages: In addition to a project or shell cost sheet, multiple work packages may also be defined. A work package is a group of cost sheet rows that is a subset of the project or shell cost sheet. Work packages provide insight into the budget without providing full access to the details of the project or shell cost sheet.

Worksheets: Cost worksheets can be created to support the project or shell cost sheet. They can be used as sub-cost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project or shell cost sheet column. For example, a worksheet can be used to offload complex calculations, which can be rolled up into a single cost sheet column. Worksheets support manual data entry and formulas. Business processes do not roll up to worksheets. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

Funding Manager

Company funding sheets: The company funding sheet tracks all sources of funding across all projects or shells and programs. You create only one sheet per company. Funding sources that are made available at project or shell sheet level are rolled up to the company sheet, which maintains the overall fund information. Once created, the company funding sheet can be edited, but not deleted. The company funding sheet must be created before creating individual project or shell funding sheets.

Project/Shell funding sheets: The project or shell funding sheet tracks how funding is being allocated and consumed at the project or shell level. Project or shell fund sheets work in conjunction with the company funding sheet. Allocating funding sources at project or shell level can be done manually or through a business process. A funding template and company funding sheet must be complete before you can create a project or shell funding sheet.

Commitment funding sheets: You can optionally set up commitment level funding, which allows you to allocate specific project/shell funds to individual base commit records. This works in conjunction with the SOV sheet to track base and change commit lines and balances.

Cash Flow

Unifier advanced Cash Flow module includes the ability to create multiple baseline, spends, forecast and custom curves and compare them on one cash flow worksheet. You can create data source, distribution profiles, and cash flow curve templates to simplify creation of cash flow in multiple projects and shells. Administrators can also set up base commit business processes to automatically create cash flow curves for the commitment record at a particular workflow step,(or for non-workflow BPs, when the record is complete).

Earned Value

The earned value module provides quantitative tracking information about project or shell status using earned value analysis. It provides specific numerical measurements for reviewing progress as the project or shell team advances through the work tasks allotted to the project or shell schedule. The module helps project or shell managers track whether projects or shells are on schedule and on budget. It provides accurate and consistent methods to estimate the percent of budget spent, percent of work done, and percent of time elapsed.

Schedule of Values (SOV) Sheet

The schedule of values (SOV) module provides a way to assemble information from contract, change order and invoice/payment business processes into an SOV sheet, streamlining the process of invoicing for completed phases of a project or shell. SOV functionality is available with uDesigner-created cost BPs for which the Allow creation of Schedule of Values option is defined.

The business processes can be designed to create an SOV sheet automatically upon reaching the designated step.

The following are the SOV sheets types:

- General Spends
- Payment Applications
- Summary Payment Applications

Generic Cost Manager

The Generic Cost Manager captures cost-related activities for a generic shell. These include costs like rent, lease payments, landscape care, building maintenance and repair, remodel of building interiors, and more.

With this manager, you can capture and view cost transaction information based on a timescale, such as quarterly or yearly. Each shell can have one Generic Cost Manager. The Generic Cost Manager uses specific generic cost business processes as a data source.

About Cost Managers and Unifier functional areas

The standard Cost Manager and the Generic Cost Manager work with different areas of Unifier. This table lists the areas and indicates which cost manager works with each area.

Cost Manager	Company	Program	Project (Standard)	Shell (CBS)	Shell (Generic)
Cost Manager (standard CBS)	X	X	X	X	
Generic Cost Manager					X

The cost data from Project (Standard) and Shell (CBS) can both roll up to the Company level. The cost data from Shell (Generic) does not roll up to Company Level.

Grouping Line Items and Auto-Creation

You can group line items during auto-creation of BP records, in Lease type business process (BP).

1) Go to the project/shell and switch to **Admin** mode.
2) From the left-hand Navigator, click **Setup** node to expand.
3) Click the **Business Processes** node to open the **Business Processes** log pane.
4) From the **Business Processes** log click to select a Leases BP, for example, **Leases - Tenant BP**.
5) Click to select a BP record and click **Open** to open the Business Process Setup window.
6) Click the **Auto Creation** tab.
7) From the left-hand pane, click **Payment Request** (or **Payment Invoice**).
8) On the right-hand pane click to select **Enable grouping of line items when auto-creating records from line item tabs**.
9) From the **Group By** field, click **Select** and proceed to select the data element, or elements, that you want from the **Select Data Elements** window.
10) When finished, click **Apply**, and then click **OK**.

Consolidating strings cannot take place if the field values are different. As a result:

- If you select a data element other than "Payment Type" (`uuu_lse_pay_type`), in the **Group By** field and the auto-created record, has different payment type across the grouped line items, then the auto-created BP record will have a blank payment type.
- Same logic is followed if a data element is present in the auto-created BP record, but the data element has a different value across the line items.

Cost Managers and Unifier Functional Areas

The standard Cost Manager and the Generic Cost Manager work with different areas of Unifier. This table lists the areas and indicates which cost manager works with each area.

Cost Manager	Company	Program	Project (Standard)	Shell (CBS)	Shell (Generic)
Cost Manager (standard CBS)	X	X	X	X	
Generic Cost Manager					X

The cost data from Project (Standard) and Shell (CBS) can both roll up to the Company level. The cost data from Shell (Generic) does not roll up to Company Level.

About Currencies and Exchange Rates

Unifier cost management system supports multiple currencies and exchange rates. The functions Unifier uses are exchange rates sets, effective dates, future exchange rates, base currency, project currency, transaction currency, project/shell currency options, and currency pickers. What follows are descriptions of each of these functions and how they are used in Unifier.

Currencies

Standards & Libraries> **Currencies**: This is where a Unifier Administrator can manually add new company currencies to suit the company business needs, in addition to the predefined list of currencies. You need to have appropriate permission to access the Currencies sub-node.

You can see the Currencies node in the Permission tab of the User properties: Company Workspace > Access Control > Administration Mode Access > Currencies.

A Unifier Administrator can setup both users and Groups permissions to the Currencies sub-node. There are three types of permissions allowed: Create, Modify, and View.

- A user that has the "Create" permission, can add, modify, and view currencies.
- A user that has the "Modify" permission, can modify and view currencies.
- A user that has the "View" permission, can view currencies.

The log for Currencies sub-node has the following elements:

Toolbar options

- New: to add new currencies
- Open: to view and modify existing currencies in the log
- Delete: to delete the currencies in the log
- Find: to search for a specific currency

Menu bar options

- File > New, Open
- Edit > Delete
- View > All, Find, Audit Log
- Help > Unifier Help, Unifier Library, About Unifier

Log columns

- Currency Name: Displays the Currency Name
- Currency Code: Displays the Currency code for the country
- Currency Symbol: Displays the Currency symbol for the currency
- Description: Description for Currency

The Currencies log has a list of predefined currencies. When you click **Currencies**, a predefined list of currencies displays in alphabetical order. In addition:

- Currency code is displayed for all the existing currencies.
- If currency symbols exist, the currency symbols are populated under the Currency symbol column.
- Users who have permissions can modify the predefined currencies.
- Description lists all the countries that use that currency.

To add new currencies:

1) Click **New** to open the Currency Details Window
2) Enter the Currency Name, Currency Code, Currency Symbol, and Description
   - Currency Name is a required field. Currency Name is a text field (maximum of 250 characters)
   - Currency Code is a required field. Currency Code is a text field (maximum of 8 characters)
   - Currency Symbol is an optional text field (maximum of 8 characters)

     - Single characters such as . , () - are not allowed

     - Characters such as | ' " \ are not allowed

     - Patterns such as $$ $& $` $' are not allowed

     Note: You cannot type just a comma as a currency symbol. Also, the Pipe character (|) and back slash (\) are not allowed in the Currency Name, Code and Symbol fields.
   - Description is an optional text field (maximum of 500 characters)
3) Click **OK** to save
4) Validate the new currency by ensuring that the:
   - Currency Name is unique and does not exist in the predefined list.
   - Currency Code is unique and does not exist in the predefined list.
   - Number of characters entered in the text field does not exceed the limit.

To view the details of an existing currency, click the currency and select open from the Menu bar.

You can modify the Currency Name, Currency Symbol, and Description after you have created a currency and defined the currency Exchange Rates. You cannot modify the Currency Code, once a currency is created.

To delete a currency, select the currency and click Delete.

Notes:

- You cannot delete a currency that has been used to define exchange rates.
- Currency selected as Base Currency, at the time of creating the company, cannot be deleted.

To search in Currencies, use Find in the Currencies log view. The search parameters are Currency Code and Currency Name. The logical operators for both parameters are the following:

- contains
- does not contain
- equals
- does not equal

The Audits log displays the additions and modifications applied to currencies. Audits log allows you to select a record to see the audit information. The top part of the Audit log window displays the currency name, for example, Audit Log for: Australian Dollar (AUD).

The Currency List window, which you can see when you are defining the exchange rates, displays a list of currencies that you have defined in the Currencies sub-node. Fields in the Currency List window are Currency Name, Currency Code, Currency Symbol, and Description. The Description field includes the country name and if there are multiple countries that share the same Currency Name, the country names are listed and separated by a comma, for example, for Currency Name, Euro (EUR), the Description field lists: Andorra, Belgium, France, and so forth, in alphabetic order.

> **Note**: If the currency name is modified, then existing exchange rate CSV template fails. You must export the exchange rate template again for the new currency name. The existing Web Services calls for record creations and updates fails if the currency names are modified.

Similar to other custom string translations the currency names can be translated for internationalization.

Base currency

The currency the company creator selected as the default currency during company creation. Upon creation, the base currency is fixed and cannot be changed. The base currency becomes the default currency for projects and shells; however, the default currency can be changed during project or shell creation. Company-level cost data roll-ups can draw from multiple projects and shells. Each of these projects or shells can have a different project currency.

Project currency

A Project Currency is the currency that was selected as the project or shell-level default currency during project or shell creation. This can be different from the Base Currency, and you must take the following steps before you save the new project or shell.

- First: Before creating the new project or shell, verify that the non-base currency exists in the Exchange Rate Set.
    - If it does not, you can add it.
    - If the exchange rate effective date is in the future you cannot add it to the project or shell currency set.
- Second: During project/shell creation, add the non-base currency to the project or shell.
- Third: During project/shell creation, select the non-base currency as the project or shell default currency.

Unifier calculates and stores costs in the project currency. Business process records created in a non-project currency, such as a transaction currency, use the exchange rate that was active at the time of record creation for currency conversion to project currency.

Project/shell currency options

When adding a currency to a project or a shell, you have the options to float, hedge, or peg the currency rate. These options establish how to handle fluctuations in that currency's market rate.

- **Float** - A currency's value fluctuates according to the foreign exchange market. Unifier updates currency exchange rates according to the effective date of the **Exchange Rate** set.
- **Hedge** - Intended to reduce future risk of currency fluctuations.
- **Peg** - The currency exchange rate is fixed. Pegging impedes project currency conversion in a project or a shell.

Role rates changes due to currency exchange rate changes only consider Float and disregard Hedged or Pegged rates.

Transaction currency

This is a currency that was added to the project or shell Currencies, and picked at run time using a currency picker on the commitment business process. Upon record creation, Unifier uses the current active currency exchange rate in the Exchange Rate table to convert a transaction currency to the project currency.

Cash flow curves display data in the transaction currency, if different from the project currency. At run time, users can switch between currency views, but they can only modify values in the transaction currency view.

Currency picker

Currency pickers are available only for the upper form of a cost-type commitment business processes such a contract or a change order. This means all line items will be in the record, or transaction, currency.

Exchange Rates

Standards & Libraries > **Exchange Rates**: This is where you can add currencies and define their exchange rates against the base currency, which was defined during company creation. You can add currencies, manage currency exchange rates, and set currency effective dates as needed. Each line in the Exchange Rates log is considered a set.

> **Note**: In addition to the predefined list of currencies, a Unifier Administrator can add new company currencies to suit the company business needs.

Currency conversions use the exchange rate defined in the active Exchange Rates set. Until you modify a currency rate, Unifier uses the last active rate for that currency.

You can take the following actions to manage currencies:

- Create a New Exchange Rates set. You can make the set active today, or you can set the effective date to a future date, or you can set the effective date in the past.

- Modify an existing Exchange Rates set that has a future effective date. You can modify rates in a set until it reaches the effective date. You can change the effective date to as soon as tomorrow, but you cannot change the effective date to today. you can edit Exchange Rate Records whose effective dates are in the past.
- Set an Effective date: On the chosen date, at 12:00 am system date and time -- in your time zone -- the effective date becomes active.

  For example:
  - Your time zone is Munich, Germany (UTC + 1)
  - April 20 you add a future exchange rate and set the effective date as May 1
  - May 1 at 12:00 am the currency rate takes effect in Munich's time zone
  - April 30 at 3:00 pm the currency rate takes effect in Los Angeles' time zone

> **Note**: Effective dates for the new exchange rates records can be set in the past.

View Exchange Rates

According to the date, it displays:

- Currency Name
- Currency Symbol
- 1.0 Base Currency
- Effective Date

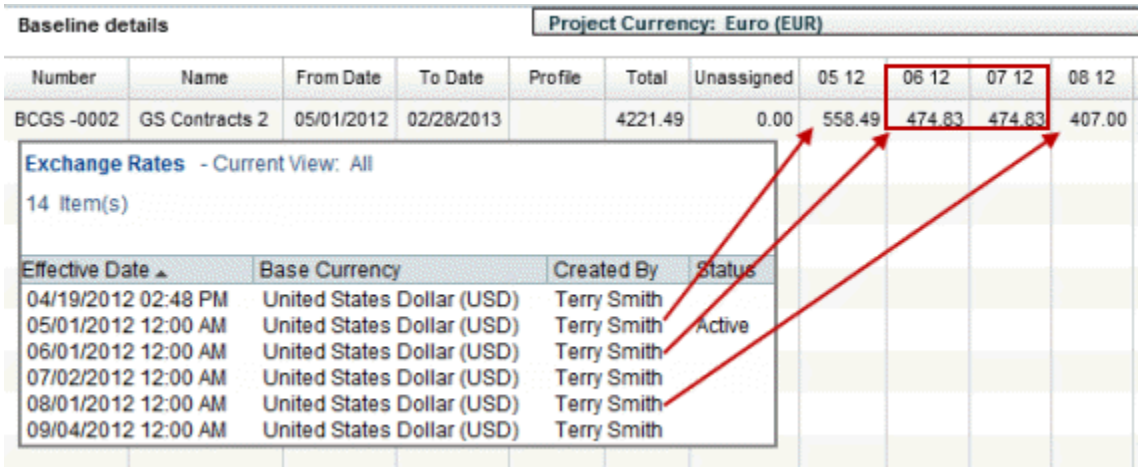
Future currency exchange rates

Future exchange rates allow you to plan ahead for currency fluctuations. Unifier uses the active exchange rate based on the effective date; however, cash flow curves show currency rate changes at the beginning of the first full month the rate is in effect.

In the Baseline details example that follows, you can see differences in values due to future exchange rate conversions.

- The transaction currency is INR.
- The project currency is EUR.
- The distribution is linear.
- The distributed values are 37,000 INR per time period.
- May and June rates take effect on the first of the month, respectively.
- A July future exchange rate takes effect in Unifier on 07/02/2012, so Unifier continues to display the value of the June rate in the cash flow.

- The August rate shows up in the cash flow curve on 08/01/2012.



Additional information

For Cost transactions, the exchange rate used is based on the latest update date of the BP record.

The `uuu_effective_date` is not used for determining the rate to be used on a BP Record.

Managing Currencies and Exchange Rates

The exchange rate set defines the currencies that are available for use within the system and their corresponding exchange rates, which are based on the company base currency. The exchange rate set that is currently active in the system will display a status of Active. All previous sets are retained, so you can view the currencies and rates that were active in the system in the past. Future currency rates are also listed in the log.

To view the company base currency

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Standards & Libraries > Exchange Rates**. The Exchange Rates log opens, displaying the following information:
   - **Effective Date**: This is the date the base currency and its associated exchange rates became active. If you have not yet created an exchange rate set, there will be one default listed in the log, created by the Site Administrator.
   - **Base Currency**: This is the base currency used by the company.
   - **Created By**: This field identifies the user who created or modified the exchange rate set.
   - **Status**: The status indicates which set is active. Only one exchange rate set can be active at a time. View currencies and exchange rates (exchange rate set).

To view an exchange rate set

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Standards & Libraries > Exchange Rates**. The Exchange Rates log opens.

3) Select a set from the list and click **Open** (or double-click the selection). The Edit Currency window opens, displaying the list of available currencies and their exchange rates.

Add a currency to the exchange rates

To add additional currencies you must create a new exchange rate set. Existing exchange rate sets can be modified until the effective date is reached and that set becomes active. Old sets are inactivated and saved for archival purposes. You can add as many sets as you like, as long as each set uses a unique effective date.

To add a currency to the exchange rate set

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Standards & Libraries > Exchange Rates**. The Exchange Rates log opens
3) Click **New**. The Edit Currency window opens. The window displays all currencies that were added in previous exchange rates sets.
   - The Base Currency field is fixed.
   - In the Effective Date field you can select a future effective date, or a past effective date, for any exchange rate in the exchange rate set.
4) Click **Add**. The Edit Exchange Rate window opens.
   - In the Currency Name field select a currency from the currency list.
   - In the Rate field, enter the exchange rate multiplier to convert the new rate to the company base rate. For example, if the base currency is United States Dollar (USD), and you are adding Euro (EUR), then the exchange rate is the number of EUR in $1 USD; that could look like 0.76 = $1, so in this case you would enter .76.
5) Click the date icon in the Effective Date field, and select the date this exchange rate set becomes effective.
   - If you do not select an effective date, Unifier uses 12:00 am local time (tomorrow morning) as the effective date.
   - If the effective date is in the future, the current exchange rate set remains active until the effective date of the new exchange rate set.
   - The future exchange rate set remains editable until the effective date is reached.
   - Before you save the exchange rate set, you can remove a currency that you just added. Once the exchange rate set is saved you cannot remove that currency and Unifier will carry forward that currency in any new currency exchange rate sets.
   - You can create new exchange rates records for effective dates in the past.
   - These past dated exchange rates can only be used to define Derived Curves within Cash Flow, in Schedule Manager and for EVA calculations.
   - Existing cost transactions in the system will not get updated on creation of new Exchange rate records with historical effective dates.
6) Click **OK** to save the exchange rate set.

To modify an exchange rate

1) Go to the **Company Workspace** tab and switch to **Admin** mode.

2) In the left Navigator, click **Standards & Libraries > Exchange Rates**. The Exchange Rates log opens.
3) Click **New**. The Edit Currency window opens.
4) Select a currency from the list and click Modify. The Edit Exchange Rate window opens.
5) Enter the new rate and click **OK**.
6) Enter the Effective Date. The effective date defaults to 12:00 am local time tomorrow morning.
   - If you want the rate to take effect immediately, you can enter today's date.
   - You can enter a future effective date, and the current exchange rate set remains active until the effective date.
7) Click **OK** to save and exit the Edit Currency window**.**

> **Note**: You can edit the Exchange Rates defined in existing Exchange rate records (open an existing record to open the **Edit Currency** window).

To copy an exchange rate set

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click **Standards & Libraries > Exchange Rates**. The Exchange Rates log opens.
3) Select an exchange rate set.
4) Click the **Copy** button. The Edit Currency window opens.

   From here you can:
   - Add additional currencies.
   - Modify exchange rates.
   - Set an effective date for the exchange rate set.
5) Click **OK** to save and exit the Edit Currency window.

Importing and Exporting Exchange Rates

You can create and update exchange rates through a CSV file. For example, you can import the exchange rates you are using in your enterprise resource planning (ERP) system into Unifier so that the rates match in both systems.

You can import exchange rates with a CSV file by doing the following:

- Export a copy of the CSV file structure.
- Populate the CSV file with currency rate information.
- Import the CSV file into Unifier.

To export a copy of the CSV file structure

1) **Go to the Company Workspace tab and switch to Admin mode.**
2) **In the left Navigator, click Standards & Libraries > Exchange Rates**. The Exchange Rates log opens

3) Choose **File > Export**. A confirmation window opens. You export the active exchange rates. Do one of the following:
   - Click **Open** to open the file in Excel (or other editor that supports CSV files). You can save the file from here after previewing.
   - Click **Save** to save the file to your local drive. Enter a name for the file and click **Save.**

To populate the CSV file with exchange rate information

1) Open Microsoft® Excel (or other program compatible with the CSV format), and open the exported CSV file.
2) Enter currency exchange rate information in the spreadsheet. The fields are discussed in the table below.

Notes:

- Do not delete or change the order of the columns.
- Successful import creates a currency exchange rate set with the Active status.
- Only the currency code is validated, but Unifier will add to the exchange rate set the values you specify in the CSV upload file.
- Only the absolute value for the exchange rate is considered. If you enter a negative value, the negative sign is dropped and only the value is considered.
- You can enter new rates, or update existing rates.
- Only the first five decimal values of the exchange rate are imported; if less than five decimal values are entered, zeros are added during the import to add up to five values.
- If you remove an exchange rate from the CSV file, the rate is retained in Unifier, and is not deleted.
- If there are errors in the CSV file Unifier will not import the CSV file.

3) Save in CSV format.

In this column:	Do this:
Currency Name	Enter the name of the currency. For example, United States Dollar. This currency name is not validated and is for reference only.
Currency Code	Enter a valid currency code. Only the Currency Code is required and validated.
1.0 Base Currency =	Enter the exchange rate for the currency. The number you enter rounds at ten decimal places. Enter numbers and decimal points only; do not enter special characters.

To import the CSV file into Unifier

1) **Go to the Company Workspace tab and switch to Admin mode.**
2) **In the left Navigator, click Standards & Libraries > Exchange Rates**. The Exchange Rates log opens
3) Choose **File> Import** to import the completed CSV file.
4) Click **Browse** and navigate to where you saved the file.
5) Click **OK** to import.

   Only files with exchange rate information in the correct format will be imported. If the upload fails, the CSV file will contain an error message that explains why the upload failed. The user who imported the CSV file is listed in the Audit log as the User.

To fix import errors

1) Re-open the CSV file.
2) Delete rows that were successfully imported.
3) Fix the rows that were not imported correctly.
4) Re-import the file.

To export exchange rates to your desktop

1) **Go to the Company Workspace tab and switch to Admin mode.**
2) **In the left Navigator, click Standards & Libraries > Exchange Rates**. The Exchange Rates log opens
3) Choose **File** > **Export.** A confirmation window opens. Do one of the following:
   - Click **Open** to open the file in Excel (or other editor that supports CSV files). You can save the file from here after previewing.
   - Click **Save** to save the file to your local drive. Enter a name for the file and click **Save**.

Setting up Cost Sheets

The following is provided as a reference for creating, setting up and managing the Cost Sheet portion of the Cost Manager.

How to set up the cost manager (cost sheets)

Before you begin: Ensure that currencies and exchange rates have been set up. Verify that all Cost Codes have been added or imported. Before you can create the Cost Template, you must create the necessary Cost Codes Data Definition(s) which will be used to build your CBS Codes. CBS Cost Codes can be single or multi segment codes. See ***Importing and Exporting Exchange Rates*** (on page 660), ***Add a Basic data definition*** (on page 76).

Step 1: Design and deploy the cost attribute form. Once deployed, the cost attribute form becomes the CBS Detail window in Unifier, used to create and manage CBS codes in the project or shell cost sheet. This is an optional step. If you do not create a cost attribute, a default form will be used to create CBS codes. (See ***Importing the Cost Attribute Form*** (on page 663).)

Step 2: Configure permissions. (Refer to the *Unifier Reference Guide* for cost manager permission settings.)

Step 3: Create a cost sheet template. You must create at least one cost template before you can create cost sheets. You can use the template to create project or shell cost sheets, or a cost sheet within a project or shell template. You can add columns to the template, which can be used to capture transaction data from cost business processes, create formulas, manage the budget, manually enter data, link to the funding manager, and much more. You can create the CBS codes in the template, which are the rows on the sheet. (You can also set up columns and rows on individual cost sheets, following the same procedures). (See ***Creating and Setting up Cost Templates*** (on page 664).)

Step 4: Create a project or shell cost sheet. You can create a cost sheet directly in the project or shell, or in a project or shell template (when you create project or shells from the template, you can include the cost sheet). (See ***Creating a Project or Shell Cost Sheet*** (on page 683).)

Step 5: Define the project or shell budget. After creating the project or shell cost sheet, you can distribute the budget. This is done in User Mode.

Optional steps:

- **Create work packages**. This is done in user mode.
- **Create worksheets**. Worksheets can be used as mini-cost sheets, linked to project or shell cost sheet columns. You create a worksheet template first. (See ***Creating Worksheet Templates*** (on page 677).)
- **Create program and company cost sheets**. This is optional. The program and company cost sheets are used to summarize project data. You can configure these sheets to display specific data by adding or removing desired columns. The rows correspond to each individual project cost sheet. The program cost sheet will summarize the cost sheet data for the project in the program. The company level cost sheet summarizes project data across the company. The company cost sheet can also be mapped to company level account codes, which can allow you to link project CBS codes with company level account codes. (See ***Setting up a Program Cost Sheet*** (on page 688), ***Setting up the Company Cost Sheet*** (on page 691).)
- **Design and deploy cost business processes**. Use these to enable transactions against the cost sheet.
- **Set up a company accounts sheet**. (See ***Setting up a Company Accounts Sheet*** (on page 694))
- **Set up SOV**. (See ***Setting Up Schedule of Values (SOV)*** (on page 726))
- **Set up Funding**. (See ***Setting up the Funding Manager*** (on page 699))
- **Set up Rules**. (See ***Setting up the Rules Engine*** (on page 747))

Importing the Cost Attribute Form

A cost attribute form (created in uDesigner) is used as the CBS Detail window. The CBS Details window is used to create rows (CBS Codes) to project or shell cost sheets.

You can have only one Cost Attribute form per company, which will be used for CBS Details window across all projects or shells.

To import and deploy a cost attribute form into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Configuring Cost Manager Permissions

Refer to the *Unifier Reference Guide* for cost manager permission settings.

Creating and Setting up Cost Templates

Project or shell cost sheets are created by copying from a cost sheet template or from an existing project or shell cost sheet in another project or shell. Therefore, when you first set up the cost manager, you must start with at least one cost template that you can use to create a project or shell cost sheet (or cost sheet in a project or shell template).

To access cost sheet templates

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates>Cost Sheets** in the left Navigator. The Cost Templates log opens. This log is used to create cost sheet templates and worksheet templates.

Create a new cost sheet template

The following procedure describes how create a cost sheet template. This will be a "blank" template with no rows and two default columns. After creating the blank template, you can add columns and/or rows before creating a project or shell cost sheet from it.

To create a new cost sheet template

1) In Administration Mode, go to the **Company Workspace** tab and click **Templates>Cost Sheets** in the left Navigator. The Cost Templates log opens.
2) Click the **New** button and choose **Cost Sheet**. The Properties window opens.

   The Properties window is the same for cost sheet templates and for project or shell cost sheets, and has three tabs:

   - **General:** Defines general properties of the template:
     - Enter a unique **Title**, which is used to identify the template in the log and when creating a new project or shell cost sheet from the template. When you create a cost sheet from the template, the title will default to Project Cost Sheet and will not be editable.
     - Enter an optional **Description** for the template. This description will be copied to the Project Cost Sheet when you create one, and will not be editable.
     - You can select a **Default View** for the template. This can be edited in the Project Cost Sheet. For details, see ***Define cost sheet default view (General tab)*** (on page 665).
   - **Structure** Defines the structure of the CBS Codes (or Cost Codes) for use within the cost sheet. This remains editable in cost templates, but once it is set in a project or shell cost sheet, it cannot be changed as this tab defines the CBS Code structure for the project or shell. For details, see ***Define cost code structure (Structure tab)*** (on page 665).
   - **Options** Defines labels for the two default columns, and details on forecast handling. For details, see ***Define cost sheet options (Options tab)*** (on page 667).

Define cost sheet default view (General tab)

The cost sheet default view refers to how the cost sheet appears when it is first opened. There are two options regarding the cost sheet default view, described in the procedure below. These options control how the cost sheet opens for all users. Unlike other cost sheet properties, the default view settings can be modified in the Project Cost Sheet after it has been created in User Mode.

To define the cost sheet default view

1) Open the Properties window (select the template and click the **Properties** button from the log toolbar, or open the template and click **File > Properties**).
2) On the General tab, you may choose either or both of the **Default View** checkbox options:
   - **Open in maximized view**: when the cost sheet or template is opened, it will automatically open maximized, or full-screen
   - **Open in split mode**: when the cost sheet or template is opened, it will automatically open as split (same as clicking the **Split** button)

   If these options are not selected, the cost sheet or template will open by default to a size slightly smaller than the Unifier screen, and not split.

> **Note**: The cost sheet window can be resized by clicking the Minimize or Maximize/Restore buttons in the upper right corner of the window, or by dragging the edges of the window to the size that you need. When working with a cost sheet with many columns, it can be useful to split the window. You can click the Split button to scroll through the columns in the right half of the window, while maintaining a view of the CBS Code and CBS Item columns in the left half. To return the sheet to normal view, click the Split button again.

Define cost code structure (Structure tab)

In the Structure tab of the cost sheet or template Properties window, you define the structure of the cost codes used in the sheet. The cost codes that are built from this structure are used throughout the project or shell, for example, in cost type business processes for cost transactions.

This structure remains editable in cost templates, allowing you to make adjustments to the structure as needed. In project or shell cost sheets, once the structure has been defined, it cannot be edited.

To define the cost code structure

1) In the cost Properties windows, click the **Structure** tab.
2) Determine how many segments to use for cost codes. For example, your company may have a three-segment CBS code based on numerical values. You may have as little as one segment (each cost code is a single entity), or as many as 10.
3) In the Structure field at the top of the window, select **Flat** or **Tree**.
   - If you choose Flat, the cost sheet will display the CBS codes (rows) in a flat structure, with no indented rows. This is useful if you want to display all CBS codes at once.

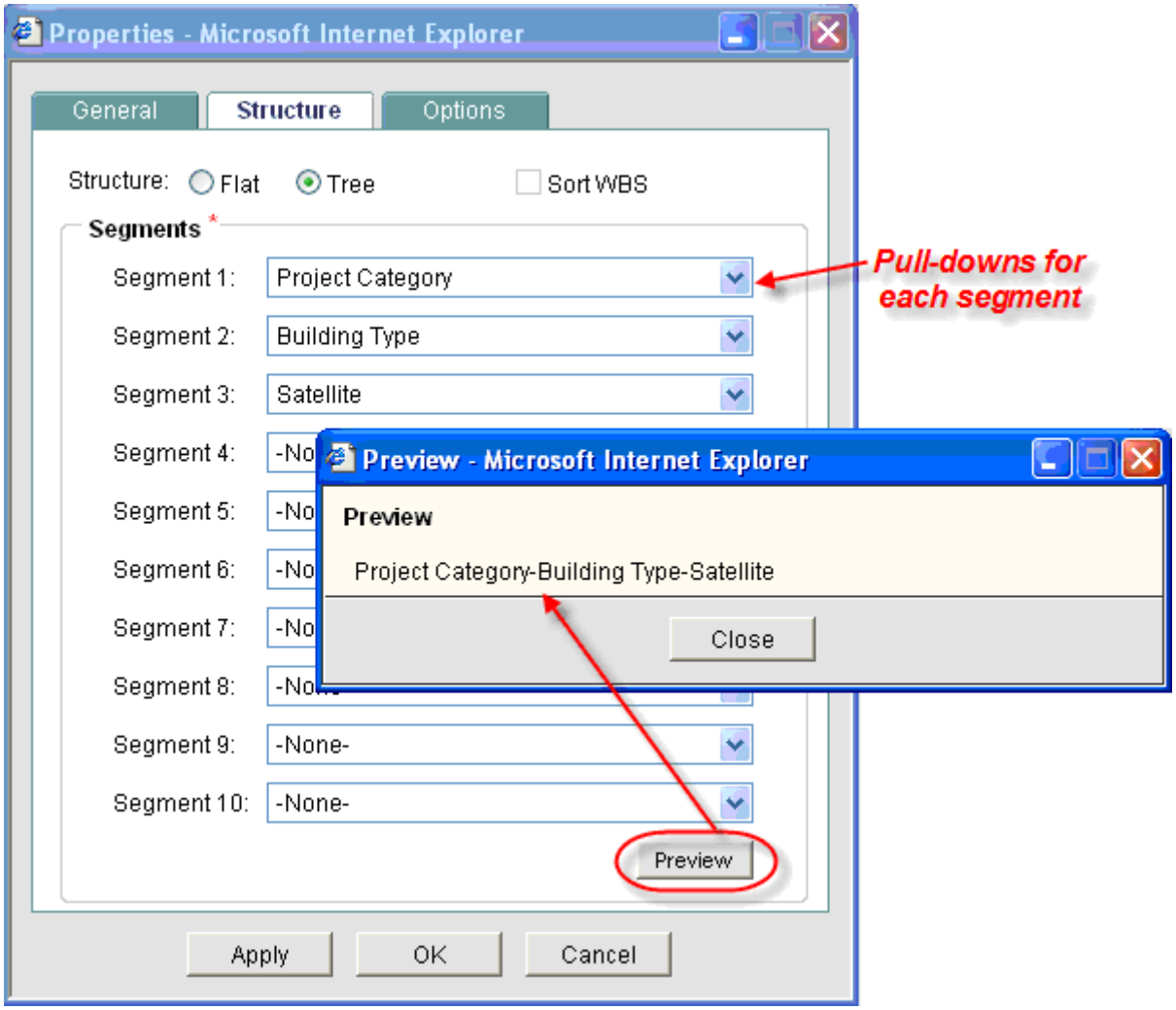
- If you choose Tree, you have the option of creating indented, nested rows, which can be collapsed into summary, or grouping, rows. This is useful if you will be creating a large amount of rows that can be grouped into categories.

Summary rows act only as grouping rows for their indented child, or leaf, rows. Data cannot be entered directly into a summary row.

4) For **Segment 1**, click the pull-down menu and choose the first segment.

   The available segments correspond to the list of Cost Code Data Definitions found in Administration Mode in **Company>Data Structure Setup>Data Definitions>Cost Codes**.

5) Repeat the previous step for each additional segment you wish to add.



In this Field:	Do This:
Structure	This defines the structure of the CBS Code rows and how they will appear on the cost template and sheets. Choose Flat or Tree: ▸ Flat: no indenting of rows ▸ Tree: allows indented, nested rows, and

	summary rows
Sort CBS	If you select the Sort CBS checkbox, the rows will be sorted in ascending order by CBS Code automatically when new cost codes are added (flat structure only)
Segments	This is where you build the CBS codes (or "account" codes) that will be used for the cost sheet rows. CBS codes may consist of one or multiple (up to 10) segments. Each segment consists of a separate cost code data definition, as defined in Administration Mode>Your Company>Data Definitions>Cost Codes. You must define at least one segment. Select one or more segments, up to 10, in the order (left to right) you want them to appear in the Cost Sheet rows.
Preview	You can click the Preview button to view the result.

Define cost sheet options (Options tab)

In the cost sheet or template Properties window, Options tab, you can define the labels of the default cost sheet columns (CBS Code and CBS Item). You can also define forecast behavior for the sheet.

To define the cost column labels

1) In the cost Properties windows, click the **Options** tab.
2) Enter new labels for the **CBS Code** and/or **CBS Item** columns.
3) Click **Apply** to save changes, or **OK** to save and exit the window.

To define the cost forecast details and inclusion

1) In the cost Properties windows, click the **Options** tab.
2) Complete the forecast details fields as described in the following table.
3) Click **Apply** to save changes, or **OK** to save and exit the window.

To define the cost forecast details and inclusion

- In the cost Properties windows, click the **Options** tab.

1) Complete the forecast details fields as described in the following table.
2) Click **Apply** to save changes, or **OK** to save and exit the window.

In this field:	Do this:
Labels	These determine how the CBS code columns will be labeled, according to your company's conventions. (Note: If you will be importing cost sheet data, it is important that the column labels match

	those in the import files.) ▸ CBS Code: Enter the CBS Code title that your company uses. For example, Account Code, Cost Code or CBS Code. ▸ CBS Item: Enter the CBS label that your company uses. For example, CBS Item, Cost Item or Account Description.
Forecast Details/Forecast Inclusion	Specify the configuration for managing the Forecast column of the Cost Sheet. *User Line Items/Manual* is the default configuration; the following are the configuration options: **User Line Items and Manual**: At any time, the cost sheet user can add, edit, or delete Line Items in the Cell Detail Window of the Project or Shell Cost Sheet for the *Yet to Buy/Allowance For Change* (YTB/AFC) column. The user has to manually choose which commits are included in the forecast. Options for choices are: ▸ Auto-adjust YTB/AFC: For example, if you include a Commit for $100 in Forecast, then $100 is automatically deducted from YTB ▸ Manually adjust YTB/AFC ▸ Make no change to YTB/AFC **User Line Items and Auto**: Do not use this combination. This scenario will automatically inflate the Forecast due to the manual adjustment of Yet To Buy (YTB). **Transactions and Auto**: Note the following: ▸ Commits (for example Base Contract, Change Order, Purchase Requisition) are automatically updated with changes to the Forecast, depending on the formula. ▸ Adjustments are automatically included in the Forecast column upon approval as defined by the workflow. **Transactions and Manual**: Line Items can be added to the Cell Detail window of the Project or Shell Cost Sheet. No deletions or modifications can occur on existing line items. The user has to manually choose which commits are included in the forecast. Options for choices are: ▸ Auto-adjust YTB/AFC: For example, if you include a Commit for $100 in Forecast then $100 is automatically deducted from YTB ▸ Manually adjust YTB/AFC ▸ Make no change to YTB/AFC
P6 Integration Enable P6 sources	This option allows you to enable the Cost Sheet Template in Unifier to acquire data from the P6 Summary Sheets. If you select this option, you must select Tree for the Cost Sheet Structure. The Data Format in Cost Sheet Template Column "Properties" window shows has the "Decimal" option

Edit cost sheet template structure or properties

You can edit the cost template properties, rows, and columns. You can also add default data to direct entry cells, which can be copied to cost sheets created from the template.

Cost Sheet Properties include Name, Description, Default View, Structure definition (Flat or Tree), CBS Code and CBS Item titles, and switches for Forecast Details/Forecast Inclusion functionality.

Open the cost sheet template

After completing the Properties window, the cost template is created and appears in the Cost Templates log. After creating the cost sheet template, you must open the sheet to add columns and rows.

To open the cost sheet template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates > Cost Sheets** in the left Navigator. The Cost Templates log opens.
3) Select the template and click **Open** (or double-click the selected sheet). The Cost Sheet Template Setup window opens. This window is the same layout as a project or shell cost sheet.

Adding Cost Columns

These procedures apply to adding columns to a cost sheet at the project or shell, program or company level; to a cost sheet template; or to a worksheet.

About cost sheet columns

Cost columns specify the data sources (business process transactions, formulas, values entered manually, etc.) that will be displayed on the cost sheet. Default columns are CBS Code and CBS Item. Cost columns can be added to cost templates, to project- or shell-level, program-level and company-level cost sheets, and to worksheets.

Columns can be of the following types:

- **Business process transaction column**: Data is rolled up automatically from cost type business processes when the BP reaches the specified status.
- **Manual entry column**: Users can enter data directly to the sheet through line item or direct entries. Custom data sources can be applied to these columns to allow project or shell cost data to roll up to program or company cost sheets, and be reportable through user-defined reports.
- **Formula column**: The column values are calculated based on a formula that normally includes values from other columns. For example, if there are multiple cost type business processes affecting the sheet, you may want to have a column that shows the sum of all of them ("Total Commits"). Custom data sources can be applied to these columns to enable them to roll up to program or company cost sheets, and be reportable.
- **Fund column**: Provides additional functionality to work with the Funding sheet. For more information, see ***Add a funding column to project or shell cost sheet*** (on page 711).
- **SOV columns**: Provides additional functionality to work with Schedule of Value sheets.

Add a cost column

This general procedure can be used for adding columns is the same whether you are adding columns to a cost sheet (project or shell, program or company level), a cost sheet template, or a worksheet.

To add a column to a cost sheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Cost Sheets** in the left Navigator. The Cost Templates log opens.
3) Select the template and click **Open** (or double-click the selected template). The Cost Sheet Template Setup window opens. This window is the same layout as a project or shell cost sheet.
4) Click the **Columns** button. The Columns Log window opens.

   This window lists any existing columns, other than the two default columns (**CBS Code** and **CBS Item**), which are not editable. If no new columns have been added, the log will be empty.

1) Click the **New** button. The Column Properties window opens.
2) Complete the fields in the **Column Properties** window as described below and click **OK**.

In this field:	Do this:
Name	The name you choose will appear as the column header on the Project or Shell Cost Sheet. If you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	All columns must be associated with a data source. The data source that you choose will determine which of the following options are available. The types of Data sources available are: ▸ **Single Sources**: These values roll up from other sources. These include cost type business processes, some predefined cost columns. ▸ **Logical Sources**: Choose one to create Manual Entry or Formula columns. ▸ **P6 Sources**: To select the P6 Summary Sheet from which cost should role up.
Element	If you select the "Enable P6 sources" option when defining your Cost Sheet options (Creating a new Cost Sheet Template, Options tab), the following occurs in the Column Properties window: The Datasource drop-down list contains the Published P6 Data Sources that have been defined in Standards and Libraries, in P6 Sources. Once you select a P6 Source as a Datasource for a column, you must select an Element (Required). The Element drop-down list contains a fixed list of available options. If you select any P6 Datasource or Element to define a column, then: ▸ Column Name defaults to the Element that you selected.

	Example You select DataSource or Element as Sanctioned Baseline or Planned Cost. The Column Name, then, appears as: Planned Cost. ▸ You can edit the Name and Data Format. **Notes**: - For all "Cost" elements (Planned Cost, Actual Cost, etc.), the Data Format is pre-selected as "Currency" - For all "Unit" elements (Planned Units, Actual Units, etc.), the Data Format s pre-selected as "Decimal" ▸ All P6 Sources are available for Formula Creation (Format: <P6 Source>: <Element>). ▸ You can edit the Display Mode ▸ You can edit the Total
Entry Method	This is applicable for logical data sources. ▸ **Manual Entry, Direct entry into cell**: Users enter values by clicking the cell and entering values directly into the cell. ▸ **Manual Entry, Line item content**: Users enter values manually via a line-item entry window for each CBS Code (clicking the cell opens the cell details window.) ▸ **Worksheet**: From the drop-down lists, select the Name of the worksheet and the Column within it. ▸ **Formula**: Values are calculated based on a specified formula entered for the column. Formulas can include the values of other columns. Click the Create button to create the formula.
Data Format	▸ **Currency**: Right-aligns column contents and includes a currency symbol, a thousandths separator and two decimal places ▸ **Percentage**: Right-aligns the contents and includes a percentage symbol ▸ **Decimal**: Right-aligns column contents and presents the value for the column as a Decimal (with two decimal digits). The prefix of currency symbol, or the suffix of percent symbol, does not appear in columns with a Decimal data format.
Display Mode	Refers to whether the column is displayed on the cost sheet. ▸ **Show**: This is the default choice. This indicates that column will display by default on the cost sheet to all users with at least "view" permission for the cost sheet. ▸ **Hide**: Hidden columns are active but not displayed on the cost sheet. Hidden columns can be accessed by users with "create" permission on the cost sheet.
Total	Determines what will display in the "Total" (bottom) row for the column:

	▸ **Blank**: The total of this column is not applicable and will not display on the cost sheet. Choose this column for percentage columns and other columns where it does not make sense to display the sum total. ▸ **Sum of All Rows**: The sum total of the column values is displayed. ▸ **Use Formula Definition**: For formula columns; the formula will be applied to the "Total" row in the same way it is applied to other rows in the column.
Column Position After	The new column will be inserted after the column selected.

Project or shell cost column data sources

Data Source	Description
Single Sources	Columns in which data is manually rolled up from business processes once the appropriate terminal status is reached. Can also include other specified sources.
Cost-type Business Processes	Included in the Single Sources list are all of Cost BPs that are available for your project or shell, and all of their terminal statuses.
AFC	
Assigned Budget	This column goes hand-in-hand with budget distribution. It allows the user to create specific, detailed line-items for each CBS code in the budget. Each line item can be assigned individually.
Funded Records	This column shows records in which the CBS code is funded, that is, spend-type business process records that consume funds.
Unfunded Records	This corresponds to spend-type BP records that are not funded.
Prior Forecasts	
Yet To Buy	Part of the commitment that still must be purchased. For example, a base contract is for 1000 items, and 500 have been bought. There are 500 items "yet to buy." It is based on a currency amount. In Cost Sheet Properties, setting "Auto" "Transaction" options will track the yet to buy information.
Logical Sources	
Budget Remaining Balance	This is a place holder for a formula you create (optional).

Budget Variance	This is a place holder for a formula you create (optional).
Commits	This is a place holder for a formula you create (include all commit columns; optional).
Forecasts	This is a place holder for a formula you create (optional).
Forecasts (Unaccepted)	This is a place holder for a formula you create (optional).
Forecasts Variance	This is a place holder for a formula you create (optional).
CBS Funding	Requires additional setting in Funding Sheet; see ***Setting up the Funding Manager*** (on page 699).
Manual Funding by CBS	Requires additional setting in Funding Sheet; see ***Setting up the Funding Manager*** (on page 699).
Revised Budget	This is a place holder for a formula you create (optional)
Spends	This is a place holder for a formula you create (include all spend columns; optional).
Project or shell Cost 1-25	These can be used to rollup manual and formula columns to company and program cost sheets. Each data source can be used for one column.

Create a formula in a cost column

This procedure addresses how to create a formula column for use on a cost sheet. (The general procedure also applies to cost sheet templates and work sheets.)

When creating a cost sheet column, selecting a logical data source allows you to build a formula in which you can include:

- Other columns from this cost sheet
- Single data sources, such as business processes in a certain status
- Total elements, such as the tallied value of a column
- Data elements from single-record, non-workflow business processes

If you are creating a formula for forecasts (unaccepted), data sources are limited to business processes flagged in uDesigner for cost sheet forecasting. For example, if base commits and change commits were enabled for cost sheet forecasting, you will see base commits (unaccepted) and change commits (unaccepted) as available data sources for use in the forecasts (unaccepted) formula. You will not see other data sources that were not flagged in uDesigner for this purpose.

When you build your formula, think about which data sources will generate the result you want in your cost sheet column. For example, if you want to see total commitments, you can add contracts (approved) and change orders (approved).

> **Note**: Use care when selecting the Cost Column that you use to build your formula. You can possibly choose from Columns (columns in the sheet), Data Sources (values of business processes), Total Elements (totals from columns), or Data Elements (data elements on Information/General record(s), typically named Project Information). The source column that you use can affect the data values in your cost sheet. If you select an incorrect source, you can get a result you do not expect. Be sure that you know the source to use before you build your formula.

To create a formula

1) In the Column Properties window, choose **Formula**, then click the **Create** button. The Formula Creation window opens.
2) Enter the first value in the formula:
   - To enter **numerical values** into the formula, click the number keys on the on-screen keypad. (Include parentheses, % or decimal point as necessary.)
   - To add a **data source** or **column value** (existing columns on the sheet you are working on) into the formula, select it from the list in the left pane, then click the **Select** button.

   As you build the formula, it appears in the Formula box in the upper right portion of the window.
3) Click on the appropriate operator: add, subtract, multiply, or divide.
4) Continue to alternate between choosing values and operators to add to the formula.

> **Note**: Unifier applies the operators in the order of proper mathematical procedure: from left to right, with multiplication and division first, followed by addition and subtraction.

5) You may click **Undo** at any time to undo the last action. Click the **Clear All** button to clear the entire formula.
6) When the formula is complete, click **OK** to save your formula and return to the Column Properties window.

Example Formula

A user wants to create a "Yet To Buy" column that calculates 7% of the Assigned Budget column. To create this formula using the keypad in the Formula Creation window:

1) Click 7 then click the percent % key. The value is displayed as 7/100
2) Click the multiplier X
3) Select Assigned Budget from the Cost Column pane on the left, then click Select

   The final formula looks like this: *7/100 * Assigned Budget*

Adding Cost Rows (CBS Codes)

The following procedures are applicable to Cost Templates and Cost Sheets

Each cost sheet row corresponds to the unique CBS (or Cost) codes that link costs on a project or shell to the General Ledger for Finance. They may be added manually or imported from a CSV file.

CBS codes may consist of one or a maximum of 10 segments. Each segment is defined by a different data definition. For example, a five segment CBS Code would require five data definitions. Segments can be defined via a selection list or text entry.

If the cost sheet has been setup to automatically sort CBS codes, then all new rows will be sorted by ascending order.

You cannot create duplicate CBS Codes at the same row level on the sheet. If you choose a Flat structure for your cost sheet (no indented rows), then you will not be allowed to create duplicate CBS Codes. If you choose a Tree structure, you can use the same CBS Code as long as each instance is within a different grouping (or parent) row.

To manually add rows to a cost sheet or cost template

1) Open the Cost Template or Cost Sheet.
2) Click the **Rows** button. The Rows window opens.
3) Click **Add Row**. The CBS Detail window opens.
4) Complete the **CBS Detail** window as described in the following section.
5) Click **OK**.

To insert a row between existing rows

1) In the **Rows** window, select the checkbox next to the row after which you want to insert the new row.
2) Click **Add Row** and follow the procedure to add a new row. The new row will be added after the selected row.

About the CBS Detail Window

Following is an overview of the fields and tabs in the CBS Detail window.

The CBS Detail window displays CBS properties. You can add notes or file attachments to the CBS code in this window. You can also specify CBS Breakdowns in this window, which are used in Schedule of Values (SOV) sheets.

The values that are available in the CBS code selection come from the Cost Codes data definitions.

Navigate to **Company Workspace** > **Admin** mode >**Data Structure Setup** > **Data Definitions** > **Cost Codes**. The log will show whether the code is a *Text Box* or *Pulldown Menu*.

The codes listed in the log are those that are available to use when building the CBS Code segments.

This section discusses the default CBS Detail window. If your company has designed a uDesigner-created Cost Attribute Form, the fields may differ. Fields with a red asterisk are mandatory.

In this field:	Do this:
CBS Code	Click **Select** to choose the cost code segments for the CBS code. The Cost Code Selection window opens.
CBS Item	Enter a label that will display on the cost sheet next to the CBS Code, this can help other users to identify what the code represents.
Description	Enter an optional description to describe the row.

Additional information about the CBS Detail window:

- The appearance of the Cost Code Selection window will depend on how your cost sheet was set up, which CBS Codes (cost codes) were used in the definition, and how each code was set up.
- If the CBS code segment has a **Select** button, then click the button and choose the segment values from the list.
- If the CBS code segment does not have a **Select** button, then type the value of the segment into the field.

Create a summary row

If you selected a Tree Structure format, you can indent rows. These indented rows can be used to capture cost transactions. The parent node acts as a summary row, summarizing the information present for each of the indented "child" rows. You cannot enter information directly into a summary row.

To create a summary row by indenting

1) In the **Rows** window, select the checkbox of the row(s) to indent under the summary row.
2) Click the **Indent** button. The row immediately above will become a summary row. All monetary values in the detail lines below a summary row will be rolled up to the summary row automatically.

To outdent a row

1) In the **Rows** window, select an indented row by clicking its checkbox.
2) Click the **Outdent** button. The row will no longer be part of the summary row.

Import cost rows (CBS codes)

You can create CBS Codes in a cost sheet by importing them from a CSV file. This procedure can also be used to copy the CBS codes from one cost sheet or template to another (the structure and code segments must be the same).

Step 1: Export the file template

a) Open the cost sheet or template, click the **Export** button and select **CBS Details**.
b) On the File Download window, click **Save**.
c) Enter a file name, browse to where you want to save the file, and click **Save**.

Step 2: Add the CBS code rows to the CSV file

a) Navigate to and open the CSV file (in Microsoft Excel or other compatible program).

If the Cost Template already contains rows, they will be listed. If summary rows exist, the CBS column will display them with two tilde symbols (~~) separating the parent row from the child row.

e.g.: 2000000 ~~210000, where 2000000 is the parent and 210000 is the child.

b) Enter information in the required fields and save the file.

> **Note**: Do not change or delete any of the listed CBS Codes that already exist in Unifier or you will get an error. Changes to the CBS Code must be done within Unifier.

Required fields:

- **CBS Code**: must be a match to a CBS Code in the Cost Sheet
- **CBS Item**: must be a match to the CBS Item for the associated CBS Code in the Cost Sheet
- **Cost Type**: Capital or Expense
- **Status**: Active or Inactive

Step 3: Import the rows

a) In the cost sheet or template, click the **Import** button and select **CBS Details**.

b) In the Upload window, browse to and add the CSV file.

c) Click **OK**. After the import, your Cost Sheet will show the new rows.

To copy CBS codes from one cost sheet or template to another

1) In the source cost sheet or template, click **Export > CBS Details**. Save the CSV files. You can go in to the file and add additional codes if needed.
2) In the destination cost sheet or template, click **Import > CBS Details**. Browse to the CSV file and import.

> **Note**: The structure of the two sheets must be the same: Both must be tree or flat structure. Verify the structures by opening the Properties window and clicking the Structure tab. Be sure you are using the same CBS code segments.

Creating Worksheet Templates

Worksheets are extensions of the cost sheet. They can be used as "sub-cost sheets," enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project or shell cost sheet column. For example, a worksheet can be used to off-load complex calculations, which can be rolled up into a single cost sheet column. The rows equal the CBS codes on the cost sheet. Worksheets can have multiple columns for data entry or formula calculations, but do not support data rolled up from business processes.

A cost sheet column can be associated with a worksheet as the data entry method. A worksheet column can also be associated with another worksheet, as long as there is not a circular reference. There can be multiple worksheets in a project or shell.

> **Note**: A circular reference is referred to a reference in which the last field references the first field and creates a closed loop.

A worksheet template can be created in Administration Mode. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

Create a new worksheet template

You can use this template to create worksheets for individual project or shell cost sheets, or for cost sheets in project or shell templates.

Worksheets are created similarly to cost sheets. The user who creates a worksheet will be the owner of the Worksheet. The owner can grant permissions to other users / groups in User Mode.

To create a new worksheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Cost Sheets** in the left Navigator. The Cost Templates log opens.
3) Click the **New** button and choose **Worksheet**. The Worksheet Properties window opens.
4) Complete the Worksheet Properties window:
   - **Title**: Enter a unique title to identify the worksheet or template. This is a required field.
   - **Description:** Enter an optional description. This is especially useful if you plan to create multiple templates for use in different project or shells, or multiple worksheets for a project or shell.
   - **Default View**: You may choose either or both of the **Default View** checkbox options:
     - **Open in maximized view**: when the worksheet or template is opened, it will automatically open maximized, or full-screen
     - **Open in split mode**: when the worksheet or template is opened, it will automatically open as split (same as clicking the **Split** button)

   If these options are not selected, the worksheet or template will open by default to a size slightly smaller than the Unifier screen, and not split. The window can be resized by clicking the Minimize or Maximize/Restore buttons in the upper right corner of the window, or by dragging the edges of the window to the size that you need.
5) Click **OK** to save and exit the window. The worksheet template is listed in the log.

   You can open the worksheet template and configure it by adding columns; the rows will be the CBS codes within the corresponding cost sheet.

Open the worksheet template

After creating the worksheet template, you must open the sheet to add columns.

To open the worksheet template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates>Cost Sheets** in the left Navigator.
3) Select the worksheet template and click **Open** (or double-click the selected sheet). The worksheet template window opens.

Create a worksheet column

Adding a column to a worksheet is similar to adding a column to the cost sheet. You can add manual entry (direct or line item) columns or formula columns. You can also add columns that reference other worksheets. This allows interaction between worksheets.

The available datasources are Project Worksheet Cost 1 through 50.

To add a column

1) Open the worksheet and click the **Columns** button. The Columns Log opens.
2) Click **New**. The Column Properties window opens.
3) Complete the Column Properties as usual for a column.

   If you are creating a formula, the datasources that are available for the formula are limited to the other columns on the worksheet.
4) Complete the window and click **OK**.

Create a worksheet in a project or shell

You can create a new worksheet in the project or shell level Cost Manager by copying from a template or copying from a project or shell.

To create a new worksheet from a template

1) Click **New** and select **Copy from Template.** This option will allow you to create a worksheet by copying one from a company level template.
2) Select a worksheet template and click **Copy**.

To create a new worksheet from another project or shell

1) Click **New** and select Copy from Project or Shell. The Copy from Projects or Shells window opens. This window will list worksheets from all project or shells.
2) Select any Cost Sheet and click the **Copy** button to create a new Cost Sheet.

Delete a worksheet

User will not be allowed to delete a Worksheet if it is referred as a Column Entry method in Cost Sheet. Only owner of Worksheet will be allowed to delete Worksheet along with user with Create permission at module level.

To delete a worksheet

Select the worksheet in the log and click the **Delete** button.

Managing Cost Templates

You can edit the cost template properties, rows, columns, or add default data to rows. Edits to a template will be reflected in cost sheets that are created from it, but will not affect exiting cost sheets.

View or edit cost template properties

The Properties window of a cost template is fully editable. This allows you to make changes as necessary to use when creating subsequent cost sheets from the template.

Many of the properties that are editable in cost templates are not editable in Properties window of the cost sheet itself once it has been created in the project or shell or in a project or shell template.

To view or edit cost template properties

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Cost Sheets** in the left Navigator. The Cost Templates log opens.
3) Select a cost template from the log and click the **Properties** button. The Properties window opens.
4) Make edits as necessary. Any edits that you make to a cost template will affect new project or shell cost sheets created from the template. Existing cost sheets will not be affected.
5) Click **Apply** to save changes, or **OK** to save and exit the window.

Delete a template

You can delete a cost template from the cost templates log. Cost sheets in project or shell templates or in project or shells cannot be deleted. Deleting a template will have no affect on cost sheets created from it.

To delete a template

From the Cost Templates log, select the template and click the **Delete** button.

Edit a cost column

You can edit the properties of a column, including the entry method, as long as this is applicable for the selected data source. Although it is possible to change the entry method for a column, use caution when doing so when data exists in the column. Information such as detailed line item entries could be lost. For example, if you change the data entry method from line item entry to direct entry, the value will appear in the cell, but all line item details will be lost.

To edit a column

1) From the Cost Templates log (or project or shell Cost Sheet log), select the template/sheet and click **Open**.
2) Click the **Columns** button. The Columns Log window opens, displaying the list of current columns.
3) Select a column from the Column log and click **Open**. The Column Properties window opens. Make changes as necessary.

Move a column

To move a column:

1) From the Columns log, select a column to move.
2) Click **Move Up (Left)** or **Move Down (Right)**. The order that the columns appear in the Log window is the order (from left to right) that they appear on the sheet.

Delete a column

If a column is being used in a formula in another column, you must remove the column from the formula before you can delete it. If the column contains a cell with line item data, you must first remove each line item before it can be deleted.

To delete a column

1) Select a column from the Columns Log and click **Open** to open the Column Properties window.
2) Click the **Delete** button. Click **Yes** to confirm.

Hide cost sheet columns

You can hide a cost sheet column. Hidden columns are not visible on the cost sheet, but otherwise function like other cost columns. For example, you might want to hide a column that is used in a formula column, but is unnecessary to display. Hidden columns can be viewed from the Columns Log by users with "create" permission on the cost sheet.

To hide a cost sheet column

1) Select a column from the Columns Log and click **Open** to open the Column Properties window.
2) For Display Mode, choose **Hide**.
3) Click **OK** to close the window. The Columns log will show the column as Hidden in the Display Mode column. Hidden columns do not display on the cost sheet, but are listed in the Columns log.

To unhide a hidden cost sheet column

1) Select the hidden column from the Columns Log and click **Open** to open the Column Properties window. Hidden columns are labeled as "Hidden" in the Display Mode column in the Columns Log.
2) For Display Mode, choose **Unhide**.
3) Click **OK** to close the window. The column will display on the cost sheet, to all users with at least View permissions, and who have not been given View restrictions.

Edit a cost row

You can edit rows in templates and cost sheets. However, in cost sheets, if you have already distributed and locked the budget, you must unlock it first before you can access the Rows window and edit rows.

To edit a row

1) From the cost template/sheet, click the **Rows** button. The Rows window opens, displaying the list of current rows.
2) From the Rows window you can Add a row, select a row and Delete it, Indent a row under a summary row, or Outdent a row, bringing it out from under a summary row.
3) For more information, see ***Adding Cost Rows (CBS Codes)*** (on page 675).

View or Edit CBS Details

The CBS Detail window displays CBS properties. Notes and files can be attached to transactions via the CBS Detail window. You can also specify CBS Breakdowns in the CBS Detail window, which are used in SOV sheets.

> **Note**: If you have locked the budget, you will need to unlock it first in order to access the Rows window or CBS Detail window.

To view CBS Details

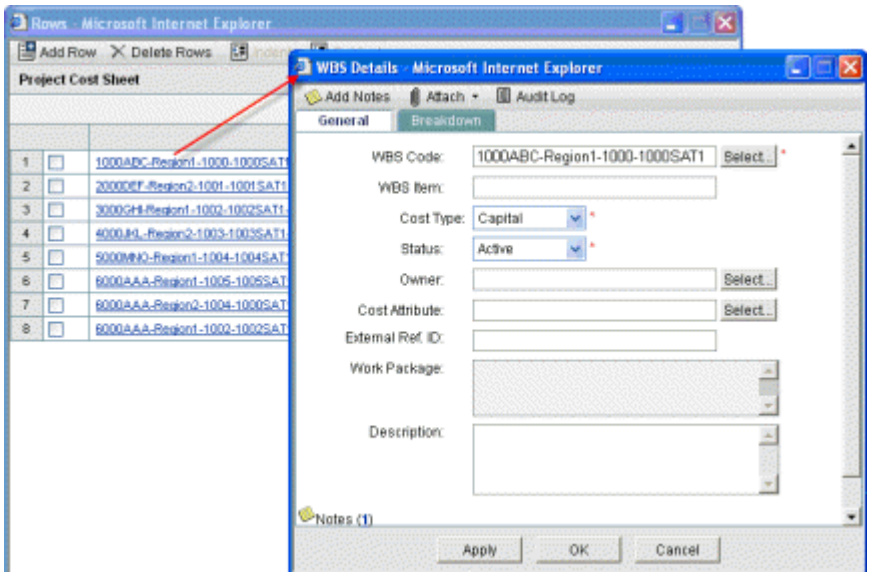
1) Open the Cost Sheet.
2) Do one of the following:
   - From the cost sheet, click the **CBS Code** to be edited, which appears as a link in the first column of the cost sheet row. The CBS Detail window opens as a read-only window.
   - From the cost sheet, click the **Rows** button to open the Rows window, then click a CBS Code. The CBS Details opens in an editable view, provided you have edit permissions.

   The General tab displays information about the CBS Code. The Breakdown tab displays breakdown information.

To edit CBS Details

For more information about adding CBS Breakdown, see the following section.

1) From the Cost Sheet, click the **Rows** button. The Rows window opens.
2) Click the **CBS Code** to be edited, which appears as a link. The CBS Detail window opens.
3) Make changes to the **General** Tab or **Breakdown** Tab as necessary.
4) Click **Apply** and **OK**.



Creating a Project or Shell Cost Sheet

The Cost Sheet is created by copying from a cost template or another project or shell cost sheet. Only one project or shell cost sheet may be defined per project or shell. You may define multiple work packages or work sheets.

If a worksheet is associated with the cost sheet or template (that is, if a cost sheet column definition refers to Worksheet as Data Entry method), the worksheet will also be copied.

> **Note**: Once a Cost Sheet has been created, it cannot be deleted. Ensure that the structure (tree or flat) of the template is what you want to use for the cost sheet. The structure is not editable for cost sheets. You can add, modify or delete columns and rows to the sheet as necessary.

To create a cost sheet by copying a template

1) Click **New** and select **Copy from Template**. This option will allow user to create a Cost Sheet by copying one from a company level template.
2) Select a template and click **Copy**.

To create a cost sheet by copying from another project or shell

1) Open the project or shell into which you want to copy the cost sheet and switch to User mode.
2) In the Navigator, click **Cost Manager > Cost Sheet**.
3) Click **New** and select **Copy from Project/Shel**l. The Copy from Projects/Shells window opens. This window will list Cost Sheet from all projects or shells. Observe that only Cost Sheets should be displayed to user.
4) Select any Cost Sheet and click the **Copy** button to create a new Cost Sheet.

Add cost sheet columns and rows

Rows and columns are added to project or shell cost sheet the same way as they are to cost templates. See ***Creating and Setting up Cost Templates*** (on page 664).

Add column view or edit restrictions

The Restrictions setting allows you to restrict viewing or editing permissions for particular columns. This functionality allows you to restrict specific users or groups from viewing or editing columns that they would normally be able to access.

Column restrictions can be added to project or shell, program and company level cost sheet columns and work package columns, but not the cost template.

A user may have general view and/or edit permissions on the cost sheet, but can be restricted from viewing or editing cost information in specific columns within the cost sheet. Users or Groups with Create permissions can set these additional column restrictions from within the cost sheet in User Mode.

Column restrictions differ from "hidden columns" in that users with edit and/or view permissions for the entire cost sheet will by default have edit and/or view permissions for each column in the cost sheet, unless restricted from doing so. "Hidden" columns are not displayed on the cost sheet, regardless of the permissions of the user.

Restriction setup affects Budget Distribution and Assigned Budget. If Assigned Budget is available on the cost sheet, the following applies:

- No Restriction setup for a user: User can view and edit both Budget distribution and Assigned Budget
- Disallow Viewing checked for a user: User cannot view and edit both Budget distribution and Assigned Budget. Cannot import Summary Budget
- Disallow Viewing unchecked for a user: User can view Budget distribution and Assigned Budget. Cannot import Summary Budget
- Disallow Editing checked for a user: User cannot view and modify Budget distribution and Assigned Budget. Cannot import Summary Budget.
- Disallow Editing unchecked for a user: User can view and modify Budget distribution and Assigned Budget. Can import Summary Budget

Restrictions and permissions:

- Opening a worksheet directly from the log window is based on the worksheet permission defined for that worksheet.
- Accessing and viewing worksheet data from a Cost Sheet column is subject to column restrictions. Worksheet ownership (creator) and permissions work on top of Cost Sheet column restrictions.
- Be sure you have cost sheet "Create" permissions. Users with create permissions for the cost sheet will be allowed to access the **Restrictions** button.

To set cost sheet column restrictions

1) In User Mode, open the work package or project or shell, program or company level cost sheet.
2) Click the **Columns** button. The Columns Log opens.
3) Click the **Restrictions** button. The Edit Restrictions window opens.
4) Click the **Add** button. The User/Group Picker opens.

   The users or groups that are displayed in the picker are limited to those users and groups that have cost sheet permissions. For example, if you have given project or shell cost sheet permission to a single group, that group will display in the User/Group Picker window.
5) Select the user or group to edit restrictions and click **OK**. The Edit Restrictions window opens.
6) Select one or more user/group in the upper portion of the Edit Restrictions window (press the **Shift** or **Ctrl** keys to select more than one user or group). The permission settings for each cost sheet column are displayed in the lower portion of the window.
7) For each column, you may set the following restrictions:
   - **Disallow Editing**: if a user or group is not allowed to edit a column, then that user or group will not be allowed to add, modify, or delete data in any of the cells in the column.
   - **Disallow Viewing**: select this checkbox if you want to restrict the user/group from viewing a particular column.
8) Click **OK**.

Cost sheet column permission matrix

The following summarizes the relationship between user cost sheet permission settings in Administration mode with the additional column restrictions in User Mode.

Column restrictions will not override View or Edit permissions for users with module-level Create permission. If a user has Cost Sheet module **Create** permission (in permission settings), this overrides any User Mode column restrictions. This also means that if a user has a "Disallow Editing" or "Disallow Viewing" column restriction, and then is subsequently granted module-level **Create** permission for the cost sheet, that Create permission will override the column restriction and the user will be able to view/edit the column (even if the restriction is still selected in User Mode).

> **Note**: These restrictions apply to work packages as well. If a user does not have view permission on a column, then that user will not be allowed to view the same column in a work package.

With this Permission/RestrictionSetting:			**The User Can:**			
Cost Sheet Module	Column "Disallow Editing"	Column "Disallow Viewing"	Edit column data	View column data	Import Column	Export Column
View	*not selected*	*not selected*	No	Yes	No	Yes
View	x	*not selected*	No	Yes	No	Yes
View	x	x	No	No	No	No
Modify	*not selected*	*not selected*	Yes	Yes	Yes	Yes
Modify	x	x	No	No	No	No
Modify	x	x	No	No	No	No
Create	*not selected*	*not selected*	Yes	Yes	Yes	Yes
Create	x	*not selected*	Yes	Yes	Yes	Yes
Create	x	x	Yes	Yes	Yes	Yes

If a user or group is removed from module level permission but was previously configured in the Restrictions window to edit or view columns, then that user or group will not be removed from the restrictions list.

Edit Restriction is available only for manual entry column, for example: Manual datasource, Assigned Budget, YTB, Manual Funding at Project or Shell and CBS Level. For all other columns, Edit Restriction option is disabled, as the user cannot edit information.

Effects of column restrictions on viewing a worksheet

	Cost Sheet Column	**Worksheet**

Case	Can view/edit column data	Can view column data	Owner	Edit permission	View permission	Access in view mode	Access in edit mode
1	Yes	Yes	Yes	Yes	Yes	n/a	Yes
2	Yes	Yes	No	Yes	Yes	n/a	Yes
3	Yes	Yes	No	No	Yes	Yes	No
4	Yes	Yes	No	No	No	No	No
5	No	Yes	Yes	Yes	Yes	n/a	Yes
6	No	Yes	No	Yes	Yes	n/a	Yes
7	No	Yes	No	No	Yes	Yes	No
8	No	Yes	No	No	No	No	No
9	No	No	Yes	Yes	Yes	No	No

In cases 4 and 8, the user will see an error message that they cannot view the worksheet as they do not have view permissions for the worksheet. In case 9, they will not see any message, as they cannot see the column with worksheet as the data entry method.

Add CBS breakdown

Breakdowns are used in SOV sheets. Invoices can be created from SOVs that can include CBS breakdowns. The breakdowns are not accessible in any BP except Spends BPs, and are not associated with data definitions, and so are not reportable.

The breakdown applies to a single project or shell, and can be applied across projects or shells by adding CBS code rows and breakdowns to Cost templates, or creating cost sheets from previous project or shell cost sheets with breakdowns.

You may add as many breakdowns as you need. When you click **OK**, the system will perform a validation check. If the CBS code is already in use in a cost sheet transaction, the system will not allow the addition of a breakdown.

> **Note**: If you have locked the budget, you will need to unlock it first to access the Rows window.

You can also add breakdowns directly to SOV sheet. This is done in User mode on the SOV sheet.

To add a CBS Breakdown

1) From the Cost Sheet, click the **Rows** button. The Rows window opens.
2) Click the **CBS Code** to be edited, which appears as a link. The CBS Detail window opens.
3) Make changes to the **General** tab or **Breakdown** tab as necessary.
4) Open the CBS Details window and click the **Breakdown** tab.

> **Note**: The **Breakdown** tab becomes accessible after the row has been created. To see the **Breakdown** tab, you must first create the CBS Code and click **OK**.

5) Click the **Add** button.
6) Add a Breakdown **Name** and **Description** and click **OK**.

Add notes and attachments to a CBS code

To add notes to a CBS code:

1) From the CBS Detail window, click **Add Notes**.
2) Enter the note and click **OK**. The number of Notes attached to the record will display in the lower left corner of the window.
3) Click the **Number** link to view the notes.

To attach files to a CBS code:

From the CBS Detail window, click **Attach** and select one of the following options:

a. **My Computer**: To attach a file from your local system. When you attach files from your local system.
b. **Primavera Unifier Folder:** To attach documents from the Document Manager. The window opens, displaying the Documents files and folders. Select the files and folders to attach and click **OK**. (Folders are not attached; the contents of selected folders are attached in a flat list. Documents with duplicate files names will not attach.) You must have at least view permission to the folders and files within the Document Manager in order to view and attach them.

Modify cost sheet default view

The cost sheet default view refers to how the cost sheet appears when it is first opened. The cost sheet Properties window offers two options regarding the cost sheet default view, described in the procedure below. These options control how the cost sheet opens for all users.

To modify the cost sheet default view

1) In User Mode, open the cost sheet Properties window (click the **Properties** button from the log toolbar, or open the cost sheet and click **File > Properties**).
2) On the General tab, you may optionally choose either or both of the **Default View** checkbox options:
   - **Open in maximized view**: when the cost sheet is opened, it will automatically open maximized, or full-screen
   - **Open in split mode**: when the cost sheet is opened, it will automatically open as split (same as clicking the **Split** button)

   If these options are not selected, the cost sheet will open by default to a size slightly smaller than the Unifier screen, and not split.

Setting up a Program Cost Sheet

Program Cost Sheets are created automatically once a project cost sheet has been created for one of the project in the program. It includes all projects that are active an on-hold and that are included as part of program definition. Newly added projects will be displayed on Cost Sheet at appropriate location based on sorting order.

The Program Cost Sheet will display cost data for all projects (within the program) that have a status of Active, On-hold, or View-Only. The currency used is the company Base Currency.

Projects on the Program Cost Sheet are sorted automatically by ascending project number. As new projects are added to the program, and cost sheets are created for them, the new projects will be automatically added to the Program Cost Sheet.

You can add columns to correspond to and roll up project cost sheet data. Rows correspond to project cost sheets.

Access the program cost sheet

When you create a new Program, the Program Cost Sheet is created automatically, based on the cost sheets of the individual projects in the program. As project cost sheets are updated, the program cost sheet is updated automatically. You may add additional Cost Groups which incorporate program-related cost data.

To view a program cost sheet or cost group

1) Open the program.
2) From the Navigator, click **Cost Manager > Cost Sheet**. The log lists the Program Cost Sheet and any cost groups.
   - **Title**: The Program Cost Sheet name or the Cost Group name.
   - **Reference No.**: The Reference number assigned to the Cost Group at time of creation.
   - **Date Created**: The date the Cost Sheet or Cost Group was added to the Program.
   - **Creator**: The project team member that added the Program Cost Sheet or Cost Group to the Program.
   - **Type**: The type is either Program Cost Sheet or Cost Group.
   - **Status**: The current status of the Program Cost Sheet or Cost Group.
3) Select the Cost Sheet or Cost Group to view and click **Open**.

   The Program Cost Sheet opens, listing each of the projects in the program. The Project Numbers are hyperlinks that open the associated project cost sheet. Depending on your permission levels, you can view the current project data that was used in the current Program.
4) To view a project cost sheet, click on the **Project Number** link. The Project Cost Sheet opens. **Close** the project cost sheet window when you are done viewing it.
5) Close the Program Cost Sheet when you are done making modifications.

Add Program Cost Sheet Columns

Cost sheet columns can be added to program cost sheets the way they are added to cost templates. Predefined data sources at project level will be rolled up to program level automatically.

Note: Column restrictions can be added to program cost sheet columns. See the Project Cost Sheet section. See ***Add column view or edit restrictions*** (on page 683).

Program cost sheet data sources

Data Source	Description
Single Sources	Data from single datasources Project Cost1 to Project Cost25 is rolled up from project-level cost sheets. Users can also view datasources based on business process data rollup from the project-level. Following are the available datasources:
Business Process (All statuses)	Included in the Single Sources list are all of Cost BPs that are available for your project, and all of their terminal statuses.
AFC	AFC
Funded Records	This column shows records in which the CBS code is funded, that is, spend-type business process records that consume funds.
Unfunded Records	This corresponds to spend-type BP records that are not funded.
Prior Forecasts	
Yet To Buy	
Project Cost 1 to Project Cost 25	Rollup from all projects
All Project Single Sources	All other data sources are similar to Project Cost Sheet.
Logical Sources	
Program Budget Remaining Balance	This is a place holder for a formula you create (optional).
Program Budget Variance	This is a place holder for a formula you create (optional).
Program Commits	You can add all your BP commits here.
Program Forecasts	This is a place holder for a formula you create (optional).
Program Forecasts	This is a place holder for a formula you create (optional).

(Unaccepted)	
Program Forecasts Variance	This is a place holder for a formula you create (optional).
Program Funding	You can roll up all project funding here
Program Spends	You can rollup spends BPs here.
Program CBS Funding	This requires additional setting in Funding Sheet; see ***Setting up the Funding Manager*** (on page 699).
Program Manual Funding by CBS	
Program Cost 1-25	

Create and manage program cost groups

To create a new program cost group

1) Open a program and click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Manager log opens.
2) Click the **New** button. The Cost Group Properties window opens.
3) Enter the Properties information:
   - **Title**: Enter a unique title for the cost group.
   - **Record No.**: Enter a record number.
   - **Status**: Choose to make the Cost Group Active or Inactive.
   - **Owner**: Click **Select** and select an owner.
   - Enter an optional **Description** and any **Comments**.
   - You may click the **Attach** button to attach files to the Cost Group.
4) Click **Apply** and **OK** to save the Cost Group properties information. The new Cost Group appears in the Cost Summary log.

To set up the Cost Group

1) Select the **Cost Group** from the Program Cost Manager log.
2) Click **Open**. The Cost Group sheet opens.

   Depending on your permission levels, you can view the current project data that was used in the current Program, or you can Add and Delete columns and select new data sources to use in the Program.
3) Close the Program Cost Sheet when you are done making modifications, then navigate to the Summary node to view the new Program data.

Setting up the Company Cost Sheet

The company cost sheet can be setup to rollup project or shell cost data across all company project or shells.

Create a company cost sheet

Company cost sheet will not be auto-created. The company administrator must create one. Cost sheets are added by default.

To create a company cost sheet

1) In User Mode, navigate to **Company > Cost Manager> Cost Sheet**. The Cost Sheet log opens.
2) Click **New**. Once a cost sheet has been created it cannot be deleted.

Modify company cost sheet default view

The company cost sheet Properties window offers two options regarding how the cost sheet will appear when it is first opened. These options control how the company cost sheet opens for all users.

To modify the company cost sheet default view

1) Open the company cost sheet Properties window (click the **Properties** button from the log toolbar, or open the cost sheet and click **File > Properties**).
2) On the General tab, you may choose either or both of the **Default View** checkbox options:
   - **Open in maximized view**: when the sheet is opened, it will automatically open maximized, or full-screen
   - **Open in split mode**: when the sheet is opened, it will automatically open as split (same as clicking the **Split** button)

   If these options are not selected, the company cost sheet will open by default to a size slightly smaller than the Unifier screen, and not split.

Add Company Cost Sheet Columns

Cost sheet columns can be added to company cost sheets the way they are added to cost templates. Predefined data sources at project or shell (CBS) level will roll up to company level automatically.

> **Note**: Column restrictions can be added to company cost sheet columns. See ***Add column view or edit restrictions*** (on page 683).

Company Cost Sheet Data Sources

Data Source	Description
Single Sources	Data from single datasources **Project Cost1** to **Project Cost25** is rolled up from project-level cost sheets. Users can also view datasources based on business process data rollup from the project-level. Following are the available datasources:
Business Process	Included in the Single Sources list are all of Cost BPs that are

(All statuses)	available for your project, and all of their terminal statuses.
AFC	Allowance for Change. This is a contingency value.
Funded Records	This column shows records in which the CBS code is funded, that is, spend-type business process records that consume funds.
Unfunded Records	This corresponds to spend-type BP records that are not funded.
Prior Forecasts	Prior forecasts
Yet To Buy	This is a portion of a commit that you still need to buy. This can be automated for uDesigner BPs (commit BPs can track YTB), In Unifier Cost Properties, you need to set "Auto" "Transaction" options, which track YTB.
Project Cost 1 to Project Cost 25	Rollup from all projects
All Project Single Sources	All other data sources are similar to Project Cost Sheet.
Logical Sources	These sources are formulas.
Company Budget Remaining Balance	This is a place holder for a formula you create (optional).
Company Budget Variance	This is a place holder for a formula you create (optional).
Company Commits	Can be used for company commit BPs
Company Forecasts	This is a place holder for a formula you create (optional).
Company Forecasts (Unaccepted)	This is a place holder for a formula you create (optional).
Company Forecasts Variance	This is a place holder for a formula you create (optional).
Company Funding	You can roll up all project funding here.
Company Spends	You can rollup spends BPs here.
Company CBS Funding	This requires additional setting in Funding Sheet; see ***Setting up the Funding Manager*** (on page 699).
Company Manual Funding by CBS	
Company Cost 1-25	

Map cost sheet column to an account code

You can define mapping between a company cost sheet column and a company account code. This allows you to link an account code with project or shell cost data that is rolled up from a project or shell cost sheet into the cost sheet.

Notes:

- You can map a cost column to more than one account code. For example, Column A can be mapped to both Account Code X and Account Code Y. This means that the Total will display for both account codes in that column. However, each account code can be mapped only once (Account Codes X and Y cannot be mapped to any other columns).
- If you remove a column from the asset sheet that is associated with an account code, the mapping will be lost.

To map a cost sheet column to an account code

1) In User Mode, navigate to the company cost sheet.
2) Open the Properties window and click the **Options** tab.
3) Click **Add**. The Add Mapping window opens.
4) Complete the window:
   - **Column Name:** Company Cost Sheet Column drop-down will show list of all columns that are defined on the cost sheet.
   - **Account Code:** Click Select. A picker window opens displaying active codes from the accounts sheet. Select a code and click Open.
   - **Account Name:** This field is populated with the name of the account code chosen in the previous field, as defined in the accounts sheet.
5) Click **OK** to save the Add Mapping window.
6) Click **Add** to add additional mapping if necessary.
7) Click **OK** to save and exit the Properties window.

Once mapping is complete, data from the company cost sheet (which reflects data rolled up from project or shell cost sheets) will be rolled up to the Accounts Sheet under the Projects data source. Only the total value will be rolled up. If the Total value in the cost sheet column changes, the change is reflected on the accounts sheet.

Note: Note: The process used to update the accounts sheet with mapped cost sheet data runs in the background. After mapping a cost column to the accounts sheet, or updating the cost sheet data, the change may not reflect in the accounts sheet immediately.

To modify mapping

In the Properties window, Options tab, select a mapping and click Modify. You can make changes in the Add Mapping window.

To remove mapping

In the Properties window, Options tab, select a mapping and click Remove. This removes the mapping. Data will no longer roll up to the accounts sheet.

Deleting Cost Sheets

This section describes how to manually delete a cost sheet from a shell.

> **Note**: You can delete a cost sheet from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Go to **Company Workspace**, open the project or shell and in the left navigation pane, click **Templates** > **Shells** > **{Shell Type}** > **{Shell Template}**> **Cost Manager** > **Cash Flow**.
2) Select a sheet for deletion.
3) Click **Delete**.

> **Note**: System prompts the user asking to confirm deletion of the cost sheet.

4) Click **Yes** to delete the cost sheet.

Setting up a Company Accounts Sheet

The company accounts sheet is used to track company level accounts information, such as assets, resources, and facility maintenance. It is similar to a project or shell cost sheet, using account codes instead of CBS codes.

Account codes are independent of CBS codes, but are similar in structure format. Company level business processes can be designed in uDesigner to roll up to the accounts sheet (line items are associated with account codes).

How to set up a company accounts sheet

Before you begin: A Company Account code attribute form must be deployed in uDesigner. This is used as the detail form for creating account codes (rows) on the accounts sheet. There is no default form available. The design also includes creating an account code picker, which can be used on BP forms used with the accounts sheet, and for mapping account codes to project or shell cost sheet columns.

Step 1: Deploy the company Account Code attribute form in uDesigner, similar to other design deployment in uDesigner.

Step 2: Grant Accounts Sheet permissions.

Step 3: Create a company level accounts sheet. There is one accounts sheet per company. There is no template for an accounts sheet. After creation, you add columns and rows. The columns can be formulas, they can roll up data from company cost (accounts) business processes, or they can roll up asset data, project or shell cost data, or resource data. Adding rows to the accounts sheet creates the account codes that are used. You need to activate the account codes after adding the rows.

Optional steps: To roll up transactions to the accounts sheet, you must create and set up company-level cost business processes (also known as an account type business process). These BPs use account codes rather than the CBS codes used in project or shell level cost BPs. These are discussed in the Business Process sections. Other options assume that you have configured and set up an Assets Sheet (for rolling up asset data).

Import Company Account Code Attributes Form

To import Company Account Code Attributes form, see ***Importing Configuration Packages*** (on page 303).

Create a company accounts sheet

You can create a, accounts sheet to create new company account codes and capture and view company level cost.

To create an accounts sheet

1) In User Mode, go to the **Company Workspace** tab and click **Cost Manager > Accounts Sheet** in the left Navigator. The Accounts Sheet log opens. You can have one accounts sheet per company.
2) Click **New**. The Properties window opens.
3) Complete the General tab.
   - **Title:** This will be displayed in the log
   - **Description:** Enter an optional description
   - **Display Mode:** Choose Flat or Tree. Account codes are segmented, similar to CBS Codes. You can switch between Flat or Tree at any time. The same data is displayed in Tree or Flat structure.
   - **Default View**: You may choose either or both of the **Default View** checkbox options:
     - **Open in maximized view**: when the sheet is opened, it will automatically open maximized, or full-screen
     - **Open in split mode**: when the sheet is opened, it will automatically open as split (same as clicking the **Split** button)

   If these options are not selected, the accounts sheet will open by default to a size slightly smaller than the Unifier screen, and not split. The window can be resized by clicking the Minimize or Maximize/Restore buttons in the upper right corner of the window, or by dragging the edges of the window to the size that you need.
4) Click **OK**. The new accounts sheet appears in the log.

To open the company accounts sheet

1) In User Mode, go to the **Company Workspace** tab and click **Cost Manager > Accounts Sheet** in the left Navigator.
2) Select the accounts sheet in the log and click **Open**, or double-click the sheet to open it. The Accounts Sheet opens. You can do the following:
   - Add rows (account codes) or columns
   - Resize the window as needed (click and drag the sides)
   - Split the screen vertically, which is useful for viewing columns or entering data while keeping the account codes in view (click the Split button)

Add a column to an accounts sheet

You can add as many columns as necessary to the accounts sheet. There are two default columns: **Company Account Code** and **Company Account Name**. You can add columns for formulas, for transaction data from company level cost business processes (account type), or to roll up data from project or shell cost sheets, asset sheets, or resource actuals.

To add a column

1) Open the accounts sheet.
2) Click the **Columns** button. The Columns log opens.
3) Click **New**. The Column Properties window opens.
4) Complete the columns log as described in the following table.
5) Click **OK**.

In this field:	Do this:
Name	The name is populated with the data source
Data Source	Click the drop-down and choose the data source for the column. Options include: Single Sources: ▸ **Company account type BP**s, listed by name and status. These are company level cost BPs of subtype line items with accounts code or line items with asset code. ▸ **Projects/Shells (CBS)**: Data is rolled up from project or shell cost sheets into the company cost sheet, based on the mapping of cost sheet columns and account code. ▸ **Assets**: Data is rolled up based on the mapping between asset sheet columns and account code. ▸ **Resource Actuals**: Data is rolled up from company level time sheet records. Logical Sources: ▸ **Accounts Code 1 through 25**. You can use these to create a formula or manual entry column. These are reportable.
Entry Method	Select one of the options (options available are dependent on the

	data source; applicable when a Logical data source is selected): ▸ **Manual**: User enters data directly into an accounts sheet cell ▸ **Formula**: Can create a formula from other accounts sheet columns
Data Format	Choose **Currency** (base currency) or **Percentage** (%)
Display Mode	**Show** or **Hide** the column from user view
Column Position After	Select the column after which you want the current column to appear

To roll up project or shell cost sheet data to the accounts sheet

1) Be sure the project or shell cost sheet data rolls up to a company cost sheet column, using a data source Project/Shell Cost 1 through 25 for the cost sheet column.
2) Map the company cost column to an account code. (In the company cost sheet Properties window, Options tab. See ***Map cost sheet column to an account code*** (on page 693).)
3) Roll up the mapped company cost column data to the accounts sheet column, choosing **Projects/Shell** data source. The column will show the Total of the company cost column.

   As project or shell level transactions take place, the company cost column will reflect the changes, which in turn will roll up to the accounts sheet.

To roll up project or shell asset sheet data

1) Map the asset sheet column to an account code. See ***Setting Up the Asset Manager*** (on page 619).
2) Roll up the mapped asset data to the accounts sheet column, choosing **Assets** data source. The column will show the Total of the asset column.

> **Note**: The process used to update the accounts sheet with mapped cost or asset sheet data runs in the background. After mapping a cost or asset column to the accounts sheet, or updating the cost or asset sheet data, the change may not be reflected in the accounts sheet immediately.

Adding and Managing Accounts Sheet Rows

Regardless of the order you add or import rows, they are automatically sorted alphanumerically by account code.

Add rows to the accounts sheet

You can add account codes to the accounts sheet manually or by importing.

To add a row to the accounts sheet manually

1) Open the Accounts Sheet.
2) Click the **Add Rows** button.

3) Complete the **Account Code Details** form. This is the attribute form will vary based on your company's design. Account codes are built like CBS codes, from segments that can be text fields or pulldown menus.
4) Click **OK**.

Delete accounts sheet rows

You cannot delete a row if it contains line item or rolled-up data, or if the code is mapped to a cost or asset sheet column.

To delete rows from the accounts sheet

1) Open the accounts sheet.
2) If you are using a tree structure, click the plus (**+**) next to segment rows (shaded blue) to view account code rows.
3) Select a checkbox next to the account code to be deleted.
4) Click the **Delete Rows** button.
5) Click **Yes** to confirm.

Import account sheet rows

Step 1: Export template

a) Open the accounts sheet.
b) Click the **Export** button and choose **Account Codes**.
c) In the File Download window, click **Save**. Enter a file name, browse to where you want to save the file, and click Save.

Step 2: Edit Template in Excel

a) Open the CSV file you just exported.
b) If the accounts sheet already contains rows, they will be listed. Note the format and structure.
c) Delete any existing rows.
d) Enter new account codes into the columns and save the file.

Step 3: Import the CSV file

a) On the Account Sheet toolbar, click Import and choose Account Codes.
b) In the Upload window, browse to and add the CSV file.
c) Click **OK**. After the import, the accounts sheet will show the new rows. Rows are automatically alphabetically by account code (adjusts for tree or flat structure).

Activate an account code

If an account code is inactive it should still be displayed on accounts sheet but should not be available through an account code picker.

To activate or deactivate an account code

1) Open the Accounts Sheet.
2) Click the **Account Status** button. The Account Code Status window opens.

3) Select one or more account codes and click **Activate** or **Deactivate**.

Modify accounts sheet default view

The accounts sheet Properties window offers two options regarding how the sheet will appear when it is first opened. These options control how the sheet opens for all users.

To modify the accounts sheet default view

1) Open the accounts sheet Properties window (select the sheet and click the **Properties** button from the log toolbar, or open the sheet and click **File > Properties**).
2) On the **General** tab, you may choose either or both of the **Default View** checkbox options:
   - **Open in maximized view**: when the accounts sheet is opened, it will automatically open maximized, or full-screen
   - **Open in split mode**: when the sheet is opened, it will automatically open as split (same as clicking the **Split** button)

   If these options are not selected, the accounts sheet will open by default to a size slightly smaller than the Unifier screen, and not split.

Setting up the Funding Manager

The Funding Manager helps you to keep track of where project or shell funding comes from and how it is being spent. The Funding Manager is available in standard projects and CBS shells. Use the Project or Shell Funding sheet to specify the appropriation and assignment of funds from each funding source. You can automate fund appropriation and assignment when used with cost business processes.

Sometimes, it may be necessary to allocate specific funds to use on a particular contract, and have a means to control consumption on the invoices created against that contract. This can be done through commitment-level funding. A commitment funding sheet is created for each base commit that has been designed for commitment funding. You allocate funds from the project or shell funding sheet to the commitment funding sheet. This sheet works in conjunction with the Schedule of Values (SOV) sheet to track base commit and change commit line items and balances.

Company Funding Sheet vs. Project or Shell Funding Sheets vs. Commitment Funding Sheets

The first step to setting up funding is to create and set up a company funding sheet, where individual funding sources are maintained.

For example, a corporation's funding sources may include different types of corporate accounts. For municipal or educational facilities, funds may come from bond measures, grants, donations or other sources. All of these funding sources will be listed and tracked on the company funding sheet. As funds are consumed via business processes or manually in individual project or shells, this data is rolled up to the company funding sheet.

Project or shell funding sheets track how your company’s funding is being spent on each project or shell. It tracks individual transactions, which are rolled up to the company funding sheet. All project or shell funding sheets must be created based on a funding template.

If you are using commitment funding, you will start with a commitment funding template, which is used to create the commitment funding structure within a project or shell. As base commits (that are designed for commitment funding in uDesigner) are routed and approved, a commitment funding sheet is created, based on this structure, for each base commit record. This sheet works with the SOV sheet to track and control funding of each SOV line.

How to set up the Funding Manager

The following is an overview of the steps needed to set up funding for use in projects and shells, plus the steps needed to set up the optional commitment level funding. Details for each step are in the sections that follow, unless otherwise noted.

Setting up company and project/shell funding

Before you begin. The fund attribute form can be designed in uDesigner. This will be used as the Fund Details window when adding new funds to the company funding sheet, or viewing fund properties. If your company does not design a fund attribute form, a simple default form is used.

Import and set up fund business processes. You can use business processes for fund allocations, fund assignment (also known as consumption; enabled on spends type business processes), and fund credits (also enabled on spends business processes). This step can be done at any point in this general procedure. Be sure you know which funding business processes you will be using for the project or shell before defining funding rules on the project or shell funding sheet.

Step 1: Import and deploy the fund attribute form. Once imported, the fund attribute form becomes the Fund Details window in Unifier, used to create and manage fund codes in the company funding sheet. When designing the form, you can also design the fund picker, which is used to add funds to business processes and project/shell funding sheets, as well as "Find" on the picker. This is an optional step. If you do not create a fund attribute form, a default fund code form and fund picker will be used.

Step 2: Create and set up the Company Funding Sheet (User Mode). You define the funds in the company funding sheet, which can then be used for funding project or shells. Only one company-level funding may be created per company. All project or shell funding sheets refer to the company funding sheet.

Step 3: Create and set up Project/Shell Funding Template (Administration Mode). The funding template is used to create project or shell funding sheets.

Step 4: Create and set up the Project/Shell Funding Sheet (User Mode). The project or shell funding sheet is based on the funding template. (You can also define the project/shell funding sheet in a project or shell template.) The funding sources available for the project or shell are defined in the company funding sheet.

Step 5: Define funding assignment rules. Funding assignment rules can be defined in the project/shell funding sheet or the funding template (or both). You can also determine the order in which to consume funds if you will be using automatic fund assignment from business processes. (This step can be done any time after creating the funding template. If you define assignment rules in a template, they will be carried over to the sheets created from them.)

Additional steps: Create funding rules in the rules engine. You can create funding rules in the rules engine that can help you manage your funds and fund balances. The most common rule is to keep your company fund balances from becoming less than zero. Configure permissions. As you create funding sheets and set up funding business processes, remember to configure the permissions to go with them. Refer to the *Unifier Reference Guide* for funding permissions.

Setting up commitment level funding

Commitment level funding is optional. To set it up, first set up funding in the project or shell, then follow these additional steps.

Commitment funding works in conjunction with general spends and payment applications SOV sheets.

Before you begin. Be sure that the project/shell funding has been set up, with funds allocated and available on the project/shell funding sheet. Data sources are available for project/shell funding sheets (and company funding sheets) to track funding that is assigned for specific base commits. Also, be sure you have added the data source "Scheduled Value" to the SOV structure for the project or shell. Commitment funding uses the SOV to track base commit and change commit amounts, and uses the Scheduled Value column to track remaining balances.

Import and set up business processes for commitment funding. In addition to business processes that are used for project/shell funding, you can design business processes for use with commitment funding. In uDesigner, commitment funding is enabled on the base commit (and linked change commit); automatic generation of an SOV must also be enabled. Then, the ability to create (and later access) the commitment funding sheet can be enabled on the form. Be sure the spends business process that is linked to the base commit has been enabled to consume funding.

Step 1: Create and set up Commitment Funding Template (Administration Mode). This template is used to create a commitment funding structures in the project or shell, which in turn is used to create the individual commitment funding sheets for each base commit record. You can add columns to the template, but not rows.

Step 2: Define funding assignment rules. This is done in the Assignment tab of the Properties window. Assignment rules can be defined in the commitment funding template, structure or sheets. (This step can be done any time after creating the funding or commitment funding template. If you define assignment rules in a template, they will be carried over to the structure and sheets created from them.)

Step 3: Create Commitment Funding Sheet Structure (User Mode). Structures are created at the project level in user mode from a commitment funding template. When commitment funding sheets are created from base commit records, this default structure is used. You can also create a commitment funding structure in a project or shell template.

Step 4: Create individual commitment funding sheets. This is done automatically the first time you click the Funding button on a base commit business process form (this button becomes available on specific steps as designed in uDesigner). After creation, the commitment funding sheet is available for viewing or modification by clicking the Funding button on the base commit or associated change commits, or from the Commitment Funding log itself.

Additional steps: Configure permissions. Module permissions must be granted to the commitment funding template, to the commitment funding sheet in a project or shell template (if using), to commitment funding sheet in a project or shell (in order for the node to be visible). In addition, record level permission must be granted to individual commitment funding sheets. By default, the owner of the base commit will have permissions to the sheet. Additional users must be granted view or edit permissions. Refer to the *Unifier Reference Guide* for general funding permissions. Sheet permissions are granted User mode. **Additional assignment details.** After the commitment funding sheet and SOV sheet are created, additional funding assignment details can be defined on the Fund Assignment window (accessed from the SOV sheet or commitment funding sheet).

Importing Fund Attribute Form

The Fund Details form can be configured by creating a Fund Attribute form in uDesigner. With the import of this attribute form, you are also importing designs for the fund picker, which is used to add funds to business processes and project/shell funding sheets, as well as "Find" on the picker. If you do not create a fund attribute form, a default fund code form and fund picker will be used.

Only one fund attribute form may be created and imported per company.

Notes:

- Use caution when modifying and re-importing an attribute form. For example, if you make changes to a data definition, such as Fund Category after it is being used in the funding sheet, the system may not see the new data definition and will produce an error.
- Oracle strongly recommends that you use the **Development** environment to create your uDesigner business processes and attribute forms before deploying to the **Test**/**Production** environment.

To import a fund attribute form into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Creating a Company Funding Sheet

The Company Funding Sheet tracks all sources of funding across all projects or CBS shells. You create only one sheet per company. Funding sources that are made available at project or shell sheet level or commitment level are rolled up to the company sheet, which maintains the overall fund information.

Once created, the company funding sheet can be edited, but not deleted. The company funding sheet must be created before creating individual project or shell funding sheets.

To create the company funding sheet

1) In User Mode, go to the **Company Workspace** tab and click **Cost Manager > Funding** in the left Navigator. The Company Funding Log opens.
2) Click **New**. The Properties window opens.

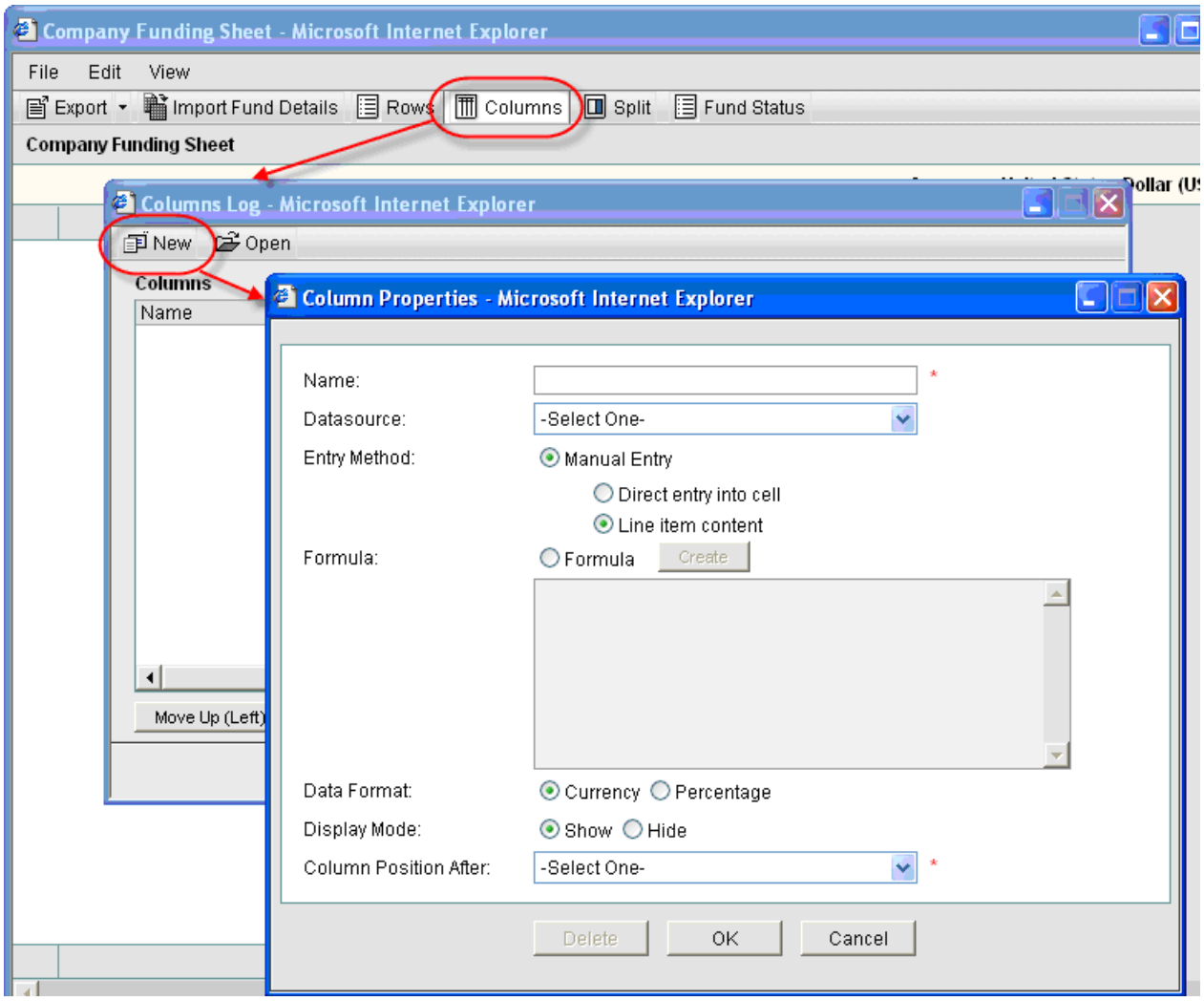
3) Enter a **Title** and **Description**.
4) For **Display Mode**, choose **Flat** (no indenting of rows) or **Tree** (allows indented, nested rows).
5) Click **OK**. The funding sheet is listed in the Company Funding log.

Add columns to the company funding sheet

The columns on the company funding sheet are used to track project/shell level funding, as well as commitment level funding if you are using it, and keep track of fund balances.

To add a column to the company funding sheet

1) From the Company **Funding** log, select the company funding sheet and click **Open** (or double-click on the company funding sheet). The Company Funding Sheet window opens.
2) Click the **Columns** button. The Column Log window opens.
3) Click **New**. The Column Properties window opens. Complete the Properties window as described in the following table.
4) Click **OK** to add the new column to the company funding sheet.



In this field:	Do this:
Name	The name you choose will appear as the column header. You may manually enter a column name, or, if you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	All columns must be associated with a data source. The data source that you choose will determine which of the following options are available. The types of Data sources available are as follow. ▸ **Single Sources**: These values roll up from a single, defined source, such as a business process or a system defined source. ▸ **Logical Sources**: These include user-defined Manual Entry or Formula columns.
Single Source	Data sources that contain funding sources and consumption information; that is, Fund subtype of Cost business processes, which allocate funding, Spends business processes that consume funding, and Commit business processes that trigger commitment funding, if used. ▸ **Business Processes**: List of cost-type business processes that include funding data definitions. ▸ **Project/Shell Funding**: Sum of all funding sources at project or shell level for each project or shell, as rolled up from each individual project or shell funding sheet. The information that gets rolled up to this column is dependent on the project or shell funding sheet setup for each project or shell. ▸ **CBS Funding**: Sum of all funding sources at CBS level for each project or shell, rolled up from each individual project or shell funding sheet. The information that gets rolled up to this column is dependent on the project or shell funding sheet setup for each project or shell. ▸ **Manual Funding by project/shell**: Sum of all project or shell-level funds that are allocated at project or shell level manually. ▸ **Manual Funding by CBS**: Sum of all funds that are allocated at CBS level manually. ▸ **Commitment Funding**: Sum of all funds that are allocated at the commitment level (if used) for each project or shell. ▸ **Records Funded at Project/Shell Level**: Sum of all records that are funded at project or shell level. These are records that have already ended their workflow or hit terminal status. ▸ **Records Funded at CBS Level**: Sum of all records that are funded at CBS Level. These are records that have already

	ended their workflow or hit terminal status. ▸ **Records Funded at Commitment Level**: Sum of all records that are funded at the commitment level (spends BPs that are linked to base commits enabled for commitment funding). These are records that have already ended their workflow or hit terminal status. ▸ **Transient Records Funded at CBS Level**: Sum of all records that are funded at CBS Level. These are records that are currently in process. ▸ **Transient Records Funded at Project Level**: Sum of all records that are funded at project or shell level. These are records that are currently in process. ▸ **Transient Records Funded at Commitment Level**: Sum of all in-process records that are funded at the commitment level. ▸ **Fund1** to **Fund25**: Generic data sources that can be used for manual entry or formula columns to make the values reportable.
Logical Sources	Logical sources include the following data sources. ▸ **Company Funding**: This is commonly the column to use to manually enter the starting amount for each fund. ▸ Company **Fund1** to **Fund25**: Generic data sources that can be used for manual entry or formula columns to make the values reportable.
Entry Method	The following options are applicable for logical data sources. ▸ **Manual Entry**: Choose Direct Entry into Cell to allow entry directly into the cell, or Line Item Content to allow data entry through a line item window. ▸ **Formula**: Values are calculated based on a specified formula entered for the column. Formulas can include the values of other columns. Click the Create button to create the formula.
Data Format	The following options are applicable for Manual Entry or Formula columns. ▸ **Currency**: right-aligns column contents and includes a currency symbol, a thousands separator and two decimal places ▸ **Percentage**: right-aligns the contents and includes a percentage symbol
Display Mode	The following options refer to whether the column is displayed on the sheet. ▸ **Show**: Choose this option to allow users to view this column. ▸ **Hide**: Hidden columns are active but not displayed and can be accessed by users with "create" permission on the

	funding sheet.
Total	These options determine what will appear in the "Total" (bottom) row for the column: ▸ **Blank**: The total of this column is not applicable and will not appear on the sheet. Choose this column for percentage columns and other columns where it does not make sense to display the sum total. ▸ **Sum of All Rows**: The sum total of the column values is displayed. ▸ **Use Formula Definition**: For formula columns; the formula will be applied to the "Total" row in the same way it is applied to other rows in the column.
Column Position After	The new column will be inserted after the column selected.

Note: As funding is consumed from individual funds, the new balance will not be reflected on the company funding sheet by default. You can track your fund balances by adding columns to roll up funding assignments from business process or by manual assignments from the project/shell funding sheets, and commitment funding sheets if used, then adding a formula column to keep track of the balance. You can also use the rules engine to create a rule to keep this balance from going less than zero (or another amount).

Add rows (Funds) to the company funding sheet

Each row of a Company Funding Sheet represents an individual source of funds. The funds defined here are used in individual project or shell funding sheets.

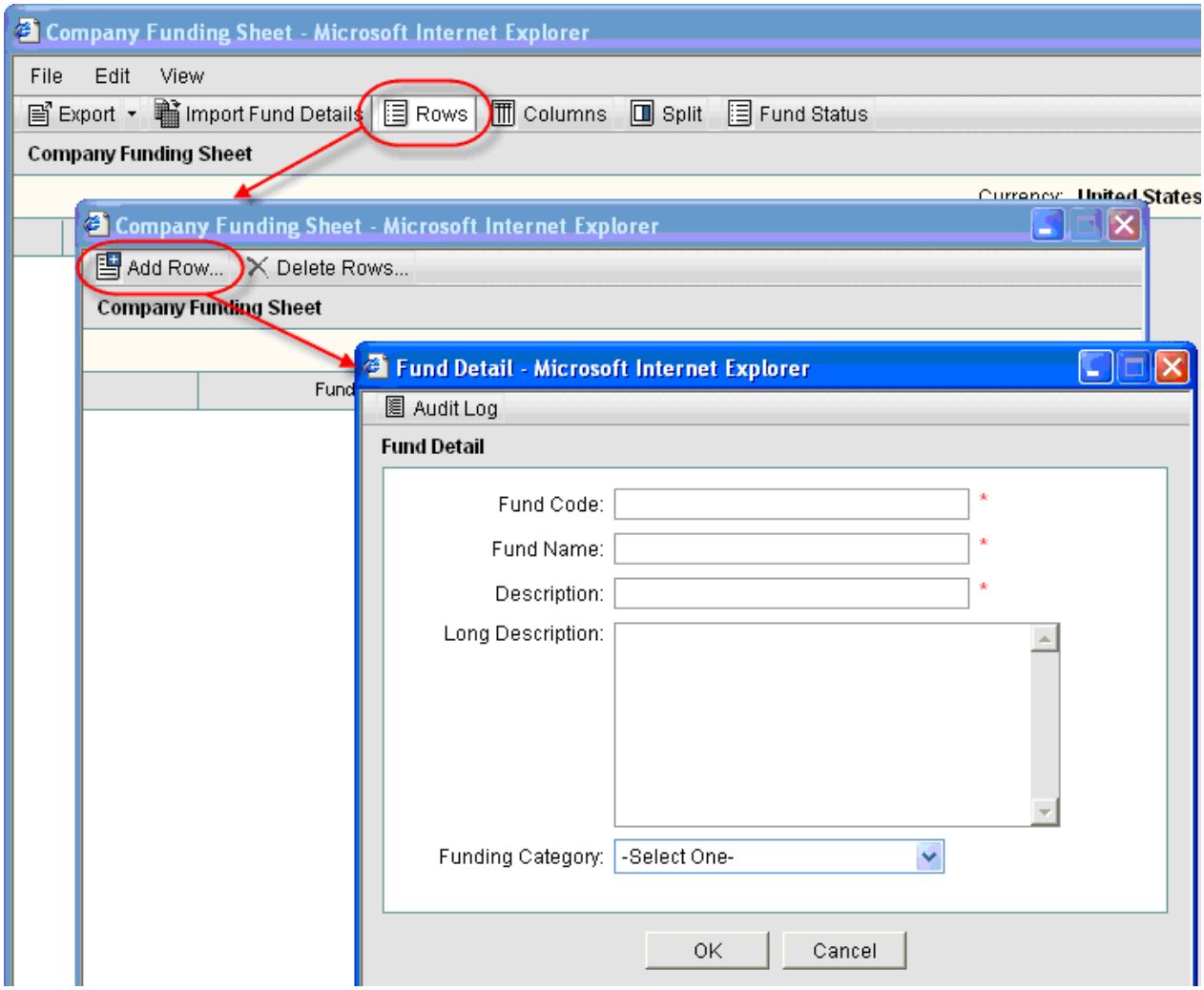
Note: Once fund assignments have been made against them on project or shell funding sheets, you will not be able to edit company funding sheet rows.

To add company funding sheet rows (funds)

1) From the Company Funding Sheet, click **Rows**.
2) Click **Add Row**. The Fund Details window opens. If you have imported a Fund Attribute form, this will be displayed as the Fund Details window.
3) Complete the Fund Details window.

   The table below describes the fields on the default Fund Details window. If your company has imported a Fund Attribute form, the fields you see may differ greatly.

4) Click **OK**. The fund appears as a row on the Funding Sheet in alphabetical order.



To edit a row

1) From the Funding Sheet, click on the **Rows** button.
2) Click on a row title. The Fund Detail window opens.
3) Make changes and click **OK**.

To delete a row

1) From the Funding Sheet, click on the **Rows** button.
2) Click the selection box next to the row or rows to be deleted.
3) Click the **Delete Rows** button. The selected rows will be deleted.
4) Click **Close** to close the window and refresh the Funding Sheet window.

Creating a Project or Shell Funding Sheet Template

Funding templates are created and setup in the Templates node, and are used to create individual project or shell funding sheets. They can also be used to create a funding sheet in a project or shell template.

Setting up the funding template consists of adding columns, which correspond to the data sources (e.g., business process transactions, formulas, values you enter manually, etc.) that you wish to track for each funding source. It can also include adding rows (funds).

You can specify fund assignment rules in the template or individual project/shell funding sheets. See ***Defining Fund Assignment Options for Project/Shell Funding*** (on page 714).

To create a new funding sheet template

1) In Administration mode, go to the **Company Workspace** tab and click **Templates > Funding > Funding Shee**t in the left Navigator.
2) Click the **New** button. The Properties window opens.
3) Enter a **Title** and **Description**.
4) For **Display Mode**, choose **Flat** (no indenting of rows) or **Tree** (allows indented, nested rows).
5) Click **OK**. The template is listed in the log.

   After creating the funding template, you can open the sheet and define columns and add funds (rows).

Add a column to the funding template (or project/shell funding sheet)

These procedures are applicable to funding sheet templates, funding sheets, and funding sheets created in project or shell templates.

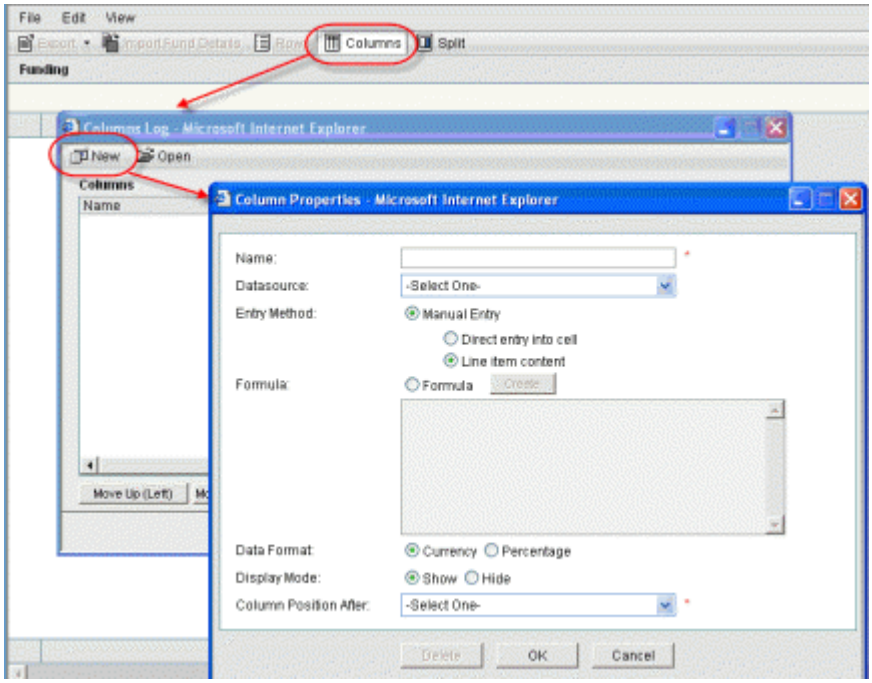
Funding columns specify the data sources (business process transactions, formulas, values entered manually, etc.) that will be displayed on the project or shell funding sheet. Default columns on funding sheet are Fund Code and Fund Name. If a Fund Attribute form has been imported, in which the label of Fund Code data element and Fund Name data element were modified, then the new labels will be displayed as column headers.

> **Note**: Some project funding columns require assignment information at the project level and cannot be created in the template (for example, Consumed Funds, CBS Funding).

To add a funding column

1) Open the funding sheet or template:
2) Open the funding template and click the **Columns** button. The Column Log window opens, displaying the list of existing columns.
3) Click **New**. The Column Properties window opens.
4) Complete the Column Properties window as described in the table below.

5) Click **OK** to add the new column.



In this field:	Do this:
Name	The name you choose will appear as the column header. You may manually enter a column name, or, if you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	All columns must be associated with a data source. The data source that you choose will determine which of the following options are available. The types of Data sources available are: **Single Sources**: These values roll up from other sources. These include cost type business processes, some pre-defined cost columns. **Logical Sources**: These include user-defined Manual Entry or Formula columns.
Single Source	Data sources that contain funding sources and consumption information; that is, Fund subtype of Cost business processes, which allocate funding, Spends business processes that consume funding, and Commit business processes that trigger commitment funding, if used. ▸ **Business Processes**: List of cost-type business processes that include funding data definitions. ▸ **Manual Funding by CBS**: Sum of all funds that are allocated at CBS level manually. ▸ **Commitment Funding**: If commitment funding is used, this datasource tracks funds that are allocated across base commit

	and change commit business process records enabled for commitment funding. Reflects sum of Funding Across All Funds and Funding By Discrete Funds datasources on commitment funding sheets. Click the link to view cell details. ▸ **Records Funded at Project/Shell Level**: Sum of all records that are funded at project or shell level. These are records that have already ended their workflow or hit terminal status. ▸ **Records Funded at CBS Level**: Sum of all records that are funded at CBS Level. These are records that have already ended their workflow or hit terminal status. ▸ **Records Funded at Commitment Level**: Sum of all records that are funded at the commitment level (spends BPs that are linked to base commits enabled for commitment funding). These are records that have already ended their workflow or hit terminal status. ▸ **Transient Records Funded at CBS Level**: Sum of all records that are funded at CBS Level. These are records that are currently in process. ▸ **Transient Records Funded at Project Level**: Sum of all records that are funded at project or shell level. These are records that are currently in process. ▸ **Transient Records Funded at Commitment Level**: Sum of all in-process records that are funded at the commitment level.
Logical Sources	Logical sources include: ▸ **Project/Shell Funding**: Sum of all funding sources at project or shell level. The information that gets rolled up to this data source is dependent on project or shell Funding Sheet setup for each project or shell. ▸ **CBS Funding**: Sum of all funding sources at CBS level. The information that gets rolled up to this data source is dependent on project or shell Funding Sheet setup for each project or shell. ▸ **Manual Funding by Project/Shell**: Sum of all funds that are allocated at project or shell level manually. ▸ **Fund1 to Fund25**: Generic data sources that can be used for manual entry columns to make the values reportable.
Entry Method	This is applicable for logical data sources. **Manual Entry**: Choose Direct Entry into Cell to allow entry directly into the cell, or Line Item Content to allow data entry through a line item window. **Formula**: Values are calculated based on a specified formula entered for the column. Formulas can include the values of other columns. Click the Create button to create the formula.
Data Format	Applicable for Manual Entry or Formula columns: **Currency**: right-aligns column contents and includes a currency

	symbol, a thousands separator and two decimal places **Percentage**: right-aligns the contents and includes a percentage symbol
Display Mode	Refers to whether the column is displayed on the sheet. **Show**: This is the default choice. This indicates that column will display by default on the funding sheet to all users with at least "view" permission for the funding sheet. **Hide**: Hidden columns are active but not displayed and can be accessed by users with "create" permission on the funding sheet.
Total	Determines what will display in the "Total" (bottom) row for the column: **Blank**: The total of this column is not applicable and will not display on the cost sheet. Choose this column for percentage columns and other columns where it does not make sense to display the sum total. **Sum of All Rows**: The sum total of the column values is displayed. **Use Formula Definition**: For formula columns; the formula will be applied to the "Total" row in the same way it is applied to other rows in the column.
Column Position After	The new column will be inserted after the column selected

Add a funding column to project or shell cost sheet

Cost sheets can show fund related information as part of Funding Manager solution. The following section discusses funding columns you can add to the project or shell cost sheet.

To add a funding column to the Project/Shell Cost Sheet

1) Open the **Cost Sheet** cost sheet and click the **Columns** button. The Column Log window opens.
2) Click **New**. The Column Properties window opens.
3) Complete the Properties window. For Data Source, choose from the following:
   - **Single sources**: Data sources that contain fund related information:
     - **Funded Records**: Sum of all Records that are funded at CBS Level.
     - **Unfunded Records**: Sum of all Records that are not funded at CBS Level.
     - **Manual Funding by CBS Level**: Sum of all funding sources that are allocated at CBS level manually.
   - **Logical sources**: Data sources that are available at project or shell level:
     - **CBS Funding**: Sum of all funding sources at CBS level. The information that gets rolled up to this data source is dependent on Project/Shell Funding Sheet setup for each project or shell.

> **Note**: You cannot select this data source unless a funding source is selected under "Processes Contributing Assignable Funds" for CBS level. This is located under Project Funding sheet > Properties > Assignment Tab.

4) Click **OK** to add the new funding column to the project or shell cost sheet.

To edit a column

1) From the Columns Log window, select a column and click **Open**. The Column Properties window opens.
2) Make edits as necessary and click **OK**.

> **Note**: Changing entry methods. Although it is possible to change the entry methods for a column (for example, from "Line item content" to "Direct entry into cell"), use caution when doing so if you have already entered values in the column cells. For example, if you change from line item entry to direct cell entry, the Amount value shown in the cell will appear correctly, but will be an editable direct entry amount, and detailed line item information will be lost.

To move a column

From the Columns Log window, select a column to move, then click **Move Up (Left)** or **Move Down (Right)**. The order in which the columns appear in the Log window is the order (from left to right) that they appear on the sheet.

To delete a column

Select a column from the Columns Log and click **Open** to open the Column Properties window, and then click **Delete**. The column will be deleted.

> **Note**: If the column is being used in a formula in another column, you must remove the column from the formula before you can delete it. If the column contains a cell with line item data, you must first remove each line item before it can be deleted

Add rows to the funding template (or project/shell funding sheet)

These procedures are applicable to funding sheet templates, funding sheets, and funding sheets created in project or shell templates.

Each row of a project or shell funding sheet represents an individual source of funds. The funds added here are funds that are active under the company funding sheet.

> **Note**: Once fund assignments have been made against them, you will not be able to edit project or shell funding sheet rows. To view the status of a fund, click the **Fund Status** button on the tool bar.

To add rows (funds) to the funding template or project/shell funding sheet)

1) Open the funding sheet or template.
2) Click **Rows**, and then click **Add Row**. The Fund Detail window opens. If you have imported a Fund Attribute form, a customized Fund Detail window will open.
3) Select a fund from the fund picker (or Fund Source field).

   You can search for a specific fund in the fund picker by clicking the Find button and opening the Find form. Enter search criteria and click Search. This limits the number of funds that are displayed to those that match the search criteria.
4) You can search for a specific fund in the fund picker:
   a. Click the Find button. The Find window opens. The window that opens will depend on the design in uDesigner.
      - If an attribute form is not defined, the default Find window will allow you to search by Fund Code or Fund Name.
      - If an attribute form is defined, the Find window can also be designed in uDesigner, and you may have additional fields to search by.
   b. Enter search criteria and click Search. This limits the number of funds that are displayed to those that match the search criteria.
5) Click **OK**. The fund appears as a row on the Funding Sheet. Funds are displayed in alphabetical order on funding sheet.
6) To view fund details click on a fund under fund code column. If you import a Fund Attribute form then you will see customized detail form instead of a generic fund detail form.

Creating a Project/Shell Funding Sheet

The Project/Shell Funding Sheet tracks how funding is being allocated and consumed at the project or shell level. Project or shell funding sheets work in conjunction with the company funding sheet. Allocating funding sources at project or shell level can be done manually, or through a business processes.

A Funding Template and Company Funding Sheet must be complete before you can create a project or shell Funding Sheet.

To create the project or shell funding sheet

1) In User Mode, open the project and click **Cost Manager>Funding** in the left Navigator. The Project/Shell Funding Log opens.
2) Click **New**. The Select Template window opens.
3) Select a template and click **OK**. Click **Yes** to confirm. The Project/Shell Funding Sheet displays in the log. You can use the funding sheet as it is or set it up to meet the needs of the project or shell.

Add columns to the project/shell funding sheet

Columns are added to a Project/Shell Funding Sheet in the same way as they are added to a Funding Template. See ***Add a column to the funding template (or project/shell funding sheet)*** (on page 708).

Add project or shell funds (rows)

Rows are added to a Project/Shell Funding Sheet in the same way as they are added to a funding template. ***Add rows to the funding template (or project/shell funding sheet)*** (on page 712)

To edit a row

1) From the Funding Sheet, click the **Rows** button.
2) Click a row title. The Fund Detail window opens.
3) Make changes and click **OK**.

To delete a row

1) From the Funding Sheet, click on the **Rows** button.
2) Click the selection box next to the row or rows to be deleted.
3) Click the **Delete Rows** button. The selected rows will be deleted.
4) Click **Close** to close the window and refresh the funding sheet window.

Defining Fund Assignment Options for Project/Shell Funding

The following options are available as part of assignment rules at project or shell level and CBS level. These can be defined in a funding template, or individual project/shell funding sheets.

Project and CBS Level: Specify the sources of funds for this project or shell, either manual or via fund appropriation business processes.

Assignment Levels and Rules: For each funding business process (and each status) that has been set up for the project or shell, you specify manual, Auto Order, or Auto Ratio:

For details, see the following procedures.

Set up funding assignment options

After you create a project or shell funding sheet, you can set up assignment options. This includes specifying whether manual assignment is allowed; defining the business processes that can be used to assign funds to project or shells or to specific CBS codes; and defining assignment levels.

Project Level and CBS Level: Specify how funds can be added for this project or shell. This can be Manual (appropriate funds manually from the company funding sheet, and/or through funding appropriation business processes that appropriate company funds for the project or shell.

You can define funding appropriations at the project level (not associated with specific CBS codes), and at the CBS level (funding is specified per CBS code). You can "mix and match" for each project, with some business processes using project level funding, and others CBS level. Manual fund appropriations can be done at both levels.

Assignment Levels and Rules: For each funding business process that has been set up for the project or shell, you specify manual, Auto Order, or Auto Ratio. You also choose to assign funds at the Project Level (funding is consumed based on the total of the spends business process, providing greater flexibility for fund assignment), or CBS Level (funding is consumed per line item of a spends business process, which provides greater control over how funds are spent on each item.)

- **Manual**: Funds can be manually assigned. As spends business processes (e.g., invoices or payment applications) are routed and reach specified statuses, the amounts to be funded are collected under the Unassigned total on the funding sheet. Funds are assigned manually to these spends records.
- **Auto Order**: Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund order, which is defined on the funding sheet by clicking the Fund Assignment Order button. When funds are consumed on one fund, then the next funding source is used for funding. Once all funds are consumed, remaining spends are collected under Unassigned.
- **Auto Ratio**: Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is automatically calculated based on current fund levels. Once all funds are consumed, remaining spends are collected under Unassigned.

> **Note**: Be sure you have imported and set up any business processes you will be using for fund appropriation and assignment in the project or shell before setting assignment rules

To set up fund assignment rules

1) Open the project or shell funding sheet.
2) Select the template in the log and click the **Properties** button.
3) Click the **Assignment** tab.
4) Complete the window as described in the following table.
5) Click **OK**.

In this field:	Do this:
Funding Assignment	Select the Funding Assignments sources. The sources can be at the CBS level, where funds are assigned to specific CBS codes, or project or shell level, which allows project or shell level funding without assigning funds to specific CBS codes.
Project/Shell Level	Click Add to add project or shell level sources. Options include: Manual: Allows manual entry of project or shell fund assignments on the sheet Business Processes: Any cost type business process that is created with sub-type Line Items with Fund Code and Classification as Generic.
CBS Level	Click Add to add CBS level sources. Options include: Manual: Allows manual entry of CBS level fund assignments on the

	sheet Business Processes: Any cost type business process that is created with sub-type Line Items with both CBS Code and Fund Code and Classification as Generic.
Assignment Levels	Allows you to set fund assignment rule for each spend-type business process that is configured in your project or shell. The assignment level will only show those spend type business processes that consume funds. This option is available while designing spend type business process in uDesigner.
Assignment Rules	Click the drop-down list and select a project- or shell-level or CBS-level rule. **Project /Shell Level:** Manual (Assign by BP Record Total): All spends are collected as Unassigned. These spends should be assigned manually to one or more funds at project or shell record Level. Manual (Assign by BP Line Item): All spends are collected as Unassigned. These spends should be assigned manually to one or more funds at the project or shell line item. Auto Order (Assign by BP Record Total): Funding sources are arranged in a prescribed order, and spend are assigned in that order. The assignment order is defined under project or shell Funding Sheet Fund Assignment Order Fund Assignment Order Window. Auto Order (Assign by BP Line Item): Funding sources are arranged in a prescribed order, and spend are assigned in that order at line item level. The assignment order is defined under project or shell Funding Sheet Fund Assignment Order Fund Assignment Order Window. Auto Ratio (Assign by BP Record Total): Funding sources are proportionally consumed until fully depleted. The fund level itself automatically defines the ratio. Once the funds are consumed, remaining spends are collected as Unassigned. Auto Ratio (Assign by BP Line Item): Funding sources are proportionally consumed until fully depleted at line item level. The fund level itself automatically defines the ratio. Once the funds are consumed, remaining spends are collected as Unassigned. **CBS Level:** Manual: All spends are collected as Unassigned, and are manually assigned to one or more funds at CBS level. Auto Order: Funding sources assigned to that CBS are arranged in a prescribed order, and spends are assigned in that order. Once all funds are consumed, remaining spends are collected as Unassigned. Fund Assignment Order for CBS can be defined under Cost Sheet>Fund Assignment Order>Fund Assignment Order Window.

	Auto Ratio: Funding sources assigned to that CBS are proportionally consumed until fully depleted. The fund level itself automatically defines the ratio. Once all funds are consumed, remaining spends are collected as Unassigned. SOV Auto Order: This option indicates that the assignment should be at SOV level using Auto order option. The order assignment will be defined under SOV>Fund Assignment Window. SOV Auto Ratio: This option indicates that the assignment should be at SOV level using Auto ratio option. The ratio will be defined under SOV>Fund Assignment Window.

Set fund assignment status and order

You can control whether a fund is available when assigning funds to spend by activating or deactivating the fund at the project or shell level. Fund assignment order is required if you decide to consume funds automatically. You can also view the Fund order. This will be the order that will be used while assigning funds with Auto Order option.

Funds can be automatically consumed at project or shell level by following fund order defined under Fund Assignment Order window on project or shell Funding Sheet.

To set the fund assignment status and assignment order

1) Open the project or shell Funding Sheet.
2) Click **Fund Assignment Order** button on the toolbar. The Fund Assignment Order window opens showing whether funds are active or inactive.
3) Select a fund in the table, and click **Activate** or **Deactivate**. Deactivating a fund prevents it from being available when assigning funds to spend.
4) If you want to change the assignment order, select a fund and click **Move Up** or **Move Down**.
5) Click **Close** to exit the window.

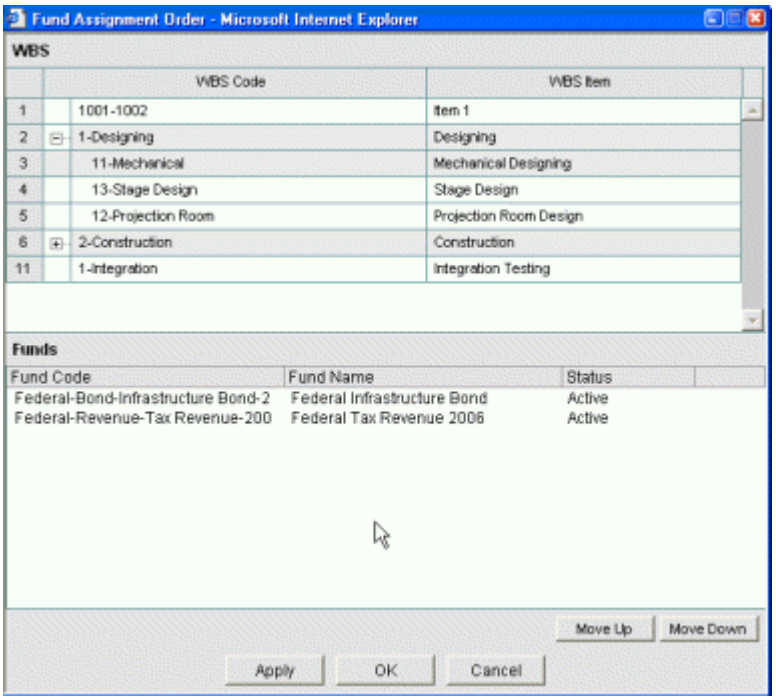
Set fund assignment order at the CBS level

The Unassigned (CBS Level) link on the Project/Shell Funding Sheet displays the total of funds at the CBS level. Funds can be automatically consumed at CBS level by following fund order defined for each CBS Code from the Fund Assignment Order window on the Project/Shell Cost Sheet.

To set fund assignment order at CBS Level

1) Open the **Project/Shell Cost Sheet**.

2) Click the **Fund Assignment Order** button on the toolbar. The Fund Assignment Order window opens.



3) Select a **CBS code** from the upper pane. A list of funds that are available for this CBS will be displayed on the bottom pane.

   The bottom pane will also display assignment status of funds. You can modify assignment status of a fund from Project Funding Sheet > Fund Assignment Order window. Funds with Inactive status will not be used as part of consumption process.

4) Select a fund and click **Move Up** or **Move Down** button to change fund order.

5) If you have defined **Breakdowns** for a CBS code, then select breakdown to view funds.

Set fund assignment order at SOV level

Funds can be automatically consumed at the SOV level by following fund order or fund ratio defined for each CBS under Fund Assignment Order window on SOV Sheet. You have ability to defined order or ratio for each SOV.

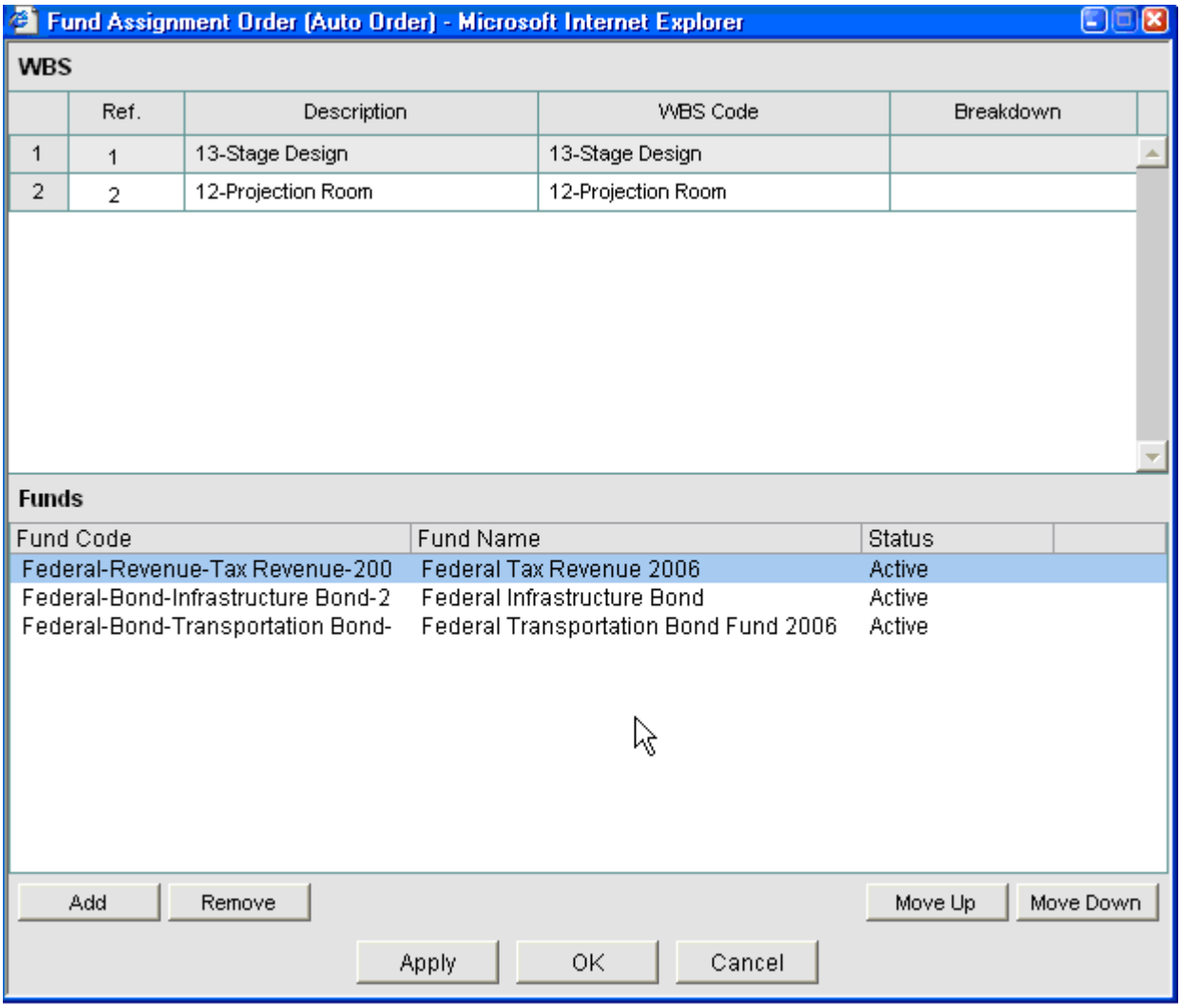
> **Note**: Fund assignment details can be set on the SOV sheet when you are doing project/shell level funding as well as commitment level funding. The following procedure discusses how to do SOV Auto Order at the project/shell level. If the base commit that created the SOV has been enabled for commitment funding, then fund assignment is done at the commitment level.

To set fund assignment order at SOV Level: For CBS—SOV Auto Order

1) Open the SOV Sheet.

2) Click the **Fund Assignment** button on the toolbar. The Fund Assignment window opens.

You can set Fund Order or Fund Ratio. This is dependent upon the Assignment Rule that you choose for spend under the Project/Shell Funding Sheet > Properties > Assignment Tab.



3) Select a CBS code from the upper pane.
4) Select a fund from the list and click **OK**.

   The bottom pane will also display assignment status of funds. You can modify assignment status of a fund from Project Funding Sheet > Fund Assignment Order window. Funds with Inactive status will not be used as part of consumption process.
5) Select a fund and click **Move Up** or **Move Down** button to change fund order.
6) If you have defined **Breakdowns** for a CBS code, then select breakdown to view funds.
7) To add a fund, click the **Add** button. The Add Funds window lists the funds that are available for the selected CBS Code. Select a fund from the list and click **OK**.

To set fund assignment order and Ratio at SOV Level: For CBS—SOV Auto Ratio

1) Open the SOV Sheet.

2) Click the **Fund Assignment** button on the toolbar. The Fund Assignment Order window opens.
3) You can set Fund Order or Fund Ratio. This is dependent upon the Assignment Rule that you choose for spend under Project/Shell Funding Sheet > Properties > Assignment Tab.
4) Select a **CBS** code from the upper pane. A list of funds that are available for this CBS will be displayed on the bottom pane.

   The bottom pane will also display assignment status of funds. You can modify assignment status of a fund from Project Funding Sheet > Fund Assignment Order window. Funds with Inactive status will not be used as part of consumption process.
5) Select a fund and click **Move Up** or **Move Down** button to change fund order.
6) If you have defined **Breakdowns** for a CBS code, then select breakdown to view funds.
7) To add a fund, click the **Add** button. The Add Funds window lists the funds that are available for the selected CBS Code. Select a fund from the list and click **OK**.
8) Select a fund and enter a % value.

Creating Commitment Funding Sheet Templates

Commitment Funding Sheet templates are created and set up in the Templates node, and are used to create the commitment funding sheet structure in a project or shell (or in a project or shell template). This structure is then used when sheets are created for individual base commit records.

Setting up the commitment funding template consists of adding columns, which correspond to the data sources (e.g., business process transactions, formulas, values you enter manually, etc.) that you wish to track for each funding source.

You can specify fund assignment rules in the template, structure or individual commitment funding sheets.

To create a new commitment funding sheet template

1) In Administration mode, go to the **Company Workspace** tab and click **Templates > Funding > Commitment Funding Sheet** in the left Navigator.
2) Click the **New** button. The Properties window opens.
3) Enter a **Title** and **Description**.
4) Click **OK**. The template is listed in the log.

After creating the funding template, you can open the sheet and define columns.

Add and Manage commitment funding sheet columns

These procedures are applicable to commitment funding sheet templates, commitment funding structures created in a project or shell, commitment funding sheet structures created in project or shell templates, or individual commitment funding sheets.

Funding columns specify the data sources (business process transactions, formulas, values entered manually, etc.) that will be displayed on commitment funding sheet.

To add a column to a commitment funding template, structure or sheet

1) Open the commitment funding sheet, template or structure.

2) Click the **Columns** button. The Column Log window opens, displaying the list of existing columns.
3) Click **New**. The Column Properties window opens.
4) Complete the Column Properties window as described in the following table.
5) Click **OK** to add the new column.

In this field:	Do this:
Name	The name you choose will appear as the column header. You may manually enter a column name, or, if you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	All columns must be associated with a data source. **Note**: In these datasource definitions, the terms All Funds and Discrete Fund refer to the fund assignment options. These options determine how the SOV lines (and therefore, the commit lines) will be funded, either automatically or manually from the entire list of funds available to the commit, or by one specific fund. (See "***Define commitment fund assignment details*** (on page 725)). The data sources available for commitment funding sheets are: ▸ **Funding Across All Funds**: Use this column to enter (or calculate) the amount of each fund to allocate for this base commit record. The rows on the sheet are the funds that will be used to fund the commit. The value entered here will be the fund amount available for all commit lines that have "All Funds" as assignment. This can be a manual entry column, or a formula that uses another manual entry column as the basis of the formula. ▸ **Funding By Discrete Fund**: This column displays the sum total of all the line items of base and change commits that are funded by a specific (or "discrete") fund. This value can be used to determine the fund balance during consumption. ▸ **Records Funded Across All Funds**: Reflects the total of funds consumed from records that are funded based on All Funds, whether funding is done manually or automatically. ▸ **Records Funded By Discrete Fund**: Displays the total of funds consumed from records that are funded based on a discrete fund, whether funding is done manually or automatically. ▸ **Fund Balance Across All Funds**: This column tracks the fund balance across all funds. The formula used is (Funding Across All Funds) - (Records Funded By All Funds). ▸ **Fund Balance By Discrete Fund**: This column tracks the fund balance by specific fund chosen in the Fund

	Assignment window. The formula used is (Funding By Discrete Fund) - (Records Funded By Discrete Fund). ▸ **Funding Ratio Across All Funds**: The value of this column is calculated automatically. It reflects the % ratio to use when performing fund assignment ratio during consumption. The formula is (Fund Balance Across All Funds Per Fund) / Total of Fund Balance Across All Funds). ▸ **Commitment Funding 1 to 25**: Numeric data sources that are available to use to enter values manually or create formulas based on other columns. These are reportable via user-defined reports.
Entry Method	Choose one (the options that are available are dependent on the data source chosen): ▸ **Manual Entry**: Users enter values directly on the sheet. ▸ **Formula**: Values are calculated using the entered formula. Formulas can include the values of other columns. Click the Create button to create the formula.
Display Mode	This controls the display of numeric column data. ▸ **Show as percentage**. Data is displayed as % ▸ **Decimal places**. Choose 2 to 8 ▸ **Use 1000 Separator**. Select checkbox to include a comma separator ▸ **Negative Number Format**. Choose parentheses or minus sign
Total	Determines what will display in the "Total" (bottom) row for the column: ▸ **Blank**: The total of this column is not applicable and will not display on the cost sheet. Choose this column for percentage columns and other columns where it does not make sense to display the sum total. ▸ **Sum of All Rows**: The sum total of the column values is displayed. ▸ **Use Formula Definition**: For formula columns; the formula will be applied to the "Total" row in the same way it is applied to other rows in the column.
Column Position After	The new column will be inserted after the column selected

To create a formula column

1) In the Column Properties window, choose **Formula** as the **Entry Method**, then click the **Create** button. The Formula Creation window opens.
2) Enter the first value in the formula:

   To enter numerical values into the formula, click the number keys on the on-screen keypad. (Include parentheses, % or decimal point as necessary.)

To add a column value into the formula, select it from the list in the left pane, then click the **Select** button (or double-click it). Options include:

- **Columns**: These are columns that have been added to the sheet. The value in the corresponding row will be used in the formula.
- **Total Elements**: These are the columns on the sheet that display a total (either the sum or formula definition, as defined in the Total option for that column). The value of the Total for that column will be used in the formula.
- An additional default Total Element is also available: **Commitment Total Funded By All Funds**. It is the sum of all commit line items (base and change commits) that have the assignment option "All Funds" (as selected for each commit line on the Fund Assignment window).

As you build the formula, it appears in the Formula box in the upper right portion of the window.

3) Click on the appropriate operator: add, subtract, multiply, or divide.
4) Continue to alternate between choosing values and operators to add to the formula.
5) You may click **Undo** at any time to undo the last action. Click the **Clear All** button to clear the entire formula.
6) When the formula is complete, click **OK** to save your formula and return to the Column Properties window.
7) If you need to change the formula after creating it, click the **Modify** button (next to the Formula option). Clear the old formula first (click Undo or Clear All), then re-enter it.

To create a column by copying an existing column

1) In the **Column** log, select a column and click Copy. The Column Properties window opens.
2) Make changes as necessary for the new column. You must change at least the data source.

To edit a column

From the Columns Log window, select a column and click **Open**. The Column Properties window opens.

Make edits as necessary and click **OK**.

> **Note**: Although it is possible to change the entry methods for a column, use caution when doing so. For example, if you change the entry method from Manual Entry to Formula, any existing values you have entered in that column will be replaced with the formula. Some column properties for some system data sources cannot be modified.

To move a column

From the Columns Log window, select a column to move, then click **Move Up** (Left) or **Move Down** (Right). The order in which the columns appear in the Log window is the order (from left to right) that they appear on the sheet.

To delete a column

Select a column from the Columns Log and click **Delete**. The column will be deleted.

Note: If the column is being used in a formula in another column, you must remove the column from the formula before you can delete it.

Defining Fund Assignment Options for Commitment Funding

Fund Assignment refers to how funds are to be consumed as spends type business processes (e.g., invoices and payment applications) come in against the base commit that is being funded.

The first step in defining the Assignment rules -- whether funding is to be done manually or by auto ratio. The assignment levels and rules are defined on the Assignments tab in the Properties window of the commitment funding sheet. This step is mandatory in order to do commitment level funding.

The Assignment tab lists the spends business processes that are linked to base commits enabled for commitment level funding. For each listed business process, you define how fund assignment will be done when these spends records come in against the base commit (either manually, or automatically by fund ratio).

You can define these assignment rules on the commitment funding template. When you create a commitment funding structure in a project or shell, these assignment rules will be copied to it, and when you create new sheets from the structure, they will be copied to the sheets. If you need to, you can modify these rules on individual structures and sheets.

The next step is optional: define Fund Assignment details per SOV line; that is, define whether a specific fund must be used to fund a particular line on the commit. This allows you to provide details about fund assignment or consumption for each line on the base commit or any change commits. You access the Fund Assignment window by clicking the Fund Assignment button on the commitment funding sheet or SOV sheet associated with the base commit.

If you do not define any assignment options in this window, then All Funds is the default selection. This means that all funds that have been allocated to the base commit on the commitment funding sheet will be available for funding each line of the spends business process created against it (either manually or by auto ratio, as defined by the assignment rules).

Fund assignment on these lines is tracked by commitment funding sheet columns using data sources that for records or fund balance "across all funds." ***Add and Manage commitment funding sheet columns*** (on page 720).

Sometimes, you may need to specify that a specific fund be used to fund a specific CBS code or SOV line. For these lines, you can select a specific fund (or "discrete fund"). Fund assignment is then tracked by commitment funding sheet columns using data sources for records or fund balance "by discrete fund.")

For details, see the following procedures.

Define commitment fund assignment rules

The fund assignment rules define how assignment will be done on the spends business processes created against the base commit being funded: either manually or automatically by fund ratio.

Funding assignment levels and rules can be defined in the commitment funding template, structure, or individual sheets. It is easiest to set them once -- in the template -- and have them carried forward into the structures and sheets created from it. If necessary, these options can be modified later for individual structures and sheets. These rules must be defined on the commitment funding sheet in order to do commitment level funding.

To set up commitment funding assignment rules

1) Open the **Properties** window of the commitment funding template, structure or sheet. (From the File menu, choose Properties.)
2) Click the **Assignment** tab. The list displays all General Spends and Payment Application Business Processes that are linked to a Base Commits that has been enabled for commitment funding and have been designed to consume fund according to the design in uDesigner).
3) For each listed spends business process, click the Assignment Rule drop-down and select one of the following:
   - **Commitment Level - Manual**: Funds are manually assigned at runtime. As spends business processes are routed and reach specified status, the amounts to be funded are collected under the Unassigned total on the commitment funding sheet, similar to project/shell level manual funding. You can then select each line of the spends BP and assign funds at runtime. Consumed funds roll up to the commitment funding sheet and the project funding sheet.
   - **Commitment Level - Auto Ratio**: Funds are assigned automatically when the spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is calculated based on the fund levels (using the value in the column of data source Funding Ratio Across All Funds on the commitment funding sheet), and is managed and tracked on the commitment funding sheet. If all funds are consumed, any remaining spends amounts are collected under Unassigned.
4) Click **OK**.

Define commitment fund assignment details

This is an optional step that allows you to provide details about fund assignment or consumption for each line on the base commit or any change commits. The commitment funding sheet works in conjunction with the SOV sheet in tracking the individual line items on the base commit and any change commits. Therefore, you can define details about fund assignment per SOV line. This is done on the Fund Assignment window.

By default, all funds that have been allocated to the base commit on the commitment funding sheet will be available for funding each line of the spends business process created against it (either manually or by auto ratio, as defined by the assignment rules).

However, if you need to specify that a specific fund must be used to fund a specific CBS code (or SOV line), you can specify a specific (or "discrete") fund to use.

You can do fund assignment one row at a time, or several rows at a time (bulk assignment). See the following procedures.

> **Note**: If you do not define fund assignment options, the default will be All Funds for each SOV line.

To set fund assignment details (one row at a time)

1) Open the commitment funding sheet or the SOV sheet.
2) Click the **Fund Assignment** button on the toolbar. The fund assignment grid view displays each line that is present on the SOV sheet, including CBS breakdowns. (The Fund Assignment button is available on the commitment funding sheet once the SOV has been created for the base commit.)
3) In the Assignment column, click the drop-down and choose the assignment:
   - All Funds: This is the default option. This means that all funds allocated to the commitment funding sheet are available to fund the SOV line or breakdown. (This option must be used if you are doing assignment by auto-ratio.)

   On the commitment funding sheet at runtime, funding consumption will roll up to the column using data source "Funding Across All Funds."

   - <Fund Code-Fund Name>: Each fund that has been allocated to the commitment funding sheet will display on the drop-down alphabetically. These are referred to as "discrete funds." You can choose to assign a specific fund to an SOV line or breakdown. This means that only that fund will be used to fund that line. (You can choose the same fund code for multiple lines.)

   On the commitment funding sheet at runtime, funding consumption will roll up to the column using data source "Funding By Discrete Fund."

   > **Note**: If an SOV line has a breakdown, then select an assignment for each breakdown, not the SOV line itself.

4) Click **Save** to save the sheet.

To set fund assignment on multiple rows on the SOV sheet (bulk assignment)

1) Open the commitment funding sheet or SOV sheet.
2) Click the **Fund Assignment** button on the toolbar. The fund assignment grid view displays each line that is present on the SOV sheet, and includes an Assignment column.
3) Select a row, or multiple rows by holding down the **Shift** key (to select a range of rows) or **Ctrl** key (to select rows throughout the sheet) while clicking the rows.
4) Click the **Bulk Assignment** button. The Bulk Assignment window opens.
5) Click the **Assignment** drop-down and choose the assignment. The values listed are the same as on the Fund Assignment window for the individual SOV lines.
6) Click the **Update** button.
7) Click **Save** on the Fund Assignment window to save your changes.

Setting Up Schedule of Values (SOV)

The Schedule of Values (SOV) sheet in Unifier provides a view of all the following information in one Sheet:

- Purchase Orders (Base Commits)
- Change Orders (Change Commits)
- Payment History (Pay App)

Unifier supports the following types of SOV:

- General Spends
- Payment Applications
- Summary Payment Applications

The needed SOV type is designed in uDesigner.

The data for the SOV sheet comes from the following BP types:

- Base Commit
- Change Commit

The business processes can be designed to create an SOV sheet automatically upon reaching the designated step.

When line items are added to the SOV sheet, the order of line items in the sheet is based on the time line that the line items were rolled up from the Base Commit and Change Commit records.

The data seen in the SOV sheet is based on the order in which the SOV lines were created. You can use the numeric column to sort the data based on the number that you specify.

When a Base Commits Business Process (BP) is approved, it creates a Schedule of Values (SOV) sheet. The SOV sheet is the "working document" on which committed monies are entered. The committed monies shown on the SOV sheet are rolled up to the Company Cost Sheet.

> **Note**: The Change Commits BPs continue to change or add costs to the SOV during the life of the Project/Shell.

Unifier Schedule of Values (SOV) functionality provides a way to assemble information from contract, change order, and invoice/payment BPs into a SOV sheet, streamlining the process of invoicing for completed phases of a Project/Shell.

SOV functionality is available for Cost type BPs in which the "Allow creation of Schedule of Values" option is defined, or selected, in the design properties. The BPs can be designed to create an SOV sheet automatically upon reaching the designated step.

You may define one SOV sheet per Commit BP, for example, a Purchase Order or a Contract. Rows are automatically populated based on the CBS/Cost/Accounts codes defined in the Commit BP.

Before you can create an SOV:

- Design Commit type BP in uDesigner and deploy.
- Configure and set up commit BP.

SOV functionality is available with commit BPs, for example a Purchase Order for which the Create SOV option is selected in uDesigner. For these BPs, the system automatically creates a SOV sheet upon reaching the designated step. There may be one SOV sheet per Commit Business Process. Rows are automatically populated based on the CBS/Account Codes defined in the Commit BP.

- Create and set up the Project/Shell Cost sheet.

How to Set Up SOV

Before you begin

Base Commits and Change Commits Business Processes must be set up for the Project/Shell.

Step 1: Create and set up SOV template (General Spends only)

You can create a template in the Templates log in Administration Mode. If you are using General Spends SOV, the structure that will be used for the SOV sheets is created from the template.

> **Note**: You can define a General Spends SOV structure by copying from an SOV template in the Templates log.

Step 2: Set up SOV Structure (User mode)

a) SOV Sheets are created, either manually or automatically, from Base Commits, based on the structure that is set up in Step 1.
b) For General Spends SOV, the SOV structure is copied from an SOV template.
c) For Payment Application SOV and Summary Payment Application SOV, the structure is copied from the line item grid structure of the Payment Application Business Process. This means that you must first complete the Business Process (BP) setup for the Payment Application BP before you can create the structure.

Step 3: Create SOV Sheets

You can create General Spends, Payment Applications, and Summary Payment Applications SOV structures in project templates.

Creating an SOV Template

An SOV Template needs to be created and set up before you can create a SOV sheet. SOV sheets are created using an SOV Template that defines the columns that will appear on the SOV sheet.

> **Note**: All SOV sheets in a single Project/Shell will use the same template structure.

If an SOV Template does not exist when an SOV sheet is auto-created from a Cost type BP, one will be created automatically with the default columns CBS Code and CBS Item and Breakdown Data. You can edit this structure as needed, but the default columns are not editable.

To create a new SOV Template

1) Go to **Company Workspace** > Admin mode.

2) Click **Templates** > **Shells**.
3) Click on a project to expand.
4) Click **shell template** > **Cost Manager** > **Schedule of Values** > **Payment Applications**.
5) From the toolbar, click **Update Structure** to open the **Payment SOV Structure** window.
6) From the menu, click **File** > **Properties** to open the Properties window.

   The **Properties** window has two tabs: **General** and **Options**.
7) In the **General** tab, enter values in the **Name** and **Description** fields.
8) Click **Options** tab.

   Use the **Options** tab to define the labels (**Labels** block) that will be used for the SOV column headings.

   The fields listed in the **Labels** block are the name of labels that are displayed as column headings on the SOV sheet.

   You may change the labels or accept them as is.

   Oracle recommends that you use the same labels as is used in the Cost Template and Cost sheets.
9) Read the following and when finished click **Apply** and then **OK**.

The following explains how to set up the fields in the **Properties** window, **Options** tab:

Field	Description
Item #	Applicable to both Company level templates and Project/Shell level templates. ▸ At the Project/Shell level: **Company Workspace** > **Admin** mode > **Templates** > **shell templates** > **Cost Manager** > **Schedule of Values** > **Payment Applications**. ▸ At the Project/Shell level: **Company Workspace** > **Admin** mode > **Templates** > **shell templates** > **Cost Manager** > **Schedule of Values** > **Summary Payment Applications**. ▸ At the company level: **Company Workspace** > **Admin** mode > **Templates** > **General Spends SOV**. The Item # field is a system-defined column, with a fixed location on the screen, and it is not available in the column structure window. You can chance the Item # column name in the SOV properties page.
Ref	Refers to a reference number for the entire commit. (Another example of a label for this column is "Order Number.")
CBS Code	This field is not editable.
CBS Item	This field is not editable.
Breakdown	The CBS Code Breakdown that you specify in the CBS Detail window for that code.

Field	Description
Description	This label refers to the line item description when the SOV is in line item mode.

The Schedule of Values node, under Project/Shell templates, contains the following sub-nodes:

- General Spends
- Payment Applications
- Summary Payment Applications

The Summary Payment Applications sub-node lists the Business Processes (BPs) of the Summary Payment Applications SOV sheets that have been configured in the template.

You cannot define the structure if a Base Commits or Change Commits BP of Summary Payment Applications SOV sheet is not configured in the template.

You can define one Summary Payment Applications SOV type template for every Base Commits of Summary Payment Applications SOV type BP.

If the Summary Payment Applications SOV sheet is configured in the Project/Shell templates, then you can select columns from the Data Elements that are defined on the Detail form of the Summary Payment Applications SOV sheet, and the Base Commits.

Add SOV Columns

Columns determine what data is displayed on the SOV sheets. You can add, modify, delete, hide/unhide columns on the structure. Any modifications you make on the structure will be reflected on all SOV sheets for that project or shell. Columns can be added to the SOV Template or Structure. Each column represents a data source. At a minimum, include a column for Commits Remaining Balance to enable validation of Spends against the Commits.

> **Note**: This information is applicable to adding or editing columns in an SOV template or structure.

To add an SOV column

1) Open the SOV template or structure.
2) Click the **Columns** button. The columns log opens.
   - The three default columns (**CBS Code**, **CBS Item**, and **Breakdown**), for the General Spends and Payment Applications, are not editable and do not appear in the log.
   - The default columns (Cost Code, Code Name, Cost Line Item Type, and Description), for the Summary Payment Applications, are also not editable and do not appear in the log.
3) Click **New**. The Column Properties window opens.
4) Complete the Column Properties window and click **OK**.

In this field:	Do this:
Name	The name you choose will appear as the column header. You may manually enter a column name, or, if you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	All columns must be associated with a data source. The data source that you choose will determine which of the following options are available:
Single Sources	These values roll up from single defined sources, including business processes.
Logical Sources	The options are: ▸ **None**: allows you to manually configure the column as a manual entry or formula column to suit your needs ▸ **Commits Remaining Balance**: Commits Remaining Balance is a column on the SOV Template/Structure. It reflects the amount of your commits minus the spends, according to a formula you define. ▸ **Scheduled Value**: This is a formula column can be used to keep track of the remaining SOV balance. (Example formula: Base Commit (Approved) + Change Commit (Approved) - General Spends Invoice (Approved)) Note: Be sure to add a **Scheduled Value** column to the SOV sheet if you will be doing commitment level funding.
Entry Method	This is applicable for logical data sources. ▸ **Manual Entry**: Choose Direct Entry into Cell to allow entry directly into the cell, or Line Item Content to allow data entry through a line item window. ▸ **Formula**: Values are calculated based on a specified formula entered for the column. Formulas can include the values of other columns. Click the Create button to create the formula.
Data Format	Applicable for Manual Entry or Formula columns: ▸ **Currency**: right-aligns column contents and includes a currency symbol, a thousands separator and two decimal places ▸ **Percentage**: right-aligns the contents and includes a percentage symbol
Display Mode	Refers to whether the column is displayed on the cost sheet. ▸ **Show**: The default choice. This indicates that column will display by default on the cost sheet to all users with at least "view" permission for the cost sheet. ▸ **Hide**: Hidden columns are active but not displayed on the cost sheet. Hidden columns can be accessed by users with "create"

	permission on the cost sheet.
Column Position After	The new column will be inserted after the column selected
Allow sub-breakdown with validation	If this option is selected, the sum of breakdown amounts is validated against the CBS summary amount. That is, the sum of the breakdowns cannot exceed the amount of the CBS code itself.

Deleting Schedule of Values

This section describes how to delete a Schedule of value-based record from a specific shell template.

> **Note**: You can delete a Schedule of value-based record from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Go to **Company Workspace**, open the project or shell and in the left navigation pane, click **Templates** > **Shells** > **{Shell Type}** > **{Shell Template}**> **Cost Manager** > **Schedule of Values**.
2) Select a schedule of value-based record for deletion.
3) Click **Delete**.

> **Note**: System prompts the user asking to confirm deletion of the schedule of value-based record.

4) Click **Yes** to delete the cost sheet.

Setting Up Cash Flow

Unifier Cash Flow module allows you generate and compare Baseline, Actuals (or "spends"), Portfolio, Forecast, Derived, and Custom curves in a project or CBS code-based shell. The curve detail levels include:

- **Cash Flow by Project/Shell**

  You can track the costs associated with an entire Project/Shell over time.
- **Cash Flow by CBS**

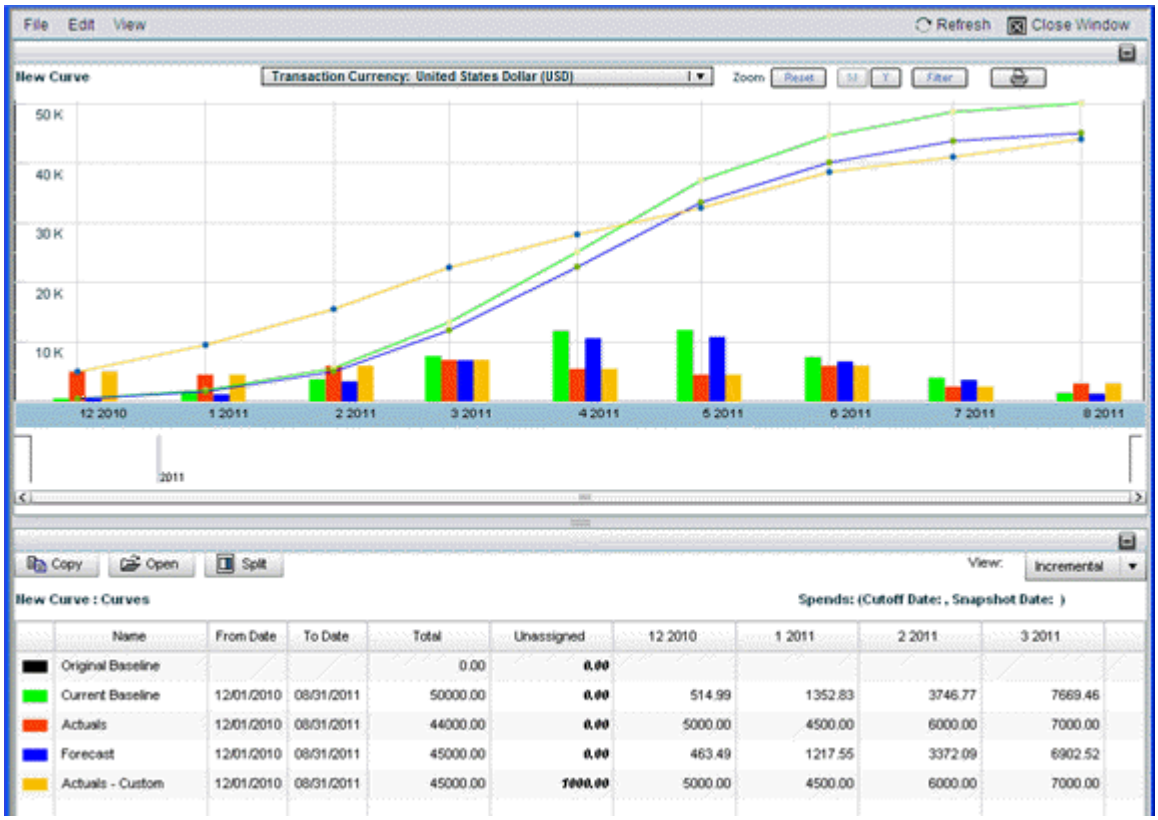
  The creation of a CBS detail curve is similar to cash flow by Project/Shell. Use this option if cash flow needs to be tracked at the CBS level as opposed to the Project/Shell level, by allowing you plot cash flow curves by specific CBS codes, or all codes, in the Project/Shell.
- **Cash Flow by Summary CBS**

The creation of a Summary CBS detail curve is very similar to cash flow by CBS. Use this option if cash flow needs to be tracked by summary CBS codes. In order to select this option, the Project/Shell cost sheet must use a tree structure (and therefore has summary CBS codes) rather than a flat structure.

- **Cash Flow by Commitment**

  This option allows you to plot and analyze cash flow data for an entire commit record (including base commit, any change commits, and related invoices). You can choose a specific business process commitment record within the Project/Shell, such as a purchase order or contract, and track the cost information over time. Each commitment record can have one baseline curve.

- Unifier displays Cash Flow curve detail level data in a Cash Flow Worksheet. The cash flow curve worksheet can display any number of Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, or Custom curves (based on the same detail level). Depending on curve set up you can manually enter manual, pull data automatically from other sources such as business processes, cost sheet columns and schedule manager dates (depending on the curve type), and compare multiple curves. Here is an example of a cash flow detail curve worksheet and curves.



At runtime, the user can view the cost distribution information by CBS code from a schedule sheet see Create a Cash flow curve from a Schedule Sheet.

To facilitate creation of cash flow curves and roll up of data to program and company cash flow worksheets, you can create the following in Administration Mode (**Admin mode**):

- **Data Sources**

- You create data sources that can be used to create and identify cash flow curves, and roll up data to program and company worksheets. You will need to create data sources in order to create cash flow curves.
- Data sources are created based on a Curve Type: Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, or Custom curves. Each curve type has its own logic to address different business requirements.

- **Distribution Profiles**

  These are optional. Distribution profiles can be applied to cash flow curves to automatically distribute cost data across a specified time period. At runtime, you will have the option of manually distributing data in the cash flow worksheet, or automatically distributing the data using one of these profiles.

- **Company-level Templates**

  These are also optional. You can create cash flow detail curve templates, which can be used to create new curves at runtime within a project and shell; and rollup curve templates, which you can use to create program curves to roll up cash flow data from projects or shells.

- **Project/Shell-level Templates**

  You can create cash flow curves within a project template or a CBS-code based shell template. These can be used to create new curves in projects or shells; they can also be used to "push" out updates to existing curves. ***Update Cash Flow Curve Properties and Permissions*** (on page 357).

How to Set Up Cash Flow

Here is an overview of the steps required to set up the cash flow module.

> **Note**: There are two Cash Flow modules: the module in effect prior to the 9.3 release is called Cash Flow (Basic); the module introduced in 9.3 and discussed here is named Cash Flow. Each module has its own user and administration mode permissions.

Step 1: Grant yourself permissions to configure the cash flow modules.

Step 2: Create custom cash flow data sources. These are used to create curves in projects and shells. You also define a color for each data source, which will display as the curve color on the cash flow graphs. See ***Creating Cash Flow Data Sources*** (on page 737)

Step 3: Create distribution profiles. These profiles can be used to distribute cost or any value over a period of time. (See ***Distributing Cost Data*** (on page 739).)

Step 4: Create cash flow templates. You can create any number of cash flow templates at the company level, or create cash flow curves within a project/shell template. Setting up cash flow templates is essentially the same as creating the curves manually in a project or shell (or a project/shell template), with some exceptions that are mentioned in the setup procedure details. You can use company-level and project/shell level templates to quickly create cash flow detail curves and rollup curves in projects and shells. See ***Create a template for a cash flow curve*** (on page 742).

Step 5: Create cash flow in a project or shell. You can create any number of cash flow curves in a project or shell. These can be detail level or rollup curves. You can create them manually, by copying an existing curve, or by copying a template, see Cash Flow in the *Unifier User Guide*.

Step 6: Create cash flow in a program or company. You can create rollup curves in programs and in the company workspace, and roll up cash flow data from projects and shells. See ***Create Roll-up Templates*** (on page 744) in the *Unifier User Guide*.

Step 7: Grant cash flow permissions to users.

Grant Yourself Permissions to Configure Cash Flow

You must grant permission to yourself, another administrator, or group such as Company Administrators, to configure cash flow modules.

To grant yourself configure permissions

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) In the right pane, select **Administration Mode Access > Standards & Libraries > Cash Flow > Data Sources**.
4) In the Module Permission Settings window, click the **Add** button. The Permission/Access Control window opens.
5) Click the **Add Users/Groups** button. The User/Group Picker opens.
6) Select the user(s) to whom you want to give configuration permission and click the **Add** button. Then click **OK**.

   Unifier adds the name(s) to the Permission/Access Control window.
7) Under Permission Settings, select **Modify** and **View** and click **OK**. Unifier adds the name(s) to the Permission Settings window.
8) Repeat these instructions to grant permission to cash flow Distribution Profiles and cash flow Templates. (Give these modules Create permission.)
9) Click **OK**.

Create a Cash Flow Distribution Profile

You can create new profiles manually or by copying an existing profile.

To create a distribution profile manually

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Standards & Libraries > Cash Flow > Distribution Profiles** in the left Navigator. The Distribution Profiles log opens.

   The default Distribution Profiles record displays in the log. All profiles are stored in this record.
3) Select **Distribution Profiles** in the log and click **Open** (or double-click Distribution Profiles). The Edit Distribution Profiles window opens.

   The left side of the window displays the list of the distribution profiles. The right side of the window displays a graphical representation of the profile and is used to define it.

4) Click the **New** button. This adds a new row to the Distribution Profiles list.
5) Enter a unique **Name** for the profile (up to 30 characters).
6) Be sure the **Active** checkbox is selected if you want it to be available for cash flow curves. If you deselect this checkbox, the profile will not be available for selection on curves.
7) Define the distribution profile on the graph by entering values in the **Profile %** slots.

   By default, when you create a new distribution profile, the graphical display will be a linear distribution. (5% is entered into each of the 20 slots: 5% x 20=100%.) You can modify this profile by entering a value for each slot for the Profile %. The graph will reflect the values that you enter.

   You can enter values with up to two decimal places per slot. Press the **Tab** key to move one slot to the next. The total of all the slots for the Profile % must add up to exactly 100%.
8) When the distribution profile is complete, click the **Save** button.

To create a distribution profile by copying an existing profile

1) In the Edit Distribution Profiles window, select a profile and click **Copy**. A new row is added, and the selected profile information is copied.
2) Enter a new **Name** for the copied profile. Make any changes to the profile values as needed and click **Save**.

> **Note**: Per design (for example, in a Front Loaded Distribution Profile), if the Profile % reaches 100% before the 20th bucket (the zero is displayed at this point), and there is still unallocated budget remaining, when a Cash Flow Forecasting is linked to the Spends, the remaining unallocated budget will not be automatically distributed to the buckets with zeros.

Delete a Distribution Profile

You can delete distribution profiles as long as they are not currently being used in the system. If a distribution profile is being used, you can delete it as long as you replace it with another profile first. This is explained in the following procedure.

To delete a distribution profile

1) Open the Distribution Profile window.
2) Select one or more profiles from the list on the left. Press the **Ctrl** or **Shift** key to select multiple profiles.
3) Click the **Delete** button.
   - If the profiles you selected are not currently being used by the system, a warning message opens. Confirm that you want to delete the profiles by clicking **Yes**.
   - If you selected multiple profiles and one or more of them are being used by the system, an error message opens displaying the profiles currently in use.
   - To delete a profile that is currently in use, go to Step 4.
     - Close the error window.
     - You can delete the profiles that are not in use by selecting them again from the Distribution Profiles window and clicking **Delete**.

4) If you select a single profile that is being used by the system, you will be prompted to replace the profile with another profile.
   - The Select a Distribution Profile window opens.
   - Click the **Select** button and select a new profile from the list.
   - Click **OK**. The profile being deleted is replaced with the profile selected in this window. When the curve using the profile is refreshed at runtime, the new profile will take effect.

Edit a Distribution Profile

You can edit a distribution profile. The change will take effect in curves that use the profile the next time the curve is refreshed.

To edit a distribution profile

1) Open the Distribution profile window.
2) On the left side of the window, select the distribution profile to edit.
   - You can edit the profile **Name**. If the profile is used by a curve, the name change will be reflected in the curve Properties.
   - You can select or deselect the **Active** checkbox. Active profiles are available for selection when choosing a default profile for auto distribution. Inactive profiles will not show up on the selection list. If you inactivate a profile and a curve is already using it, the curve will not be affected; it will still use the profile.
   - On the right side of the window, you can change the **Profile %** values. Change will be reflected in curves that use the profile when the curve is refreshed.
3) Click **Save** to save the changes. If the profile is being used by one or more curves, the profile change will take affect the next time the curves are refreshed.

Creating Cash Flow Data Sources

You can add multiple curves to a cash flow worksheet so you can view and compare curves side by side. These curves are based on the data sources you add here.

Each data source is used to identify one of the curves on a worksheet, and therefore can be used once per worksheet. You can however, reuse the data sources on different worksheets. You can create as many data sources as you need to create cash flow curves.

When you create a data source, you associate it with a Curve Type. Each curve type has a built-in logic when creating the curve using the data source. The curve types are:

- **Baseline**

  Choose this to create a Baseline curve. You can choose to manually enter the cost data, or automatically pull the data from a cost column, such as a Budget.
- **Forecast**

  Choose this to create a curve that helps forecast future cash flow based on actual spends records.
- **Actuals** (Spends)

  Choose this to plot spends data over time.
- **Portfolio Budget**

Choose original or shared option to create a Portfolio Budget curve.

- **Derived**

  Choose to create a Derived curve.

- **Custom**

  You can create Custom curves that you can use to enter data, or to compare against other curves. The setup is similar to the Baseline curves.

To create a Cash Flow data source

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Standards & Libraries > Cash Flow > Data Sources**. The Data Sources log opens. By default, there is one Data Sources record displayed in the log. All data sources are stored in this record.
3) Select Data Sources in the log and click **Open** (or double-click Data Sources). The Edit Data Source window opens.
4) Click the **Add** button. This adds a new row to the window.
5) Enter a **Name** for the data source. The name must be unique and not exceed 30 characters.

   Press the **Tab** key to move to the next field.
6) Select a **Curve Type** from the drop-down list: **Baseline, Forecast, Actual** (or Spends)**, Portfolio Budget, Derived,** or **Custom curves**.

   You can make your selection by clicking the field and selecting from the list, pressing the first letter of your selection on the keyboard (e.g., press the B key to select Baseline), or you can use the arrow keys on your keyboard to browse the list and make your selection.

   Press **Tab** to move to the next field.
7) Select a **Color**.

   This color will be used on the cash flow graph at runtime when a curve is generated from the data source. There are 256 colors (including "0" for black) to choose from.

   Like the Curve Type field, you can click the field and select from the list; press the arrow keys to browse the colors; or, if you know the number of the color that you want, you can type it directly then press Enter.
8) To rearrange the data sources, select on the list and click the **Move Up** or **Move Down** buttons. This is the order in which the data sources will be presented when a user creates a curve.
9) Click **OK** to save and exit the window.

Delete a Cash Flow Data Source

You can remove a data source from the list only if it is not being used by any cash flow curves.

If a data source is in use and you want to delete it, you must first delete any curves using it (these are the curves defined in the cash flow Properties window, Curves tab).

To delete a cash flow data source

1) Open the Edit Data Source window. (In Administration Mode, navigate to **Standards & Libraries > Cash Flow > Data Sources. Double-click Data Sources**.)
2) Select the data source to delete and click the **Remove** button. The row is deleted.

3) Click **OK** to save and exit the window.

Edit a Cash Flow Data Source

You can edit the data source color, which changes the color of the curves using the data source. You can also change the row order, which changes the order that data sources appear on the selection list when creating a new curve.

Notes:

- Curve Type is not editable.
- The data source name can be changed, but use caution when doing so. If you rename a data source, the curves that use the data source will not recognize the new name, and the data will not be visible on the curves. If you change the name back to the original name, the data will appear again on the curves.

To edit a cash flow data source

1) Open the Cash Flow Data Sources (Cashflow Datasources) window.
2) You can make changes as necessary, based on the information.
3) Click **OK** to save and exit the window.

Distributing Cost Data

When you create a cash flow curve, Unifier distributes cost data using the distribution method defined in the cash flow curve properties. Distribution can be either manual, or automatic from a defined profile.

In User Mode, Unifier displays commitment curve cost data in the record transaction currency, but stores costs in project currency. Currency conversion uses the active exchange rate set.

- **Baseline curves use the exchange rate that was active at the time of record creation.**
- **Actuals curves use the exchange rate that was active at the time the money was paid.**
- **Forecast curves use the exchange rates in effect for each time period over the duration of the curve.**

If the transaction currency is different from the project currency, you can change the currency view between transaction and project currencies. You can only edit data in the transaction currency view. If there is a more recent value in the exchange rate table, refreshing the curve will refresh the cost data. You will not see the currency menu if the business process record was created in the project currency.

Manual distribution

When you select manual distribution in the curve properties, you manually enter the data for distribution in the curve details window at run time. Unifier preserves cost distribution and duration when you change the **From Date** (start date) of baseline, custom, and forecast curves (when there are no actuals) in project/shell, summary CBS, and CBS detail curves. In other words, if you change a cash flow curve to start on a different date then it originally did, Unifier shifts the curve along the timeline to reflect the new date and moves the cost data to retain the integrity of the curve. Unifier pegs the distribution of cost data to the **From Date**, rather than the end or **To Date**. Here is how this works when the **From Date** changes:

- If the modified curve is the same length as the original curve, the curve shifts along the timeline to reflect the new start date and all cost data remains in the curve.
- If the modified curve is longer than the original curve, the curve will shift along the timeline to reflect the new start date, but existing data is not redistributed to the additional time periods. Each time period retains its original value and additional columns have values of zero.
- If the modified curve is shorter than the original curve, then the curve will shift along the timeline to reflect the new start date, and existing data is truncated at the new end date.

Auto by default profile distribution

A distribution profile lets you predefine the way you want Unifier to distribute cost data in User Mode. You can add any number of profiles in the **Edit Distribution Profiles** window.

The left side of the window contains:

- A list of previously created distribution profiles. Initially this list is empty.
- The Active checkbox, which controls whether the profile is available for selection for a curve.

The right side of the window contains:

- Graph: The graph is a graphical representation of the profile % that you enter over the duration %.
- Duration %: These are the x-axis units of the graph. The x-axis starts at zero (0), with another 20 slots, equally distributed up to 100%.
- Profile %: Starts at 0, with 20 remaining slots to enter the profile distribution percent values. You will enter incremental values in these slots. The total value of the profile % must add up to 100%. You cannot enter negative numbers in these slots. The values you enter will determine the shape of the curve, and distribution of the data.

By default, when you create a new distribution profile, the graphical display will be a linear distribution (5% is entered in each of the 20 data slots).

Following are some distribution profile examples.

Curve Example	Profile %																			
Linear	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
S-Curve	0.5	0.5	1.5	1.5	4	4	7.5	7.5	11.5	11.5	11.5	11.5	7.5	7.5	4	4	1.5	1.5	0.5	0.5
Back Loaded	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Front Loaded	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

Cash Flow Curve Templates

You can create cash flow curve templates that can be used to create cash flow curves in projects and CBS-code based shells. If you are using programs or company-level cash flow, you can create roll-up curve templates. See ***Create Roll-up Templates*** (on page 744).

Template creation methods are manual or copying an existing one. After creating a template, you can set refresh frequency and activate or deactivate curves.

Creating and setting up a template is essentially the same as setting up the curves manually in a project or shell. The major difference is you cannot select individual records in the template; these must be chosen from within the projects or shells. See Cash flow curves in the *Unifier User Guide*.

The detail curve creates a worksheet in the project or shell that can include several curves. You can create detail curves and detail curve templates at the following detail levels:

- **Cash flow by project or shell**: You can track the costs associated with an entire project or shell over time.
- **Cash flow by CBS**: The creation of a CBS detail curve is similar to cash flow by project/shell. Use this option if cash flow needs to be tracked at the CBS level as opposed to the project or shell level, by allowing you plot cash flow curves by specific CBS codes, or all codes, in the project or shell.
- **Cash flow by Summary CBS**: The creation of a Summary CBS detail curve is very similar to cash flow by CBS. Use this option if cash flow needs to be tracked by summary CBS codes. In order to select this option, the project/shell cost sheet must use a tree structure -- and therefore has summary CBS codes -- rather than a flat structure.
- **Cash flow by commitment**: This option allows you to plot and analyze cash flow data for an entire commit record (including base commit, any change commits, and related invoices). You can choose the specific business process commitment record within the project/shell, such as a purchase order or contract, and track the cost information over time.

  - **Note**: You can set up the automatic creation of a cash flow curve when a base commit record is created and completed or reaches a particular step. This is done in the BP Setup for the business process. See ***Setting Up Auto-Creation of Cash Flow Curves from Contracts*** (on page 585)

To create a cash flow detail level curve in a template

1) Go to the Company Workspace tab and switch to Administration Mode.
2) In the left Navigator, do one of the following:
   - To create a template, click **Standards & Libraries > Cash Flow > Templates**. This is a template users can select at run time.
   - To create a detail curve in a project or shell template, click **Templates**. Open the project or shell template, then click **Cost Manager>Cash Flow** in the Navigator. This cash flow model can be copied during project or shell cloning.

   The Cash Flow log opens.
3) Click the **New** button. The Properties window opens.

   Directions for completing the cash flow curve properties are in the *Unifier User Guide*.

- **General tab**: Define the name, description, detail level, time scale and period close settings.
- **Curves tab**: Define individual curves (Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves) that will be part of the group of curves that make up the cash flow detail curve.
- **Filters tab**: Limit the cash flow data on your curve to a particular set of CBS codes or (if the cost sheet is tree structure) summary CBS codes. If you do not specify a filter, then all codes will be used for the data.
- **Options tab**: Define the format to use for the numbers displayed on the cash flow worksheet.
- **Schedule tab**: Enable automatic refresh of the cash flow curve, and set the refresh schedule.
- **Summary tab**: A Summary Cash Flow Curve displays selected cash flows from your project.

Create a Template for a Cash Flow Curve

This topic discusses cash flow templates that you can create in Standards and Libraries > Cash Flow > Templates. For instructions on how to create cash flow curves, refer to the *Unifier User Guide*.

Cash Flow Curve templates

You can create cash flow curve templates that can be used to create cash flow curves in projects and CBS-code based shells. If you are using programs or company-level cash flow, you can create rollup curve templates. See ***Create Roll-up Templates*** (on page 744).

Template creation methods are manual or copying an existing one. After creating a template, you can set refresh frequency and activate or deactivate curves. Creating and setting up a template is essentially the same as setting up the curves manually in a project or shell. The major difference is you cannot select individual records in the template; these must be chosen from within the projects or shells.

The detail curve creates a worksheet in the project or shell that can include several curves. You can create detail curve templates at the following detail levels:

- **Cash Flow by Project/Shell**

  Used to track the costs associated with an entire Project/Shell over time.
- **Cash flow by CBS**

  Used to track cash flow at the CBS level as opposed to the project or shell level. Allows you to plot cash flow curves by specific CBS codes, or all codes, in the project or shell.
- **Cash flow by Summary CBS**

  Used to track cash flow by summary CBS codes. In order to select this option, the project/shell cost sheet must use a tree structure -- and therefore has summary CBS codes -- rather than a flat structure.
- **Cash flow by Commitment**

Used to plot and analyze cash flow data for a base commit record (including base commit, any change commits, and related invoices). You can choose a specific business process commitment record within the project/shell, such as a purchase order or contract, and track the cost information over time. Each commitment record can have one baseline curve.

> **Note**: You can set up the automatic creation of a cash flow curve when a base commit record is created and completed or reaches a particular step. This is done in the BP Setup for the business process.

To create a new cash flow detail level curve in a template

1) Do one of the following:
   - To create a template: In Administration mode, go to the **Company Workspace** tab and click **Standards & Libraries > Cash Flow > Templates** in the left navigator.
   - To create a detail curve in a project or shell template: In Administration mode, go to the **Company Workspace** tab and click **Templates** in the left Navigator. Open the project/shell template. Go to **Cost Manager > Cash Flow**. The Cash Flow log opens.
2) Click the **New** button. The Properties window opens. Refer to the *Unifier User Guide* for instructions on completing the Cash Flow Curve properties.
   - **General** tab: Define the name, description, detail level, time scale and period close settings.
   - **Curves** tab*:* Define individual curves (Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves) that will be part of the group of curves that make up the cash flow detail curve.
   - **Filters** tab: Limit the cash flow data on your curve to a particular set of CBS codes or (if the cost sheet is tree structure) summary CBS codes. If you do not specify a filter, then all codes will be used for the data.
   - **Options** tab: Define the format to use for the numbers displayed on the cash flow worksheet.
   - **Schedule** tab: Enable automatic refresh of the cash flow curve, and set the refresh schedule.
   - **Summary tab**: A Summary Cash Flow Curve displays selected cash flows from your project.

To add filters on a Cash Flow Curve template

1) Go to **Company Workspace** > **Admin** mode > **Templates** > Project/Shells.
2) Open your Project/Shell template > **Cost Manager** > **Cash Flow**.
3) Click **New** to configure your Cash Flow curve or open an existing Cash Flow curve.
4) Click **View** and select **Filter**.

> **Note**: Alternatively, you can open the Filter window by way of clicking the filter icon on the upper right-hand corner of the Cashflow Worksheet window.

5) Select which curves to display. Deselect any curves you do not want to display.
6) In the **Save As** field box enter a name for the filter.

7) Click **OK** to close the window.
8) The name of the filter that you have saved appears on the upper right-hand corner of the Cashflow Worksheet window. This window contains a list of saved filters that have been saved.

> **Note**: The Default View option allows you to select which particular filter to display when you open a Cash Flow Worksheet.

9) You can click **Edit** > select **Manage Filters** to delete, set default view, change name, and change the description of your filter.
10) In the Cash Flow log window, ensure that your Cash Flow curve is selected and click Update Shells.

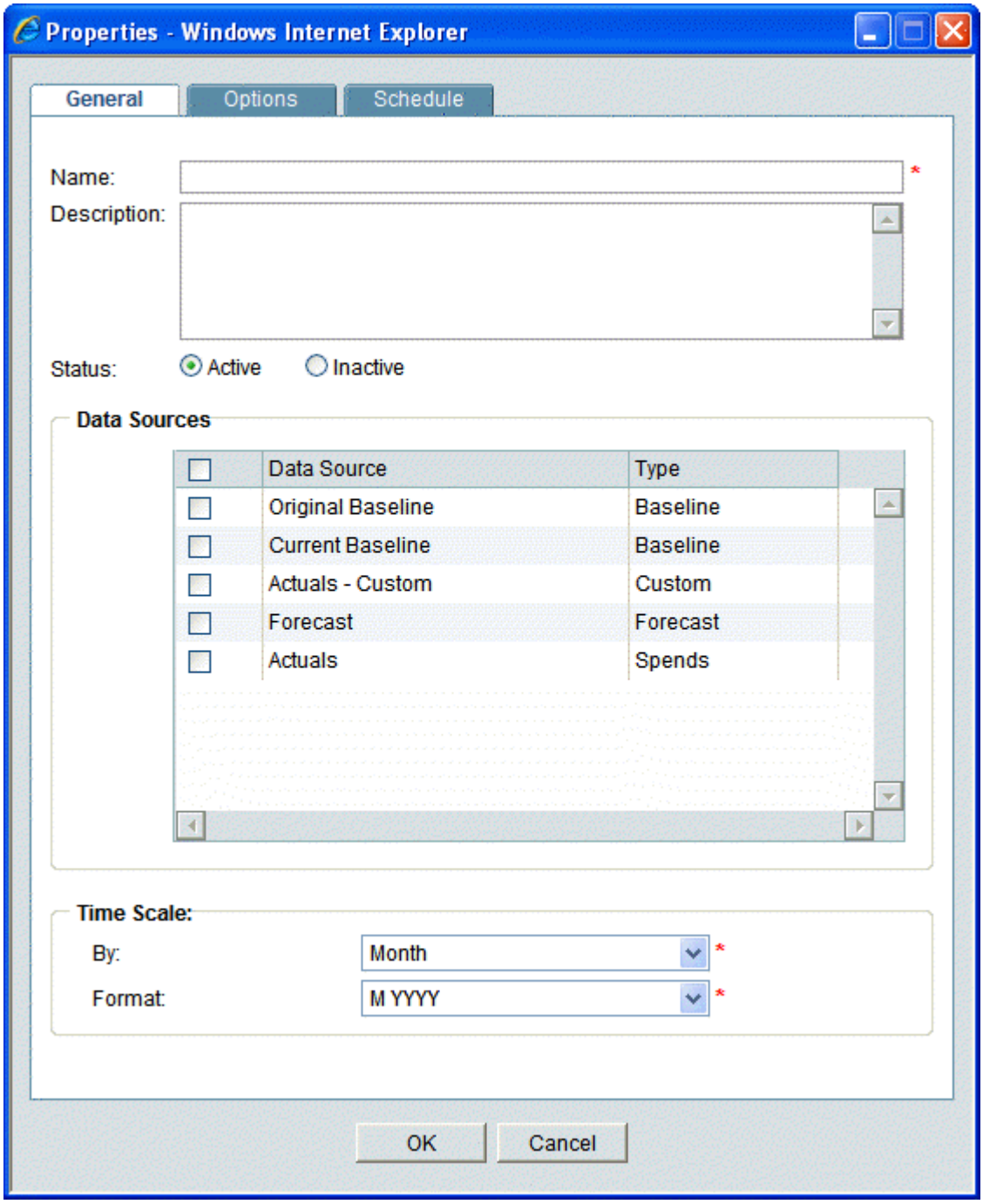
Create Roll-up Templates

Use roll-up curves in programs and in the company-level Cost Manager to roll up cash flow data from all the projects and shells in which cash flow is being used. You can create roll-up curve templates, and use these to create the roll-up curves.

To create a new roll-up template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Standards & Libraries > Cash Flow > Templates**. The Cash Flow Standard Templates log opens.
3) Click **New > Rollup Curve**s. The Properties window opens in the General tab.

4) Click the Options tab. On this tab you can define the format to use for the numbers displayed on the worksheet. This is similar to the Options tab on detail curves. See ***Create a template for a cash flow curve*** (on page 742) in the *Unifier User Guide*.



In this Field:	Do This:
Name	Enter a unique name for the roll-up curve

Description	Enter an optional description.
Status	Active: Data can be rolled up from project and shell cash flow curves. Inactive: Data is not rolled up to the curve.
Data Sources	This list displays the data sources that have been defined in Standards & Libraries > Cash Flow > Data Sources. Select one or more of the listed data sources that you want to roll up from the project or shell cash flow curves to the roll-up curve. To quickly select all data sources, you can select the checkbox at the top of the list, next to Data Sources.
Time Scale	Choose Month or Year, and the format. The roll-up curve will roll up data from curves that use the same time scale.

Granting Cash Flow User Mode Permissions

Before others can access a cash flow curve that you created, they need user mode permission. This is different from permission granted in Administration Mode, which is for general access to the module. You grant user mode permission per detail curve in the project or shell.

> **Note**: Granting cash flow User Mode permissions explained in this section is different from permission granted in Administration Mode which is for general access to the module. You grant User Mode permission per detail curve in the Project/Shell.

To give users permissions to work with a cash flow curve

1) Open the Company Workspace and click **Cost Manager** > **Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Select one or more detail curves from the log, click **Actions**, and click **Permission** to open the **Edit Permission** window.
3) Click picker in the **Add** to open the User/Groups window. Select one or more users or groups to grant permission to, click **Done** and then click **OK**.
4) In the Edit Permission window, select one or more users or groups, and select any of the following permissions:
   - Modify Permission: Allows user to modify permissions to the curve. This also automatically selects Edit Data.
   - Edit Data: Allows user to enter or edit data for manual data entry curves.
   - View: By default, when you add a user or group to the window, they are granted View permission, which allows them to access and view the curves and data.
5) Click **Save**.

When the user creates a Cash Flow by way of copying from Project/Shell template through the **Workflow Setup** sub-node:

If the step in the **Workflow Setup** (in the project, admin mode) has a Cash Flow template, then all of the permissions in the Cash Flow template will be copied over to the created Cash Flow.

When the user selects a Cash Flow template at the record level:

If at the time of creating a commit BP record, the user has selected a Cash Flow template, then all of the permissions in the Cash Flow template will be copied over to the created Cash Flow.

Setting up the Rules Engine

Rules constrain the sending of cost-type business process records, and affect making changes to Cost and Funding sheets. That is, they give some control over costs by helping you to enforce cost constraints. For example, you could create a rule that prevents invoices from exceeding a contract budget.

As the administrator, you can create rules and rule templates. Rules can be created at the project or shell level or company level. Rule templates can be created for project- or shell-level rules.

You will be using a formula to create a rule, much as you use formulas to create field values.

About Rules

A rule is triggered when a user attempts to "send" a business process record to the next step whose status activates the rule. For example, the rule may be designed to activate when a record gets to the Pending or Approved status. A rule can prevent the record from proceeding to the next step if doing so will violate the rule. Rules affect how users can work with:

- Funding sheets (at project or shell or company level)
- Project/Shell Cost sheets
- Schedule of Values

When you create a rule, you can designate specific groups or users who can override the rule exception.

When a rule violation occurs, Unifier displays a "Rule Exceptions" window.

If the user has override control, they can click Override to ignore the rule exception, or Cancel to accept the rule and remain on the step. If the user clicks Override, Unifier will ignore the rule exception and send information to the audit log about the override transaction.

Rule exceptions can be triggered by:

- Adding or copying a line item on the Cost Sheet
- Copying data from one column to another on the Cost Sheet
- Entering data directly into a cell on the Cost Sheet
- An email action that sends cost data to the sheet
- An integration transaction that sends cost data to the sheet
- I Step and S Step business process auto-creation
- A business process record that rolls up cost data to the sheet

> **Note**: Unifier does not display a Rule Exception window if the rule validation is triggered from an email action, or integration. If the user has override control, Unifier will assume the user wants to override the rule exception and sends the override information to the audit log.

About control sources and levels

When you create a new rule, you choose the control source (that is, whether the rule will affect cost or fund transactions), and the rule level (what the rule will enforce).

Control Source

In projects or shells, you can create rules for cost (choose **Project Cost** as the control source) or funding (choose **Project Fund** as the source). At the company level, you can create rules for funding (the control source is **Company Fund**).

> **Note**: "Commit" refers to a commit business process, such as a purchase order, and also would include change commit business processes if specified in the rule; additionally, the term "budget" can mean any cost sheet data source being validated against with the rule, which is usually, but not necessarily, budget-related.

Rule Levels

Project Cost: Rules with Project Cost as the source provide validation to business processes that affect project or shell cost sheets. Rule levels are:

- **Per CBS**: These rules provide control per CBS code across the project or shell budget. For example, if you have an assigned budget amount for specific CBS codes, you can create rules that check all commit business processes (and change commits if specified) to verify that those assigned budget amounts, per CBS code, are not exceeded.

  > **Note**: If a business process record has several line items, even if only one of the line items will violate the rule, the entire record will be rejected.

- **Per Total for Entire Project**: This rule looks at the total, cumulative amount of commit business processes and verifies the total against the project or shell budget (or other parameter you choose). This type of rule can ensure that the project or shell budget is not exceeded, but does not verify specific CBS code or funding amounts.
- **Per Fund within each CBS**: Applicable if the project or shell includes funding at the CBS level. The rule will validate the amount being charged on the commit business process record for each CBS code against the assigned fund amount per CBS, as specified in the fund information on the cost sheet.
- **Per CBS within each Commit**: Related to SOV. For example, the rule can validate that the total amount of a purchase order and related change orders will not exceed a certain amount for a specific CBS code.

- **Per selected Summary CBS Codes**: Allows you to select one or more summary CBS codes on which to enforce the rule. This option is applicable when the cost sheet has a tree structure; cost sheets with flat structures do not have summary codes. You can choose to enforce the rule on each summary code individually, or on the total of the selected codes. Because you must select summary CBS codes from the cost sheet for this rule, this option is not available in rule templates; it is available for rules within project templates and shell templates, and within projects and shells.
- **Per selected CBS Codes**: Allows you to select one or more "leaf" level CBS codes (that is, codes that are not summary codes) on which to enforce the rule. You can choose to enforce the rule on each code individually, or on the total of the selected codes. This option is applicable for cost sheets with a tree or flat structure. Similar to the previous option, this is available in rules within project templates and shell templates, and within projects and shells, not in rule templates.

Project Fund: This control source option provides validation to business processes that affect project or shell funding sheets. Rule levels are:

- **Per Fund**: These rules provide control per fund per project or shell, similar to "Per CBS" above.
- **Per Total for Entire Project/Shell**: Provide control over entire funding amount for the project or shell, similar to cost rules.

Company Fund: Company level rules can be created for company funding sheets:

- **Per Fund**: These rules provide validation against the total amount of each fund, regardless of project or shell distribution.
- **Per Total of all funds**: Provides validation for the total of all funds available to the company.

Access a rule or rule template

To access a rule or rule template

Rules can be created and accessed in the following logs in Administration Mode:

- **Company Workspace** > **Rules**
- **Company** > **Templates** > **Rules**
- **Project** > **Rules**
- **Project Template** > **Rules**
- **Shell** > **Rules**
- **Shell Template** > **Rules**

Creating Rules and Rules Templates

All new rules are created in a similar way. You can create new rules and rules templates manually or by copying from another rule or template.

Rules can also be added to existing active and on-hold projects and shells by updating ("pushing") them from a project or shell template using Update Projects or Update Shells.

Note: In order to start using a rule after it has been created, it must be

validated and activated. After creating rules, see ***Validating and Activating Rules*** (on page 754).

Create a Rule Template

You can create a rule template, or a rule within a project or shell template. By default, rule templates remain inactive; the Validate, Activate and Deactivate buttons on the toolbar are disabled. Rules within project and shell templates can be validated and activated.

You can create a new rule manually or by copying an existing rule. If you create a rule within a project or shell template, the rule can be "pushed" to existing projects or shells.

To create a rule template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click one of the following:
   - **Company Workspace > Rules**
   - **Templates > Rules**
   - **Templates > Projects (Standard) > [project] > [template] > Rules**
   - **Templates > Shells > [shell] > [template] > Rules**

   Note: At the Template > Shells level, you can create rules only for CBS shells, not generic shells.

3) Click **New**. The Create a New Rule window opens.
4) Select the **Control Source** and **Rule Level**.

   Note: For details on choosing the source and level, see ***About control sources and levels*** (on page 748).

5) Click **OK**. The Edit Rule window opens.
6) Use the information in the first table below to complete the fields on the General tab.
7) Click the **Rule** tab and complete the fields using the information in the second table below.
8) In project or shell templates, if you chose "Per selected CBS Summary Codes" or "Per selected CBS Codes" as the rule Level, then the CBS Codes tab appears in the Edit Rule window. See the following procedure for selecting CBS codes.
9) Click **OK** to save and close the Edit Rule window.

In this field:	Do this:
Name	Enter a name for the rule.
Description	Enter a description of the rule.
Control Source	Unifier displays the control source you chose in this field.
Rule Level	Unifier displays the rule level you chose in this field.
Status	Unifier displays the current status of the rule.
Users/Groups who can	(Optional; appears only at the project and shell templates

override	level) This option is available only for the following rule levels: ▸ Per selected summary CBS codes ▸ Per selected CBS codes Click the Select button and from the picker that appears, select the users or groups that will be allowed to override this rule at runtime. If you select this option, the specified users/groups should be able to override a rule failure condition during a workflow. Unifier will display the name(s) of the overriding user(s) and any comments in the Audit Log. Note: If you use this option, users/groups can override this rule, even if the data is not valid. Also, the users/groups specified in this option will be added to the project/shell if they do not already exist there
Notify Users/Groups when overridden	(Optional; appears only at the project and shell templates level) Click the Select button and from the picker that appears, select the users or groups that should be notified if this rule is overridden.

In this field:	Do this:
Limit Expression	This defines the Upper Limit that the rule validates against and is static. For example, for cost rules, this might be the Assigned Budget, or can include the sum of several budget-related data sources on the cost sheet. Click the Formula button. The Formula Creation window opens. The data source list includes all available cost sheet data sources for cost-related rules, or funding sheets data sources for fund-related rules. This is the value on the left of the Condition. Pending positive values are not considered. **Note**: Unifier identifies the non-terminal documents as pending.
Include positive pendings in calculation	Deselected by default. When this option is selected (checked) by the user, Unifier will consider positive values from non-terminal records in the **Limit Expression** formula calculation. When this option is deselected (unchecked) by the user, Unifier will ignore positive values from non-terminal records in the **Limit Expression** formula calculation.

Condition	The option "greater than or equal to" is the only selection available. Rules always check that the "Upper Limit" (Limit Expression) is greater than or equal to the amount calculated by the Data Expression.
Data Expression	This is what is being validated. For example: Purchase Order (Pending) + Purchase Order (Approved) + Change Commit (Pending) + Change Commit (Approved) Click the Formula button. The Formula Creation window opens. The data source list includes all available cost sheet data sources for cost-related rules, or funding sheets data sources for fund-related rules. This is the value on the right of the Condition. Pending negative values are not considered.
Include negative pendings in calculation	Deselected by default. When this option is selected (checked) by the user, Unifier will consider positive values from non-terminal records in the **Data Expression** formula calculation. When this option is deselected (unchecked) by the user, Unifier will ignore positive values from non-terminal records in the **Data Expression** formula calculation.
Show this message when condition is not met	This field is required. Enter a message to display to users if the rule condition is not met.

Select CBS Codes or Summary Codes

To select CBS codes or summary codes:

1) In the Edit Rule window, click the **CBS Codes** tab. (This tab is available if you chose "Per selected CBS Summary Codes" or "Per selected CBS Codes" as the rule Level.)
2) Click **Add**. The CBS Picker opens.
   - If you chose "Per selected CBS Summary Codes," the picker displays the summary CBS codes on the sheet. This is only applicable if the project/shell cost sheet uses a tree structure. Cost sheets with flat structures do not have summary CBS codes.
   - If you chose "Per selected CBS Codes," the picker displays the "leaf" CBS codes (individual, non-summary codes). This is applicable for both tree and flat cost sheets.
3) Select one or more codes from the picker and click **Select**.

   To locate the CBS codes you need, you can click the **Find** button in the CBS Picker. For tree structure cost sheets, you can also click **Expand** or **Collapse** to help you navigate the code structure.

   After you select the CBS codes, they are listed in the CBS Codes tab. You can add as many CBS codes as needed. At runtime, the rule will be applied only to the CBS codes selected.

Note: Summary CBS codes must all be at the same summary level (i.e.,

the same indent level).

4) For **Validation**, choose one of the following:
   - **Validate total of selected rows**: the system will calculate the sum of the selected CBS codes and then apply the rule to the total
   - **Validate selected rows independently**: the system will apply the rule to each selected CBS code individually
5) To remove a CBS code from the list, select it and click **Remove**.
6) Click **OK** to save and close the Edit Rule window.

> **Note**: If you add a CBS code or summary code to this list and it is later removed from the cost sheet, the rule will not be affected. The code will still appear on the CBS Codes tab. At runtime, the rule engine will ignore the code that was removed from the cost sheet. Similarly, in a tree structure, if a summary code is changed to a leaf code (or vice versa) after adding it to the CBS Codes tab, at runtime, the rule engine will ignore the code that was changed and not create an error.

Create a Project or Shell Rule

You can create a new rule in a project or shell manually or by copying a rule template or existing rule.

In addition to these procedures, rules can also be added to existing active and on-hold projects and shells by updating ("pushing") them from a project or shell template using Update Projects (***Update project cost or fund rules*** (on page 358)) or Update Shells (***Updating Shells - Rules Node*** (on page 439)).

To create a new project or shell level rule

1) Open the project or shell and switch to Admin mode.
2) Click to **Rules** in the left Navigator.
3) Click **New**. Follow the procedure for creating a **Rule Template**.

To create a rule by copying a rule template

1) Open the project or shell and switch to Admin mode.
2) Click **Rules** in the left Navigator.
3) Click the **Copy** button and select **Template**. The Copy from Rule Template window opens.
4) Select a template from the list and click **Copy**. The Edit Rule window opens.

   You may make edits to the Edit Rule window if necessary. For example, by default, the Name will display as "Copy of (name of rule template)," which you may wish to change.
5) Click **OK**. The new project or shell rule will be added to the project or shell Rules log.

To create a rule by copying an existing rule

1) Open the project or shell and switch to Admin mode.
2) Click **Rules** in the left Navigator.
3) Select a Rule from the log.

4) Click the **Copy** button and select **Rule**. The Edit Rule window opens.

   You may make edits to the Edit Rule window if necessary. For example, by default, the Name will display as "Copy of (name of the copied rule)," which you may wish to change.

5) Click **OK**. The new project or shell rule will be added to the project or shell Rules log.

Create a Company Rule

At the company level, you can create rules for the company funding sheet. You can create rules that help you manage you manage each fund, or the total of all funds.

To create a company level rule

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Company Workspace > Rules**.
3) Click **New**. The Create a New Rule window opens.
4) Select the **Control Source**: Company Fund.
5) Select the **Rule Level**: Per Fund or Per Total of all funds.
6) Click **OK**. The Edit Rule window opens.
7) Complete the Edit Rule window as in the Rule Template procedure and click **OK**.

Validating and Activating Rules

Rules must be active before they can take effect. Before activating a rule, they must first be validated to make sure there are no conflicts associated with it. Rules within projects and shells as well as within project templates and shell templates can be validated and activated. Rule templates cannot be activated or validated.

Validate a rule

You can validate rules in projects or shells, and company level rules. You can also validate rules in project or shell templates to help ensure that they will work in the project or shell, even if you do not immediately activate them. Validation is not available in rule templates, because part of the validation process involves verifying that the cost or fund sheet is set up and any referenced business processes are active.

It is good practice to validate a rule before attempting to activate it. If you try to activate a rule directly, the system will first validate it anyway, but if there is a conflict, you will simply see an error and may not be able to assess what the issue is. By validating first, the system provides more information if the validation fails.

To validate a rule

1) Select a rule from the Rules log.
2) Click the **Validate** button on the toolbar. The Validation Results window opens.

   If the validation failed, the errors will be listed in the window. Edit the rule as necessary and revalidate.

Activate or Inactivate a rule

You can activate rules in projects or shells, and company level rules. You can also activate rules in project or shell templates. In this way, the rules in the projects or shells that are created from these templates will be active as soon as the project or shell is active.

You cannot activate a rule template.

To activate a rule

1) Select one or more rules in the Rules log. Be sure that the rules have passed validation.
2) Click the **Activate** button.

To deactivate a rule

1) Select one or more activate rules in the Rules log.
2) Click the **Deactivate** button.

Manage Rules

Rules can be accessed in the following logs in Administration Mode:

- Company Workspace > Rules
- Company > Templates > Rules
- Project > Rules
- Project Template > Rules
- Shell > Rules
- Shell Template > Rules

Rules can also be updated in active and on-hold projects and shells by updating ("pushing") the changes from a project or shell template using Update Projects ***Update project cost or fund rules*** (on page 358)) or Update Shells (***Updating Shells - Rules Node*** (on page 439)).

To edit a rule

1) Select the rule in the Rules log. If the rule is active, you must deactivate it before editing.
2) Click the **Edit** button. The Edit Rule window opens.
3) Make edits as necessary and click **OK**.

To delete a rule

Select a rule from the Rule Log window. Click **Delete**, then **Yes** when prompted to confirm.

To view a rule audit log

1) Select a rule from the Rules log.
2) Click the **View** menu and choose **Audit Log**. The Audit Log window opens, listing each event associated with the rule. The date and time stamp of each event reflect users' current time zone as set in their User Preferences.
3) From the Audit Log window, you can double-click a listed event to view the audit record detail, which details the action taken. The details also include the user's current time zone for reference.

To print the audit log

1) From the Audit Log window, click the **Print** button. A PDF file is created.
2) Do one of the following:
   - Click **Open** to open the file in Adobe Acrobat Reader. From the Reader window, you can view, save, or print the file.
   - Click **Save**. In the Save As window, navigate to the location in which you want to save the PDF file. Open the file in Adobe Acrobat Reader and choose **File > Print** to print.

Setting up a Generic Cost Manager

You can define a Generic Cost Manager to capture cost-related activities for a Generic Shell. These include costs like:

- Rent
- Lease payments
- Landscape care
- Building maintenance and repair
- Remodel of building interiors

With this manager, you can capture and view cost transaction information based on a time scale, such as quarterly or yearly. Each shell can have one Generic Cost Manager.

The Generic Cost Manager uses specific Generic Cost business processes and business processes with the type Line Items with Multiple Codes as data sources.

Before you begin. The Generic Cost Manager and the Generic Cost Manager Attribute form must first be designed in uDesigner.

Step 1: Set the permissions for importing the Generic Cost Manager.

Step 2: Import the Generic Cost Manager.

Step 3: Import and deploy the Generic Cost Manager Attribute form.

Step 4: Set template permissions.

Step 5: Create the Generic Cost Sheet template at the company level.

Step 6: Create a Generic Cost Sheet.

Step 7: Work with Generic Cost BPs.

Step 8: Set up the Commitment Summary Template.

> **Note**: The name of the Generic Cost Manager you will work with is determined by the name given to it in uDesigner. For documentation purposes, the manager is referred to as the Generic Cost Manager.

Setting Generic Cost Manager Permissions

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Access Control** in the left Navigator.

3) In the right pane, select **Configurable Modules > Generic Cost Manager.**
   The permissions are:
   - **Modify**: Allows the use to import configurable modules from uDesigner
   - **View**: Allows the user to view configurable modules imported from uDesigner

Import Generic Cost Manager

To import an asset class into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Import Generic Cost Manager Attribute form

To import and deploy an attribute form into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Creating a Cost Sheet Template for a Generic Manager

You can create a Generic Cost Sheet template to use with the Generic Cost Manager.

Create a Generic Cost Sheet template

The name of the template is based on whatever name was given to the Generic Cost Manager. You create this template at the company level, and use it in shells that are of the type Generic.

To create a Generic Cost Sheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates> Configurable Modules > Generic Cost Manager** in the left Navigator.
3) Click **New** to create a new Generic Cost Sheet template. You can create multiple templates. The Properties window displays.
4) In the **General** tab, enter general information for the template:
   a. Enter a unique **Title**, which is used to identify the template in the log, and when creating a new Generic Cost Sheet from the template.
   b. Enter an optional **Description** for the template.
   c. Choose a default display mode for the sheet.
      - If you choose **Flat**, the cost sheet will display the codes (rows) in a flat structure, with no indented rows. This is useful if you want to display all codes at once.
      - If you choose **Tree**, you have the option of creating indented, nested rows, which can be collapsed into summary, or grouping, rows. This is useful if you will be creating a large amount of rows that can be grouped into categories. You can check **Expand all codes** to expand the row structure by default.
   d. Choose a **Default View**. The choices are:
      - Current Shell
      - Current Shell and sub-shells
      - Subshells

5) In the **Segments** tab, define the segments of the cost codes that will be created on the sheet by choosing the **Segment Sources**. The segment sources are those that were defined in uDesigner. After you click Apply, you cannot add or remove any of the segments. If you want to use different segments, you must create a new template.
6) Click **Apply** to save changes, or **OK** to save and exit the window.

Structure a Generic Cost Sheet template

After you create the template, you can define the structure by adding rows and columns.

To add rows to a Generic Cost Sheet template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates> Configurable Modules > Generic Cost Manager** in the left Navigator.
3) Select a Generic Cost Template.
4) Click the **Structure** button. The Template Structure Setup window opens.
5) Click **Add Row**. The Generic Cost Code Details window opens.
6) To form cost codes (rows) click **Select** next to the **Cost Code** field.
7) Enter the cost code segments and click **OK**.
8) Optionally, enter a code name for the cost code.
9) Select a status (**Active** or **Inactive**).
10) Click **Add** to add the row and then continue to add rows, or click **OK** to exit.

To add columns to a Generic Cost Sheet template

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Templates> Configurable Modules > Generic Cost Manager** in the left Navigator.
3) Select a Generic Cost Template.
4) Click the **Structure** button. The Template Structure Setup window displays.
5) Click **Columns**. The Cost Sheet Columns window opens.
6) Click the **New** button. The Column Properties window opens.
7) Complete the fields in the Column Properties window as described in the table below.
8) Click **OK** when you are done with the column properties.

In this field:	Do this:
Name	Enter a column name. The name you choose will appear as the column header on the sheet. If you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	Choose a datasource. All columns must be associated with a data source. The data source that you choose will determine which of the following options are available. The types of Data sources available are: Single Datasource: These values roll up from business processes that have these attributes: Level: Project/Shell Type: Cost

	Sub-Type: Line Items with Multiple Codes Configurable Manager: <name of Generic Cost Manager> Logical Datasource: Generic Cost Manager (1-25).
Entry Method	Choose an entry method. This is applicable for logical data sources. Manual Entry, Direct entry into cell: Users enter values by clicking the cell and entering values directly into the cell. Formula: Values are calculated based on a specified formula entered for the column. Formulas can include the values of other columns. Click the Create button to create the formula.
Data Format	Choose a data format. Applicable for Manual Entry or Formula columns: Show as percentage: Display the data in percentages. Decimal Places: Number of decimal places to display. Use 1000 Separator (,): Use a comma as a separator. Negative Number Format: Specify the format for negative numbers.
Display Mode	Choose a display mode. Refers to whether the column is displayed on the cost sheet. Show: Default; indicates that column will display by default on the cost sheet to all users with at least "view" permission for the cost sheet. Hide: Hidden columns are active but not displayed on the cost sheet. Hidden columns can be accessed by users with "create" permission on the cost sheet. Total: Choose to designate the content of the Total row of the column. Default is Blank. You can choose Sum of All Rows or Use Formula Definition. Average: Display the average row of the column.
Total	Choose how the total is displayed. Determines what will display in the "Total" (bottom) row for the column: Blank: The total of this column is not applicable and will not display on the cost sheet. Choose this column for percentage columns and other columns where it does not make sense to display the sum total. Sum of All Rows: The sum total of the column values is displayed. Use Formula Definition: For formula columns; the formula will be applied to the "Total" row in the same way it is applied to other rows in the column.
Column Position After	Choose the column position. The new column will be inserted after the column selected.

Setting Generic Cost Sheet Template Permissions

1) Go to the **Company Workspace** tab and switch to **Admin** mode.

2) Click **Access Control** in the left Navigator.
3) In the right pane, select **Templates > Generic Cost Manager.**
4) Select the **Generic Cost Sheet** template.

   The permissions are:
   - **Create**: Allows user to create a new Generic Cost Sheet template.
   - **Modify Properties**: Allows the user to modify the template properties.
   - **Modify**: Allows the use to modify an existing template.
   - **View**: Allows the user to view templates.

Creating a Generic Cost Sheet

You create a Generic Cost Sheet in the same way you create a standard Cost Sheet. See ***Create a company cost sheet*** (on page 691) for details. Remember that the Generic Cost sheet can only be added to a generic shell, not to a project.

Setting up the Commitment Summary Template

When a Generic Cost BP of the Base Commit type reaches Terminal status, it will create a record in the Commitment Summary sheet, which tracks commits in the context of a shell. When subsequent Change Commits and General Spend Generic Cost BPs that are associated with the original Base Commit, BP will update the Base Commit record on the Commitment Summary sheet.

Create a Commitment Summary Sheet Template

To create a Commitment Summary sheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Commitment Summaries** in the left Navigator.
3) Click **New** to create a new Commitment Summary sheet template. You can create multiple templates.
4) In the **General** tab, enter a unique **Name** and an optional **Description**.
5) In the **Options** tab, enter the following column names: **Ref**, **Cost Code**, **Code Name**, **Breakdown**, and **Description**.

   Depending on design in uDesigner, some columns may not display in the Commitment Summary sheet.
6) Click **OK**.

To add columns to a Commitment Summary sheet template

1) In Administration Mode, go to the **Company Workspace** tab and click **Templates > Commitment Summaries** in the left Navigator.
2) Select a Commitment Summary sheet template.
3) Click the **Columns** button. The Columns Log window opens.
4) Click the **New** button. The Column Properties window opens.
5) Complete the fields in the Column Properties window as described in the table below.

6) Click **OK** when you are done with the column properties.

In this field:	Do this:
Name	Enter a column name. The name you choose will appear as the column header on the sheet. If you leave the Name field blank, the selection you make in the Datasource field will automatically populate the Name field.
Datasource	Choose a datasource for the column. The data source that you choose will determine which of the following options are available. The types of Datasources available are: Single Datasource: These values roll up from business processes that have these attributes: ▸ Sub-Type: Line Items with Multiple Codes ▸ Classification: Base Commit, Change Commit, or General Spends Logical Datasource: ▸ Commitment Cost 1 to Commitment Cost 25 ▸ Commitment Remaining Balance
Entry Method	This is applicable for logical data sources. ▸ Manual Entry, Direct entry into cell: Users enter values by clicking the cell and entering values directly into the cell. ▸ Formula: Values are calculated based on a specified formula entered for the column. Formulas can include the values of other columns. Click the Create button to create the formula.
Data Format	Choose the data format: ▸ Currency: Formats data in a currency format with a comma (,) separator. ▸ Percentage: Formats data as a percentage (%).
Display Mode	Choose a display mode. This refers to whether the column is displayed on the cost sheet. ▸ Show: Default; indicates that column will display by default on the cost sheet to all users with at least "view" permission for the cost sheet. ▸ Hide: Hidden columns are active but not displayed on the cost sheet. Hidden columns can be accessed by users with "create" permission on the cost sheet.
Column Position After	Choose the column position. The new column will be inserted after the column selected.
Allow sub-breakdown with validation	Select to be able to manually enter values against breakdowns in lines created on the sheet through Base Commit and Change Commit.

Create a Commitment Summary Sheet

To create a Commitment Summary sheet:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates> Shells > [Shell name] > Cost Manager > Commitment Summary** in the left Navigator. The Commitment Summary log opens.
3) Click the **Create Structure** button. The Select Template window opens.
4) Choose a template and click **OK**.
5) Click **Columns** to add columns.
6) Choose **File > Properties** to edit the sheet properties.
7) In the **General** tab, enter a unique **Name** and an optional **Description**.
8) In the **Options** tab, enter the following column names: **Ref**, **Cost Code**, **Code Name**, **Breakdown**, and **Description**.

   Depending on the design in uDesigner, some columns may not display in the Commitment Summary sheet.
9) Click **OK**.

Update a Commitment Summary Sheet from a template

To update a Commitment Summary sheet from a template:

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates> Shells > [shell] > Cost Manager > Commitment Summary** in the left Navigator. The Commitment Summary log opens.
3) Modify the Commitment Summary
4) Click the **Update Shells** button. The Update Shells window opens.
5) Choose the shells to update and click **OK**.

Setting Up the Document Manager

A document attribute form and folder attribute form can be designed in uDesigner. These are used as the Properties window for documents and folders in the project-, shell-, and company-level Document Manager, which allows you to specify the fields that you want to associate with folders and documents (these are reportable).

Step 1: Import and deploy Document Manager attribute forms. This is an optional step. If you do not import these forms, default forms will be used for document and folder properties.

> **Note**: Configuration of the Data Picker and Data Elements (and when applicable: Unique and Auto Sequence settings) must be done in uDesigner.

Step 3: Create a folder structure template. This can be used to create the folder structures in the Document Manager at the project, shell, and company level.

Step 4: Lock the folder structure. This is an optional step. This locks the first-level folder structure in User Mode, which prevents users from creating or editing first-level folders, allowing you to maintain a consistent structure across projects and shells and at the company level. Users can still add or edit subfolders. You can unlock the folder structure later for editing if necessary.

For security, the Company Administrators can specify the list and size of files that can be uploaded to the Company Properties page, by users and per company policy. See ***Access Company Details*** (on page 265) for more information.

In This Section

Document and Folder Properties

Users have the ability to create attribute forms to customize the document properties and folder properties in the Document Manager, using the uDesigner. The data elements on the Properties window are fully reportable through user-defined reports.

The project documents, shell documents, and company documents log columns can also be customized through uDesigner, as well as the find function for searching on document and folders properties. You can import one document properties attribute form and one folder properties attribute form. Refer to the *Unifier uDesigner User Guide* for details about creating Document Manager attribute forms.

Permissions

The Document Manager permissions are set at the module level through the Permissions window or Access Control. Permissions for the Project-level, Shell-level, and company-level Document Manager are set separately. When permission is granted to view the Project Documents, Shell Documents, or Company Documents node, this only grants the user the ability to access the module and potentially to view documents stored there. Users must also be granted specific permission to create, modify, or view specific documents and folders in User Mode. This can be done by the folder or document's owner, or an administrator with full access permissions. Permissions at the folder or document level can be inherited from permission settings in the parent folder.

A user granted full access permissions will have access with full permissions to create, modify, or delete any folder or document, regardless of the permission setting at the folder or document level. In addition, a user who is the owner of a folder or document will have full access permissions on that folder or document. Any folder or document level permissions are ignored. However, if the owner transfers ownership to another user, the permission setting for the former owner will be determined by the folder or document level permission setting.

A user designated as the document administrator should have permission to create and maintain folder structure templates. Optionally, it is useful for the document administrator to have full access permissions granted for the Project Documents, Shell Documents, Company Documents, and Unpublished Documents nodes.

Categories

Categories are controlled by the data definition **SYS Category**. This is managed like other data definitions. Category values are added as the data set.

When entering document or folder properties in the Document Manager, a category can be defined by choosing from the values in the data set. Category information is reportable in user-defined reports.

Importing Document Manager Attribute Forms

You can customize the document and folder properties by creating DMS attribute forms in uDesigner. Ensure that you have checked for errors and changed the status to complete in uDesigner.

When deploying the attribute forms, the following will be updated with the customized interface designed in uDesigner:

- Project Documents log
- Shell Documents log
- Company Documents log
- Search by Properties Criteria

You can have only one document and folder attribute form per company, which will be used for the document and folder properties in the company-level Document Manager and across all projects and shells.

To import and deploy a Document Manager attribute form into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Setting Document Manager Administration and User Permissions

To grant auto-sequencing configuration permission:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode > Configuration > Document Manager**.
4) Select **Configure**.

To grant User Mode permissions:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click Access Control in the left Navigator.
3) On the right pane, select:
   - **User Mode > Company Workspace > Document Manager** > **Company Documents** or
   - **User Mode > [project or shell] > Document Manager**.
4) Select **Full Access**, **Create**, **Organize,** or **View**.

For Unpublished Documents, the permissions are **Publish**, **Download**, **Open**, **View**.

For Document type business process permission settings, refer to the *Unifier Reference Guide*.

Working with Folder Structure Templates

You can standardize the setup of the Document Manager across your projects and shells and at the company level by creating folder structure templates. These allow you to create the folders and sub-folders that you can then import into the company Document Manager, or into any project and shell or project or shell template to organize your documents.

After importing, you can add, move, rename, or delete folders as needed. You can import a folder structure directly under the Project Document, Shell Document, or Company Documents node to create the main folder structure, or create specialized structures to import under existing folders to create sub-folders.

Note: By default, files attached to business processes are placed in the Unpublished Documents folder in the Document Manager. A Publish Path data element can be designed in business processes in uDesigner to specify the automatic publishing of documents to a specified path and override the default. For document-type business processes With Folder Structure, you can specify that a configured folder path be appended to the folder structure. This appended path is based on the path configured in the uuu_dm_publish_path data element on the business process form, and the selection of the Append Line Items Folder Structure to AutoPublish Path option, which is documented in the *Unifier uDesigner User Guide*; see Starting an Upper Form for details.

To create a folder structure template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Folder Structures** in the left Navigator.
3) Click the **New** button, or click the **File** menu and choose **New > Create New Template**. The Create Folder Template window opens.
4) Enter a name for the template.
5) Click **Add**. A sub-folder will be created in the Template Folder. The Template Folder corresponds to the folder into which you will import the folder structure in the Document Manager.
6) Continue to add folders.

   Select the parent folder before clicking **Add**. Clicking Add without selecting a folder will default to the last folder created.
7) To modify the folders, do any of the following:
   - Click **+** (plus sign) to the left of the folder to expand it and display the sub-folders.
   - Select a folder and click **Remove** to delete a folder.
   - Select a folder and click **Rename** to change the name.
   - Select a folder and click **Move Up** or **Move Down** to move it.
8) Click **OK**.

To create a folder structure from an existing project or shell

1) In Administration mode, go to the Company Workspace tab and click **Templates > Folder Structures** in the left Navigator.
2) Click **New > Copy from Project** or **New > Copy from Shell**. The Projects or Shells window opens.
3) Select a project or shell from the list and click **Select Project** or **Select Shell**. You can click **Find** to search for the project or shell. The Copy Folder Template window opens, displaying the entire folder structure of the project or shell you chose.
4) Give the new template a name. You can add, modify, delete, or move the listed folders as needed.
5) Click **OK** to save the template.

The structure can be imported into the Document Manager. See Import a folder structure template.

To modify a folder structure template

1) In the Folder Structure Template log, select the folder structure template to modify and click the **Open** button. The View Folder Structure Template opens.
2) Click **+** (plus sign) to the left of a folder to expand it and display the sub-folders.
3) To modify folders, do any of the following:
   - Select a folder and click **Remove** to delete a folder.
   - Select a folder and click **Rename** to change the name.
   - Select a folder and click **Move Up** or **Move Down** to move it.
   - Click **OK**.

To delete a folder structure template

In the Folder Structure Template log, select the folder structure to delete and click the **Delete** button. Click **Yes** to confirm.

Lock and unlock the first-level folder structure

An administrator with full Document Manager permissions (full access or create permission on the Project Documents, Shell Documents, or Company Documents node) has the ability to lock or unlock the first-level folder structure. The first-level folder structure refers to the folders directly beneath the Project Documents, Shell Documents, or Company Documents node.

This allows an administrator to establish a standard first-level folder structure that cannot be modified. Users will not be able to add, modify, or delete the first-level folders, but can add sub-folders or documents. Permissions to lock first-level folders can be modified.

You can lock the folder structure at the Project Documents, Shell Documents, or Company Documents root folders.

To lock the first-level folder structure

1) In User Mode, do one of the following:
   - Open a project or shell and click **Document Manager > Documents** in the left Navigator. Be sure the Project or Shell Documents folder is selected.
   - Go to the **Company Workspace** tab and click **Document Manager> Company Documents** in the left Navigator. Be sure the Company Projects or Company Shells folder is selected.
2) Click **Properties**. The Folder Properties window opens.
3) Click the **Options** tab.
4) Select the checkbox **Lock first level folder structure below Project Documents** (or Company or Shell) at the bottom of the window. You may need to scroll down.

   Users with permissions will be able to add documents and sub-folders, but cannot add, modify, or delete the first-level folders.

> **Note**: This checkbox is only available in the Project, Shell, and Company Documents folder properties.

5) Click **OK**.

To unlock the first-level folder structure

Open the Folder Properties window, Options tab, and deselect the checkbox.

Configuring Document Manager

When configuring **Document Manager**, the user can create log views for the Document log.

All the DM attributes forms available in **Folder Properties** node (in **Document Manager**) are included in the configuration once the DM design is deployed. For more details on DM attributes refer to the:

- *Unifier User Guide*, "Working with Multiple Document Manager Attribute Forms."
- *Unifier uDesigner User Guide*, "Creating Multiple Attributes Forms."

Unifier creates the configuration, by default, when the attributes form is deployed in the **Document Manager**, in uDesigner, and marked as **Active**.

The configuration for system-defined attribute form will always be **Active**. The user will be able to create log views whether configuration is **Active** or **Inactive**.

Only the active DM configuration forms will be available for selection in shells or shell templates.

If the user deletes the attribute form related to the DM configuration, then Unifier deletes the configuration for the attribute form, once the user deploys the DM design.

When the user opens a configuration for the **Document Manager**, a sub-node appears under the **Document Manager** node ("{document manager log name } - Log Views"). This sub-node will be available in **Document Manager** log regardless of status (active or inactive), and the user can define log views for the respective DM logs. For example, if the user clicks on EMAAR Attributes, then a sub-node appears as "EMAAR Attributes - Log views."

Permission and Access Control

Only a user with Configuration permission, for **Document Manager**, will be able to access this node and create views. To set permission, go to **Company Workspace** > **Admin** mode > **Access Control** > **Administration Mode Access** > **Configuration** > **Document Manager**: **Permission Settings** > **Configure**.

Creating Document Manager Log Views in Admin Mode

The following list of views in the log are included in the OOTB (out of the box) views. These views can be modified only at the Admin level. Views defined in the Configuration node will also be treated as OOTB views.

To define log views for **Document Manager**, use the **Document Manager** node (**Company Workspace** > **Admin** mode > **Configuration**). The **Document Manager** log has the following operational options:

- **Create**

  Enables the administrator to create new view.
- **Actions**

  Possible actions is status which can be marked as active or inactive..
  - **Status (Active - Inactive)**
- **Find on Page**

  To filter the results seen on **Document Manager** log and finding a specific view on the displayed page.

> **Note**: The user will not be able to inactivate the DM configuration associated with a system-defined attribute form.

The **Document Manager** log has the following columns:

- **No.**

  This is a system-generated number. When populated, it enables the user to know the sequence of the views.
- **Name**

  Name of the view.
- **Description**
- **Last Modified Date**

  The date that the View was last modified. For a new view this will be the creation date. For existing system-defined views, for the very first time, when no modifications are done, this field will be blank.
- **Last modified by**

  The user who modified the view. For existing system-defined views, for the very first time, when no modifications are done, this field will be blank.
- **Status**

  Can be Active or Inactive.

The Administrator cannot inactivate all the views. At least one view must be active.

The 'check for duplicate view' names will be performed per user. A user will not be allowed to create two views with the same name per DM log.

If a user changes the sequence of the views that was initially provided as per DM configuration, or if an Administrator has made few changes to the sequence, the user's view sequence will not change.

The new active views will be appended to the end of the list, in user view, in **Document Manager**.

Defining new view

When you click **Create**, the **New View** window opens. From top to bottom, this window has the following elements:

- **Save View As**
- **Cancel**

- **Save**
- **Columns tab**
- **Filters tab**
- **Group By tab**
- **Sort By tab**
- **Gear** icon

  Enables the user to conduct the following:

  - **Move Up**

    This option is not available for first view.
  - **Move Down**

    This option not available for last view.
  - **Delete**

    This option not available for Active view.

  Changing the sequence will change the number seen for the view. The sequence seen is the sequence seen in the log. When a drag and drop is done to re-sequence the views, the numbers will change.

The **Actions** option enables the user to set:

- **Status**

  The user will be able to defined the view status as Active or Inactive. The user can select one or more views and click Status to either Activate or inactivate the views.
- **Delete**

  The user will be able to delete the views. Deletion of views will be possible only for Inactive views. If multiple views are selected and one of the views is active then post action only the Inactive views will be deleted.

Document Log Views and Configuration Package

Use the Log Views node (**Company Workspace** > **Admin** mode > **Configuration Package Management** > **Component Lists** > **Configuration** > **Log Views**) to include the designs for the selected log views, for **Document Manager**, in your configuration package.

DM log views in Component list/Configuration Package:

- The users can include DM log views and deployed designs.
- The users can include updated DM log views without any changes to the underlying columns used in View definition.
- When the configuration package is imported, it replaces any existing DM log views that were created by the administrator.

> **Note**: The DM log view component will be included as part of impact analysis report, error report, and print report. In Impact Analysis Report, the name for log view will appear as "{DM configuration name} - Log View". In other reports the name will be maintained as is as seen in the DM configuration.

Once a DM log view is included, Unifier will package all of the log Views for that particular DMS in the configuration package. When imported, the package replaces all of the log views created by the Administrator.

> **Note**: The user-created view (the runtime created views) will not be impacted by Configuration package import.

The component name will be listed as **Document Manager**, for log views, and the location as **Configuration** > **Log** Views.

Setting Up the Planning Manager

Before you begin: Planning types are designed in uDesigner and deployed to Unifier. A planning type consists of planning item forms and planning sheet forms. Examples of planning types include Capital Planning, IT Planning, etc. The planning item forms are used to create new planning initiatives for that type, and the sheet forms are used to create the associated planning sheet. The types, forms, and corresponding logs are designed in uDesigner.

Step 1: Design Planning Type attribute in uDesigner and deploy to Unifier. This is similar to any other design deployment in uDesigner.

Step 2: Grant yourself permissions to create a default sheet structure and configure the planning type.

Step 3: Create a default structure for the planning sheets. This is a template that you will create to specify the default columns that should be on the planning sheets.

Step 4: Configure (activate) each planning type.

Step 5: Grant Planning Manager permissions to users. In User Mode, the permissions for planning items and sheets are Full Access, Create and View.

Once you have completed these steps, the Planning Manager is ready for use in Unifier (User mode).

In This Section

Importing a Planning Type

To import and deploy a planning type into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Granting Yourself Permissions

When you import a new planning type, you must grant permission (to yourself, another administrator, or group such as Company Administrators) to configure the planning type and create a default structure for the planning sheets.

To grant configure permissions

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) In the right pane, select **Administration Mode Access > Configuration > All > Planning Manager**.
4) In the Module Permission Settings window, click the **Add** button. The Permission/Access Control window opens.
5) Click the **Add Users/Groups** button. The User/Group Picker opens.
6) Select the user(s) to whom you want to give configuration permission and click the **Add** button. Click **OK**. Unifier adds the name(s) to the Permission/Access Control window.
7) Under Permission Settings, select **Configure** and click **OK**. Unifier adds the name(s) to the Permission Settings window.
8) Click **OK**.

Creating a Default Structure for the Planning Sheet

Creating a sheet structure produces a template that users can use to create a planning sheet. You must create a default sheet structure before you can use the Planning Manager at the company level, or load the Planning Manager into a shell.

To create a planning sheet structure

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Planning Manager** in the left Navigator.
3) Select the planning item for which you want to create a structure.
4) Click the **Default Structure** button. The Planning Sheet Template window opens.
5) Add columns by clicking the **Columns** button. The Column Log opens.
6) Click **New**. The Column Properties window opens.
7) Use the information in the following table to complete the Column Properties window.

In this field:	Do this:
Data Source	Select the field you want to appear on the sheet. (This list shows the fields (data elements) that were included on the Planning Item attribute form.) When you select the field, Unifier displays the field label in the **Name** field.
Entry Method	Specify: ▸ **Manual Entry** if the user must manually enter values into this field ▸ **Formula** if the field will be automatically calculated with a formula. (To create the formula, see ***Add a column based on a formula calculation*** (on page 775).) ▸ **Query** to retrieve data from the database that meets specific conditions and display it in this column. (To create the query, see ***Add a column based on a database query*** (on page

	777).)
Show as percentage	If you chose **Formula** or **Query** as the data entry method, use these options to specify how the value should be shown. **Note**: If the data element was defined in uDesigner with a specific decimal amount, it will override any decimal amount you specify here.
Decimal Places	
Use 1000 Separator(,)	
Negative Number Format	
Display Mode	Use this option to hide or display this field on the sheet.
Total	If you created a formula or query to calculate the values for this column, you can specify: ▸ **Blank** to leave the total of this column blank. (Choose "blank" for percentage columns and other columns where it does not make sense to display a total.) ▸ **Sum of All Rows** to display the sum total of all the column values. ▸ **Use Formula Definition** to display the total; that is, the same formula will be applied to the total that was applied to all the values in this column.
Average	If you created a formula or query to calculate the values for this column, you can specify: ▸ **Blank** to leave the average of this column blank. (Choose "blank" for percentage columns and other columns where it does not make sense to display an average.) ▸ **Avg of All Rows** to display the value as an average of all the rows' values.
Column Position After	Use this field to specify where the column should appear on the sheet.

Add a column based on a formula calculation

If you choose **Formula** as the data entry method, you can create a numeric, a "date add," or a "date difference" type of formula to automatically calculate the values for the fields in the column.

The numeric formula option is only available if the data source you specify has been built on the *SYS Numeric Logical Datasource* data definition.

A "data add" formula takes the value from a date field and adds the value of another field to it. This option is only available if the data source you specify has been built on the **SYS Date Logical Datasource** data definition.

A "date difference" formula takes the value from a date or date field and subtracts it from the value in another date or date field. This option is only available if the data source you specify has been built on the **SYS Numeric Logical Datasource** data definition.

To create a numeric formula for a column

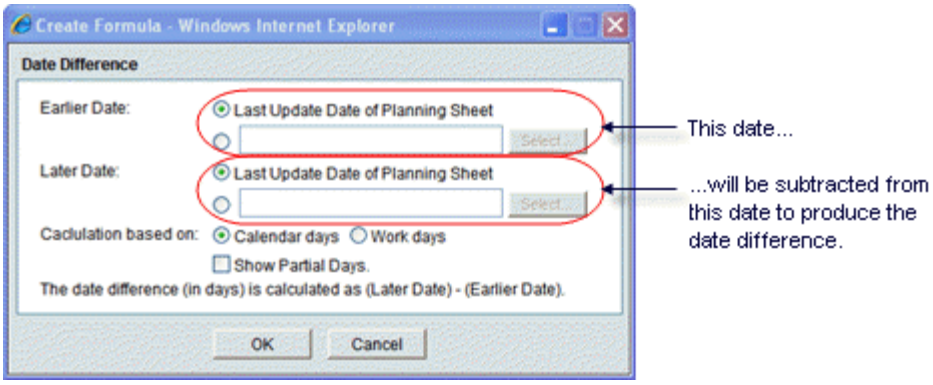
1) In the **Data Source** field, choose the field that contains the value you want to include in this column.
2) In the **Entry Method** field, choose **Formula** and click the **Create** button. The Formula Creation window opens.
3) In the **Data Type** field, specify where the field comes from—a planning item, or the planning sheet. The Formula Creation window opens, showing a list of the fields from the data type you selected.
4) Create the formula using the field values in this data source, or field values and numeric operators, such as add, subtract, or multiply.
5) Click **OK**.

To create a "date add" formula for a column

1) In the **Data Source** field, choose the field on the sheet that should show the value you are calculating here.
2) In the **Entry Method** field, click **Formula**, then click the **Create** button. The Create Formula window opens.
3) In the **Date** field, select the field to which you want to add another value as follows.
   a. Click the **Select** button. The Date Element Picker window opens.
   b. In the **Data Type** field, specify where the date field you want to add to comes from—a planning item, or the planning sheet. Unifier displays a list of the fields on the planning item form, or the planning sheet.
   c. Select the field and click **OK**.
4) In the **Add** field, select the field that contains the value you want to add to the field.
5) Specify whether the calculation should be based on calendar days or work days.
6) Click **OK**. Unifier displays the formula on the Column Properties window.

To create a "date difference" formula for a column

1) In the **Data Source** field, choose the field on the sheet that should show the value you are calculating here.
2) In the **Entry Method** field, click **Formula** and select **Date Difference** from the list.
3) Click the **Create** button. The Date Difference window opens.



4) For the **Earlier** and **Later Dates**, you can use either the last date the Planning Sheet was updated, or you can choose another field from the sheet or a planning item to supply the date value.
5) In the **Calculation based on** field, specify whether the calculation should be based on calendar days or workdays.
6) If you want the value in include fractions of days, select the **Show Partial Days** check box.
7) Click **OK**.

Add a column based on a database query

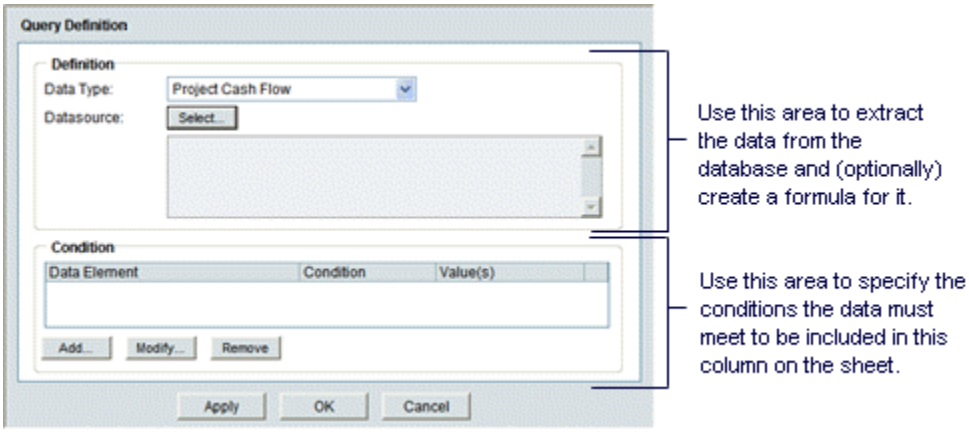
If you choose **Query** as the data entry method, use these instructions to add a column to the Planning Sheet that will contain values extracted from the database. These values will be retrieved from the database only if they meet the conditions you specify. (In operation, you will be extracting data from the database and testing it to determine whether or not it should be included in this column.)

The Query option is only available if the data source you specify has been built on one of the following data definitions:

- **SYS Numeric Datasource**
- **SYS Date Datasource**

To create a query

1) In the **Data Source** field, choose the field on the sheet that should show the value you retrieve from this query.
2) In the **Entry Method** field, choose **Query** and click the **Define** button. The Query Definition window opens.



3) In the **Data Type** field, select the functional area of Unifier the data should come from.

   This field is the first step in describing where the data resides in the database. For example, the data type could be a Cost BP, a fund allocation request, or a cash flow.
4) In the **Datasource** field, click the **Select** button. The Formula Creation window opens, showing a list of the fields from the data type you selected.

   You can drill down into the data type for other data sources if you wish by clicking the arrow beside this field and selecting other data source areas.

5) (Optional) Create a formula using the field values in this data source, or field values and numeric operators, such as add, subtract, or multiply. Click **OK** to return to the Query Definition window.
6) Specify the query condition as follows:
   a. Click **Add**. The Query Condition window opens.
   b. In the **Data Element** field, click **Select** to open the Data Element Picker.
   c. In the **Data Source** field, select the functional area of Unifier the data should come from. Unifier displays a list of the fields from the data source you selected.
   d. From the list, select the field that contains the value you want to place conditions on and click **OK**.
      - If the value meets the condition you specify, it will be included in this column on the sheet.
      - If the field you select is a date field, Unifier will display an additional field, **Timescale Units**, in which you will need to specify the option that matches the column definition. For example, if the column is a yearly budget, you would select **Years**. If the column is to show a quarterly value, you would select **Quarters**.
   e. In the **Condition** field, select the condition the value must meet to be included on the Planning Sheet, such as **equals**, or **does not contain**. For example, the value in the data element must equal 10, or the value in the data element must not equal (i.e., "is not") **Yes**.
   f. In the **Values** field, enter the value you want to test the condition on (or select the value from the list that appears when you click the **Select** button).
      The Select button may or may not appear, depending on the data element you choose. For example, for a data source of "Business Process/Status," you could choose a status from the list of statuses associated with that BP. This would limit the column data to business process records of that status.
   g. Click **OK**.
7) On the Query Definition window, click **OK**.

Create a planning column group

This allows you to group columns together and assign a group name, which is displayed on the planning sheet above the columns. Columns in a group must be contiguous.

> **Note**: If you need to add a column to an existing group, first ungroup the existing columns, then create a new group to include the new column.

To group planning sheet columns

1) Select **Columns**. Columns must be contiguous, and cannot belong to more than one group.
2) Click **Group Columns > Group**. The Edit Column Groups window opens.
3) Name the group and click Ok. Group names must be unique. The Group Name will appear in the planning sheet log and also on the Planning Sheet above the columns.

To add or remove columns to the group

1) Ungroup the columns.

2) Select a new group of contiguous columns. Add or move columns as necessary.
3) Group the new columns.

To change the group name

1) Select any column in the group.
2) Click **Group Columns > Group**.
3) Enter a new Name and click **OK**.

To ungroup columns

Select grouped columns and click **Group Columns > Ungroup**. Ungroup will remove group name from all columns that are part of that group.

Edit Planning Sheet Properties

You can edit the properties in individual planning sheets or the default structure.

To edit planning sheet properties

1) Open the planning sheet or default structure.
2) Click **File > Properties**. The Properties window opens.
3) Complete the **General** tab: You can enter or change the **Name** of the sheet, and add an optional **Description**.
4) Click the **Options** tab:
   - **Sort by Column:** Choose the column to sort the planning item rows by. The default is Name (planning item name). As you add additional columns to the sheet, these columns will be available to select.
   - **Sort Order:** Choose Ascending or Descending; works in conjunction with Sort By Column.
   - **Update Planning Items:** When this checkbox is selected, it allows planning sheet users to manually edit planned item data. This helps to prevent conflicting data from multiple planning items.

   This box can be checked on only one sheet per Planning Type. When this box is checked, the sheet is moved to the top of the log, and displayed in bold font, thereby acting as a master planning sheet.
5) Click **OK**.

Configuring the planning type

Configuring a planning type makes it active in Unifier, gives it a numbering sequence for the records, and specifies an optional Help file and hard copy layout for printing.

To configure a planning type

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Planning Manager** in the left Navigator. Each planning type will be listed here.

3) Select a planning item and click **Open** (or double-click). The Planning Configuration window opens.
4) Complete the **General** tab:
   - **Sequence Format**: This will define how planning item records will be numbered under this Planning type.
   - **Help File**: This will allow user to upload a PDF file as help file for Planning Item. This file should be available from Planning Item log window and individual planning item record.
   - **Status**: This defines if this planning type is active or not. If it is not active then it will not be visible under User Mode in Unifier even if a user has permission to access it.
5) Complete the **Custom Print** tab: You can create a custom printout of planning types. This is similar to creating a ***Create Custom-Designed BP Print Layout (Custom Print tab)*** (on page 519).
6) Click **OK**.

Deleting a Planning Manager

This section describes how to manually delete a Planning Manager from a shell.

> **Note**: You can delete a Planning Manager from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Open the project or shell and in the left navigation pane, click **Setup** > **Planning Manager**.
2) Select a Planning Manager for deletion.
3) Click **Delete**.

> **Note**: System prompts the user asking to confirm deletion of the Planning Manager.

4) Click **Yes** to delete the record from the Planning Manager.

Configuring Planning Manager Configuration Package

The following configurations can be included in the Planning Manager Configuration Package:

- General setup
  All the fields included in the General Configuration (General tab)
- Custom Print
  Word and PDF templates, if any.
- BIP Custom Print
  All the BIP Custom Print in the Custom Prints and Reports.
- Default structure
  The default structure of the Planning sheet.

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

Granting planning setup permissions

Once you have created a default sheet structure and activated the planning type, you need to grant yourself and other users setup permission to the Planning Manager.

To grant setup permissions

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **AccessControl** in the left Navigator. In the right pane, navigate as follows:
   - For a Planning Manager at the company level, navigate to **User Mode Access > Company Workspace > Planning Manager**.
   - For a Planning Manager at the project of shell level, navigate to **Shells/Projects (Standard) > Setup > Planning Manager**.
3) In the Module Permission Settings window, click the **Add** button. The Permission/Access Control window opens.
4) Click the **Add Users/Groups** button. The User/Group Picker opens.
5) Select the user(s) to whom you want to give configuration permission and click the **Add** button. Then click **OK**.

   Unifier adds the name(s) to the Permission/Access Control window.
6) Under Permission Settings, select **Setup** and click **OK**. Unifier adds the name(s) to the Permission Settings window.
7) Click **OK**.

Loading the Planning Manager

Loading the Planning Manager is part of setting it up. In this step, you will be loading the manager into the area where it should reside—the Company Workspace, a shell, or a standard project.

When you load the Planning Manager, you also load the permission infrastructure and the ability to grant permissions for the manager.

To load the Planning Manager

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, navigate to one of the following:
   - To load the Planning Manager into the Company Workspace, click **Company Workspace > Planning Manager in the left Navigator**.
   - To load the Planning Manager into a shell, open the shell or sub-shell into which you want to load the Planning Manager. Click **Setup > Planning Manager** in the left Navigator.
3) Click **New**. The New Business Processes window opens, showing the Planning Managers that are available for loading.

4) Select the planning manager you want to load and click **OK**. Unifier displays the manager in the right pane.

Granting User Permissions

Once you have loaded the Planning Manager into the company workspace, or the shell, you need to grant user permissions to the Planning Manager.

To grant user permissions

1) Open the shell or sub-shell in which the Planning Manager resides. In Administration mode, click **Access Control** in the left Navigator.
2) In the right pane, under **Administration Mode Access**, click **Access Control**.
3) In the Module Permission Settings window, click the **Add** button. The Permission/Access Control window opens.
4) Click the **Add Users/Groups** button. The User/Group Picker opens.
5) Select the user(s) to whom you want to give permissions and click the **Add** button. Then click **OK**. Unifier adds the name(s) to the Permission/Access Control window.
6) Under Permission Settings, select the permissions you want to grant the user(s) and click **OK**. Unifier adds the name(s) to the Permission Settings window.
7) Click **OK**.
8) In the right pane, under **User Mode Access**, click **Planning Manager**.
9) For both the planning items and planning sheets, repeat steps step 3 through 6.

Master Log - Planning Items for the Planning Manager

The master log (**Master Log - Business Processes** node) is located in the **Home** page, in Unifier. The master log enables users to access all or a subset of records of the same type, in a single log that spans multiple shells or projects. The master log for Planning items list all Planning item types at the shell/project level in separate nodes for each type.

> **Note**: The name of the master log (**Master Log - Business Processes** node) can be customized.

The master log is available for all Planning Manager logs; however, they are not visible to users unless they have permission to view the log.

> **Note**: The company-level planning items are not listed under the master log.

In order for users to view and work with the master log (**Master Log - Business Processes** node), you must grant permissions to it. You can grant permissions for users to access all planning items in the master log, or to individual planning items.

To view planning items, users must also:

- Be an active member of the project, shell, or sub-shell
- Have access to at least one business process in the master log

To set permissions for planning items master log (**Master Log - Planning Items** node):

1) Click the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **User Mode Access** > **Home** > **Master Log - Planning Items** > **[planning item]**.
4) Add the user(s) and set the permissions as needed:
   - **View**: Users can view all records across all projects and all records in the shell hierarchy (subject to their highest level of shell membership in the hierarchy) independent of whether or not they are assignees on or have permissions to view and manage individual records within a particular shell or project. These users can also view saved searches.
   - **Allow Bulk Edit**: Users can select one or more records within a master log and perform bulk edits on records. Selected records can potentially span across multiple shells. Users having this permission automatically have View permissions.

Setting Up the Portfolio Manager

The Portfolio Manager is where the budget forecast planners in your company can gather cost and schedule information on projects (both planned and in execution) and perform analyses on "what if" scenarios. These scenarios are used to propose an optimal mix of projects for a portfolio, based on available budget targets and the strategic goals of the company.

Portfolio planners can create a portfolio for a specific "planning horizon" (for example, from 2014 through 2020) and then create multiple scenarios in that portfolio. Each scenario can use forecast numbers and actuals, as well as schedule dates, for both planned and active projects in a specific shell type across a hierarchy in the company.

Budget forecast planners create these scenarios on sheets, one for each scenario. The scenario sheets can pull in the following data from any shell type in a hierarchy:

- Project information from the shell attribute form or single-record business process
- Project start and end dates from the shell attribute form or single-record business process
- Cash flow data (both forecasted and actual) from each project's Cost Manager

With this data, you can forecast costs over a specific time period (called a "period structure"). You can then manipulate scenarios by:

- Including or excluding projects
- Pushing start dates for planned projects into the future
- Modify project end dates to change the project's duration
- Proposing different cash flow distribution numbers by manually editing the cash flow columns
- Negotiating proposed budgets with project managers

> **Note**: The numbers the planner proposes in a scenario will NOT affect a project's live data. The proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.

Once these scenario analyses have been completed, the best (or several best) scenario(s) can be sent to the executive decision makers for approval.

Once a scenario has been approved, Unifier:

- Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. The scenario is set to read-only mode and can no longer be modified or deleted.
- Updates each project's original budget numbers with the proposed numbers on the approved scenario.
- Updates each project's monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.
- Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.
- Locks the budget and cash flow numbers to prevent any further changes.

To set up the Portfolio Manger

Before you begin: A portfolio attribute (detail) form is designed in uDesigner and deployed to Unifier. This attribute form is what you and other users will use to create new portfolios in Unifier.

Step 1: Design the Portfolio Manager attribute form in uDesigner and deploy to Unifier. This is similar to any other design deployment in uDesigner.

Step 2: Grant yourself permissions to configure the portfolio and create period structures. See ***Create Period Structures*** (on page 787).

Step 3: Create period structures under the Standards & Libraries node. Primavera Unifier uses these period structures to calculate costs for the portfolio's forecasted budget. See ***Create Period Structures*** (on page 787).

Step 4: Configure the portfolio.

Step 5: Grant Portfolio Manager permissions to users.

Once you have completed these steps, the Portfolio Manager is ready for use in Primavera Unifier's User Mode.

In This Section

Import a Portfolio

To import and deploy a portfolio manager into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Grant Yourself Permissions

When you import a new portfolio, you must grant permission (to yourself, another administrator, or group such as Company Administrators) to configure the portfolio and set up period structures in the Standards & Libraries.

To grant configure permissions

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) In the right pane, select **Administration Mode Access > Configuration > All > Portfolio Manager**.

4) In the Module Permission Settings window, click the **Add** button. The Permission/Access Control window opens.
5) Click the **Add Users/Groups** button. The User/Group Picker opens.
6) Select the user(s) to whom you want to give configuration permission and click the **Add** button. Then click **OK**.

   Unifier adds the name(s) to the Permission/Access Control window.
7) Under **Permission Settings**, select **Configure** and click **OK**.

   Unifier adds the name(s) to the Permission Settings window.
8) Click **OK**.

To grant permissions to create period structures

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) In the right pane, select **Administration Mode Access > Standards & Libraries > Period Structure**. See ***Create Period Structures*** (on page 787).
4) In the Module Permission Settings window, click the **Add** button. The Permission/Access Control window opens.
5) Click the **Add Users/Groups** button. The User/Group Picker opens.
6) Select the user(s) to whom you want to give configuration permission and click the **Add** button. Then click **OK**. Unifier adds the name(s) to the Permission/Access Control window.
7) Under **Permission Settings**, select **Create** and click **OK**. Unifier adds the name(s) to the Permission Settings window.
8) On the Permission Settings window, click **OK**.

Create Period Structures

Each portfolio needs a defined period of time in order to be able to calculate costs for the forecasted budget. Creating a period structure designates the time scale for the period, the format the period should appear in at runtime on the period picker, and whether or not the period is active (available for use at runtime).

Once you have created a period structure, it cannot be deleted. In addition, once a period is in use in a deployed Portfolio Manager, it cannot be modified or inactivated.

To create a period structure

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Standards & Libraries > Period Structure** in the left Navigator.
3) Click **New**. The Period structure window opens.
4) Use the information in the table below to complete the fields in the Period Structure window.
5) Click **OK**.

In this field:	Do this:
Period Structure	Enter a name for the period structure.

Description	Enter a description of this period. This is not mandatory, but is recommended.
Status	Specify whether this period is active (available for use) or inactive.
Period Type	"Standard Planning Period" & "Financial Periods" For Financial Periods below Period Settings, options will be disabled and new Table with Financial Period will appear.
Period Settings	Specify the time scale for this period. Period: Select the time period for the analysis. This list shows years, each beginning with a month in the year and ending at the end of the month preceding the beginning month. Identify Period By: Use this option to accommodate time periods that span across two years. For example, if your fiscal planning period is from July 2010 to June 2011, use this option to tell Unifier that the planning year is based on either a starting month of July or an ending month of June. Format: Specify the format the date should appear in: ▸ For Year, YYYY or YY

The Period Structures support financial periods, while keeping the current period structures intact. The following period types enable the user to create financial periods, in separate tab:

- Standard Planning Period
- Financial Periods

The user can toggle between the period type until saving the Period structure. Once the user creates the financial period, and uses it (Shell options or PPM configuration), then the user will not be able to delete or modify the financial period.

The following explains the options:

Option	Description
Add	Enables you to create a new default row, in the grid below starting from today date with end date, as weekly. You can modify the data.
Remove	To remove a row in the grid.
Generate	Opens a window and enables you to select start and end dates and generate group of data.

There is no gap between the end date and start date for two consecutive periods, while creating sub periods.

The following explains the columns present in the auto generated periods:

Column	Description
No.	The sequence number for the sub period being generated.
Period	Every sub period will have a name automatically assigned to it based on

Name	the start date. For example, if the sub period start date is 01/08/17, then 01/08/17 will be the period name.
Start Date	Sub period start date.
End Date	Sub period end date.
Year	Financial year for sub period being generated.

The date format will depend on the selection made in the User Preferences.

The following is an example of Financial Period, where:

No.: The number of Sub Period

Sub Period Name: Monthly

Identify Date by: Period Start

Date: "01/09/17" (It can be any date and not just the start date for the week, month, quarter, etc.)

No.	Sub Period Name	Start Date	End Date	Year
1	1-Sep-17	1-Sep-17	30-Sep-17	2017
2	1-Oct-17	1-Oct-17	31-Oct-17	2017

The Year will be the year for the start date of first financial period until it reaches the same date next year (completes 365 days). Then it will move to next financial year.

Use the Export option to export data in all of the columns.

Configuring the Portfolio Manager

Configuring a portfolio means configuring the scenarios that will be analyzed in a portfolio. By configuring a scenario, you create a "template" for the sheets that planners can use to create the scenarios for analyzing and forecasting capital budgets.

The template will contain:

- The planning options for the scenario sheet, such as the period structure and data linking options
- Project phases that identify a project as planned or in execution
- The data sources to be used for the analysis, such as project dates and cash flow sources.
- The query that will extract the project data that should be included in the portfolio
- The column layout that will appear on the scenario sheet

To configure:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Configuration** > **Portfolio Manager** in the left Navigator. Each portfolio will be listed here.
3) Select a portfolio and click **Open** (or double-click). The portfolio **Configuration** window opens.
4) Enter values in the fields of the following tabs as explained below.

General tab

1. Use the following table to enter values in the fields:

In this field:	To this:
Status	Specify whether this portfolio is active (available for use) or inactive. When you activate a portfolio, Unifier loads it into all shells, but it will not be available to users until you grant user permissions to it. (See Grant User Permissions.)
Include Projects of Type	Specify the shell type that contains the project data that should be analyzed. The list will show all multiple-instance CBS shell types from any hierarchy, and data from all shells of this type will be used in the analysis.
Additional attributes from	The portfolio will automatically include data from the portfolio attribute (detail) form; however, you can also include information from single-record business processes, if they are appropriate. If there is a single-record business process that contains information that you want to include in this portfolio, select the name of the record you want to include.
Yearly Planning	Fields that specify the following requirements.
Period Structure	Specify the time period this portfolio should use. These period structures were created under the Standards & Libraries node after the portfolio was imported. The option shows what the period is (yearly, quarterly, or monthly) and the format in which the period will appear on the Period Structure Picker at runtime.
Planning Phases	If you are including planned projects, you need to specify what phases of these projects you want to include in the analysis for this portfolio. Select the planning phases whose data should be used in the portfolio analysis. You can select multiple phases.
Projects added to a scenario are initially	As the administrator, you can specify that projects in a portfolio are linked or unlinked to project data when the user first opens the scenario sheet. Once the scenario sheet is open, the user can choose to link or unlink the projects as appropriate. **Linked**: This option links the project data to the project database and updates the data in the portfolio every time the user opens a scenario sheet. **Unlinked**: This option unlinks the project data from the database. Select this option if you do not want the project data dynamically updated.
Project Data Sources	Specify where the data should come from for the portfolio. In this option, you will be choosing the data elements that will provide the values for the scenario analyses.

In this field:	To this:
Start Date	Select the name of the field (data element) that contains the project start date. The elements you see on this list come from the project attribute form and any single-record business process you included. **Update project start date upon approval** Select this check box if you want to update a planned project's start date on the attribute form when a scenario is approved for the current budget. The approved scenario may contain an adjusted start date. If the start date is adjusted on the scenario, Unifier will change the date on the project's/shell's attribute form to reflect the new date. If the Schedule sheet properties are configured to drive the schedule start date from the project/shell attribute form, the form will then update the start date on the Schedule sheet.
End Date	Select the name of the field (data element) that contains the project end date. The elements you see on this list come from the project attribute form and any single-record business process you included.
Budget Source	Select the budget source that should be used in the analysis. This budget source was defined under **Standards & Libraries** > **Cash Flow**.

In this field:	To this:
Forecast Source	Select the forecast source that should be used in the analysis. This forecast source was defined under **Standards & Libraries** > **Cash Flow**. If the value of the **Forecast Source** is **Forecast**, then the **Display monthly breakdown of Actuals** option is available for you to select. You have the ability to show monthly breakdown of Actuals by selecting the checkbox. ▸ If the checkbox remains unchecked, then for the current year the existing functionality for the Portfolio Manager will be maintained. ▸ If the checkbox is checked, then the user will be able to the see the monthly breakdown for Actuals, and the values displayed would be read-only for months prior to the current month for the current year. By default, the checkbox will be unchecked. Select the data source according to your business case. The curves of the selected data sources must have the same currency. **Portfolio Manager Configuration for Derived Curve** When the user selects the forecast source as a Derived Curve, in Portfolio Manager: Once the configuration takes place, in User mode, the Portfolio Manager scenario sheet synchronizes with CashFlow and displays the data through a Derived Curve. The user has the ability to show monthly breakdown of actuals by selecting the checkbox to display the monthly actuals. By default, the checkbox is unchecked. If the checkbox is unchecked in the Portfolio Manager configuration, then for the current year the existing functionality is maintained, for Portfolio Manager. **Portfolio Manager Configuration for Label on Monthly Actuals** Use the checkbox "Display financial period breakdown of Actuals" for breakdown based on financial period.
Additional Information	Specify the list of users, and groups, who receive notification emails when a particular scenario is shared, or approved.
Notify users or groups when a scenario is shared or approved	Click **Select** to see a list of company-level users, or groups, and select one. Unifier sends the email notification to existing users, or groups, at the project-level, only. If selected recipients do not exist at the project-level, Unifier will not send any notifications.

2. Click **Apply**, then click the **Query** tab.

If the financial period type of period structure is selected in the configuration **General** tab, then Unifier hides the following drop-down list items (under Planning horizon in columns tab) because: **]**

- The number of years will be determined by the number of unique years in the sub periods for the financial periods.
- The number of years planned in months will be same as the number of years planning with month as a sub period (the "Apply actuals to each sub period/month" checkbox).

Query tab

On the **Query** tab, you create a query that will search the database and extract the shell records to display on the scenario sheets in the portfolio. The query will filter the records returned from the database according to a condition or conditions you specify. The condition(s) will "test" a field or fields on the form to see if they pass or fail the criteria. If the fields pass the criteria, Unifier will make it available for the scenario sheets.

The query that extracts the projects from the database is a dynamic process that occurs whenever users open a scenario sheet. The projects that appear on the sheet will fluctuate, depending on whether they still meet the criteria for inclusion. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

The query will search the database and extract the shell records to display on the scenario sheet. The query will filter the records returned from the database according to a condition or conditions you specify. The condition(s) will "test" a field on the form to see if it passes or fails the criteria. If the field passes the criteria, Unifier will include it on the scenario sheet.

1) Under Projects, select the **Auto-add/auto-remove projects to and from the portfolio based on the query** field if you want Unifier to automatically add and remove projects to and from scenario sheets.
2) Create the query:

   The query will search the database and extract the shell records to display on the scenario sheet. The query will filter the records returned from the database according to a condition or conditions you specify. The condition(s) will "test" a field on the form to see if it passes or fails the criteria. If the field passes the criteria, Unifier will include it on the scenario sheet.

   a. Click the **Add** button. Unifier displays the **Add Query Condition** window.

      In the **Data Element** field, select the field on the attribute form, or single-record business process, that you want to test with the condition. For example, the condition might be that the status field on the shell attribute form must be "Active."

      The window expands to show an active **Condition** field and additional fields where you can specify the query criteria.

   b. In the **Condition** field, select the condition the value in the field must meet.

   c. Click **OK**.

      The remaining fields on this window vary, depending on the data element and the condition you specified. For help in completing these fields, use the information in the Queries section.

Note: If any field in the query or queries is subsequently removed from the shell or single-record BP design, the entire query operation will be ignored. That is, if one query fails because a field was removed from the design, Unifier will ignore all the queries. If a field has been removed from a design, you must amend the query.

3) Repeat steps a through d to include additional query conditions.
4) Click **Apply**, then click the **Columns** tab.

Columns tab

Use the following table to enter values in the fields:

In this field:	To this:
Scenario Columns	Specify what additional columns you want to appear on the scenario sheet. You can add the Project Phase Data Element (DE) to the Portfolio in order to see the latest value of Project Phase (Planning, Conceptual Design, Schematic Design, etc.) in the Portfolio as it changes (manually or via Gates) without having to take a manual step of saving a single record BP within a Shell. To add the Project Phase DE, go to the Configuration window, click Add, and from the Data Element drop-down list select **Project Phase**.
Initial Sort Column	Use this to specify the column by which the scenario sheet is initially sorted when the user opens the sheet. The user can change the column sorting.
Sort Order	Specify whether the projects on the sheet should appear in ascending or descending alphanumeric order.
Freeze column up to	This option affects the scrolling behavior of the scenario sheet. Scenario sheets contain certain columns that must always appear on the sheet. As administrator, you can add more columns to the sheet. Of these columns you add, you must specify that 1 of those columns must remain fixed when the user scrolls the sheet horizontally.
Number of years planning	Select the number of years to be included in this scenario. The default horizon is 10 years. This option designates the year columns that will appear on the scenario sheet.
Number of years planned in months	Specify how many years the planner wants to plan by months. For example, the planner may want to plan by month for the first two years; thereafter, by year.

Users can define the column width for the Project Portfolio Manager (PPM) columns.

Defining the column width can be done in the **Column Properties** window, when adding a new column in the **Columns** tab. The default value is set to 120 characters, and the user can change the value to a custom value. For the existing columns in Portfolio Manager (in the Configuration), the system sets the width to the default column width. The changes made in Configuration (Column width , Freeze column up to, etc.) remain in the new PPM.

You can edit the width for the following columns in the PPM configuration:

- Project Name
- Start Date
- End Date

Configuring Portfolio Manager Configuration Package

The following configurations can be included in the Portfolio Manager Configuration Package:

- General setup

  All the fields included in the General Configuration (General tab), including: Yearly Planning and Project Data Sources.

  > **Note**: Cash Flows that have been selected in the Budget Source and Forecast Source fields are included in the Configuration Package. If data sources do not exist in the destination environment, the system will create the data sources.

- Query

  All queries that have been configured based on data sources.

- Columns structure

  The structure of the Column that has been defined in the Columns tab.

You can include the portfolios that you want to include in your configuration package. To include a Portfolio:

1) Go to **Company Workspace** > **Admin** mode > **Configuration Package Management** > **Component Catalog** > **Configuration** > **Designs** > **Portfolio Manager**.
2) Select the required portfolio.
3) Name the component list.
4) Conduct an Error Check.
5) Click **Save**.
6) Go to **Company Workspace** > **Admin** mode > **Configuration Package Management** > **Configuration Packages** > **Create**.
7) Select your portfolio manger from the **Component Lists**.
8) Enter values in the **Package Name** and **File Name** fields and click **Next** to see the preview.
9) Click **Next** and review the contents.
10) Click **Next**.
11) Click **Create**.

> **Note**: For a successful inclusion of a portfolio, the shell and single-record business process must be a part of the Configuration Package.

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

If the user selects a Portfolio Manager, then the financial period selected in the configuration is included in the Configuration Package.

Updated Cash Flow and Shell Templates are available for the Configuration Package, also.

Delete Columns From a Sheet

You can delete columns from a sheet from either the Portfolio Configuration window, or the Column Properties window.

To delete columns from the Portfolio Configuration window

1) Click the **Columns** tab.
2) In the Scenario Columns section of the configuration window, select the name of the column and click the **Remove** button.

To delete columns from the Column Properties window

1) Click the **Columns** tab.
2) In the Scenario Columns section of the configuration window, click the **Modify** button. The Column Properties window opens.
3) Click the **Delete** button to delete the column.

Grant User Permissions

Once the Portfolio Manager is active in a shell, you need to grant user permissions to the Portfolio Manager.

To grant user permissions

1) Open the shell where the Portfolio Manager resides and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) In the right pane, under **User Mode Access**, click **Portfolio Manager**.
4) Click the portfolio. The Permission Settings window opens.
5) In the Permission Settings window, click the **Add** button. The User/Group Permissions window opens.
6) Click the **Add Users/Groups** button. The User/Group Picker opens.
7) Select the user(s) to whom you want to give permissions and click the **Add** button. Unifier adds the name(s) to the Permission/Access Control window.
8) Under **Permission Settings**, select the permissions you want to grant the user(s) and click **OK**. Unifier adds the name(s) to the Permission Settings window.
9) Click **OK**.

Templates (Shell Attribute Form)

In the Shell Attribute Form, Options tab, the user can select a financial period from the Financial Period picker.

The Financial Period picker has a list of all financial period type of period structures present in the Standards & Libraries (standards and libraries).

The following explains the financial period in:

- Shell
- Cash Flow

Shell

Depending on the financial period selected at the Shell level, when the user tries to create a scenario under Portfolio Manager, the user will see the list of projects with the same financial period present in the respective Shell options, only.

If the user has selected a financial period at the Shell level, then the selected option overrides the financial period coming from Portfolio Manager by way of configuration.

The same selected financial period will also be used under Cash Flow curves, for the time scale of the financial period type.

The user is able to change the financial periods when there are no cashflows associated with that financial period.

Accordingly, when the Cash Flow is refreshed, it uses the new period structure.

If the user selects a period from the period picker, in the Shell details window, then the selected period will be used across Cash Flow curves (if time scale type is financial period) and Portfolio Manager.

Cash Flow

The Portfolio Budget curves (Shared, Approved, and Original), in Cash Flow, are linked to Portfolio Manager scenarios.

User can attain data from the Portfolio Budget curves (Shared, Approved, and Original), from the Portfolio Manager scenario in Parent Shell, into the Cash Flow curves within a Project/Shell.

During a portfolio analysis, the Portfolio Manager can produce the following Portfolio Budget curves:

- **Shared Budget curve**

  The Shared Budget curve displays the portfolio planner's proposed number for the project.

  The User can include the Shared Budget curve on the Cost worksheet (along with the forecast budget or any other budget curve) in order to see the difference between the project numbers and the planner's proposed budget numbers.
- **Approved Budget curve**

  When a scenario is approved in the Portfolio Manager, the budgets for each project in the scenario are marked "approved."

  Unifier lock and stores the budgets in Portfolio Manager.

  An Approved Budget curve displays the approved budget for the project for the planning period (usually a year).
- **Original Budget curve**

The Original Budget is the last approved budget for the project before it moves into its execution phase.

The approved Original Budget becomes the project original budget. This original budget (and any changes that occur to the numbers during the life of the project) becomes the project approved budget.

The Portfolio Manager scenario (with Financial Period as the Period Structure) created in the parent Shell will push/pull the data from respective curve only. That is to say:

- For the child Shell, it has the same Financial Period in its options, and
- It will consolidate the data for only those Cash Flows where the timescale has been selected as Financial Period.

If the user selects a financial period from the 'by' drop-down list, then the corresponding drop-down list for financial period will get populated with the Financial Period present in the Shell options.

Other options, in timescale, will be disabled (for format and so forth), and it will remain blank with other options enabled (for format and so forth).

For Baseline and Forecast type curves, the summary sheet spreads and schedule manager spreads will be assigned to the relevant period.

For the Actuals, the cost sheet columns and effective dates will be used to assign the values to the relevant period.

For a Cash Flow curve, the X-axis for graph will still remain the same but the points in the curve will be based on the Financial Period that has been selected. The columns in the grid will be based on the Financial Period that has been selected, also.

Setting Up the Resource Manager

The Resource Manager uses Resource Booking business processes and Timesheet business processes. The Resource Manager attribute form (used to create resources and roles) has to be deployed in uDesigner.

In addition, Resource Booking and Timesheet business processes can be used with the Resource Manager (however, Resource Booking BPs are not available in generic shells). The Resource Booking is used for booking resources on the Booking Summary Sheet. When the record is approved, the resource is considered to be hard-booked. While the record is pending, the resource booking is considered to be soft-booked. One Resource Booking business process can exist at the company, project, or shell level.

If a Resource Booking and a Timesheet business process have been designed and deployed in Unifier (to be used with the Resource Manager), then these business processes need configuration and setup.

The Timesheet business process can be designed to roll up hours and costs from the time sheet to cost sheets. Required fields are the Resource picker (to pick the resource) and Week of (date). In addition to a Role picker and rate/hours fields, the time sheet detail form can include an Activity picker (to link the time sheet to a schedule sheet activity), Account Code picker (to link to the company accounts sheet), and Project picker (to link to a project). Only one time sheet business process can exist at the company level. However, multiple workflow schemas are allowed.

Some of data elements and data definitions used with the Resource Manager need data set values. (See ***Adding and Managing Data Sets*** (on page 77).) Data definitions that will require data set values include:

- SYS Resc Calendar NW Day Type
- SYS Resource Proficiency
- SYS Resc Work Type
- SYS Resource Skill
- SYS Resource Interest

In This Section

Set Up Resource Manager

The Resource Manager uses Resource Booking business processes and Timesheet business processes.

Before you begin: Resource Manager attribute form is designed in uDesigner and deployed to Unifier.

Step 1: Design Resource Manager attribute form in uDesigner and deploy to Unifier. This is similar to any other design deployment in uDesigner. See ***Importing Configuration Packages*** (on page 303).

Step 2: Configure the Resource Manager at the company level.

Step 3: Create or import roles and resources at the company level.

Step 4: Set up the Resource Manager at the project level.

Step 5: Set permissions at company and project levels.

Step 6: (Optional) Define the project-level role based on allocation and Resource Sheet default values in the Resource Manager (Shell Templates > General Configuration).

Step 7: Activate the Resource Manager to create the Resource Sheets at company and project levels (User Mode*):

- Allocations Summary
- Resource Allocation
- Booking Summary
- Actuals Summary
- Utilization Summary
- Bookings vs. Actuals
- Availability

Step 8: Set up the Resource Dashboard (User Mode*).

Configuring Resource Manager at Company-level

The Resource Manager can be configured at both the company level and the project or shell level.

To configure the Resource Manager at the company level

1) Go to the Company Workspace tab and switch to Admin mode.
2) Click **Configuration > Resource Manager** in the left Navigator. Resource Manager is listed in the log automatically.
3) Select **Resource Manager** and click **Open**.
4) Complete the Resource Manager General Configuration window as described in the following table and then click **OK**.

In this field:	Do this:
Resource Code	Choose one of the following: ▸ **Manual:** Allows you to enter a resource code manually while defining resources. Validation is performed to ensure resource codes are unique. ▸ **Automatic:** Automatic numbering generates unique resource

	codes using a sequence. ▸ **Sequence Format:** For automatic numbering, enter an alpha-numeric prefix for the resource code (e.g., RES). ▸ **Start:** Enter a number to start the sequence. Numbers are generated from the start number in increments of 1.
Resource Sheet Defaults	These define default values for resource sheets. These values can be changed any time. Choose options for: ▸ **Timescale Unit:** Options are day, week, month. Defines the default granularity for the display on all resource sheets at the company and project level. ▸ **Date From:** Enter a default start date for the timeline display on all resource sheets at the company level. This default does not prevent entering transactions before this date. Actual start date of the timeline will be driven by the earliest applicable transaction date (for booking, assignment, allocation, etc.). ▸ **Date To:** The latest applicable transaction date.
Resource Booking	▸ **Allow over-booking of resources:** The resource booking process will be allowed to overbook a resource (beyond the resource's daily capacity). ▸ **Maximum Over-booking Percent:** This field is enabled if the over-booking checkbox is selected. Enter any positive integer amount. If a value is not specified, there is no limit on over-booking. This information can be edited at any time. Changes will be reflected on subsequent bookings. Note: A resource can never be booked more than 24 hours on any day.

Configuring Resource Manager Configuration Package

The following configurations can be included in the Resource Manager Configuration Package:

- General setup
  All the fields included in the General Configuration (General tab)

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

Creating Roles and Resources

You create roles and resources in Administration Mode in the company workspace. These can be used with the Resource Manager.

Create a role

To create a role

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Resource Manager > Roles** in the left Navigator. The Roles log opens.
3) Click **New**. The Create Role window opens.
4) Complete the General tab.
5) Click **Active** when you are ready to activate the role and make it available to assign to a resource.
6) Click the **Rates** tab. This allows you associate billable rates to a role. See ***Add a billable rate to a role (Rates tab)*** (on page 802).
7) Click the **Resources** tab. This allows you to associate resources to a role. See ***Add resources to a role (Resources tab)*** (on page 802).

   Resources can be associated with roles from this tab, and also from the Roles tab in the Resources Properties.
8) Click **OK**.

Add a billable rate to a role (Rates tab)

To add a billable rate to a role

1) In the Create Role window, click the **Rates** tab.
2) In the **Currency Name** field, click the **Select** button. Select the currency to use and click **OK**.
3) Click the **Add** button. The Role Rates window opens.
4) In the Roles window:
   - Define an effective date for the rate (click the calendar icon and select the date).
   - Enter a standard rate.
   - Enter an overtime rate.
5) Click **OK**.

Add resources to a role (Resources tab)

To add resources to the role

1) In the Create Role window, click the **Resources** tab.
2) Click **Add** and choose a resource from the Resource picker.
3) Click **OK**.

Import roles

Importing lets you add multiple new roles, or update attributes for existing roles.

To import roles

1) In the Roles log, click the **Export** button. Save the CSV file. The CSV file columns correspond to the attributes on the role attributes form (General tab).

2) Open the file and add roles as needed.
3) Click the **Import** button and browse to the CSV file you saved. Import the file.

Create a resource

To create a resource

1) Go to the **Company Workspace tab and switch to Admin mode.**
2) Click **Resource Manager > Resources** in the left Navigator. The Resources log opens.
3) Click **New**. The User Picker window opens, listing active and on-hold users from the sponsor company and active partner companies.
4) Select a user and click **OK**. The Create Resource window opens.
5) Complete the General tab. This tab may vary with the design of the resource attribute form you imported. Fields may include:
   - **Resource Code:** Automatically generated, manually entered, based on the configuration.
   - **Resource Name:** Enter a name to associate with the resource.
   - **Description:** Enter an optional description.
   - **Status:** The default is active.
   - **Resource Capacity (Hrs):** Enter the number of hours users can work in a day. Default value is 8.
   - Sunday (Hrs.).....Saturday (Hrs.): Depending on the design of the Resource Attribute form, these fields may or may not appear on the General tab. If they do, you can enter the number of hours the resource can work on each of these days. Unifier will use these values to calculate the resource's Capacity per week.
   - Default Capacity (Hrs): Default value is 8. Number of hours a person can work in a day. This is overridden if the form was designed to include the Sunday through Saturday hours fields.
6) Click the **Roles** tab. This lets you choose a role to associate with the resource. See ***Add a role to a resource (Roles tab)*** (on page 803)for details.
7) Click the **Skills** tab. This allows you to associate one or more skills to a resource. See ***Add a skill set to a resource (Skills tab)*** (on page 804) for details.
8) Click the **Calendar** tab. The calendar displays bookings, vacation days, etc. for the resource. See ***View and manage resource booking details (Calendar tab)*** (on page 804) for details.
9) Click the **Projects/Shells** tab. The tab displays the projects/shells in which the resource is booked and booking specifics. See ***View resource project/Shell booking information (Projects/Shells tab)*** (on page 804) for details.
10) Click **OK**.

Add a role to a resource (Roles tab)

To add a role to a resource

1) In the Create Resource window, click the **Roles** tab.
2) Click **Add**, select a role from the Role picker and click **Open**. The role is added to the resource.

To remove a role from a resource

1) In the Create Resource/Resource Properties window, click the **Roles** tab.
2) Select the role and click **Delete**.

Add a skill set to a resource (Skills tab)

To add a skill set to a resource

1) In the Create Resource window, click the **Skills** tab.
2) Click **Add.** Select a skill name from the drop-down list (defined for the data definition).
3) Select the proficiency.
4) Select the interest.

To remove a skill from a resource

1) In the Create Resource/Resource Properties window, click the **Skills** tab.
2) Select the skill and click **Delete**.

View and manage resource booking details (Calendar tab)

You can view and manage booking dates, unavailable dates (non-project time, such as vacation days), and more. The range of dates and total booked hours for each project/shell gives the Resource Manager an idea of how long the project/shell engagement is for the resource. Hard-bookings and soft-bookings are displayed on the calendar.

To view and manage the resource booking calendar and details

1) In the Create Resource window, click the **Calendar** tab. The calendar displays bookings, vacation days, etc. for the resource.
2) You can click the **Month** tab or **Week** tab to change the calendar view. A maximum of five projects/shells can be shown for any day in the month view. If a resource is booked for more than five projects/shells in a day, you can view them all in the week view.
3) To view all projects/shells for any given day, select a day and click the **Booking Details** button.

   The Resource Booking Details window opens. The window displays the project/shell bookings for that resource on the selected date. For each project/shell, it shows project/shell number, project/shell name, booking status, dates when the booking starts and ends, total hours booked for the resource during this period on the project/shell, and total hours booked on the current date on the project/shell. The dates and hours shown include non-project time.
4) To make a resource unavailable for booking on a certain date, select the date and check the **Unavailable** checkbox. You can click the drop-down list and select an option.
   - The range of dates and total booked hours for each project gives the Resource Manager an idea of how long the project engagement is for the resource.
   - Hard-bookings and soft-bookings for the resource are displayed on the calendar.

View resource project/Shell booking information (Projects/Shells tab)

To view project/shell booking information for a resource:

In the Create Resource window, click the Projects/Shells tab. The tab displays the projects/shells in which the resource is booked and the following information:

- Earlier Booking Date: Earlier date on which a booking exists for the project/shell for the current resource.
- Latest Booking Date: Latest date on which a booking exists for the project/shell for the current resource.
- Hard Booked Hrs.: Total hours resource is hard-booked on the project/shell.
- Soft Booked Hrs.: Total hours resource is soft-booked on the project/shell.

Import resources

Importing lets you add multiple new resources or update attributes for existing roles.

To import resources

Importing lets you add multiple new resources, or update attributes for existing roles.

1) In the Resources log, click the **Export** button. Save the CSV file. The CSV file columns correspond to the attributes on the resource attributes form (General tab).
2) Open the file and add roles as needed.
3) Click the **Import** button and browse to the CSV file you saved. Import the file.

Update resource information by importing

To update resources:

1) Click **Export**.
2) Complete the CSV file.
3) Import the file. The import will support updating attributes of existing resources. You cannot add new resources through importing. Below is an example of a CSV file.

Setting up the Resource Manager in Projects or Shells

You can set up the Resource Manager in an individual project or shell, or in a project/shell template. The Resource Manager is available to both CBS shells and generic shells; however, some Resource Manager features are limited in generic shells.

Set up the Resource Manager in a project/shell

Setting up the Resource Manager in a project or shell consists of choosing resource allocation options and resource sheet defaults.

Note: Once you complete and save the Resource Manager setup information in a project or shell, the resource sheets will be created based on the options you choose. Once saved, you will not be able to change the allocation options. (You can change the resource sheet defaults.)

To set up the Resource Manager in a project or shell

1) Go to **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click:
   - **Company Sponsored Project > [project] > Setup > Resource Manager** to set up the Resource Manager in a project.
   - **Company Sponsored Shell > [shell] > Setup > Resource Manager** to set up the Resource Manager in a shell.
3) In the right pane, select **Resource Manager** and click **Open**. The Configuration window opens. Complete the window as described in the following table.
4) Complete the window as described in the following table.
5) Click **OK**.

In this field:	Do this:
Role Based Allocation	Choose one of the following: Allocate via Resource Allocation Sheet at Company level: By default, allocations to this project will be done from the company level via the resource allocation sheet. Allocated roles will be pushed to the project. The project level resource allocation sheet will be disabled. Manual booking via the Booking Summary Sheet will be available, as well as booking edits. Allocate via Resource Allocation Sheet at Project/Shell level: When this option is chosen, allocations to this project or shell will be done via the project/shell-level resource allocation sheet. Role allocations will be initiated (pulled) from the project/shell. This project/shell will not be available to allocate from the company level. Manual booking via the Booking Summary Sheet will be available, as well as booking edits. No Allocation: Choose this option if the project/shell does not require role hours to be allocated. If you choose this option, the Allocation and Utilization Sheets will not be visible to the user, and Resource Booking BPs will not be available in the project/shell. Manual booking via the Booking Summary Sheet will be available, as well as booking edits. Note: This is the only option available to the Resource Manager in a generic shell.
Resource Sheet Defaults	These default values will apply to all resource sheets at the project level: **Timescale Units:** Options are day, week, and month. These define the default granularity on all resource sheets at the company and project level. This value can be changed at any time. **Date From:** Enter a default start date for the timeline display on all

	resource sheets at the company level. This default does not prevent entering transactions before this date. Actual start date of the timeline will be driven by the earliest applicable transaction date (for booking, assignment, allocation, etc.). This value can be changed at any time. **Date To:** Enter an end date for the timeline display on all resource sheets at the company level. This default does not prevent entering transactions beyond this date. Actual end date of the timeline will be driven by the latest applicable transaction date (for booking, assignment, allocation, etc.). This value can be changed at any time.

To edit the Resource Manager setup in a project or shell

1) Go to **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click:
   - **Company Sponsored Project > [project] > Setup > Resource Manager** to edit the Resource Manager setup in a project.
   - **Company Sponsored Shell > [shell] > Setup > Resource Manager** to edit the Resource Manager setup in a shell.
3) In the right pane, select **Resource Manager** and click **Open**. The Configuration window opens.
4) You can edit the **Resource Sheet Default** settings. These changes will be reflected on the resource sheets for the project or shell.

   You cannot edit the Role Based Allocation settings.
5) Click **OK**.

Set up the Resource Manager in a project or Shell template

In a project or shell template, you can set up the Resource Manager as you would within a project or shell. You can also set up a project/shell level resource allocation sheet if the Resource Manager configuration is set to allow allocations at the project/shell level.

To set up the Resource Manager in a project template

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates** in the left Navigator.
   - For a project, click **Projects (Standard) > [project]**.
   - For a shell, click **Shells > [shell]**.

   Unifier displays the Template Log in the right pane.
3) Double-click the name of the template in which you want to set up the Resource Manager.
4) In the Navigator, click **Setup > Resource Manager**.
5) On the right pane, select **Resource Manager** and click **Open**. The Configuration window opens. Complete the window as described in the table in ***Set up the Resource Manager in a project/shell*** (on page 805).
6) Complete the window as described in the table in ***Set up the Resource Manager in a project/shell*** (on page 805).
7) Click **OK**.

To set up a resource allocation sheet in a project/shell template

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click Templates in the left Navigator.
   - For a project, click **Projects (Standard) > [project]**.
   - For a shell, click **Shells > [shell]**.

   Unifier displays the Template Log in the right pane.
3) Double-click the name of the template in which you want to set up the allocation sheet.
4) In the Navigator, click **Resource Manager > Resource Sheets**.
5) On the right pane, double-click the **Resource Allocation** sheet. The Resource Allocation sheet opens.

   Unifier automatically creates an allocation sheet when the Resource Manager is activated in the project/shell.
6) To add resource allocations to the template, click the **Add** button. The Resource Allocation window opens.
7) Complete the window:
   - **Role Name**: Click Select, choose a role, and click OK.
   - **Date From**: Click the calendar and choose the start date for the allocation.
   - **Date To**: Click the calendar and choose the end date for the allocation.
   - **Allocated Hours**: Unifier automatically calculates the allocated hours and displays them in this field. You can edit the hours, if necessary.
8) Click **OK**.

About Resource Manager sheets

Default Resource Manager sheets are created automatically in User Mode when the Resource Manager is activated.

Setting Up the Schedule Manager

Here is the overall process for setting up schedule sheets in projects or shells:

Step 1: Import and deploy the Activity Attribute form in uDesigner. If a configured schedule attribute form will be used, import it into Unifier. If a schedule attribute form has not been designed, Unifier will use a default attribute forms for the Schedule Manager and the activities.

> **Note**: Configuration of the Data Picker and Data Elements (and when applicable: Unique and Auto Sequence settings) must be done in uDesigner.

Step 2: Set customer calendar permissions, if necessary.

Step 3: Create a schedule sheet template. There are two places where you can create schedule sheet templates: At the company-level, under Templates > Schedule Sheets; and in project/shell templates. The process for creating schedule sheets is similar in both types of templates.

> **Note**: The advantage of creating schedule sheets in a project/shell is that when you clone a project/shell template, you can copy all schedule sheets in that template.

Once you have completed these steps, the Schedule Manager is ready for use in Unifier's User Mode.

In This Section

Additional Options for Setting Up the Schedule Manager

Configure a project/shell template schedule sheet as a **Master Schedule Sheet**. After cloning the project/shell, you can use the **Master Schedule Sheet** to create other schedule sheets in the project/shell that have the same sheet properties, including start and finish dates.

- Link schedule sheets in a project/shell template to project/shell schedule sheets.
- Configure data mapping to allow direct importing of external sources such as Microsoft Project or Primavera schedules.

- Create program level schedule sheets.

> **Note**: Many of the tasks you might perform as Administrator can also be done at the Unifier user level. The tasks you can perform only at the Administrator level are completely described in this chapter. For those activities that overlap levels, Refer to the *Unifier User Guide* for detailed instructions.

Importing an Activity Attribute Form

The Schedule Manager needs attribute forms to define the activities for a project schedule, including its start and end dates.

When creating new activities on the schedule sheet, Unifier opens this form as the General tab of the Activity Properties form.

> **Note**: If there is no attribute form for the Schedule Manager, Unifier will create a default schedule sheet with the following columns: ID, Activity name, Start date, Finish dates, and Duration.

The Resource Manager and the Schedule Manager can work together for resource management. If you have deployed the Resource Manager, Unifier uses the Resource Assignment Attribute form as the Resource tab of the Activity Properties form.

To import and deploy a schedule attribute form or a resource assignment attribute form into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Create Schedule Sheet Templates

There are three locations for schedule sheet templates in Unifier: in company Templates, in a project template, or in a shell template. Project and shell schedule sheet templates are copied into a new project or shell during cloning, provided you selected Schedule Sheets in the cloning window.

The creation steps are similar for any schedule sheet template; however, Activity Properties in the company-level template only allow you to set up the General and Dependencies tabs. In project or shell schedule sheet templates, you can set up all properties.

To create a schedule sheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.
   - For a company-level template, in the left Navigator, click **Templates > Schedule Sheets**.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shelltemplate] > Schedule Manager > Schedule Sheets**.
2) To create the schedule sheet for the template, use the instructions on creating a schedule sheet in the *Unifier User Guide*, Create a project or shell cash flow sheet in Cash Flow.

The Schedule Sheets can be created by using templates at the company-level.

Conditions for Creating a Schedule Sheets setup Configuration Package

When the Setup information is packaged for the first time, then the Schedule Attribute and the Resource Assignment attribute designs must also be included in the configuration package.

This means that the design must be included in the Configuration Package. If this check fails, then the package creation will result in an error.

For subsequent exports, check will be made to ensure that the design which uses the Data Element that is specifically used in the setup is present in the Published package. As long as this condition is met, the package creation will be successful. If not, the latest design will have to be included in the configuration package.

Schedule Sheets Components in the Configuration Package

The system includes the following components of Schedule Sheets in the Configuration Package (.zip file):

Component	Field / Option
Schedule Sheet Properties/ General	All fields. Custom calendars should also be included in the configuration package.
Schedule Sheet Properties / Gantt Chart	All fields
Schedule Sheet Properties / Tracking Gantt	All fields
Schedule Sheet Properties / Options	All fields
Schedule Sheet Properties / Schedule	All fields
Schedule Sheet / Activities	No activity related information will be packaged, meaning no rows will be included.
<Schedule Sheet Name> / Scope Management Setup (Applicable for shell templates)	No Scope setup will be brought over since the scope is tied to an activity.
Schedule Sheet / Data Mapping	All fields. Dependency checks for inclusion of Schedule Attribute and Resource Assignment forms will be performed to see if the relevant designs are part of the package.
Schedule Sheet / Budget and Progress Setup	All applicable options

Component	Field / Option
Schedule Sheet / Column	All columns defined in the sheet. If column definition is based on Cost Sheet definition then the Cost Sheet also must be included. If cost sheet column does not exist, then an error will be displayed.

Deleting Schedule Sheets

This section describes how to manually delete a schedule sheet from a shell.

> **Note**: You can delete a schedule sheet from a specific shell template but not from other Projects/Shells that have been created using the template.

In Administration mode:

1) Go to **Company Workspace**, open the project or shell and in the left navigation pane, click **Templates** > **Shells** > **{Shell Type}** > **{Shell Template}** > **Schedule Manager** > **Schedule Sheets**.
2) Select a sheet for deletion.
3) Click **Delete**.

> **Note**: System prompts the user asking to confirm deletion of the Schedule sheet.

4) Click **Yes** to delete the schedule sheet.

Grant Schedule Manager and Custom Calendar Permissions to Users

Once the Schedule Manager is active in a shell, you need to grant user permissions to the manager and the custom calendars.

To grant user permissions to the Schedule Manager

1) Open the shell where the Schedule Manager resides and switch to Admin mode.
2) In the left Navigator, click **Access Control**.
3) In the right pane, under **User Mode Access**, click **Schedule Manager**. The Permission Settings window opens.
4) In the Permission Settings window, click the **Add** button. The User/Group Permissions window opens.
5) Click the **Add Users/Groups** button. The User/Group Picker opens.
6) Select the user(s) to whom you want to give permissions and click the **Add** button. Unifier adds the name(s) to the Permission/Access Control window.
7) Under Permission Settings, select the permissions you want to grant the user(s) and click **OK**. Unifier adds the name(s) to the Permission Settings window.

8) Click **OK**.

To grant user permissions to the custom calendars

1) Open the shell where the Schedule Manager resides and switch to Admin mode.
2) In the left Navigator, click **Access Control**.
3) In the right pane, under **User Mode Access**, click **Schedule Manager > Custom Calendar**. The Permission Settings window opens.
4) In the Permission Settings window, click the **Add** button. The User/Group Permissions window opens.
5) Click the **Add Users/Groups** button. The User/Group Picker opens.
6) Select the user(s) to whom you want to give permissions and click the **Add** button. Unifier adds the name(s) to the Permission/Access Control window.
7) Under Permission Settings, select the permissions you want to grant the user(s) and click **OK**. Unifier adds the name(s) to the Permission Settings window.
8) Click **OK**.

Refresh Schedule Sheet Data

A schedule sheet refresh updates cost data associated with the schedule sheet. During the refresh, Unifier recalculate dates, activity role rates, and costs if there were any changes to the schedule sheet, such as copying rows into the sheet. Alternatively, you can set up a schedule to automatically refresh the sheet data.

> **Note**: A scheduled refresh can fail if (1) an activity has more than one CBS code, or (2) a cost sheet column to which a schedule sheet column is associated is deleted from the cost sheet.

To manually refresh schedule sheet templates

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Schedule Sheets** in the left Navigator.

   Schedule sheet templates that require refreshing are shown on the Schedule Sheet log with a refresh icon:

3) Select a template and click the **Refresh** button.

To set up a refresh schedule

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.
2) On the Schedule Sheets log, select one or more schedule sheet templates.
3) Choose **Refresh > Set Frequency**.

4) Select the **Enable scheduled refresh** checkbox.
5) Select the **Frequency** and the **Range of Recurrence**.
6) Click **OK**.

Manual Schedule of Activities

When auto-scheduling is *disabled*, you will be able to manually determine the schedule of activities, if desired. You can do this by refreshing it through manual **Schedule** refresh, **Cost and Schedule** refresh or enabling **Schedule** refresh.

When you refresh the schedule, the entire schedule sheet will be re-scheduled, according to the latest dates entered in the **Activity Property**.

When auto-scheduling is disabled, user will be able to manually determine the schedule of activities, if desired. This can be done by refreshing it through manual Schedule refresh, Cost and Schedule refresh, or enabling Schedule refresh.

When you refresh the schedule, the entire schedule sheet will be re-scheduled, according to the latest dates entered in the Activity Property.

Updating Schedule Sheet Properties from Templates

If you create project or shells with a template, you can update schedule sheet properties in the projects and shells from schedule sheets in the template. Both the source and destination schedule sheets must have the same name.

What you can do with schedule sheet update:

- Change the schedule's status (active/inactive)
- Change auto-control (on/off)
- Change auto-update options
- Change the scheduled refresh frequency
- Change the schedule's calendar
- Change the schedule start date, unless there are activities already in progress or completed
- Change activity level access
- Change Gantt chart bar labels and dates

> **Note**: Updates of linked schedule sheets do not occur to sheets in projects or shells that have Inactive or View-Only status.

Calendars and Linked Schedule Sheets

When a schedule sheet is initially linked, any calendar associated with that schedule sheet is copied over with the sheet. However, when there are any subsequent updates to the linked sheet from a template, the calendar is not again updated on the sheet.

To update schedule sheet properties from project or shell templates

1) Go to the **Company Workspace** tab and switch to Admin mode.
   - For a project template, in the left Navigator, click Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets.
   - For a shell template, in the left Navigator, click Templates > Shells > [shelltype] > [shell template] > Schedule Manager > Schedule Sheets.
2) From the Schedule Sheets log, select the schedule sheet to push.

   Both the source and destination schedule sheets must have the same name.
3) Click the Update button and choose:
   - Properties > [project] or All Projects
   - Properties > [shell] or All Shells

   An Options window opens.
4) On the Options window, select the properties to update:
   - Description
   - Status
   - Auto-control: You can still manually initiate business processes. Unifier disregards predecessor/successor dependency relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.
   - Calendar
   - Schedule Start Date: You can only change the schedule start date if there are no activities in progress or completed. Changing the start date can prompt Unifier to recalculate and roll up resource amounts.
   - Notify users and/or group on errors
   - Enforce Group Permission
   - Auto update activity status based on Actual Start/Finish Date
   - Activity Progress requires an Actual Start date
   - Schedule Refresh Properties
   - Enforce Activity 100% Complete against Actual Finish date
   - Auto-Update % after entering Actual Finish Date
5) Click **OK**. You will receive a confirmation of the update. Click **OK**.

View schedule sheet properties update history

To view update history:

1) From the Schedule Sheets log, select the schedule sheet with the updates you want to see.
2) Click the Update button and select History. The Update Projects History or Update Shells History window opens. This window lists the update history for each submitted update.
3) Click the Close Window button when you are finished viewing the history.

Auto-Scheduling

If the auto-scheduling is *enabled* for the template, then the properties (**Update** > **Properties**) in the destination Shell Schedule Sheets (with the same name as the template Schedule Sheet) will be updated. That is to state that the destination will also have automatic re-scheduling enabled and refreshed to reschedule the **Activity Data**.

If the auto-scheduling is *disabled* for the template, then the properties (**Update** > **Properties**) in the destination Shell Schedule Sheets (with the same name as the template Schedule Sheet) will be updated. That is to state that the destination will also have automatic re-scheduling disabled.

The **Start Date**, **Duration**, or **Finish Date** of particular Activity can be changed upon template push, but because auto-scheduling is disabled, none of the changes will be reflected in dependent activities.

Update Schedule Sheet Activities from Templates

If you create project or shells with a template, you can update schedule sheet properties in the projects and shells from schedule sheets in the template. ***Updating Schedule Sheet Properties from Templates*** (on page 814).

You can also update the activities on a schedule sheet by using a separate "linking" function in Unifier that links a schedule sheet to a template for the specific purpose of updating activities. This feature is also convenient if you have imported a schedule and want to push it to your projects or shells.

> **Note**: Projects or shells that are in Inactive or View-Only status will not be updated.

What you can do with linked templates:

If you link a schedule sheet to a template in this way, you can use the template schedule sheet to push the following changes to sheet columns and activities:

- Imported CSV or MPP files to the destination sheet
- Added activities
- Changes to activity status
- Changes to column order
- Added new columns
- Removed column
- Hidden columns
- Column indents and outdents

What you cannot do with linked templates:

- Change schedule sheet properties, activity dates, CBS codes, or activity resources.
- Delete activities

- Modify activity name or code associations
- Modify Scope Management setup

Once you link a schedule sheet to a template in this way, users can change dates and other data on the sheet, but they cannot add activities, delete activities, or otherwise change the structure of a sheet. You can only change the structure of the sheet and activities by changing the template and pushing the changes to the project/shell sheets.

Permissions

You do not need to have permission on the destination schedule sheet in order to update the sheet via a project/shell template schedule sheet. You must have the Edit Structure and Data permission to set up linked schedule sheets.

Enable and Disable Schedule Sheet Linking

Before you can link project or shell schedule sheets to a template for updating, you must enable the template for linking.

To enable linking for a schedule sheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.
3) On the Schedule Sheets log, select a **Schedule Sheet** template.
4) From the Edit menu, select **Sheet Linking > Enable**.

To disable linking for a schedule sheet template

1) On the Schedule Sheets log, select a **Schedule Shee**t template.
2) From the Edit menu, select **Sheet Linking > Disable**.

   Disabling Sheet Linking disconnects all project/shell schedule sheets from the linked template; the schedule sheets can no longer receive updates from the template.

Link a Template to a Project or Shell Schedule Sheet

1) On the Schedule Sheet log, select the schedule sheet template that you want to link.

   This template must have been enabled for linking. (See ***Enable and Disable Schedule Sheet Linking*** (on page 817).)
2) Choose **View > Linked Schedule Sheets**.

   The Linked Schedule Sheets window opens, listing the schedule sheets that are currently linked to the template.
3) Click **Add**. The Add Schedule Sheets window opens.

   This window lists Active and On-Hold projects or shells and the corresponding active schedule sheets for those projects or shells.

4) Select one or more schedule sheets and click Select. You will receive a confirmation message that the data in the newly linked sheet will be modified when the update is completed using the link between the template and the sheet.

   When you link a schedule sheet to the template, Unifier:

   - Deletes the existing data on the project/shell schedule sheet, including all activities, columns and cell data
   - Retains the schedule sheet properties, including the Schedule Start Date

5) To link the sheets, click **OK**.
6) When you are finished adding linked sheets, click **Close Window**.

Update Linked Schedule Sheets from Project or Shell Templates

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.
3) On the Schedule Sheets log, select the Schedule Sheet template that should update the activities on the linked schedule sheets.
4) Click **Update > Linked Schedule Sheets**.

   Unifier will update the activities and columns on all the schedule sheets that are linked to the template. It will not, however, push changes to activity dates.

Impact on Scope Management

Scope Management setups that are updated through the use of linked schedule sheets allow updates to any activities that are not yet initiated. This includes business process name, responsible users, duration flag, completion conditions.

Unlink a Template From a Project or Shell Schedule

1) On the Schedule Sheet log, select the schedule sheet template that you want to unlink.
2) Choose **View > Linked Schedule Sheets**. The Linked Schedule Sheets window opens, listing the schedule sheets that are currently linked to the template.
3) Select the sheet you want to unlink and click Remove.

   Unifier will disconnect the schedule sheet from the template.
4) Repeat steps 2 and 3 for any other sheets you want to disconnect from the template.
5) When you are finished unlinking sheets, click **Close Window**.

View Linked Schedule Sheets

You can view a list of schedule sheets that have been linked to the template. These are the destination schedule sheets that Unifier updates when you push changes from the template.

To view linked schedule sheets

1) On the Schedule Sheet log, select the schedule sheet template.
2) Choose **View > Linked Schedule Sheet**s. Schedule sheets that are available for updating from the linked schedule sheet template are listed in the Linked Schedule Sheets window. Master schedule sheets are listed as well as non-master sheets.
3) When you have finished viewing the linked sheets, click **Close Window**.

Auto-Scheduling

If the user clicks on **Update** > **Linked Schedule Sheets**, then only the **Activity Data** will get updated on the destination (linked) **Schedule Sheets** from the template, and not the sheet properties.

- If Auto-scheduling is *enabled* in the Linked (destination) Schedule Sheet, then after the **Activity Dates** update through **Update**> **Linked Schedule Sheets**, the re-scheduling will take place.
- If Auto-scheduling is *disabled* in the Linked (destination) Schedule Sheet, then only the **Activity Dates** is updated and no re-scheduling occurs. That is to state that the change will be reflected in dependent activities.

When auto-scheduling is *disabled*, if you push dates to the **Master Schedule Sheet** from **Program Activity Sheet**, then you can update changes for a particular activity, but there will be no impact of your changes reflected in dependent activities. Also, since the **Master Schedule Sheet** is updated by **Program Activity Sheet**, a **Refresh** icon appears in the log, next to the title.

Importing Schedule Files

Unifier supports working with schedule files such as Primavera. Once you import these schedule files, your external data becomes available in Unifier. In Unifier, users have access to the Schedule Manager's analytical tools. For example, they can forecast project costs, monitor project progress at the activity and resource levels, and track earned value with schedule data.

If users assign resources in non-Unifier software, Unifier will soft-book those resource assignments, provided you created a data set for those assignments (see ***Add data set values to a pull-down (drop-down) menu or radio button*** (on page 77)).

Overall steps to import schedule files

1) Save the schedule files.

   For Primavera XML files

   a. Export the Primavera file to XML.
   b. Modify the XML file to use with web services, as described in the *Unifier Integration Interface Guide*.
   c. Select Import distribution data from external source (refer to the "Select the activity budget distribution profile" section in the Schedule Manager chapter of the *Unifier User Guide*).

   For Microsoft Project files

d. Save the files as MPP, or export the Microsoft Project file to CSV or XML. Use this file as a template.

2) Define data mapping.
3) Import the CSV or XML files to create or modify schedule sheet activities.

Primavera considerations

- Unifier Schedule Manager integrates with Primavera scheduling software by way of Web Services.
- Unifier honors the Primavera Current Data Date entry when calculating earned value (BCWS, BCWP, ACWP, EAC).
- When importing Primavera XML files into Unifier, you must configure the number of CBS code segments, and you can specify a suffix mask.
- Refer to the *Unifier Integration Interface Guide* for data elements you can use with Web Services.

Microsoft Project considerations

Unifier uploads Microsoft Project directly into a schedule sheet.

- To use the Activity Calendar from Microsoft Project, first create a calendar in Unifier with the same name as the external calendar. (See ***Create a Project Calendar (Calendar Tab)*** (on page 344). Refer to the "Create a custom calendar in the schedule manager" in the *Unifier Managers User Guide* for additional information.)
- To import Resource Assignments from Microsoft Project, first add the same MPP resource types to the SYS Resource Type data set in Unifier. We recommend using MPP standard resource types: Work, Material, and Cost. (See ***Working with Data Definitions*** (on page 73).)
- Configuring CBS code segments is not necessary for Microsoft Project. See ***CBS code options for Primavera XML and Microsoft Project XML*** (on page 825).

Overall steps to import third-party schedule files

1) Save the third part schedule files.

   For Microsoft Project files (this is available through the user interface, only):

   - Save the files as MPP or export the Microsoft Project file to CSV or XML.
   - Use this file as a template (the MPP files do not require mapping).

   For Primavera XML files (this is available through the Web Services, only):

   - Export the Primavera file to XML.
   - Modify the XML file to use with web services, as described in the *Unifier Integration Interface Guide*.
   - Select Import distribution data from external source (refer to the "Select the activity budget distribution profile" topic in *Unifier Managers User Guide*).

2) Define data mapping.
3) Import the CSV or XML files to create or modify schedule sheet activities.

Define Data Mapping

Data mapping establishes a 1 to 1 association between fields in a Unifier schedule sheet and a schedule sheet, such as Primavera P6. The data map creates a CSV or XML file into which the data from the external schedule can be loaded. Once loaded with data values, these files can then be imported into a Unifier schedule.

You can create multiple data maps and select the data mapping you want to use when you import the schedule files to create or modify schedule sheet activities.

> **Note**: You must create at least one mapping. Unifier will use this mapping as a default if there are no others.

Unifier supports multiple data formats: CSV, MPP, MPP XML, P6 XML. You must map any specific fields from an external source that you want to see in Unifier.

Data format	Data mapping requirements
CSV	Requires mapping; you can select the mapping when you upload the file.
MPP	Mapping is not required. Imported fields are limited to Start Date, Finish Date, and Duration. Do not select a default data mapping if you will be asking Unifier to consider an activity calendar.
Primavera XML	Requires default data mapping.
Microsoft Project SML	Requires mapping; you can select the mapping when you upload the file.

To define data mapping

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.
3) From the Schedule Sheets log, open the **Schedule Sheet** template you want to map.
4) Choose **File > Data Mapping**. The Data Mappings window opens.

   The Data Mappings window lists any mappings created for schedules such as Primavera P6 or Microsoft ® Project.

   If a mapping on this list is marked as the default mapping, Unifier will use this mapping when the schedule is imported. If you do not mark a mapping as the default, Unifier will prompt the users to select a mapping whenever they import a schedule.
5) Click **Add**. The Data Mapping window opens.
6) On the General tab, enter the name and the description for the data mapping and click **Apply**.

7) Click the **Activity** tab.

   Use this tab to create the structure of the CSV or XML file for the export and import operations. On this tab, you can map Unifier schedule sheet columns to external CSV headers and XML tags in order to import or export activity information.

   a. Click the **Add** button. Another data mapping window opens.
   b. Use the information in the first table below to complete the fields on this window.

8) (Optional) On the Resources tab, you can map resource information through XML integration. Enter the header in the XML element that corresponds to the column.

   > **Note**: Mapping resources is mandatory only if you select Import Resource Assignments on the Options tab.

   a. Click the **Add** button. Another data mapping window opens.
   b. Select the column and enter the header in the XML element that corresponds to the column.

9) Click **Apply** on the Resources tab.
10) Click the **Options** tab. On this tab, you can configure XML options that are used by Unifier when importing data.
11) Use the information in the second table below to complete the fields on the Options tab.
12) Click **OK**.

Data format	Data mapping requirements
Column	Select the data elements you want to import. Minimum required fields for XML import are Activity ID, Activity Name, Start date, Finish date, and Duration.
CSV Header	Enter the CSV header from the external source.
XML Element	Enter the XML from the external source

In this field:	Do this:
XML Import	Define options for importing XML activity schedules into Unifier. Importing data, from the Unifier Schedule Sheet, supports Microsoft XML, only. The P6 XML is supported through Web Services.
Options	You can either retain existing schedule information in Unifier, or overwrite it complete upon importing an external XML file. ▸ Merge into existing schedule. With this selection, you have a sub-option to Delete Activities removed from the source schedule. ▸ Overwrite existing schedule replaces the existing schedule.
Data Elements	Select the appropriate checkboxes if you want to import activities (rows), **Activity Dependencies**: Select this checkbox to retain activities from the XML source file.

	Activity Calendar: Select this checkbox to retain the activity calendar from the XML source file. If imported, the activity calendar will trigger the recalculation of activity dates as needed, and will override any existing activity calendar association. If a calendar is not imported, the activity will use the existing calendar defined in the Schedule Sheet properties. Note: There must be a calendar in Unifier with the same name as the calendar in the import file. **Resource Assignments**: Select this checkbox to retain the resource assignments from the XML source file. If you want to import resources, define the resource types for the data definition SYS Resource Type. For Microsoft Project files, use standard resource types: Work, Material, and Cost. Upon import, these resource types will soft book. **CBS Codes**: Select this checkbox to import CBS codes. See ***CBS code options for Primavera XML and Microsoft Project XML*** (on page 825). **Number of Levels**: (for Primavera XML only) Specify the segments that should be considered in the Primavera XML file for the codes (from 1 to 9) and the CBS code suffix mask. See ***CBS code options for Primavera XML and Microsoft Project XML*** (on page 825) for details. **Suffix Mask**: (for Primavera XML only) You can use a constant or a data element value in the Suffix Mask. ▸ To use a constant in the Suffix Mask, click the Constant radio button, and enter the suffix you want to have appended to the CBS code. ▸ To use the value from a data element in the Suffix Mask, click the Data Element radio button and select a data element.
XML Export	Define options for exporting through XML into another application
Data Elements	Select the appropriate checkboxes if you want to export activities (rows), and whether to include dependencies, resource assignments, and/or CBS codes.

CBS Code Options for Primavera XML and Microsoft Project XML

Unifier can recognize the CBS codes imported through XML files and match these codes to equivalent codes in a project/shell cost sheet. For Primavera XML files, you need to specify the **Number of Levels** and a **Suffix Mask**. (The codes in Microsoft Project XML files are automatically resolved by Unifier when the file is imported.)

The number of levels specifies the number of segments that should be included to build CBS codes based on data from the Primavera XML file. The number of segments considered starts from the top of the imported XML file. If you specify a number of segments and the data in the XML file has fewer segments than that number, then all segments are processed.

The **Suffix Mask** you enter is added to the CBS code elements that Integration derives from the XML file. The CBS code derived from the XML file with the mask is validated against the CBS codes (leaf level) created for the project/shell Cost Sheet.

While deriving the CBS codes from the XML file, Integration separates segments retrieved from the XML file with the cost code separator specified in uDesigner). When specifying the Suffix Mask, be sure to use the same cost code separator if the mask contains more than one segment.

Import CSV, XML, or MPP files to create or modify schedule sheet activities

Once you have saved the schedule files in an importable format (CSV, XML, or MPP) and defined the data mapping, you are ready to import the files into the Unifier schedule sheet template.

To import a CSV file

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.

From the Schedule Sheets log, open the Schedule Sheet template into which you want to import the schedule. The Schedule Sheet template opens.

1) Choose **File > Import > From CSV**.

   When you import the file, you can select the data mapping you want to use for the importing files. If a default mapping was created, you will not have to select a mapping. If not, Unifier will display a Select Data Mapping window. If this window opens, select the data mapping you want to use for this import and click OK.

   The File Upload window opens.
2) Browse to select the CSV file to upload.
3) Click **OK**.

To import XML and MPP files

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click Templates in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.
3) From the Schedule Sheets log, open the Schedule Sheet template into which you want to import the schedule. The Schedule Sheet template opens.
4) Choose **File > Import > From External Source**.

   When you import the file, you can select the data mapping you want to use for the importing files; however, in some cases, MPP files do not require that you to select a data mapping.

   If a default mapping was created, you will not have to select a mapping. If not, Unifier will display a Select Data Mapping window. If this window opens, select the data mapping you want to use for this import and click OK.

5) Use the table below to complete the fields in this window.
6) Click **OK**. The File Upload window opens.
7) Browse to select the file to upload.
8) Click **OK**.

In this field:	Do this:
MPP	Data mapping is not required; leave the Data Mapping field empty.
MPP XML	Data mapping is required; select the mapping you want to use.
MPP activity calendar	Select Consider Activity Calendar. Note: This requires an existing calendar in Unifier with the same name. See ***Creating Multiple Calendars*** (on page 256) If an activity calendar is not imported and considered, the activity will use the existing calendar defined in the schedule sheet properties.
MPP Resource assignments	Data mapping is not required; leave the Data Mapping field empty. Note: This requires a data set for the SYS Resource Type data element. See ***Add a Basic data definition*** (on page 76). Use MPP standard resource types: Work, Material, and Cost. Upon import, Unifier will soft-book these resource types.

CBS code options for Primavera XML and Microsoft Project XML

Unifier can recognize the CBS codes imported through XML files and match these codes to equivalent codes in a project or shell cost sheet.

To enter the CBS code options

1) On the Data Mapping **Options** tab, select the **CBS Codes** checkbox.
2) Enter the **Number of Levels** (from a minimum of 1 to a maximum of 9). This specifies the number of segments that should be included to build CBS codes based on data from the Primavera XML file. The number of segments considered starts from the top of the imported XML file. If you specify a number of segments and the data in the XML file has fewer segments than that number, then all segments are processed.

> **Note**: You must enter a number of levels if you select the CBS Codes checkbox. However, for Microsoft Project XML files this value is ignored. The CBS Codes are resolved automatically by using the CBS code element in the MS Project XML schema when the MS Project XML file is imported.

3) Optionally, (for Primavera XML only) enter the Suffix Mask you want to use for the CBS code mapping. The mask you enter is added to the CBS code elements that Integration derives from the XML file. The CBS code derived from the XML file with the mask is validated against the CBS codes (leaf level) created for the project or shell Cost Sheet.

   While deriving the CBS codes from the XML file, Integration separates segments retrieved from the XML file with the pre-defined Cost Code Separator (previously defined under Data Definitions in uDesigner). When specifying the Suffix Mask, be sure to use the same Cost Code Separator if the mask contains more than one segment. You do not need to start the Suffix Mask with the Cost Code Separator. Unifier will add this separator to combine the CBS codes derived from the XML file and the Suffix Mask you enter.

   You can use a constant suffix, or use the value of a data element as a suffix:

   - To use a constant in the Suffix Mask, click the Constant radio button, and enter the suffix you want to have appended to the CBS code.
   - To use a data element values in the Suffix Mask, click the Data Element radio button and select a data element.

4) Click **OK**.

Primavera XML and Microsoft Project XML CBS Code interpretation

The data Unifier derives from the Primavera XML file consists of CBS Code segments, and activity and resource data. Upon import, a tree of CBS code elements are combined to form a CBS Code. Each element is a segment of a CBS code. The Activity element is attached to last node of the CBS Code segment. Activity Resource Assignment information is considered.

This is an example of CBS code structure during import from an XML file:

```
<CBS 1>
    <CBS 11>
        <CBS 111>
        <Activity A>
```

In above example, actual CBS Code is <CBS 1>.<CBS 11>.<CBS 111>. Activity A contains a reference to its parent (<CBS 111>) CBS code segment. When processing the import of the XML data, Unifier first checks the Activity CBS code element and then builds the rest of the CBS code by moving up the CBS tree structure. In this example, Activity A has CBS 111 as a reference and Unifier use the structure to build the CBS code as CBS 1.CBS 11.CBS 111.

After this CBS code is built, a Suffix mask (for Primavera XML files) is added to the beginning and end of the derived CBS code to create a Unifier CBS code. When the Unifier CBS code is created, it is validated against the CBS code created in the project or shell Cost Sheet.

If an activity is moved from one CBS code to another CBS code, Unifier will move the activity during the XML file processing. If an activity or CBS code is deleted in the imported XML file, and the same activity exists in Unifier, Unifier will not delete that activity or CBS code.

Note: Importing data, from the Unifier Schedule Sheet, supports Microsoft XML, only. The P6 XML is supported through Web Services.

Updating User Information in Schedule Sheet Properties Using Bulk Processing

You can use bulk processing to update user information in schedule sheet properties for a large number of sheets. This user data pertains to the groups or individual users who are notified of errors and also the groups who are given activity-level permissions. You can perform this bulk processing at the shell or project level.

Note: You can update 200 records at a time using bulk processing.

Change user group assignments or add new users in bulk

To add or remove user group assignments in bulk

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) In the left Navigator, click **Company Sponsored Projects** (for a project) or **Company Sponsored Shells** (for a shell).
3) In the log on the right pane, select project(s) or shell(s) you want to update.
4) Choose **File > Export > Export Schedule Sheet Properties**. This will export the current properties for all of the schedule sheets for the selected shells or projects to a CSV file.
5) Click **Open** to open the CSV file, or **Save** to save the file to your desktop.
6) Modify the sheet in the CSV file as needed.

   All column values are required, except for Notify Users and Notify Groups. Group and user names are separated by semi-colon (;).
7) Save the CSV file when you are finished modifying the user group assignments or adding new users.
8) Navigate back to the log and choose **File > Import > Import Schedule Sheet Properties**.
9) Upload the modified CSV file and click **OK**.

   You will receive an email notification when the update is finished.

Creating Activity Sheet Templates

Activity Sheets are used at the Program level to give program managers visibility into their activity data, and give them the ability to manage these activities across projects and shells. They are available in the Schedule Manager at the Program level.

Program managers can use an activity sheet to view, edit, and update a large amount of activity data across projects and shells. Activity codes are mapped to activities in the Activity Sheet, and the data for the Activity Sheet is gathered only from the projects' Master Schedule Sheets. Project names form the rows of the activity sheet; the activity codes and other data from the master sheets form the columns and sub-columns of the sheet.

Users cannot create Activity Sheets; they are available only from templates that you create.

If an activity picker is present on a Cost type BP, then the picker automatically populates the CBS code. Whenever user selects an activity in the form, it will populated the corresponding CBS code from Activity Sheet.

Note: The automation does not require any configuration in uDesigner.

Create an Activity Sheet template

To create an Activity Sheet template

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates > Activity Sheets** in the left Navigator. The Activity Sheets template log opens.
3) Click **New**. The Activities Sheet properties window opens.
4) Use the information in the table below to complete the fields on the General tab.
5) Click **Apply**, then click the **Activity Codes** tab.

   On this tab, you add the rows of activities you want to see on the Activity Sheet. The rows in the sheets that are created from this template will list the projects and shells related to the activity codes you specify on this tab.
6) Click the **Add** button to add activity rows.

   Unifier adds an empty row to the window.
7) In the **Activity Code** column, double-click the cell. The cell becomes editable.
8) Click the down arrow and select the activity for the row.
9) To change the order of the activity rows, select a row and use the **Move Up (Left)** or **Move Down (Right)** buttons to move the activity.
10) Click **Apply**, then click the **Data Elements** tab.

    On this tab, you specify the columns you want on the Activity Sheet.
11) Click the **Add** button to add a row for the field. Unifier adds an empty row to the window.
12) In the **Data Elements** column, double-click the cell. The cell becomes editable.
13) Click the down arrow and select the field you want to display as a column on the sheet.

Note: Activities can be affected by calendar selection, if there are multiple calendars implemented. You can include a Calendar column on the activity sheet, and this column will allow users to select a company level or a project/shell calendar per activity (custom calendars are not available). When activities are updated through the Activity Sheet, Unifier considers the calendar in use for the activity. The Start Dates, Finish Dates and Durations can be affected by the calendar used for an activity.

14) To change the order of the fields, select a row and use the **Move Up (Left)** or **Move Down (Right)** buttons to move the field.
15) Use the **Editable** checkbox to designate which data elements will be editable on the Activity Sheet.

    Only one of Start Date, Finish Date, or Duration elements in a group of elements can be made Editable (the other two elements of the group, if added, are not selectable).

The following elements are always read-only, and cannot be marked as editable:

- Actual Start/Finish/Duration
- Auto-update Activity checkbox
- Milestone checkbox
- Activity Code
- Activity Status
- Baseline elements

16) If you want Unifier to automatically adjust the start and finish dates to reflect a negative lag, select the **Allow negative lag to accommodate specified Start/Finish Dates** checkbox.

    For example, lag could be adjusted to a negative value automatically to accommodate manual entries if an activity cannot be normally moved as a result of an existing dependency or lag. This could occur if:

    - The Finish Date on Activity 2 is updated to be pulled in by five days
    - The Start Date cannot move to be earlier due to predecessor Activity 1
    - In this case, you can make the lag negative by five days to allow the Start Date to move earlier and keep the duration constant

    In another example, the Finish Date on Activity 2 is moved up by five days.

    - The Start Date can be moved earlier only by two days due to predecessor Activity 1
    - In this case, we can make the lag negative by 3 days (-5+2=-3) to allow the Start Date to move earlier and keep the duration constant

17) Click the **Move Up (Left)** or **Move Down (Right)** buttons to change the sorting order of the columns.

18) Click **OK**. The new Activity Sheet template is available in the log.

In this field	Do this
Title	Enter a title for the template. This is used as the template identifier and must be unique. (up to 120 characters)
Description	Enter an optional description. (up to 400 characters)
Status	When you are ready to make the template active and available for use, click Active. The default is Active.

Scope Management Setup

Scope management is a framework that defines deliverables, responsible roles, actual assignees and their schedules. In other words, Scope Management drives coordinated production of these deliverables. Scope Management initiates actions for producing deliverables based on the completion of dependencies. It routes them to responsible person/group, monitors their completion and updates deliverable statuses automatically. It manages different activities across schedules for different team members simultaneously.

Note: Scope Management is not available for launching non-workflow

business processes.

This feature allows you to use existing Schedule Management functionality with added data elements to automate the management of a project's scope and schedule with all associated activities, tasks, and deliverables. This feature provides project managers with the ability to manage each scope item's task assignments, ownerships, and durations.

Project managers can use Scope Management as the solution to manage high volume, quick-turn around projects that have standardized scope and scheduled activities. Examples of projects that would benefit from the use of Scope Management functionality are retail construction projects such as bank branches or chain fast food restaurants. Unifier's Scope Management capabilities are also useful for large capital projects with complex scope and schedules, and that have numerous dependent activities and milestones with associated tasks and deadlines.

Scope Management coordinates the creation of the defined deliverables using the schedules of the various assignees, and automatically moves tasks to the next assignee. Scope Management then routes tasks related to the deliverables to the next responsible assignee (person or group), monitors the state of the tasks, and updates deliverable status automatically. Actions for the creation of deliverables are based on fixed time durations and the completion of dependencies.

This functionality can be enabled on any schedule sheet, including a Master schedule sheet. Scope Management enables you to link BPs with schedule sheet task activities and route those BPs, with automatic update of status as they are routed and worked on. The BPs represent the work that needs to be done to complete the task. Also, you can override the automatic routing at any time and launch the activity-associated BPs manually. The BP-related task is deemed done when specified completion conditions are met.

Setting up Scope Management for Activities

After you create the project- or shell-level schedule sheet template at the company level, you can set up the following for each activity:

- Linked BP
- Responsible users or groups
- Due date
- Completion conditions

To set up Scope Management for an activity

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets.
   - For a shell template, in the left Navigator, click Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets.

   The Schedule Sheets log opens.
3) Select the template from the log and click the **Open** button, or double-click the selected template. The schedule sheet template opens.

4) To set up scope management for the template, use the instructions in the *Unifier User Guide* on setting up scope management for activities.

About activity-level editing

At the project shell level, you can configure the Schedule Sheet so that specific cells can be edited only by designated groups of users. In a project, the project manager is usually responsible for the entire schedule, with various activity owners responsible for managing dates on specific project tasks. Enforcing activity-level editing controls the users and groups who can edit certain data, such as group-specific start and finish dates for activities.

Notes:

- You can set up the activity-level editing restrictions in a template, and the editing control configuration will be copied into any schedule sheet created from that template.
- Unifier will ignore any data imported through CSV or XML for restricted fields. If there is any failure in validation, Unifier will stop the import.
- The Gantt Chart will be disabled if the Start, Finish, and Duration fields are restricted.

Activity-level editing allows the project manager and other activity owners to collaborate on a project and discuss the impact of changes to start and finish dates across the entire schedule. This collaboration allows the project manager or activity owners to enter new start and finish dates for activities without immediately affecting the start and finish dates for all activities. The editing restrictions prevent the proposed dates from affecting the entire schedule before the dates are approved or adjusted. Only those users with appropriate permissions can edit restricted dates.

Note: Updates that occur from Activity Sheets are also subject to activity-level editing restrictions if the restrictions are configured on the corresponding schedule sheet, as are updates from CSV import or Web Services Integration.

The following table shows an example of the impact on dates in a schedule sheet with activity-level editing configured, and with activities and group-specific date columns. In this example, the groups Const, IT, and ATM all have group-specific start dates and finish dates for activities:

<table>
<tr><th>Activity</th><th>Start Date</th><th>Finish Date</th><th>Const Start Date</th><th>Const Finish Date</th><th>IT Start Date</th><th>IT Finish Date</th><th>ATM Start Date</th><th>ATM Finish Date</th></tr>
<tr><td rowspan="2">Activities owned by Const Group</td><td colspan="2" rowspan="6">Project manager can edit thise dates</td><td colspan="2" rowspan="2">Const Group can edit these dates</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Activities owned by IT Group</td><td></td><td></td><td colspan="2" rowspan="2">IT Group can edit these dates</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Activities owned by ATM Group</td><td></td><td></td><td></td><td></td><td colspan="2" rowspan="2">ATM Group can edit these dates</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table>

A less restrictive implementation of activity-level editing allows specific groups to edit all cells in selected rows. In this implementation, when project manager changes activity start or finish dates, those changes could affect other dates in the schedule, due to dependencies among the activities:

Activity	Start Date	Finish Date	Other data in the schedule sheet
Project Manager can edit the cells in this row	Project Manager can edit these rows		
Activities owned by Const Group	Const Group can edit these rows		
Activities owned by IT Group	IT Group can edit these rows		
Activities owned by ATM Group	ATM Group can edit these rows		

Set up activity-level editing

Before you set up activity-level editing:

- Be sure the Activity Attribute form has been designed to include the Filtered Group data element and any group-specific start date and finish date data elements (see the "Schedule Manager Overview" in the *Unifier uDesigner User Guide* for more information).
- Be sure the Add the Filtered Group data element and any group-specific date data elements have been included as columns on the schedule sheet.
- Create the groups who should have permissions for activity-level editing. See ***User Administration*** (on page 165). Be sure not to include the project manager in any of these groups (as the group manager, for example), as this will result in conflicting permissions if later you add any restrictions to the columns schedule sheet.
- Give these groups the View All Sheets permission for the Schedule Sheets for the project/shell. Do not grant Full Access permissions, as that will override any activity-level configuration to restrict editing.

To set up activity-level editing

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.

   The Schedule Sheets log opens.
3) On the Schedule Sheets log, select the schedule sheet and click the **Permissions** button on the toolbar. The Edit Permission window opens.
4) Add the group or groups for activity-level permissions and specify **Edit Data** in the Permissions section of the window.

5) Give the project manager **Modify Permission**.
6) Click **OK**.
7) Click the **Properties** button on the toolbar.
8) On the **General** tab, select the Permissions: **Enforce Activity Level Permission by Group** checkbox and select a **Default Group** from the drop-down list.
9) Open the schedule sheet (either in the template or in the project or shell).
10) Under the **Filtered Group** column, click the activity for which you want to specify editing.
11) From the drop-down list, select the group you want to have activity-level editing permission.

    The group selection you make in the activity row controls the access for editing that activity. For example, if you select IT Group as the Filtered Group for an activity, then only users who are members of the IT Group can modify data for that activity (in that row).

> **Note**: For a less restrictive, row-level implementation of activity-level editing, you can stop here and not perform the next step, which provides further restrictions to the cell level.

To set up more cell-level editing restrictions

In addition to activity-level editing permissions, and can use column restrictions to enforce that only certain groups can edit certain cells. For example, for project managers, you could restrict the group-specific date columns only. For the activity-owner groups, you could restrict access to all columns except for the group-specific date columns. For example, for the IT Group, you could restrict access to all columns except for IT Start Date and IT End Date.

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates** in the left Navigator.
   - For a project template, in the left Navigator, click **Templates > Projects (Standard) > [project] > [project template] > Schedule Manager > Schedule Sheets**.
   - For a shell template, in the left Navigator, click **Templates > Shells > [shell type] > [shell template] > Schedule Manager > Schedule Sheets**.

   The Schedule Sheets log opens.
3) Open the schedule sheet you want to restrict.
4) From the File menu, choose **Restrictions**. The Restrictions Setup window opens.
5) Under User/Group Name, add the user or group name whose access you want to restrict.
6) Under Activity Restriction Settings, choose the fields on the sheet that you want to restrict.
7) (Optional) Under Resource Assignment Restriction Settings, choose the resource-related fields on the sheet that you want to restrict.

Setting Up the Space Manager

In Unifier, the Space Manager is where you can perform the tasks of facilities management. The Space Manager integrates the AutoCAD® application to provide drawing and modeling capabilities for your architectural, layout, and design needs.

> **Note**: The Space Manager is only available to shells; it cannot be used for standard projects.

Using the Space Manager, you can gather data about the levels in your facility (such as floors and parking lots) and the spaces that exist on each level (cubicles, offices, conference rooms, etc.). Each level is supported by an AutoCAD® drawing. You can enter individual spaces into Unifier, or directly onto an AutoCAD® drawing and classify them into categories (such as common areas, or usable space) to make managing them more efficient. Similar to the Asset Manager, categories (called types) of spaces can be designed in uDesigner, and you can then add records of individual spaces to these types and manage them on an electronic sheet.

The Space Manager is a means of organizing all the square footage in your facility to make monitoring, maintaining, and revising your facility more efficient. The Space Manager can be integrated with other managers or business processes to give you a broader view of your company's physical capital and resources. For example, the Space Manager can be integrated with the Asset Manager to include the computers that reside in each cubicle on a level; or integrated with the Resource Manager to include the employees who occupy each space on a level.

In uDesigner, one attribute form is designed for a "level" type in your facility and multiple attribute forms for "spaces" types. With these attribute forms, you can create a hierarchy of levels and spaces within levels to store the facilities data you choose to collect.

> **Notes**:
>
> - In the Space Manager, think of a level as the "platform" on which spaces reside.
> - Configuration of the Data Picker and Data Elements (and when applicable: Unique and Auto Sequence settings) must be done in uDesigner.

In Unifier, the **Sheets** node in the Space Manager stores the manager sheet on which all the levels in your facility are shown. Unifier automatically creates a level sheet for every level type that is created. On these sheets, you can import and export drawing files to and from AutoCAD®, and also import and export column data. From the level sheet, you can also automatically update individual level records with data added to the sheet, either manually or via a formula created for a column.

The **Stack Plans** node is where you can create stack plans to show the actual usage of the levels in the company's building(s). You can choose the information (data elements or specific spaces) you want to see on the stack plan and update the plan periodically to keep abreast of changes in the levels' space usage. For example, you might want to know the square footage used by each department on each floor (level); or how many square feet of a floor are vacant versus leased.

The **Levels** node lists all the levels that exist in your facility. Each level is supported by an AutoCAD® drawing. This node is where you can create new levels or update existing ones, download drawing files, add spaces to the level, attach a drawing to the level, and print the drawing. This is where you can create new levels or update existing ones, import data from CSV files, export templates to CSV.

The **Spaces** node shows a list of all the space types, and under the space type sub-node, all the spaces that exist in your facility. This is where you can create new spaces or update existing ones, import data from CSV files, export templates to CSV, and select spaces to view on the level drawing.

The Space Manager allows you to identify floors and each space by type and associate attributes to the particular spaces. For example, a multi-floor building could have many types of spaces, such as offices, cubicles, restrooms, conferences room, laboratories, and eating areas.

You manage spaces according to space type. Examples of space types are:

- Gross measured area, which is the entire square footage of a floor, from wall to wall
- Common area, such as hallways, lobbies, and entrances
- Usable space, such as cubicles, offices, and conference rooms
- Vertical penetration, which includes elevators, stairwells, and columns

The Space Manager is available within a shell. Each shell can have only one Space Manager. A building is at the shell level. An example hierarchical arrangement of objects in the Space Manager is as follows:

- Buildings (shell level)
  - Levels (Floors) of the building or other similar structures (in this case, Floor is an example of a level record)
    - Spaces in the building. These are the various spaces in the structure, such as storage rooms, offices, and other interior spaces (space records). Spaces is a fixed node designed in uDesigner.

The Space Manager includes a sheet to help you manage levels and spaces. The sheet will allow you to create formulas to calculate total leasable and rentable space for a facility or building.

uCAD Plug-In

Users can integrate the Unifier Space Manager with AutoCAD® using the uCAD plug-in application, which can be downloaded from Unifier. uCAD enables:

- Authoring of space objects in AutoCAD®
- Identifying spaces on a floor drawing and link them to Unifier space objects
- Associate a drawing file to a Unifier level record
- Transferring changes to level and space records between the Unifier Space Manager and AutoCAD®

In This Section

About the uCAD Plug-In

Users can integrate the Unifier Space Manager with AutoCAD® using the uCAD plug-in application, which can be downloaded from Unifier. uCAD enables:

- Authoring of space objects in AutoCAD®
- Identifying spaces on a floor drawing and link them to Unifier space objects
- Associate a drawing file to a Unifier level record
- Transferring changes to level and space records between the Unifier Space Manager and AutoCAD®

Space Manager Prerequisites

The following is a list of prerequisites:

- Generic or CBS shells configured
- Level and space attribute forms defined in uDesigner
- uCAD plug-in and AutoCAD® installed on your desktop (if you are going to use the Space Manager with the optional AutoCAD® integration)

  The *Unifier uCAD Installation and User Guide* is also available from the Unifier Support window, on the Download tab. After you download the uCAD plug-in you can access uCAD from the Windows Start menu > Programs> uCAD. When you install the plug-in, the uClient Configurator is also installed. The *Unifier uClient Configurator Setup Guide* is available in the uClient Configurator Help menu. The *Unifier uCAD Installation and User Guide* is available in the uCAD Help menu.
- Auto Desk® Design Review

  This is required if the user wants to view the uploaded drawing files within the Space Manager window. It is a free download from http://usa.autodesk.com.

Importing and Configuring Levels and Space Types

Importing and configuring levels and spaces types for the Space Manager for use in Unifier consists of the following steps:

Step 1: Import level and space types. Levels and space types are created in uDesigner.

Step 2: Configure the level and spaces. This configuration enables these types to be set up.

Step 3: Setup Level Sheet Templates

Step 4: Create stack plan templates

Step 5: Set permissions. After setting up and configuring levels and spaces, you must set User Mode permission to all users who will need to work with these components of the Space Manager.

In order to create levels and space types in Unifier, the Space Manager module has to be loaded. Contact the Company or Site Administrator.

The Space Manager can have only one level type design but multiple space type designs. You have to first deploy the level design in uDesigner before deploying any Space type designs.

To import and deploy a level or space attribute form into Unifier **Production** environment, see ***Importing Configuration Packages*** (on page 303).

Configuring Levels and Space Types

Level and Space configuration allows you to activate the level and space types for use in the Space Manager.

To access the level and space configuration log

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Space Manager** in the left Navigator. The Configuration – Space Manager log opens. The log lists the level and space types that were imported into Unifier.

   The newly imported level and space types are inactive by default and can be activated during configuration.

Configuring a Level or Space Type

The following describes how to activate a level or space types.

To configure a level or space type

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Space Manager** in the left Navigator. The **Configuration-Space Manager** log opens, displaying the level and space types that have been imported into your company.
3) Select a level or space type and click **Open**. The Configuration window for the level or space type opens.
4) Complete the **General** tab. In this tab, you can add a custom Help file and change the status of the level or space type to Active.
5) Click the **Custom Print** tab. This tab is optional; it allows you to customize the layout of a PDF document leveraging the XML style design format.
6) Click **OK**.

Configuring Fill Colors and Text for Space Types

You can configure fill colors and text for uCAD drawings to support visual analysis of the drawings to facilitate space planning. For example, users might want to see a floor plan with each space type on that plan highlighted in a different color based on the department using that space.

To configure fill colors and text for a space type

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Configuration > Space Manager** in the left Navigator. The **Configuration-Space Manager** log opens, displaying the level and space types that have been imported into your company.
3) Select a space type and click **Open**. The Configuration window for the space type opens.
4) For space types, click the **Options** tab. On this tab, you can enter information regarding spaces that enables users to color code spaces shown in uCAD. Users can also specify the display text that will appear on drawings.
5) Complete the CAD Drawing Options as described in the table below.
6) Click **OK**.

In this field:	Do this:
Default Color	Click **Select** to specify the AutoCAD (ACI) Color used by default when displaying spaces of this type. The system default is white (no color). You can select a color from the 255 color AutoCAD ACI color palette. This ACI color is converted to the corresponding HEX HTML color. The default color is used for space outlines.
Text Element Sort	Click **Select** to specify the sort order of the data elements whose text labels will be available to be shown as text on the uCAD drawing, as defined in uDesigner. You can use **Add** to select the data elements to display and select a data element and click **Remove** to delete data elements from the list of displayed data element text. Use the **Move Up** and **Move Down** buttons to re-order selected data elements. Also, you can re-order the data elements by editing the Row number, and clicking **Update Order** to refresh the window. Click OK to exit the Data Element window.
Fill Display Elements	Click **Select** to specific the drop-down list data elements (Input Type Pull-down Menu) that are available to be used for visual analysis on the uCAD drawing, and to specify a color for each value in the Data Set for that Pull-down Menu. Select a Data Element and select Enable Fill By. Select colors for the data element data set values. Click **OK**.

Configuring Space Manager Configuration Package

The following configurations can be included in the Space Manager Configuration Package:

- General setup
  All the fields included in the General Configuration (General tab).
- Custom Print
  Word and PDF templates, if any.
- BIP Custom Print
  All the BIP Custom Print in the Custom Prints and Reports.
- Space Attributes
  The content of the Options tab for Space Attributes, including Default Color, Text Element Sort, and Fill Display Elements.

> **Note**: If you do not select the Data Structure setup option at the time of creating the Configuration Package, the Data Definition selected in the Fill Display Elements field will not contain the Value or Label datasets and only the colors can be seen.

For more information, see the ***Configuration Package Management*** (on page 281) section in this guide.

Creating Level Sheet Templates

To open a level sheet

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell or shells] > Space Manager> Level Sheets** in the left Navigator. The Level Sheets log opens. There is one level sheet per shell.
3) Select the sheet in the log and click **Open**.

To open the Level Sheet properties window

In the Level Sheets log, select the sheet and click **Properties**.

To create a template for a level sheet

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell or shells] > Space Manager> Level Sheets** in the left Navigator.
3) Click **New**. The Levels Sheet Properties window opens.
4) Enter an optional description. You cannot change the sheet title.
5) Choose whether to include all levels on the sheet or just levels with selected statuses.
6) Click **OK**.

To add columns to a level sheet template

1) Go to the **Company Workspace** tab and switch to Admin mode.

2) Click **Templates > Shells > [shell or shells] > Space Manager> Level Sheets** in the left Navigator.
3) Select the level sheet, and click **Open**.
4) Click **Columns**. The Columns Log window opens.
5) Click **New**. The Column Definition window opens.
6) In the **Datasource** drop-down list, select the data source to use. The list includes the data elements found on the level forms.
7) For **Entry Method**, choose how information is entered in the column. The choices depend on the data source selected.
8) For **Data Format**, select the format for numeric columns. The options are:
   - **Show as Percentage**: Displays data in percentage. For example, if 0.25 is entered, it displays as 25%.
   - **Decimal Places**: Select the number of decimal places to display.

     Note: If the data element was defined in uDesigner with a specific number of decimal places, it will override any decimal places you specify here.

   - **Use 1000 Separator (,)**: Data is formatted using separators. For example, one thousand is displayed as 1,000 with a comma, not 1000.
   - **Negative Number Format**: Select how negative values are displayed: with a negative sign or in parentheses.
9) For **Display Mode**, select **Hide** to make the column invisible to users or **Show** to display it.
10) For **Total**, select what is shown in the bottom summary row for each column. The options are:
    - **Blank**: Summary row is blank.
    - **Sum of All Rows**: Displays the sum total of all row values for this column.
    - **User Formula Definition**: Displays the result of the formula entered in the Formula field.
11) For **Average**, select **Blank** or the average of all rows.
12) For **Column Position After**, select a column from the list to specify its position on the sheet.
13) Click **OK**.

Creating a Stack Plan Template

A stack plan is a two-dimensional graphical display of facility or building data. Usually, these graphs display area calculations by different attributes (for example, rented, leased, vacant, occupied by a tenant). Stack plans allow users to view area information across all building levels or floors based on defined attributes. Stack plans display only space records. With permissions, users can create or modify a stack plan under a shell.

To create a stack plan

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell] > Space Manager> Stack Plans** in the left Navigator.
3) Click **New**. The Properties window opens.

4) Complete the **General** tab as described in the first table below.
5) Click the **Options** tab and complete as shown in the second table below.
6) Click **Apply** to save changes, or **OK** to save and exit.

In this field:	Do this:
Name	Enter the stack plan name.
Description	Enter an optional description.
Include: ▸ All Levels ▸ Levels with statuses	Select to specify that all levels be included in the stack plan, or that only levels of selected status be included in the stack plan.

In this field:	Do this:
Space Types	Select a space type.
Stack By: ▸ Space Type ▸ Data Element	Select whether to stack by selected space type or by a data element.
Stacking View	Select to specify standard stacking or 100% stacking.
Sort Floors By:	Select to sort floors by a selected data element from the Level Attribute form.
Show Legend	Select to display a legend for the stack chart.
Conditions	Add a condition to filter the number of space records included in the stack plan calculation. The stack plan calculation logic sums up the values from the uuu_area data element used on the space-type detail form.

To modify stack plan properties

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell] > Space Manager> Stack Plans**.
3) Select a stack plan and click **Properties**. The Properties window opens.
4) Modify the stack plan properties as needed.
5) Click **OK**.

To update a stack plan across shells

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Templates > Shells > [shell] > Space Manager> Stack Plans**.
3) Select a stack plan in the log.
4) Click **Update Shells**. You can choose to update the stack plan in selected shells, or all shells.

Setting Permissions for the Space Manager

You must set the user permissions for the various components of the Space Manager. The Space Manager components are:

- Sheets
- Stack Plans
- Levels
- Individual space types

To set the Space Manager components permissions

1) Go to the **Company Workspace** tab and switch to Admin mode.
2) Click **Access Control** in the left Navigator.
3) On the right pane, select **User Mode Access > Space Manager**. The permissions for each component are:
   - **Sheets**: Create, Modify, View
   - **Levels**: Create, Modify, View, Allow Bulk Edit
   - **Spaces > All > <**space types**>**: Create, Modify, View, Delete, Allow Bulk Edit
   - **Stack Plans**: Create, Modify, View

> **Note**: Users with Modify permission can import drawing files into a level record.

Query Tabs in Spaces

The Query tab allows access to all BP records, related to Space, by way of Query-based Tab (QBT). For example, if you need to see all approved BPs related to your Space, you can use the QBT to query/fetch those records. Once a Query-based Tab (QBT) is successfully created and deployed using uDesigner, the BP Query Tabs appear in the Unifier required Space, in User mode.

As a pre-process to defining the Query Tab in the Space, you need to use the Space picker in one of the upper forms of the BP from where you want to create the Query Tab. For defining a Query Tab, click on the Query Tabs link in uDesigner, click New, and select a Business Process. The system allows you to create a maximum of 8 Query Based Tabs in uDesigner. To define a Query Tab, go to uDesigner:

1) Click **Query Tabs**.
2) Click **New**.
3) Select a BP.

> **Note**: You can use the Space picker (uuu_phy_space_picker) for the Query Tabs in the Upper form of the Business Process (BP), where you want the Query Tab originate from.

All the functionalities that are available with Query Tabs for Business Processes (BPs) are also available for the Space Manager.

The Query Items sub-node under the Space Manager node (uDesigner > Admin mode > Space Manager > [Space]) allows you to include references to other BPs in a form of a Query-based tab.

Within a selected Space, the Query Items sub-node provides the following two links:

- Query Tabs
- Summary Elements

Query Tabs

Once a Query-based Tab (QBT) is successfully created and deployed using uDesigner, the BP Query Tabs appear in the Unifier required Space, in User mode. You can use the Query Tabs sub-node to define and maintain the various Query Tabs that are defined within the Space. See "Opening Space Records" and "Creating a New Space Record" topics in the *Unifier User Guide* for more details.

General Tab

In the General tab, you can enter the name, description, and reference picker for the required QBT BP.

In case, you have already included the Space picker in the Upper form of the BP, the Space picker appears in the drop-down list of the reference picker. In this case, the Name field is populated with the name of the BP, but you can change the name of the QBT, if necessary. The name and reference pickers are mandatory fields on the General Tab, so you cannot create a QBT if you have not included the Space picker on the Upper form of the BP.

Query Tab

The Query Tab of the QBT is used to create a query to filter the results, displayed within the QBT, based on any particular condition.

> **Note**: It is not mandatory to have a query, so in case no queries are defined all records display in the QBT, in User mode.

You can define multiple queries within the Query tab.

Once you complete adding values in both General and Query tabs, click **Save**. The Query Tabs log page allows you to:

- See all the Query Tabs
- Create a new QBT (New).
- Open an existing QBT to review or change content (Open).
- Delete an existing QBT (Delete).
- Rearrange the ordering of the QBTs that are displayed (Tab Order).

Summary Elements

You can use the Summary Elements on the Detail form of the Space to show the data that is being exchanged. You can use all existing types of Summary Elements (Average, Count, Total, Maximum, and Minimum) in the QBT.

You can define multiple Summary Elements. To create Summary Elements, go to uDesigner > your space [Space] > Summary Elements and use the Space QBT to create your Summary Elements. After defining the Summary Elements, click **OK** to save. The Summary Element log page allows you to:

- See all the Summary Elements.
- Create a new Summary Element (New).
- Open an existing Summary Element to review or change content (Open).
- Delete an existing Summary Element (Delete).

Once you create the Summary Elements, you can include them in the Detail form of your space [Space].

Setting Up the User-Defined Reports

These are the recommended steps to set up the User-Defined Report (UDR) functionality:

Step 1: Create a UDR template.

Step 2: Create project or shell UDRs.

Step 3: Create a program UDR.

Step 4: Create a company UDR.

In This Section

Creating and Setting Up a UDR Template

Report templates allow you to create templates that a user can then copy from to create User-Defined Reports (UDRs). Report templates are based on specific data types and pre-defined data elements that differ depending on the data type.

Report templates define queries used to search the database for transaction or Project/Shell data and report layout.

You can create UDR templates for the following UDR report types:

- Tabular
- Cross Tab
- Summary
- Alert

UDR Data Types

The following table summarizes data types in user-defined reports. Data types also include project- or shell-level and company-level business processes, asset classes, planning items, and sheets.

Data Type	Project UDR	Shell UDR	Program UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Accounts Sheet				x		

Data Type	Project UDR	Shell UDR	Program UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Active Task Information	x	x		x	x	
Asset Summary Sheet				x		
Audit				x		x
Commitment Summary	x	x			x	
Company Cash Flow				x		
Company Cost				x		
Company User Information				x		
Cost Sheet - CBS	x	x	x		x	
Cost Transactions -CBS	x	x	x		x	
Cost Transactions MC - CBS	x	x				
Data Views	x	x	x	x	x	
Document Manager	x	x	x	x	x	
Document Manager—Company				x		
Equipment				x		x
Funding	x		x	x	x	
Gates	x	x	x		x	
Inventory				x		x

Data Type	Project UDR	Shell UDR	Program UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Inventory On-hand Detail				x		x
Item Master				x		x
Job Plan				x		x
Master PM Book				x		x
Master PM Meter Schedule				x		x
Master PM Time Schedule				x		x
Material Transaction				x		x
Partner User Information				x		
PM Book				x		x
PM Meter Schedule				x		x
PM Time Schedule				x		x
Program Cash flow			x			
Program Cost			x			
Program Schedule			x			
Resource Booking	x				x	
Resource Manager—All Actuals				x		

Data Type	Project UDR	Shell UDR	Program UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Resource Manager—Allocated Roles	x		x		x	
Resource Manager—Booked Resources	x		x		x	
Resource Manager—Project Actuals	x		x		x	
Resource Manager - Resources (Company)					x	
Resource Manager—Roles				x		
Resource Manager—Sheets	x		x		x	
Service Center				x		x
Service Request				x		x
Schedule of Values	x	x	x	x	x	
Shell or Project Cash Flow	x	x	x	x	x	
Shell or Project Cost	x	x	x		x	
Shell or Project Groups	x	x	x		x	

Data Type	Project UDR	Shell UDR	Program UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Shell or Project Information	x	x			x	
Shell or Project Users	x	x			x	
Workflow Information	x	x	x	x	x	
Work Order				x		x
Work Order Items				x		x
Work Order Role				x		x
(Asset class name)				x		
(Business process name)	x	x		x		
(Planning type name)				x		

Note: The COST SHEET - CBS data source does not support the formula columns. Use the Project/Shell Cost data source to view the formula column values.

Accessing UDR Templates

To access **Project** UDR templates:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates** > **Projects (Standards)** > **All** > [project template].
3) Select a project from the log.
4) From the left-hand Navigator click **Reports** > **User-Defined**.

To access **Shell** UDR templates:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **Templates** > Shells > [shell type] > [shell template].

3) From the left-hand Navigator, click a shell to open the log, select a shell from the log, and click **Open**.
4) From the left-hand Navigator click **Reports** > **User-Defined**.

The User-Defined Reports log for the (Shell UDR templates) contains all the UDR templates that have been defined for a specific Company, and the log contains the following information:

- Menu bar
  - File
  - Edit
  - View
  - Help
- Toolbar
  - New
  - Copy
  - Open
  - Edit
  - Delete
  - Find
  - Save Results
  - Update Shells
  - Import
- Columns
  -
  - Name
  - Description
  - Data Type
  - Report Type
  - Owner
  - Scheduled
  - Last Run Date

The following table explains each of the column-headings:

Column	Description
	This icon indicates that reports created based on this template will be enabled for web services integration. The integration option is available only for project-level, shell-level, and company-level reports.
Name	Name of the report template.
Description	Description of the template.
Data Type	The type of data on which the report is being run, for example,

	business processes, Cost Manager elements, project or shell information, workflow information, etc.
Report Type	Tabular, cross tab, summary, or alert.
Owner	The creator of a report is its owner.
Scheduled	Displays the scheduled frequency of a scheduled report.
Last Run Date	The date that the report was run last.

Creating a UDR Template

These procedures are applicable for UDR templates or for manually creating a new UDR in User mode.

To create a UDR template

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click one of the following in the left Navigator:
   - **Templates > Reports**
   - **Templates > Project (Standard)> All > [project template] > Reports > User-Defined**
   - **Templates > Shells > [shell type] > [shell template] > Reports > User-Defined**
3) Click the **New** button. The **Create a new report window** opens.
4) Fill in the fields using the information in the table below
5) Click **OK**. The **Edit Report** window opens. This window has multiple tabs for defining the report layout and content. The actual tabs that display will depend on the type of report you are creating. These tabs are:
   - **General tab**: In this tab, you enter the report name, the title that displays on the report at runtime, and define general settings, such as enabling it for integration, and setting a default time zone to use where time stamps appear on the report.
   - **Data Elements tab**: Allows you to specify the data elements on which to report, and which will appear as columns on the report at runtime. The Data Elements tab differs with each report type. In addition, the data elements that are available to be added to the report depend on the data type chosen during report creation. The data elements can include business process fields, columns in cost, funding, SOV, and schedule sheets, project data such as project name, status, user name, etc.
   - **Query tab**: Defines query parameters to input at report runtime.
   - **Layout tab**: Allows you to customize the layout and presentation of the report. If you do not define layout parameters, a default layout will be used. The Layout tab differs with each report type.
   - **Projects/ Shells tab**: This tab appears only in program-level and company-level reports. It displays which projects or shells will be included in the report.
   - **Shells tab**: This tab appears only in shell-level reports. It displays which shells can be included in the report.

- **Permission tab**: Enables the report owner to grant permission to other users to run or edit the report. This tab is available only in User Mode and not in the report template.
- **Schedule tab**: Allows the report owner to schedule and configure automatic report generation and optionally save or email the results.

6) Complete the tabs in the Edit Report window as described in the following sections and click **OK**.

In this field:	Do this:
Data Type	Select from the list. The Data Type list includes all available business processes (for example, base contracts), pre-defined data types (e.g., project users), modules (for example, Document Manager), data views in Published status (listed in alpha order, project/shell-level requires project_id in query), and may also include custom data types.
Element	If you chose a business process or a uDesigner BP-driven feature (such as funding, schedule of values, project information) as the data type, the Element drop-down list becomes available. Select one of the following options as available for your data type choice: - **All Fields:** Makes all fields on the BP available for the report. - **General (Header) Fields:** Only the BP header fields will be available, which provides a less detailed report. - **Custom Defined:** This is automatically selected for uDesigner-created BPs and related functions. This enables all the custom data element fields on the BPs to be available for the report.
Report Type	Choose a report type.
Access Type	(Read-only) System

General tab (all reports)

The General tab defines the report name, title, and description and displays the data type and report type (tabular, cross tab, summary, or alert). The General tab is the same for each report type. Below is a sample of the General tab.

In this field:	Do this:
Report Name	The name appears on the user-defined reports log.
Report Title	The title appears on the report itself. By default, the field is populated automatically with the report name and is editable.
Description	Description is optional.

Data Type, Element, and Report Type	Automatically populated from the options selected during the creation of the report.
Enable for Integration	Selecting this option flags the report as eligible for integration through web services (uLink). Contact Oracle Customer Support for more information about web services integration and uLink. This option is available for project-, shell-, and company-level reports only. When the checkbox is selected, the integration icon appears in the UDR log next to the report name. Note: Because web services uses the report name to identify reports, each report marked for integration must have a unique name. If there are two reports with the same name, only one of those reports can be marked for integration. This is true even if you cannot see the other report with the same name. For example, another user has created a report with the same name, for which you do not have view permission, and marked it for integration.
Default Time Zone	This option allows you to choose the default time zone that will be used where time stamps appear on the report (such as data/time data elements). There are two options: ▸ Click the pull-down and choose a specific time zone in which to display date/time information in the report at runtime. Use this option when you want all instances of the report to display results in a fixed time zone, for example, the project location. ▸ You can also choose to default to user's time zone. When this option is chosen, users in different locations will see report results that reflect their own time zone. Note: For scheduled reports, all users will get the same report results. If the user time zone option is chosen, then the report owner's time zone is used.

Data Elements tab (tabular report)

Each column of a tabular report corresponds to a data element or function (formula, date, or date difference). You can add or modify the data elements or functions on this tab. The Data Elements tab differs with each report type. The data elements depend on the data type chosen during report creation (see below.) The data elements can include business process fields, columns in cost, funding, SOV, and schedule sheets, project data such as project name, status, user name, etc.

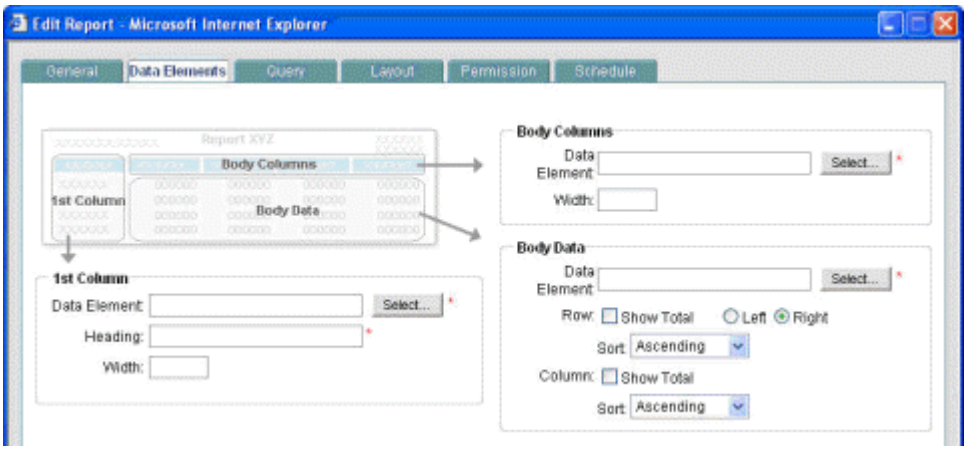
This button:	Does this:
Add Functions	Click to open the Data Element Properties window. Allows you to create a formula, data difference, or date column in the report.
Add Elements	Click to open the Data Element Picker window. The data sources and

	elements that are available vary based on the data type that you chose when creating the report.
Modify	Modify data element properties.
Sort	Determines which column to sort report results by.
Remove	Select a listed data element and click to remove it.
Move Up (Left)	Select a data element and click to move the column to the left.
Move Down (Right)	Select a data element and click to move the column to the right.
Current width	This field displays the width of the report in pixels. The report width is determined by the number and column width of data elements that are added.
Maximum available width	The maximum width of the report is determined by the page size and orientation as selected in the Layout tab.

Data Elements tab (cross tab report)

Cross tab reports allow the display of data on two axes. For example, the report below is being set up to track amount per CBS code per phase, where the CBS codes are the rows, the phases are the column headings, and the body data is made up of the line item amount.

Cross tab reports enable users to run time-series reports defined by two data sources, for example, payments made per quarter per vendor.



In this field:	Do this:
1st Column	This determines the data element that will be used for each row.
Data Element	Click **Select** and choose the data element. The list will depend upon the data type chosen. The data type will be listed before the data element, separated with a slash (/). For example: Funding/Funding Type, where Funding is the data type chosen on the General tab, and Funding Type is

	the data element.
Heading	The heading will automatically populate with the data element that you choose, but you can edit this as necessary.
Width	You can specify a column width for the 1st column, or leave it blank to use the default width (automatically adjusts depending on the number of body columns in the report).
Body Columns	This determines the series for which the data will be presented. The list is pre-defined and will depend on what was chosen for the 1st Column. Typically, these are system-defined data elements related to the 1st column choice, for example, status, creation date, etc.
Data Element	▸ Click **Select**. The Data Element Picker window opens. ▸ Click the **Data Source** list at the top of the window and select a data source. This determines which data elements will be available for the report. The choices will include the data type you chose in the General tab, as well as related data sources. ▸ Select a data element and click **OK**. Some data sources might not have data elements.
Width	You may specify body column width or leave it blank to have it automatically adjusted.
Body Data	This determines the data that will show up in the body of the report.
Data Element	The list is dependent on what is chosen for the other parameters, and is determined by what is logically reportable.
Row/Column	▸ Select **Show Total** if you want column and row sum totals to be included in the report. ▸ Choose **Left** or **Right** alignment. ▸ Choose **Ascending** or **Descending** to determine the sorting order of the columns and rows.

Data Elements tab (summary report)

On this tab, you specify the data that will be reported and how it will be presented on the project summary page. In the example below, a cost sheet report is being set up to display the value of total commits against CBS code.

In this field:	Do this:
1st Column	This determines the data element that will be used for each of the rows. In the example above, this is CBS code. Click **Select** and choose the data element. The list will depend upon the data type chosen. The data type will be listed before the data element, separated with a slash (/). For example: Funding/Funding Type, where Funding is the data type chosen on the General tab, and Funding Type is the data element.

Heading	The will automatically populate with the data element that you choose, but you can edit this as necessary.
Width	You may specify a column width or leave it blank to use the default width.
If the data element is a date type, you can specify time parameters	▸ **By:** Choose the year, quarter, month, or day to display the data. ▸ **Format:** How the heading will display the date ▸ **From** and **To:** Establishes the date range to include in the report.
2nd Column	This determines what information is being presented.
Record Count	Displays the total number of records. For example, for a report on a BP type, it will display the number of BP records.
Summary Value	Displays a value. In the above example, the value is the total value of the commits (Contracts + Change Orders) for each CBS code. To enter a formula, click the **Formula** button.
Summary Type	Choose one of the following: ▸ **Summary:** Provides a summary value. ▸ **Average:** Displays the average value. ▸ **Maximum:** Displays the maximum value.
Heading	Type a heading for the 2nd column.
Width	You may specify a column width or leave it blank to use the default width.

Data Elements tab (alert report)

On this tab, you define the parameters that will trigger the alert that will be sent you. In the example below, the alert will be triggered for invoices that are greater than $1,000.

In this field:	Do this:
Alert Column	This determines what information is being presented.
Record Count	Displays the total number of records.
Summary Value	Displays a value. In the above example, the value is the total value of the commits (Contracts + Change Orders) for each CBS code. To enter a formula, click the **Formula** button.
Summary Type	Choose one of the following: ▸ **Summary:** Provides a summary value. ▸ **Average:** Displays the average value. ▸ **Maximum:** Displays the maximum value.

	▸ **Minimum:** Displays the minimum value.
Condition	Specify the condition that will trigger the alert. This can be used for record count or summary value.
Trigger Value	Enter the value of the record count or summary value that will trigger the alert.
Indicator	Allows you to specify a flag icon (red, yellow, or green) in the alert to help you identify the level or type of alert. The flags have no meaning other than user-defined identification.

Data elements

Data Element	Description
Query parameters	This data element will allow query parameters to be printed with the report result.
Project/Shell list	This data element will allow project or shell list information to be printed with the report result.

The display of numeric data elements can be formatted. The following formats are available:

- **Decimal place:** Number of decimals to display
- **User1000 separator:** Display of comma separator
- **Negative number format:** Minus sign or parenthesis; for example, -1234 or (1234)

Query tab (all reports)

The Query tab defines query parameters to input at report runtime. For example, for a funding report, the query can be set to run the report only on specific company funds. You can define the funds or allow the user to specify them at runtime.

The data elements available for the query will depend on the report data type. Defining a query is optional. See ***Define report queries (query condition)*** (on page 869).

This button:	Does this:
Add	Allows you to add a query condition to the report.
Modify	Select a query condition and click to modify.
Remove	Select a query condition and click to delete it from the report.
Show results matching any condition (instead of all)	Select this to show report results matching one or more of the listed query conditions. If you do not select this option, the report results will include only those that match all listed query conditions.

Layout tab (all reports)

The Layout tab allows you to configure the layout and presentation of the report results. If you do not define layout parameters, the default settings will be used. The Layout tab is the same for all reports with the following exceptions: Cross tab reports and tabular reports each include an additional layout option specific to their report types (see ***Layout tab (Cross Tab setting)*** (on page 861) and ***Layout tab (Group By setting)*** (on page 862)).

Click on the Report Properties options on the left side of the window to define each layout.

Layout tab (Page Setup setting)

The Page Setup on the Layout tab allows you to configure the size and orientation of the report (see below.)

In this field:	Do this:
Report Properties	Choose **Page Setup**.
Size	Choose the paper size from the drop-down list (letter, legal, ledger, or A4).
Orientation	Report can be generated as portrait or landscape.

Layout tab (Title Page, Header, Footer, Summary Page settings)

The Title Page, Header, Footer and Summary Page options allow you to define general layout and presentation of the report results. If you do not define layout parameters, the default settings will be used. A number of standard and report-specific data elements are available to add to your report.

Tip: If you want users to be able to add a runtime note, include the data element Runtime Notes in the layout.

Report Properties	Description
Title Page	You can create an optional title page, which will be the first page of the report.
Header	You may enter a header for the report. This will display at the top of each page of the body of the report. The header will not display on the title page or the summary page.
Footer	The footer will display at the bottom of each page of the body of the report. The footer will not display on the title page or the summary page.

Summary Page	The summary page will display as the last page of the report.

For more information about setting up these report properties, see ***Set up title page, header, footer and summary page*** (on page 870)

This button:	Does this:
Add	Click the **Add** button to add additional rows of text to the title page, header, footer, or summary page.
Modify	Select a row and click **Modify** to edit it.
Remove	Select a row and click **Remove** to delete it.
Move Up or Move Down	Select a row and click **Move Up** or **Move Down** to change the order of the rows.
Current Height	Displays the total height of the text (sum of the pixels of all lines) in the header, footer, title page, and summary page.
Maximum Available Height	Displays the maximum height available, based on the paper size and orientation.
Show Border	Select if you want the text to be enclosed in a border.

Layout tab (Cross Tab setting)

For cross tab reports. The fields here are applicable for time stamp data element types in the first column and body columns, as selected in the Data Elements tab).

In this field:	Do this:
By	Sets the time period for the report by year, quarter, month, or day.
Format	Select the format of the By field.
From and To	Specify the date range on which you want to report. You can select Auto Range instead.
From: Auto Range	The Auto Range feature automatically displays data in report results without specifying a date range. You can select Auto Range for either or both to and from dates. If the From Auto Range option is selected, all available data up until the specified end date will display in the report. For example, if you want to view all data up to 2005 but want to exclude 2006, you would click Auto Range From and select a To date of 2005.
To: Auto Range	If the To Auto Range option is selected, all available data from the specified start date until present will display in the report. For example, if you want to view data starting from 2004 to present, click Auto Range and select From Date of 2004.

Layout tab (Group By setting)

Tabular reports can include grouped data element results, for example, grouping BP record results by BP creator.

Note: For Unifier Mobile users, if the Group By option is set on reports (that is, group by user name), you cannot mark these reports as mobile. Reports marked as mobile cannot contain groupings of data results.

This button:	Does this:
Add	Click to add a group.
Modify	Select a group and click to modify the Group By properties.
Remove	Select the group and click to remove.

Projects tab (program-level reports, all types)

This tab appears only in program-level and company-level reports, and displays which projects will be included in the report (see below.) The Projects tab is set up the same way for each report type.

For program-level reports, the projects that are part of the program are listed in the Projects tab and are not editable.

Projects/Shells tab (program-level and company-level reports, all types)

This tab (see below) appears only in program-level and company-level reports, and displays which shells and projects will be included in the report.

For company-level reports, the Project/Shells tab displays all shells in the company. The report can automatically include all active and on-hold projects or shells in each report generated, or it can be edited to include a subset of project or shells and optionally allow users to modify the project or shell list during runtime.

This button or option:	Does this:
Automatically add all active, view-only, and on-hold projects/shells	When this option is chosen, the generated report will automatically include all active, view-only, or on-hold projects and shells. Inactive projects and shells are not included in the generated report results.
Only data from selected projects/shells	This option allows you to select which projects/shells (with Active, On-Hold, or View-Only status) to include in the report. To add a project or shell, click the **Add** button. In the Select

	Project window, select the project/shell to add and click Add. To remove a project or shell from the report, select it from the list and click **Remove**.
Allow users to modify value(s) during execution	This checkbox is enabled if "**Only data from selected projects/shells"** is chosen. When this checkbox is selected, users will be able to specify which projects or shells from the available list to include in the generated report.

Shells tab (shell-level reports, all types)

This tab appears only in shell-level reports, and displays which shells will be included in the report.

This button or option:	Does this:
Shells	The options in this field are: Current Shell and sub-shells Current Shell Only Subshells Only User-Defined The User-Defined option allows you to choose from among the shells in which you are a member.
Exclude Inactive Shells	Allows you to exclude shells with the status Inactive. This is checked by default.
Add	When you click **Add**, the Select shell window opens. Select the shells and click the **Add** button. This button is available only if you have selected the User-Defined option in the Shells field.
Remove	Select a shell and click **Remove** to remove it from the report. This button is available only if you have selected the User-Defined option in the Shells field.
Allow users to modify User-defined list during execution	This checkbox is enabled if **User-Defined** is chosen. When this checkbox is selected, users will be able to change which shells from the available list to include in the generated report at runtime.

Permission tab (all reports)

In the Permission tab, you can grant permission to other users to run, edit, or modify the permissions of this report. This tab is available only in User Mode and not in the report template.

Schedule tab (all reports)

The Schedule tab enables report owners to create a schedule to automatically run user-defined reports and save the results as PDF or XML files, automatically save the report in the Document Manager, and to specify whether to email the report results to the report owner or to specified users and groups.

In this field:	Do this:
Enable Scheduled Report Runs	Select this checkbox to enable scheduling of automatic report runs. Define the following parameters.
Output Format	Specify the format of the scheduled report results: PDF or XML.
Frequency	Specify the frequency with which the report will be run: **Daily:** Runs once at the end of the day (23:59:59). **Weekly:** Specify the day on which the report will be generated, e.g., from previous week Saturday (00:00:00) to this week Friday (23:59:59). **Monthly:** Specify the date on which the report will be generated. If the scheduled date is past the last day of the month (e.g., the 31), the report will automatically be generated on the last day of that month. E.g., monthly (08/04/06) frequency should take last month (07/05/06 00:00:00) to this month (08/04/06 23:59:59). **Quarterly:** Generated at the end of each calendar quarter. E.g., data generated end of Q2 should be Q2 (04/01/06 00:00:00) to end of quarter Q2 (06/30/06 23:59:59). Q1 is Jan to March, Q2 is April to June, Q3 is July to Sept, Q4 is Oct to Dec. **Yearly:** Report is generated at the end of the calendar year. E.g., data generated end of 2006 should be 2006 01/01/06 00:00:00 to 2006 12/31/06 23:59:59.
Range of Recurrence	Choose the range of recurrence of the scheduled report: **No end date:** The report will be generated according to schedule indefinitely. **End by:** A date after which the scheduled report will

	not be generated.
Auto-email as attachment to report owner	Select to have a PDF or XML copy of the report emailed to the report owner after generation. You can select this option and Auto-email as attachments to users and groups at the same time.
Auto-email as attachments to users and groups	Select to have a PDF or XML copy of the report emailed to selected users and groups. Click **Select**, specify the users and groups, and click **OK**. You can select this option and Auto-email as attachments to report owner at the same time. Note: If a user is selected twice, as an individual user and as a member of a selected group, the user will receive only one email.
Saved Result Log	Select this check box to save the report in Unifier, where you can view it at your convenience
Document Manager	Use these options to save the report in the Document Manager. In the Save as field, Unifier shows the name of the report; however, you can enter another name for the report if you want. In the Location field, click Select and choose the folder in the Document Manager in which the report should be saved. (You must have permissions to the folder.)

Add and manage data elements (columns) to the report

The following procedures describe how to add data elements to a user-defined report or template. These become the columns on the report at runtime, and determine what data will be displayed on the report.

To add data elements to the report

1) In the Edit Report window, click the **Data Elements** tab.
2) Click **Add Elements**. The Data Element Picker opens.
3) Choose one or more data elements from the list. (Press the **Ctrl** or **Shift** keys to select multiple data elements.)
4) Click **OK**.

Add formulas to data elements

If you want to display the results of calculations based on data elements available for the data type you chose, you can create a formula column on the report.

Note: Use caution when creating a formula with data elements. It is

possible to create a formula where the denominator is zero, which can cause a data conflict error when the report is run.

To add a formula

1) In the Edit Report window, **Data Elements** tab, click the **Add Functions** buttons. The Data Element Properties window opens.
2) From the **Data Element** drop-down list, choose **Formula**. The Data Element Properties window expands.
3) Enter a column heading, which is displayed on the report.

   You may specify how the column is displayed by specifying the alignment, column width, decimal places, 1000 separator, and negative number format.
4) If you select **Hide Column**, the column will not be displayed on the report.
5) Selecting **Summary** will display the sum of the column values at the end of the column.
6) Click **Formula** to open the **Formula Creator**. Create the formula and click **OK**.

To add a date add column

1) In the Edit Report window, **Data Elements** tab, click the **Add Functions** button. The Data Element Properties window opens.
2) From the **Data Element** drop-down list, choose **Date Add**. The Data Element Properties window expands.
3) Enter a column heading, which is displayed on the report.

   You may specify how the column is displayed by specifying the width (in pixels) and alignment. If you select **Hide Column**, the column will not be displayed on the report.
4) For the **Date** field, click **Select** and choose the date data source.
5) For the **Add** field, select the numerical data source. This is the value that will be added to the date element to arrive at the final value to display in the report.
6) If you want the time to also display as well as the date, then select the **Display Timestamp** checkbox.
7) Click **OK**.

To add a date difference column

1) In the Edit Report window, Data Elements tab, click the **Add Functions** button. The Data Element Properties window opens.
2) From the **Data Element** drop-down list, choose **Date Difference**. The Data Element Properties window expands.
3) Enter a column heading, which is displayed on the report.

   You may specify how the column is displayed by specifying the width (in pixels) and alignment. If you select **Hide Column**, the column will not be displayed on the report.
4) Specify the earlier date and later date. Choose **Today** if you want to use the current day as one of the dates, or click **Select** to open the Data Element Picker. Select a data source from the drop-down list, then select a data element from the resulting list.
5) If you want to show results with partial days, then select the **Show Partial Days** checkbox.

> **Note**: Date Picker data elements (as opposed to Date Only pickers) include timestamps. When calculating the difference between these date and times, it is possible to get a result in partial days. If you select this checkbox, results will display two decimal places; if you do not select this checkbox, results will be in whole numbers.

6) Click **OK**. The calculation is Later Date - Earlier Date, in days.

Manage report column (data element) properties

You can refine the display of the report columns by modifying the data element properties. You can modify the column heading, width and alignment, as well as hide a column, or choose to display the timestamp for date pickers.

To view or modify column properties

1) In the Edit Report window, Data Elements tab, select the listed data element and click **Modify**.
2) You can modify the column heading, column width, and alignment for how you want it to appear in the report results.
3) Click **OK**.

To hide data elements in the report output

1) Select the listed data element and click **Modify**.
2) Select **Hide Column** if you do not want the column to appear on the report (for example, columns added as part of a formula calculation but do not need to be printed).
3) Click **OK**.

To display the timestamp on date data elements

1) Select the listed date picker data element and click **Modify**. For date picker elements that include timestamps, the Data Element Properties window displays an additional option: Display Timestamp. This option is not available for data elements based on date-only pickers, or other elements that do not capture timestamps.

> **Note**: The Schedule Manager ignores timestamps, therefore, date fields associated with the Schedule Manager will not display the time, even if this option is selected.

2) Select **Display Timestamp**. At runtime, the time displays next to the date.
3) Click **OK**.

To remove a listed data element

Select the data element to remove from the report and click **Remove**.

To change the order of the data element columns

Select a data element from the list. Click **Move Up (Left)** to move the element up the list to the left on the report), or **Move Down (Right)** to move it down to the right on the report.

To choose the column by which to sort the report

1) Click the **Sort** button.
2) In the **Column Heading** list box, select the data element column by which you want to sort the report findings. For example, choose Creator Name to sort by the creator of each record.
3) Click the right arrow button **>>** to move it to the Sort By field.
4) In the Sort Order list, choose **Ascending** or **Descending**. Click **OK**.

Set auto range

The auto range feature for cross tab report types automatically displays report data without having to specify a date range. During set up, you select the data types. Only time stamp types enable the option for configuring the date range and auto range.

For example, if 2005 to 2006 is specified as the date range but only values for 2005 have been entered, the report will only display data for 2005. If a date range is not specified, all data will be displayed in the generated report.

At runtime, users will have the option to select dates or auto range.

To enable the auto range option

1) From the Edit Report window, click the **Data Elements** tab.
2) Set time stamp data element (date) under First Column or Body Columns.

   If no timestamp data element is specified, all dates with data will be displayed when the report is generated.
3) Click **Apply**.

To set the auto range

1) Click the **Layout** tab, then click **Cross Tab**. There are two checkboxes for auto range.

   Note: Only report columns with data appear for non-time-stamp data types. If a data value is not entered, the column will not appear in a cross tab report. If you select the time stamp data type, report columns appear, even if data is not entered.

2) For From Date, click the **Auto Range** radio button.

   The date selection option will be grayed out. If From Date is selected and To Date is deselected, all data up until the specified end date will display in the report. For example, to view data up to 2005 but exclude 2006, click Auto Range and enter a To Date of 2005.

   Alternatively, to view data from 2004 to present, deselect Auto Range and enter a From Date of 2004.
3) For To Date, click the **Auto Range** radio button.

   The date selection option will be grayed out. If From Date is deselected, data entered from the specified start date until present will display in the report. For example, to view data starting from 2004 to the present, click Auto Range and enter a From Date of 2004.

   Alternatively, to view data up to 2005 but exclude 2006, deselect Auto Range and enter a To Date of 2005.

If you select both options for the Auto Range From and To dates, only the data supplied for this period will appear in the report.

Grant report edit or run permissions to other users

If you are the creator or owner of a report, or if you are an administrator with full access permissions, you can grant permission to other users to access or run a report.

To grant report permission to other users

1) In User Mode, navigate to the user-defined report log. Select the UDR and click the **Edit** button. The Edit Report window opens.
2) Click the **Permission** tab.
3) Click the **Add** button. The User/Group Picker opens.
4) Select users or groups, click **Add** and **OK**.
5) Select the newly added user or group, and select the permissions to grant:
   - **Modify Permission**: Allows the user to modify other users' permission settings for the report.
   - **Edit Report**: Allows user to edit report parameters.
   - **Run**: Enabled by default. Allows the user to run the report.
6) Click **Apply** to save your changes and then **OK** to exit the Edit Report window.

Define report queries (query condition)

You can define query parameters that users can input at report runtime. For example, for a funding report, the query can be set to run the report only on specific company funds that the user specifies at runtime. Defining a query is optional.

The data elements available for the query will depend on the report data type, and the condition options will be dependent upon the data element type chosen.

To define a query

1) From the **Query** tab, click **Add**. The Query Condition window opens.
2) Click the **Select** button to open the Data Element Picker. Choose a data source from the drop-down list, and then choose a data element from the list.

   Note: If you choose a date-type data element, the Use timestamp in query checkbox becomes available; if you select this option, the timestamp as well as the date will be taken into account in the query.

3) The Label field is populated based on the selection and can be modified.
4) Select a condition from the resulting list.

   For example, choose **equals** to generate reports that exactly meet certain conditions or **since last scheduled report run** to generate reports with incremental data between scheduled runs.
5) For Values, click the **Select** button and select one or more values for the condition (e.g., Pending or Approved).

For maximum flexibility, choose a list of conditions but leave the value empty. This allows the user who runs the report to choose to use one or all of the queries to limit the data on which the report will be based.

6) If you want users to be able to modify these values when running the report, select **Allow users to modify value(s) during execution**. This option is checked by default and recommended to provide flexibility at report runtime.
7) Click **OK**.

Set up title page, header, footer and summary page

You can set up the report's title page, header, footer, and summary page from the Layout tab. These are all set up in a similar way.

- The title page is printed as the first page of the report.
- The header is printed at the top of each of the results pages.
- The footer is printed at the bottom of each of the results pages.
- The summary page is printed at the end of the report, after the results.

To set up the title page, header, footer, and summary page

1) In the **Edit Report** window, click the **Layout** tab.
2) Under Report Properties, click **Title Page**, **Header**, **Footer**, or **Summary Page**.
3) Click **Content** and select from the list. The drop-down options are the same for left, center, or right columns.
   - **Number of Projects/shells**: Displays the number of projects or shells within the phrase "This report contains data from *n* projects or shells."
   - **Page**: Shows the page number for each page of the report.
   - **Project/Shell List**: Provides a list of all of the projects or shells from which data is used for the report, in the format *Project/Shell Number: Project/Shell Name*. Can be used for reports on one or multiple projects or shells.
   - **Project/Shell Name**: Displays the project or shell name when the report is for a single report. If multiple projects or shells are included in the report, the names will not be displayed (use Project/Shell List instead).
   - **Project/Shell Number**: Displays the project or shell number when the report is for a single report. If multiple projects or shells are included in the report, the numbers will not be displayed (use Project/Shell List instead).
   - **Query Parameters**: Displays the query parameters entered from the report.
   - **Report Owner**: Displays the report owner.
   - **Report Run By**: Displays the user who ran the report. If the report was generated by schedule, the name of the report owner will be displayed.
   - **Report Title**: Displays the title of the report.
   - **Run Date**: Displays the date on which the report was run. This date/time reflects server time, that is, the time zone in which the server running your Unifier environment is located; for most users, this will be Pacific Time (GMT -8). If you have any questions regarding server time for your environment, contact your Company Administrator.

- **Run Date and Time**: Displays the date and time on which the report was run. This date/time reflects server time.
- **Time Zone**: Displays the time zone that is applicable for the report, as chosen in the General tab of the Edit Report window (a default time zone or the user's at runtime).
- **Runtime Notes**: Choosing this option does two things: provides a text box in which to enter notes that will appear on each report (for example, "Runtime Notes:"), and activates a Runtime Notes text box in the Notes tab during runtime in which the user running the report can add notes that will appear on the current report only.
- **Text**: Provides a text box in which you may enter text to be displayed on the report.

4) Keep an eye on the fields in the bottom of the window:
   - **Current height (pixels)**: Displays the total height of the text (sum of the pixels of all lines) in the header, footer, title page, or summary page.
   - **Maximum available height**: Total allowable height.
   - **Show Border**: Selecting this checkbox will display a four-sided border around the title page, header, footer, or summary page text.

   The following figures display the default layouts of the header, footer, and summary page options. These are customizable.

Schedule report runs

Report owners can schedule automatic generation of user-defined reports. The report can be scheduled to run daily, weekly, monthly, quarterly, or yearly. Schedule report results will be saved and can be retrieved later, or can be optionally emailed.

Users with run permissions will be able to retrieve the generated reports. Report owners can schedule generation of the report.

To schedule report runs

1) Open the Edit Report window for the report and choose the **Schedule** tab.
2) Select the **Enable Scheduled Report Runs** checkbox.
3) Select the output format:
   - **PDF**: The results will be saved in a PDF file, which can be read using Adobe Acrobat Reader.
   - **XML**: The results will be saved in an XML file.
4) Specify the frequency with which the report will be run:
   - **Daily**: Report will be run daily.
   - **Weekly**: Specify the day on which the report will be generated.
   - **Monthly**: Specify the date on which the report will be generated. If the scheduled date is past the last day of the month (e.g., the 31st), the report will automatically be generated on the last day of that month.
   - **Quarterly**: Generated at the end of each calendar quarter.
   - **Yearly**: Report is generated at the end of the calendar year.
5) Specify the range of recurrence of the scheduled report:
   - **No end date**: The report will be generated according to schedule indefinitely.

- **End by**: A date after which the scheduled report will not be generated.

6) Select **Auto-email as attachment to report owner** to have a copy of the report emailed as a PDF or XML file attachment, based on your output format selection.

   Or, select **Auto-email as attachment to users and groups** to have a copy of the report emailed as a PDF or XML file attachment, based on your output format selection. Click **Select**, specify the users and groups, and click **OK**. You can select this option and **Auto-email as attachments to report owner** at the same time.

   > **Note**: Be sure to specify **Results from scheduled reports** in your user preferences email management to receive the email and attachment.

7) Select the **Saved Result Log** checkbox to save the report in Unifier, where you can view it at your convenience.
8) Select the **Document Manager** checkbox to save the report in the Document Manager.

   In the **Save as** field, Unifier shows the name of the report; however, you can enter another name for the report if you want.

   In the **Location** field, click **Select** and choose the folder in the Document Manager in which the report should be saved. (You must have permissions to the folder.)
9) Click **OK**.

Report Run Times

Run time reflects server time, that is, the time zone in which the server running your Unifier environment is located; for most users, this will be Pacific Time (GMT -8). If you have any questions regarding server time for your environment, contact your Company Administrator.

- **Daily:** 23:59:59
- **Weekly:** E.g., from previous week Saturday (00:00:00) to this week Friday (23:59:59).
- **Monthly:** E.g., monthly (08/04/07) frequency should take last month (07/05/07 00:00:00) to this month (08/04/07 23:59:59)
- **Quarterly:** E.g., data generated end of Q2 should be Q2 (04/01/07 00:00:00) to end of quarter Q2 (06/30/07 23:59:59).
- Q1 is Jan to March, Q2 is April to June, Q3 is July to Sept, Q4 is Oct to Dec.
- **Yearly:** E.g., data generated end of 2007 should be 2007 01/01/07 00:00:00 to 2007 12/31/07 23:59:59.

Generate reports with incremental data between scheduled runs

You can generate reports that only include information added since the last scheduled run for the report.

To generate reports with incremental data for every scheduled run

1) Open the Edit Report window and choose the **Query** tab.
2) Click the **Condition** drop-down list and choose **since last scheduled report run**.
3) Click **OK**.

Enable a report for web services integration

You can flag project or shell and company user-defined reports as eligible for integration. This enables report results to be available for integration with other systems through web services and uLink. This option is not available for program-level reports. Contact Oracle Customer Support for information regarding XML integration via web services.

To enable a user-defined report for web services integration

1) Open the Edit Report window and choose the **General** tab.
2) Select the **Enable for Integration** checkbox and click **OK**. The integration icon will display in the UDR log next to the report.

> **Report Names**: Because web services uses the report name to identify reports, each report marked for integration must have a unique name. For project- or shell-level reports, this applies to all UDRs within a specific project or shell. For company-level reports, it applies to all company-level UDRs. If there are two reports with the same name, only one of those reports can be marked for Integration. This is true even if you cannot see the other report with the same name. For example, another user has created a report with the same name, for which you do not have view permission, and marked it for integration.

Access Control Permissions for UDRs

You can assign **User-Defined** permissions in the following permissions-related module:

- **Access Control**
  1. Go to **Company Workspace** (**Admin** mode) and click the **Access Control** node.
  2. Click to expand **User Mode Access**.
  3. Click to expand **Reports**.

Project/Shell, Program, and Company Level

Use the **Create Permission Based** permission to define if the User-Defined report (UDR) being created will have data sources that are permission-aware. The permission aware data sources are defined as data sources that only return data that the user has permissions to see by way of the user-interface (UI). This is based on records returned. That is to say, the user will be able to see the data that is in hidden blocks or hidden tabs. The following data sources are available to create permission-aware UDRs:

- Business Process (BP)
- Document Manager

By default the **Create Permission Based** permission will be selected when user selects the **Create** permission for the user-defined reports.

Permission Level	Description
The following permissions are selected:	The user will be able to create report for all

Permission Level	Description
▸ **Create All** ▸ **Create Permission Based**	data sources as well as permission aware BP data sources.
The following permissions are selected with "**Full Access**" attribute. ▸ **Create All** ▸ **Create Permission Based**	The user will be able to create report for all data sources as well as permission aware BP data sources.
The following permission is selected: ▸ **Create Permission Based**	The user will be able to create report for permission aware BP data sources, only.
The "**Full Access**" attribute is selected.	The user will be able to create report for all data sources as well as permission aware BP data sources.
▸ The "**Access All Projects**" attribute is selected.	The user will be able to create report in all projects.

Notes:

- The user will not be able to deselect the **Create Permission Based** permission and only select the **Create All** permission.
- For Company-level access control changes, the same changes will be applicable to Shell/Projects (Standard) node.

You can assign **User-Defined** permissions in the following permissions-related module, and the **Create Permission Based** permission is available in these modules:

Note: Templates (for both Company-level and Project-level UDRs) will be able to create system data sources templates, only.

- **User Administration**
  1. Go to **Company Workspace** (**Admin** mode) and click the **Access Control** node.
  2. Click to expand the **User Administration**.
  3. Assign through **Company Users**, **Partner Users**, or **Groups** sub-nodes.
- **Standards & Libraries**
  1. Go to **Company Workspace** (**Admin** mode) and click the **Access Control** node.
  2. Click to expand **Standards & Libraries**.
  3. Assign through **Permission Templates** sub-node.

Access Control Changes after Upgrade (Migration)

In both Project/Shell Access Control and Company-level Access control:

- If the previous **Create** permission was selected, then after upgrade (migration) both check boxes (**Create All** and **Create Permission Based**) will be selected.

- If the **Full Access** permission is selected (all 3 check boxes) after upgrade (migration), then the **Full Access**, **Create All**, and **Create Permission Based** will be selected, after upgrade (migration).

Creating User-Defined Project, Shell, Program, and Company Reports

Before running a report, it must first be created and set up to define its parameters. The following procedures describe creating UDRs at the project or shell, program and company levels. This section will show you how to:

- Access project, shell, program, and company UDRs
- Create a UDR by copying a template
- Create a UDR by copying an existing report in the same log
- Create a UDR from scratch

In This Section

Accessing User-Defined Reports (UDRs)

User-defined reports (UDRs) are set up and run in **User** mode.

You can run UDRs at:

- Project-level
- Shell-level
- Program-level
- Company-level

When you are running a report based on a permission-aware Document Manager data source, Unifier allows you to see the report only if you have permission to see the data source, in case of:

- Document Manager - Company
- Document Manager - Project/Shell

To access a **project-level** user-defined reports

In **User** mode, open a project or shell. Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

To access a **shell-level** user-defined reports

In **User** mode, open a project or shell. Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

To access a **program-level** user-defined reports

In **User** mode, open a program. Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

To access a **company-level** user-defined reports

In **User** mode, open the company (**User** mode). Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

The following describes the **User-Defined Reports** log elements, for the **Company Workspace** (**Admin** mode) > **Templates** > **Project (Standard)** > **All** > click a [project] to open > **Reports** > **User-Defined Reports**.

User-Defined Reports log menu options:

File	Enables you to perform the following actions:
	▸ **New**
	▸ **Copy**
	  ▸ **Report**
	  ▸ **Template**
	▸ **Open**
	▸ **Update Projects**
	  ▸ **Projects**
	  ▸ **All Projects**
	  ▸ **History**
	▸ **Import**

Edit	Enables you to edit or **Delete** a report.
View	Enables you to perform the following actions: ▸ **All** ▸ **Find** ▸ **Saved Results** ▸ **Audit Log**
Help	Enables you to access: ▸ **Unifier Help** ▸ **Unifier Library** ▸ **User Productivity Kit** ▸ **About Unifier**

User-Defined Reports log toolbar options:

New	Enables you open the **Create a new report** (**Create User-defined Report**) window and set up the following fields: ▸ **Data Type** ▸ **Element** ▸ **Report Type** ▸ **Access Type**

Copy	Enables you to copy a: ▸ **Report** ▸ **Template**
Open	Enables you to open a record.
Edit	Enables you to edit a report.
Delete	Enables you to delete a report.
Find	Enables you to find a report on the log.
Saved Results	Enables you to see the saved results.
Update Projects	Enables you to access: ▸ **Projects** ▸ **All Projects** ▸ **History**
Import	Enables you to import a report.

User-Defined Reports log columns:

The columns provide the following details about each UDR.

- **Name**
- **Description**
- **Data Type**
- **Access Type**
- **Report Type**
- **Owner**
- **Creation Date**
- **Last Modified By**
- **Last Modified Date**
- **Scheduled**
- **Last Run Date**

Create a UDR from a report template

The following procedure explains how to create a UDR by copying an existing report template.

To create a user-defined report from a template

1) Navigate to the project, shell, program, or company User-Defined Reports log.
2) Click the **Copy** button and choose **Template**. The Copy From Report Template window opens.
3) Select a template from the list and click the **Copy** button. The Edit Report window opens.

4) Review the parameters on each of the tabs and edit as necessary. See ***Creating a UDR Template*** (on page 853) for details on the tabs.
5) Click **Apply** to save changes, or **OK** to save changes and close the Edit Report window. The report is listed in the log.

To create a user-defined report from an existing report

1) Navigate to the project, shell, program, or company User-Defined Reports log.
2) Select a report from the log.
3) Click the **Copy** button and choose **Report**. The Edit Report window opens. The default name is "Copy of *Template Name*."
4) Follow the steps in the procedure ***Creating a UDR Template*** (on page 853).

To create a user-defined report manually

1) Navigate to the project, shell, program, or company User-Defined Reports log and click **New**.
2) Follow the instructions in the procedure ***Creating a UDR Template*** (on page 853).

Editing or Deleting User-Defined Reports

You can edit most report parameters and assign report permissions to each report in User Mode. You can also view the list of projects or shells that will be included in program-level reports, and select the projects or shells to include in company-level reports.

This is applicable if you are the report owner, if you have edit permission, or if you are an administrator with full access permissions.

To edit a user-defined report

1) Navigate to the UDR log and select the report to edit.
2) Click the **Edit** button. The Edit Report window opens. Review or edit the parameters on the tabs. For more information about each of the tabs, see ***Creating a UDR Template*** (on page 853).
3) Click **Apply** to save changes, or **OK** to save changes and close the Edit Report window.

To delete a user-defined report

Select it from the log and click **Delete**.

Importing User-Defined Reports into Project or Shell Templates

You can import user-defined reports into project templates from project templates in other Companies or other Unifier environments. Also, you can import user-defined reports into shell templates of the same shell type from other Companies or other Unifier environments. This enables you to reuse reports created in other companies or environments.

To import user-defined reports:

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) In the left Navigator, click:

- **Templates** > **Project (Standard)** > **All** > click a [project] to open > **Reports** > **User-Defined Reports** or
- **Templates** > **Reports** > **User-Defined Reports**

3) In the **User-Defined Reports** log, from the toolbar, click **Import** (Import) to open the **Unifier Login** window opens.
4) Enter the following information:
   - **Company Short Name**: this is the identifier used for your company, and was set up at the time of company configuration.
   - **Authentication Key**: this key is set up at the time the company was configured. Contact your Site Administrator for further information.
   - **Unifier URL**: the web address of the Primavera Unifier server.
   - **Search For**: use to narrow your search for the report you want to import.
5) Click **OK**. The **Import Report Template from Unifier** window opens, listing the user-defined reports.
6) Choose the report or reports and click **Import**.

   In case of errors, the **UDR Import Error** window opens, listing any import errors. These are some possible report import errors:
   - Source and destination report environments have different versions of Unifier
   - Report already exists in the destination if the report is enabled for Integration
   - Report data sources vary between the report source and destination

   If there are no errors, all reports are imported; if there are errors, none of the reports are imported until the errors are rectified.

   > **Note**: If you are importing a user-defined report into a shell template, the report you import must be from a shell of the same type as the destination shell template.

7) When the import is complete, click **OK**.
8) Click **Close** to exit the **Import Report Template from Unifier** window. The reports are added to the **User-Defined Reports** log. When you import a user-defined report, you are listed the report owner. For more information about the **User-Defined Reports** log, see "Accessing User-Defined Reports (UDRs)."

Managing Personal Information in Unifier

In This Section

About Consent Notices (Administrator)

Consent notices inform users how personal information (PI) is collected, processed, stored, and transmitted along with details related to applicable regulations and policies. Consent notices also alert users that the action they are taking may risk exposing PI. Unifier helps you to ensure that you have requested the appropriate consent to collect, process, store, and transmit the PI your organization holds as part of Unifier data. Consent notices are switched *off* by default in Unifier.

Consent notices should:

- be written in clear language which is easy to understand.
- provide the right level of detail.
- identify the purpose and legal basis for your collection, processing, storage, and transmission of PI.
- identify whether data will be transferred to named third parties.
- identify PI categories and list the data which will be collected, processed, stored, and transmitted.

> **Note**: If an administrator provides consent on behalf of other users, it is the administrator's responsibility to ensure the consent has been provided by the users through other means.

About Personal Information

Personal information (PI) is any piece of data which can be used on its own or with other information to identify, contact, or locate an individual or identify an individual in context. This information is not limited to a person's name, address, and contact details. For example, a person's IP address, phone IMEI number, gender, and location at a particular time could all be personal information. Depending on local data protection laws, organizations may be responsible for ensuring the privacy of PI wherever it is stored, including in backups, locally stored downloads, and data stored in development environments.

Cookies in Unifier

When using Unifier, the server may generate the following cookies and send them to the user's browser. The user's machine stores the cookies, either temporarily by the browser, or permanently until they expire or are removed manually.

Each user that signs in to Unifier web will see a notification banner (Cookies in Unifier) that notifies the user that Unifier uses cookies. This banner has a link to the Unifier cookie policy which explains what information is being tracked by way of cookies. The user must click **Got It** in order to access the rest of the Unifier application.

Oracle might use cookies for authentication, session management, remembering application behavior preferences and performance characteristics, and to provide documentation support. Also, Oracle might use cookies to remember your log-in details, collect statistics to optimize site functionality, and deliver marketing based on your interests.

Permission Control for Consent Notice

You can assign **Consent Notice** permissions in the following permissions-related modules:

- **Access Control**
  1. Go to **Company Workspace** (**Admin** mode) and click the **Access Control** node.
  2. Click to expand **Administration Mode Access**.
  3. Click to expand **Consent Notice**.
- **User Administration**
  1. Go to **Company Workspace** (**Admin** mode) and click the **Access Control** node.
  2. Click to expand the **User Administration**.
  3. Assign through **Company Users**, **Partner Users**, or **Groups** sub-nodes.
- **Standards & Libraries**
  1. Go to **Company Workspace** (**Admin** mode) and click the **Access Control** node.
  2. Click to expand **Standards & Libraries**.
  3. Assign through **Permission Templates** sub-node.

Permissions can be given by anyone who has access to the nodes.

Users who have the **Modify** permission will be able to modify the setup and other details related to **Consent Notice**, for either user consent or bidder consent.

If a user has only the **View** permission for the **Consent Notice** node, then the user will have only permission to view the setup and will not be able to make any edits to the consent notice setup or other details.

Your Responsibilities

Information security and privacy laws can carry heavy penalties and fines for organizations which do not adequately protect PI they gather and store. If these laws apply to your organization, it is your responsibility to configure consent notices before they are required. You should work with your data security and legal teams to determine the wording of the consent notices you will configure in Unifier.

If a consent notice is declined, it is your responsibility to take any necessary action. For example, you may be required to ensure that data is not stored or shared.

Personal Data in Unifier

PI may be visible in multiple areas of Unifier, including but not limited to user administration, business process workflows, assignments, work products and documents, reports, user defined fields, codes, calendars, project websites, and timesheets.

PI may be at risk of exposure in multiple areas of Unifier, including but not limited to business process workflows, assignments, work products and documents, reports, user defined fields, codes, calendars, project websites, and timesheets.

As part of Unifier Cloud Services, you may be using Oracle Identity Cloud Service ("Oracle IDCS") to manage your user access and entitlements across a number of cloud and on-premises applications and services. If you are using or accessing Oracle IDCS, you are responsible for deleting your details and data from the Oracle IDCS environment. You are responsible for retrieving your content in Oracle IDCS during your applicable services period.

Configuring Consent Notices for Unifier

To configure Consent Notices for Unifier:

1) Go to the **Company Workspace**.
2) Switch to **Admin** mode.
3) Click **Consent Notice** to expand the node.

   The **Consent Notice** node can be seen by the site administrator (on-premises customers only and in the system admin mode) and by the default company contact (in the respective company).

   You can manage the **Consent Notice** in all Unifier environments (Development, Test, and Production), independently.

   You can see the status of consent acceptance for users. You can also reset consent acceptance for all users if there is a need to regain consent after a consent notice has changed.

The **Consent Notice** node has the following sub-nodes:

- **User Consent**

  Use this sub-node to set up consent notice for the web, mobile, self-service, portal, and Unifier /m sign-ins.

  - **Consent Status**

    Use this sub-node to audit and track the users who have accepted the terms.
- **Bidder Consent**

  Use this sub-node to set up consent notice for the bidder portal sign-in.

  - **Consent Status**

    Use this sub-node to audit and track the bidders who have accepted the terms.

If you enable consent notices, you must enter consent notice text. Work with your data security and legal teams to determine the wording of the consent notices. If no content is detected, then Unifier displays the message: *The default consent notice is required if the consent notice option is enabled*.

Configuring Consent Notices for User Signing In through Web

1) Go to the **Company Workspace**.
2) Switch to **Admin** mode.
3) Click **Consent Notice** and then click **User Consent**.

   The **Setup** tab, which is open by default, has the following options:

   Enable Consent Notice

   This option is selected by default. You can use this option to enable the consent notice for signing in to Unifier through the web, self-service portal, and mobile device.

   Default Consent Notice

   This option enables you to enter the default consent notice for the environment when the consent notice is enabled. You should work with your data security and legal teams to determine the wording of the consent notices you will configure in Unifier. You can enter the consent message (text) into the system directly as formatted text or HTML text.

   > **Note**: Oracle does not recommend direct copy-paste of text from external sources in the provided editor for consent notices because direct copy-paste from external sources impacts the behavior of text seen for users. Copy-paste of text from a Word document or a pdf file is supported in the provided editor.

   If you click **Save** without entering the consent notice, Unifier displays the message: *The default consent notice is required if the consent notice option is enabled.*

   > **Note**: When you set the consent notice in this node, the consent notice will be applicable to both the web and mobile sign-ins.

   Send notifications when users reject the consent notice

   This option enables you to set users or groups to be notified when a user rejects the consent notice.

   Cancel

   Enables you to undo all the changes that you have made across all tabs. Users who have View permission will not see this option.

   Save

   Enables you to save all the changes that you have made across all tabs. Users who have View permission will not see this option.

   Preview

   Enables you to preview the content of the consent agreement.

Other tabs are language specific consent notices that are supported in Unifier. If you enter content for a specific language then the language specific consent notice will be displayed to the users based on the user preferences for language. For example, when the language preference (Preferences) is set to Dutch, and the Dutch consent notice is not entered, the user will see the default consent notice content when signing in to Unifier (web or mobile). The Dutch consent notice will be seen by the user only when a Dutch consent is entered.

Auditing Consent Notices for Unifier Users Signing In through Web

To audit consent status for users signing in through web:

1) Go to the **Company Workspace**.
2) Switch to **Admin** mode.
3) Click **Consent Status** sub-node to display the log.
4) Review the status for each user.

You can use the **Consent Status** sub-node to track user acceptance.

Unifier tracks users based on the following responses to the consent notice:

- Accepted
- Rejected
- Not Responded

By default, all users are tracked as *Not Responded*. When users sign in to Unifier through web/mobile and accept or reject the consent notice, Unifier tracks their responses and assigns a status accordingly.

If you disable the consent notice option after it was enabled in an environment, Unifier will not reset the tracking status for web/mobile consent and tracking statuses will remain as they were.

The following toolbar options are displayed on the **Consent Status** log:

View

Enables you to see the following out-of-the-box (OOTB) views:

- All
- Group by Consent Status

When the view is changed to Group by Consent Status, by default the groups will be collapsed and an additional toolbar option of Expand/collapse will be displayed.

Search

Enables you to find information about any user or group by way of:

- Name
- Email Address
- Title
- Company
- Status
- Record Number

Find on page

Enables you to filter the contents of the log.

Print

Enables you to print the contents of the log. Select from the following options:

- Print
- Export to CSV
- Export to Excel

Reset Accepted Consent

This option is available when the consent notice option is enabled. This option enables you to reset the **Accepted** consent status to **Not Responded** when there are changes in the agreement. Users who have View permission will not see this option.

The following columns are displayed on the **Consent Status** log:

- Name
- Email Address
- Title
- Company
- Record Number
- Status
- Time

Configuring Consent Notices for Bidders Signing In through Web

The site administrator (in the system admin mode) and the default company contact (in the respective company) can enable the consent notice for bidders by using the **Bidder Consent** node. If you enable consent notices, you must enter consent notice text. If no content is detected Unifier displays the message: *The default consent notice is required if the consent notice option is enabled*.

1) Go to the **Company Workspace**.
2) Switch to **Admin** mode.
3) Click **Consent Notice** to expand the node.
4) Click **Bidder Consent** sub-node to display the log.

The **Setup** tab, which is open by default, has the following options:

Enable Consent Notice

This option is selected by default. You can use this option to enable the consent notice for signing in to Unifier through the Bidder portal.

Default Consent Notice

This option enables you to enter the default consent notice for the environment when the consent notice is enabled. You can enter the consent message (text) into the system directly, as formatted text or HTML text. This is a required field and you must enter the consent notice. If you click **Save** without entering the consent notice, Unifier displays the message: The default consent notice is required if the consent notice option is enabled.

> **Note**: When you set the consent notice it will be applicable to both the web and mobile sign-ins.

Send notifications when users reject the consent notice

This option is selected by default. This option enables you to set users or groups to be notified when a user rejects the consent notice.

Cancel

Enables you to undo all the changes that you have made across all tabs. Users who have View permission will not see this option.

Save

Enables you to save all the changes that you have made across all tabs. Users who have View permission will not see this option.

Preview

Enables you to preview the content of the consent agreement.

Other tabs are language specific consent notices that are supported in Unifier. If you enter content for a specific language, then the language specific consent notice will be displayed to the users, based on the user preferences for language. For example, when the language preference (Preferences) is set to Dutch, and the Dutch consent notice is not entered, the user will see the default consent notice content when signing in to Unifier (web or mobile). The Dutch consent notice will be seen by the user only when a Dutch consent is entered.

Auditing Consent Notices for Unifier Bidders Signing In through Web

To audit consent status for bidders signing in through web:

1) Go to the **Company Workspace**.
2) Switch to **Admin** mode.
3) Click the **Consent Status** sub-node to display the log.
4) Review the status for each user.

You can use the **Consent Status** sub-node to track the bidders who have accepted the terms through signing in by way of bidder sign-in.

Unifier tracks bidders based on the following responses to the consent notice:

- Accepted
- Rejected
- Not Responded

By default all the bidders seen are tracked as Not Responded. The bidders listed have been invited to bid by way of invitations. For existing and upgrade users, all bidders who received an invitation to bid are listed in the log.

When users sign in to Unifier through bidder portal and accept or reject the consent notice, Unifier tracks their responses and assigns a status accordingly.

The log shows all bidders with Not Responded status before the web consent is enabled for first time.

The following toolbar options are displayed on the **Consent Status** log:

View

Enables you to see the following out-of-the-box (OOTB) views:

- All
- Group by Consent Status

When view is changed to Group by Consent Status, by default the groups will be collapsed and an additional toolbar option of Expand/collapse will be displayed.

Search

Enables you to find information about a user or group by way of:

- Name

- Email Address
- Title
- Company
- Status
- Record Number

Find on page

Enables you to filter the contents of the log.

Print

Enables you to print the contents of the log by way of the following options:

- Print
- Export to CSV
- Export to Excel

Reset Accepted Consent

This option is available when the consent notice option is enabled. This option enables you to reset the **Accepted** consent status to **Not Responded**, for example if there are changes in the agreement.

The following examples explain how Unifier administers consent notices in the case of an email address or user ID changes:

Example One

The email address of vendor record V1 was changed from Email1 to Email2, and the user id Email1 was assigned to vendor record V2.

Unifier displays a new entry for the user ID (in the Consent Status log) after the invitation is sent to the new email address. Unifier *retains* the consent agreement provided to the previous user ID.

Example Two

The email address of vendor record V1 was changed from Email1 to Email2, and the user id Email1 has left the organization.

Unifier displays a new entry for the user ID (in the Consent Status log) after the invitation is sent to the new email address. Unifier *removes* the consent agreement provided to the previous user ID, and the entry for that user ID is not displayed in the Consent Status log.

The following columns are displayed on the **Consent Status** log:

- Name
- Email Address
- Title
- Company
- Record Number
- Status
- Time

Translating Custom Strings (Internationalization)

The content of the material created by the Users (also known as custom strings) can be translated into different languages.

Examples

Business Process (BP) name, Data Element (DE) label, drop-down labels, radio button, navigation log names, and multi select values

> **Note**: The user input data in Business Processes (BPs), attribute forms of various Managers, and other similar elements, when entered at runtime, cannot be translated.

The Internationalization node (a sub-node of Configuration node) contains the custom strings that the users have developed. The custom strings that are listed in the Internationalization Log window are set to provide the necessary details for translators.

In This Section

Internationalization Node Properties

To access the Internationalization node:

1) Sign in to **Unifier**.
2) Go to **Company Workspace**.
3) Switch to **Admin** mode.
4) Click **Configuration** node to expand.
5) Click **Internationalization** to open the **Configuration - Internationalization** log window.

Within the log, you can:

- Determine which log item qualify for custom strings translation.
- Select to see 100 or 200 items per page.

  Use the **Display** drop-down list on top right-hand side of the log window.
- Change the order of the items in the **Source Type** column.
- Change the sequence of the languages displayed in the log as explained in the following section.
- See the list of all Custom Strings available for translation.

To select which languages must be displayed in the log list:

1) From the **Configuration - Internationalization** log window toolbar, click **Language Log** to open the **Internationalization Log - Default Language** window. This window has the following tabs:

   1. **Languages**

      Displays the following information:

      - Columns: Displays the column number (in the **Configuration - Internationalization** log) corresponding to a particular language.
      - Language: Displays the name of the language.
      - Status: Active (for languages that are available for use) or Inactive (for languages that are not available for use). Click on the cell to change the status. The **General** tab in the **Modify Translation String** window will list languages with Status = Active to enable you to modify the translation strings for each of those languages.
      - Default: Enables you to select one language as the default language for Unifier.

   2. **Columns**

      In this tab, only languages that have been marked as **Active**, in the **Languages** tab, will be displayed.

      - Column: Displays the column number (in the **Configuration - Internationalization** log) corresponding to a particular language.
      - Language: Displays the name of the language.
      - Show Language: Enables you to select which languages will be displayed in **Configuration - Internationalization** log and elsewhere where the language is available for use.

To change the sequence of the languages displayed in the log:

1) To rearrange the order of languages displayed on each row in the log list, click to select the language, and click **Move Up** or click **Move Down**.

   Alternatively, you can double-click the number next to the language, edit the number, and click Update Order.

2) When finished, click **Update Order**, **Apply**, and **OK**.

3) Use **Refresh** to update the list in the Internationalization Log window. The following explains the refresh options:

   - *Strings*: Use this option to refresh the Internationalization log with the source strings belonging to a particular source type. The system prompts you to select the Source Type of the strings that need to be refreshed.

     When you select Strings, the Refresh Strings window opens, which allows you to select, or deselect the source types that you want the system to display. Click OK to save your changes, Cancel to terminate the change.

   - *All Strings*: Use this option to refresh the Internationalization log with *all* custom strings from *all* source types. This operation might take a few minutes.

     When you select All Strings, a Confirmation message window opens explaining the system status. Review the message and proceed as desired.

   - History: Use this option to see the history of refresh requests: Requestor, Source Type, Submit Date, End Date, and Status. You can view History details after the refresh is complete.

The following explains the function of each toolbar option in the Internationalization Log window:

- **Open**: This option allows you to open the translated custom string.
- **Export**: This option allows you to export strings for bulk translation.
- **Import**: This option allows you to import a file that is ready (translated) into Unifier, or log.
- **Delete**: This option allows you to delete translated custom strings.

  Note: You can delete a custom string *only* if it has not been used elsewhere.
- **Find**: This option allows you to filter out the custom strings that are available in the log.

  > **Note**: When you select this option, you must select a source type and provide search operator for the string that you want to find.

- **Columns**: This option allows you to set the sequence of log columns.
- **Refresh**: This option allows you to refresh the items in the log with new or modified custom strings that qualify for custom translation.

The following explains the function of each menu option in the Internationalization Log window:

> **Note**: You can perform the functions of menu options using the toolbar.

- **File**: This option allows you to perform: Open, Export, Import, and Refresh
- **Edit**: This option allows you to perform: Delete
- **View**: This option allows you to conduct a search: All, Find
- **Help**: This option allows you to access: Unifier Help, Unifier Library (documentation), and About Unifier information

Displaying Custom Strings and System Strings

The following describes how Custom Strings and System Strings display in Administration mode and while defining Sheets and User Define Reports (UDRs).

The contents that appear in the Unifier application UI (also known as System Strings) cannot be modified by the Users. The System Strings are available in different languages, per user preferences.

Example

Sign In and Terms and Condition pages, Menus, Alerts, and Errors

In contrast, the content of the material created by the Users (also known as Custom Strings) can be translated into different languages.

Example

Business Process (BP) name, Data Element (DE) label, pull-down values, radio button, text in lines, navigation log names, and multi select values

System Strings are translated according to the user preferences, set in the User Preferences window.

Custom Strings are translated according to the specifications added to the source string, set in the XLIFF file.

When a combination of System and Custom strings are used (concatenation), for example, in a form, the System String portion is translated according to the user preferences, set in the User Preferences window, and the Custom String portion is translated according to the specifications added to the source string, set in the XLIFF file. As a result, it is possible to see an object having one field displayed in one language and another field displayed in another language.

In general, the translated Custom Strings *cannot* be displayed, or seen, while in the user is in Admin mode, except for:

- Translated Custom Strings for Attribute forms.

  Example

  If there is a Data Element (DE) called, "Building Name" in an Attribute form (Shell), and if the German translation of the DE exists, then the details page displays the German translation in Admin mode.
- Pages that are shared between the User mode and Admin mode.

  Example

  If translated Custom Strings are available, then the pages display the translated Custom Strings in Admin mode and are synchronized when switching to the User mode, as is the case with:
  - Code-based Configurable Manager- sheet templates
  - Record-based Configurable Manager - sheet templates
  - Asset Class templates
  - Shell Dashboard templates
  - User Define Reports (UDRs) templates

Administration Mode

Administration mode

When in the Administration mode, the contents that appear in the Unifier application UI (also known as System Strings) cannot be modified by the Users. The System Strings are available in different languages, per user preferences.

Example

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  If there is a Data Element (DE) called, "Building Name" in an Attribute form (Shell), and if the German translation of the DE exists, then the details page displays the German translation in Admin mode.
- Pages that are shared between the User mode and Admin mode.

  Example

  If translated Custom Strings are available, then the pages display the translated Custom Strings in Admin mode and are synchronized when switching to the User mode, as is the case with:
  - Code-based Configurable Manager- sheet templates
  - Record-based Configurable Manager - sheet templates
  - Asset Class templates
  - Shell Dashboard templates
  - User Define Reports (UDRs) templates

Assigning Permissions

The Company Administrator assigns access permissions to the Internationalization node, and the permissions can be set for both Users and Groups.

To proceed with assigning permissions, go to **Configuration** node > **Access Control** (Admin mode), and select the Internationalization module to change the access settings. Alternatively, you can use the Permission tab of the User properties, also.

There are two types of permissions available for the Internationalization node:

- Configure
- View

Users who have *Configure* permission can translate the custom strings, and Users who have *View* permission can view the translated custom strings, *only*.

To assign View permission to a User, *disable* the following options in the Modify Translation String window:

1) **Import**, in the toolbar and menu.
2) **Delete**, in the toolbar and menu.
3) **Columns**, in the toolbar and menu.
4) When finished, click **Apply** and then **OK**.

Translating Methods

There are two methods available in Unifier for translating custom strings:

- User Interface

  Use this translation method when you add or modify a limited number of custom strings, only.
- Export/Import

  Use this translation method when you need to translate a large number of custom strings. This method is particularly useful to professional product-translator because the system provides a file format (.XLIFF) that streamlines the translation efforts (Export). After the translations are completed, the Company Administrator, or a User with appropriate permissions, can access the Internationalization node and import the translated file back into Unifier (Import). The translation is done for one language at a time.

To use the User Interface translation method

1) Go to the **Internationalization** node.
2) Select the custom string that you want to translate.
3) Click **Open** from the toolbar to open the Modify Translation String window. The **Source Type** and **Source String** fields are read only.
4) In the **Note** field enter a description explaining the context and usage of the custom string that you are about to translate.
5) Modify, or add to, the existing translations. You can enter multiple languages for the custom string.
6) When finished, click **Apply** and then **OK**.

About Source Type and Source String

Each custom string is unique according to the custom string Source Type and Source String. The Source Type displays the Source String category. Data Structure, uDesigner, and Reports are some of the options under Source Type.

Example

A designers designs a Data Element (DE) with the label: Vendors. The Business Process is also name: Vendors. Since both the DE and BP constitute a design element, the Source Type is: uDesigner.

Language codes

Use the following information to match the language settings:

- Chinese (Simplified): zh_CH
- Chinese (Traditional): zh_TW
- English: en
- French: fr
- German: de
- Italian: it
- Japanese: ja
- Korean: ko

- Portuguese (Brazil): pt_BR
- Russian: ru
- Spanish: es

To use the Export/Import translation method

1) Go to the **Internationalization** node.
2) Select the custom string that you want to translate.
3) Click **Export** from the toolbar to open the Export Options window.
4) Select values for the following fields:
   - Source Language

     The current language of the custom string. (Example: English)
   - Target Language

     The language that the source custom string has to be translated into. You can select one language, only. (Example: German)
   - Source Type

     To allow you to filter the custom string for export base on a particular Source Type. The drop-down list contains values such as: Data Structure, Reports, etc. (Example: Business Process Setup)
   - Include Translated Strings

     This is an optional parameter. By default, this option is selected.

     - If *selected*, the custom strings (source strings) that are currently translated into the selected language will be exported, also.

     - If *deselected*, only the custom strings (source strings) that are not translated into the selected language will be exported.
5) Click **Export** to open the **File Download** window. The file download operation follows the Unifier standard file download process.

   The exported file is in ".XLIFF" format and the file name contains "Unifier" (Unifier+-+<Language Name>.XLIFF).

   The number of characters allowed in the file name is based on Unifier standard. For supported version of the "XLIFF" file refer to the *Primavera Unifier Tested Configurations* in the Primavera Unifier Documentation Library.

   The exported file contains the following information: ID, Source String, Target Language, and Note.

   The Source String is the base for all translations, the Target Language is the language selected, and the Note is a placeholder, which stores notes for the translators. The source language attribute for the exported file originates from the Source language selection at the time of export.
6) Save the file in your local folder and open the file using a program such as Notepad or WordPad.
7) Open the saved XLIFF file, review the declaration information, and search for <source>. Example:

```
<source>Assets</source>
```

8) Enter a new line, include the target language information, and save the file. Example:

<target>Aktiva</target>

9) Change the value of "approved" to "yes." Example:

<trans-unit id="o8oRKk8ZYDv+BJodINqTIBpmz+fhygs3" approved="yes">

10) Proceed to import the file back to Unifier.

When the file is ready, use the Import option to bring the translated file back into Unifier.

1) Go to the **Internationalization** node.
2) Click **Import** from the toolbar to open the Unifier standard File Upload window.
3) Click **Browse**, and import the translated file (Unifier-,Language Name.XLIFF). Basic file replacement and override apply.

At this point, the translated custom strings map to the appropriate language settings and ready to be used.

> **Note**: The Oracle Database column size must not exceed the storage size of 4000 bytes.

Internationalizing Unifier Environments

A translated custom string can be used in Unifier **Development** environment, **Test** environment, and **Production** environment.

You can use the "XLIFF" file across the two environments using the export and import functions.

Workflow

First, export the custom string (translated) using the Export option out of one environment. Then, using the Import option, import the exported custom string (translated) into the other environment.

> **Notes**:
>
> - The transfer of translated custom strings can be done one language at a time.
> - If a custom string does not exist in the destination environment, then that custom string cannot be used; however, the custom string will be available in the Internationalization Log window.
> - If you add a source string to your source type in the **Development/Test** environment, but this source string does not exist in the **Production** environment, upon exporting the XLIFF file to the **Production** environment, the source string will carry over.

Unifier Mobile Application

The Oracle Primavera Unifier Mobile Application is built specifically for installation and use on mobile devices that use iOS or Android operating system. To get the Unifier Mobile App, you have the following options:

- Download it from App Store or Play Store, or
- Launch Unifier, click User login name (user), click **Get Unifier Mobile App**, and follow the prompts.

After download, you can scan the QR code to set up Unifier Server URL and user name on your Oracle Primavera Unifier Mobile Application.

> **Note**: If you are in a region without access to the Google Play Store, Apple App Store, or your organization is using a Content Security Service or Mobile Device Management solution and requires that users do not download from the Apple Store or Play Store, submit a Service Request in My Oracle Support to request versions of the Oracle Primavera Unifier Mobile Application for those scenarios.

Important sign in information for on-premises users on non-SSO servers

For on-premises customers on non-SSO server (prior to 19.12.2):

The Unifier mobile app used the Basic Authentication for login while connecting to the Unifier web application deployed on a non-SSO server.

For on-premises customers on non-SSO server (on or after 19.12.2):

Unifier mobile app now uses the Form-based Authentication while connecting to the Unifier web application deployed on a non-SSO server. As a result, you must use the latest version of Unifier mobile app to access app data on your device.

> **Note**: The user preferences, in the Unifier web application, will be effective when you sign in to the Unifier mobile app.

Unifier and Other Oracle Applications

Unifier objects can be integrated with other Oracle applications by way of:

- Web Services

  Client and server applications that communicate over the World Wide Web's (WWW) HyperText Transfer Protocol (HTTP) and provide a standard means for operation between software applications running on a variety of platforms and frameworks, using XML. For more information about Web Services integration, refer to the *Unifier Integration Interface Guide*.
- Oracle Database Gateways

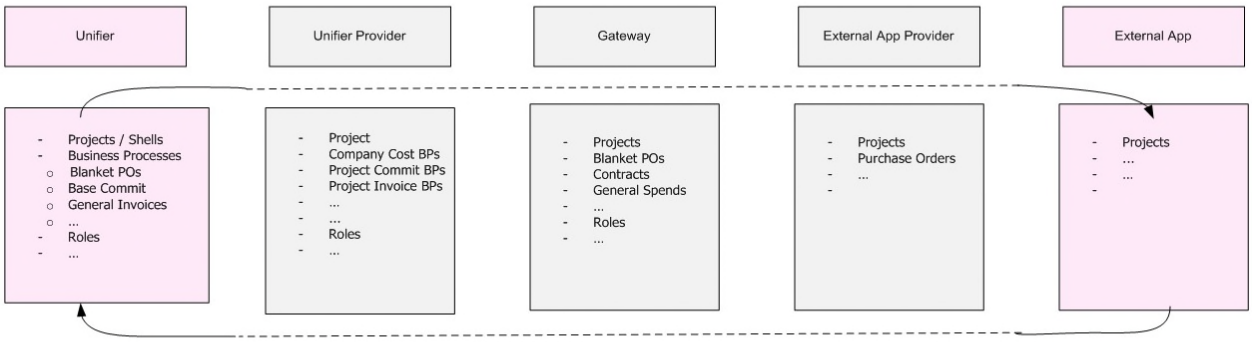
  Addressing the needs of disparate data access and making it possible to integrate with any number of non-Oracle systems from an Oracle application. Oracle Database Gateways enable integration with data stores such as IBM DB2, Microsoft SQL Server, Excel and transaction managers like IBM CICS.

Unifier is integrated with the following enterprise applications via Primavera Gateway:

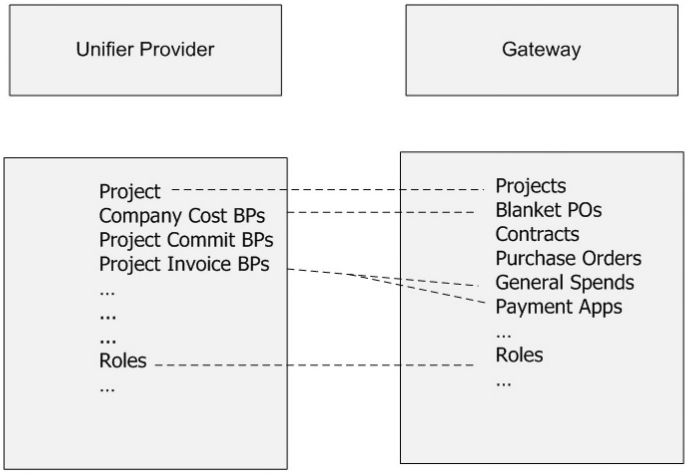
- Oracle Primavera Analytics
- Oracle Primavera P6
- Oracle E-Business Suite (also known as Applications/Apps or EB-Suite/EBS)

As shown below, once all the objects are created and linked to each other, data flows to Unifier (business flows/synchronizations) in this formation: Oracle application/external application > Oracle application/external Provider > Gateway > Unifier Provider > Unifier

Unifier integration with other applications via Gateway



Provider must have a hard-coded (Java-code) link to the corresponding object in Gateway



The following sections describe the process in details.

In This Section

Unifier and Primavera Analytics

Analytics provides an in-depth and comprehensive method for analyzing and evaluating:

- Shells
- Project performance
- Project history
- Business Processes (including Vendor analysis)
- Cost Sheet
- Cash Flow
- P6 Summary Sheets
- Generic Cost Sheet
- Space Utilization (from Space Manager)

Configure this section in Unifier for users to ensure they are able to see data within Analytics.

If the **Analytics** module is enabled, the Company administrator can access the **Analytics** module by signing into Unifier and navigating to the **System Modules** node (**Data Structure** > **Administration** mode > **System Modules**).

> **Note**: The System Administrator has to load the Analytics module.

Users can use the Analytics for data input and must have permission in order to be able to access the **Analytics** node. Permissions set in Unifier (**Access Control**) enable users to view the data in Oracle Business Intelligence (OBI) server. Users ability to access OBI server is also set in Unifier.

In This Section

Analytics Node

The Analytics node is located under the Administration node, above the Custom Dashboard node. In Analytics node, you can select publication of Unifier data to Unifier staging tables, map data, and set schedule for periodic publication of Unifier data into Analytics.

> **Note**: A separate ETL process pushes the staging data into STAR which then becomes available in Analytics.

When you click the Analytics node, the log displays predefined set of Unifier modules such as:

- Business Processes
- Cash Flow
- Cost Sheet
- Generic Cost Sheet
- P6 Summary Sheets
- Shells
- Space Manager
- Vendors

Analytics Log Properties

The Analytics log has two columns which display the Name and the Last Modified Date of the records.

The Analytics log toolbar has the following options:

- Open
- Schedule
- Run History

The Open and Run History options can be accessed from the File menu. The Schedule option can accessed from the Edit menu.

Analytics Log (Business Process) Setup

You can set up Dashboards and Analyses, for Unifier Business Process, in Oracle Business Intelligence Enterprise (OBIE) analyses and select the Business Process data that you want to use for analyses.

When you open a Business Process in the Analytics node, you will see the Analytics - Business Process Setup window with the following tabs:

- Business Processes
- Custom Fields
- Data Mapping

Business Processes tab

Select Business Processes for Analytics

The Business Processes tab allows you to select the Business Process that you want to use in Analytics.

Use the Add or Remove buttons to add or remove the Business Processes for Analytics.

To add a new Business Process for use in Analytics:

1) Click **Add** to open the Select Business Processes for Analytics window that lists all the company-level, Shell-level, and Project-level Business Processes, in alphabetical order.

   Note: This list includes Active and Inactive Business Processes.

2) Select one Business Process, or select as many as you need, and click **OK** to add the Business Process to the log.

> **Note**: After you added the Business Process, that Business Process will no longer be available in the Select Business Processes for Analytics list.

You can remove a Business Process that is published for Analytics. To remove a Business Process for use in Analytics, select the Business Process from the Select Business Processes for Analytics list and click **Remove**. You can delete multiple Business Processes from the list. You can add a removed Business Process for Analytics reporting. Click **Add** if you want to add a removed Business Process to the list.

If Company Administrator inactivates a Business Process that has been used for Analytics, then this Business Process continues to remain in the Business Processes tab. If you remove a Business Process from the Business Processes tab, data that exists in Analytics, for the removed Business process, remains as is; however, the new data will not be published.

Custom Fields tab

The Custom Fields tab is available after you add your Business Processes in the Business Processes tab. The Custom Fields tab has two sections:

- Main Form Elements
- Line Item Elements

You can specify values in each field to set the number of user-defined fields for Data Mapping. The default values displayed are based on the existing user-defined fields limit that is currently set in Unifier.

The total number of Main Form custom fields cannot exceed 900. Similarly the total number of Line Item custom fields cannot exceed 900.

When entering values in the fields:

- Use numeric values.
- Do not use decimal points.
- Use numbers greater than the default values.

> **Note**: The number of fields specified are bundled as a part of configuration package, if the component has been tagged.

Data Mapping tab

The Data Mapping tab allows you to map the predefined Analytic Business Process fields to a corresponding Unifier Data Element (DE) in the Business Process.

Notes:

- The Data Mapping tab is available after you have added a Business Process, in the Business Processes tab, and clicked Apply or OK.
- The Data Mapping is done per DE and not per Business Process. All Business Processes added in the Business Processes list tab are included and you do not need to select a specific Business Process for mapping.
- The fields from both Upper and Detail forms can be mapped in the Data Mapping tab, and you can change mapping of the fields.
- The workflow data (Steps and tasks), related to any Workflow BP, is also sent to Analytics.

The Data Mapping tab displays the following information:

- Name
- Source
- Data Source
- User Defined Attributes
  - Name
  - Data Type
  - Source
  - Data Source
  - Label

Note: In addition to the system defined fields for Analytics, you can define additional custom fields for Analytics in the User Defined Attribute section.

Name

The Name column is pre-populated and displays the following names:

- Contract Type
- Reason
- Specification Section
- Vendor ID
- Quantity
- Spend Category
- Unit Cost
- Unit of Measure

The names above represent the fields used in OBI. These are read-only fields and you cannot modify them.

All the "Main Form" fields are listed first and are sorted alphabetically within the source.

All the "Line Item" fields are listed after the Main form fields and are sorted alphabetically within the source.

Source

The Source column displays the location of the Data Element (DE) seen in the Data Source. For Business Processes, the DEs can either be from the "Main Form" or the "Line Item."

Data Source

The Data Source column contains a consolidated list of all DEs for all of the selected Business Processes in the Business Processes tab. In addition:

- The list of values displayed upon clicking the Data Source drop-down will be those that have a matching data definition as the Name field. When you click the Data Source drop-down list contains a list of values that have a matching Data Definition (DD) as the Name field.
- The drop-down list, which requires the Upper form mapping, contains a consolidated list of all Upper form DEs. For example, if there are ten Upper forms from all the Business Processes, and each Upper form has 10 DEs, then the list of DEs displayed in the drop-down list will be a consolidated and unique list of DEs from all the Business Processes.
- The drop-down list, which requires the Detail form mapping, contains a consolidated list of all Detail form DEs. For example, if there are twenty Detail forms, and each Detail form has 10 DEs, then the list of DEs displayed in the drop-down list will be a consolidated and unique list of DEs from the Detail forms of all the Business Processes.
- The fields displayed in the Data Source drop-down list is a concatenation of DE Label and DE Name, and the DE Name is displayed within parenthesis. For example, `Department(contract_department)`

User Defined Attributes

The User Defined Attributes section of the Data Mapping tab lists the following columns:

- Name
- Data Type
- Source
- Data Source
- Label

The Label will be based on the selected DE label, but you can change it.

Use the Add, Modify, and Remove to add, modify, or remove user defined attributes.

To modify a user-defined attribute, click to select the attribute, click **Modify**, and modify the fields.

To remove a user-defined attribute, click to select the attribute, click **Remove**, and modify the fields.

To add a user-defined attribute, read the following information:

When you click **Add**, the **Add User Defined Attribute** window opens. This window allows you to select the following mandatory fields:

- **Data Type**
- **Source**
- **Name**
- **Data Source**

- **Label**

Notes:

- A value for the mandatory Label field will be selected by the system.
- The Label field is populated based on the Data Element that you have selected from the Data Source drop-down list.
- The Label field is editable and required. You will receive an error message if you leave the Label field blank.
- If you notice that the value in the Label field has changed, it means that other fields have been updated at one point.
- Analytics displays the value, if the label is absent.
- Analytics displays the label, which has the Value/Label pair, in the case of Data Elements (DEs).

The **Data Type** that you select impacts the Name and the Data Source of the user-defined attribute. The **Data Type** field allows you to select the following attributes, only:

- String (default)
- Date
- Numeric

For example, if you select **String** as your Data Type, you can:

- Select from a predefined set of sources from Source drop-down list (Main Form or Line Item).
- Add up to 30 names (User Defined String Fields 1 - 30) as the Name.
- Select from a predefined set of data sources from Data Source drop-down list.
- The content of the Label filed will be selected by the system and according to your other selections.

Analytics Dimension and Fact

The Data Type that you select corresponds to the Analytics fields as follows:

- If the Data Type that you select is String/Date, then your selection corresponds to a Dimension object in Analytics.
- If the Data Type that you select is Numeric, then your selection corresponds to a Fact object in Analytics and are available in the Primavera - Project User Defined, only.

Additional information

- If the same DE exists in both Upper form and Detail form, then the DE is displayed for the Upper form fields, as well as the Line Item fields.
- If you map a DE for one field, you can map the same DE to another field. You can choose the DEs, per your Company business needs, when setting up the mapping.
- If you change the mapping of the fields, for the new records, then the next time the data is published to OBI, the values will be as per the updated fields. If you need to refresh, for all the records, then you need to click the checkbox option in the Schedule tab.

- If you delete a DE mapped to an Analytic field, then the Data Source field displays the DE name, only.
- If there are any un-mapped fields in the Data Mapping tab, the un-mapped fields appear in the DE list, based on the updated design.
- If you delete a Business Process, and click Apply, then the Data Source field displays the DE name, only.
- The allowed user-defined attributes is driven by the number that is set in the Custom Fields tab.
- Pickers are available for String field mappings for both canned and user defined attributes are as follows:
  - BP Data Picker
  - Shell Data Picker
  - Space Data Picker
  - User Data Picker
  - BP Picker
  - User Picker
  - Shell Picker
  - Space Picker
  - BP Creator
  - P6 Activity Picker

Summary Payment Application (SPA) SOV type BPs

You can perform data reporting in Analytics for Base Commit, Change Commit, and Payment Application Business Processes of SPA SOV type. The system sends the following Cost allocation Line Item details to Analytics:

- Cost Code
- Cost Name
- Short Description
- Quantity
- Unit Price
- Amount

If you need to transfer data from any field (at the Summary level) to Analytics, then you must map the field to a User Defined Field in Line Items of the Business Process. The system sends the mapped field to Analytics as a part of Cost allocation Line Item.

> **Note**: Users can map any field that exist in the Detail form.

The values of the fields in the existing Cost allocation Line Items are retained for the fields that are common to both the Summary and Cost allocation Line Items. The following explains the details:

- **Cost Code**

  The value of the field in the Cost allocation Line Item is retained. The CBS Picker field does not exist in the Detail Form design.

- **Cost Name**

  The value of the field in the Cost allocation Line Item is retained. The bi_item field does not exist in the Detail Form design.
- **Short Description**

  The value of the field in the Cost allocation Line Item is retained.
- **Quantity**

  The value of the field in the Cost allocation Line Item is retained.
- **Unit Price**

  The value of the field in the Cost allocation Line Item is retained. The Unit price is auto-populated from the value of the field in the Detail Form and is a read-only field in the Cost allocation Line Item. The value of the field in the Cost allocation Line Item will match the value of the field in the Detail Form.
- **Amount**

  The value of the field in the Cost allocation Line Item is retained.

Analytics Log (Cash Flow) Setup

You can set up Dashboards and Analyses, for Unifier Cash Flow data, in Oracle Business Intelligence Enterprise (OBIE) analyses and:

- Select the Cash Flow names that you want to use for analyses.
- Set up the data for the fields related to Cash Flow in the Cash Flow record.

When you open a Cash Flow record in the Analytics node, you will see the Cash Flow Setup window that contains the Cash Flow names defined in Shells. In this window, you can add a Cash Flow record and click Apply to see the Data Mapping tab.

In addition to the system-generated Cash Flow Curves, you can add additional user-defined Cash Flow Curves (total of 10). The User Defined Curves section, in Data Mapping tab of the Cash Flow Setup, displays the additional 5 Cash Flow Curves (User Defined Curves from 6 to 10).

Cash Flow tab

Use the Cash Flow tab to select the Cash Flow names that you want to use in Analytics. Once selected, you can use Add to add the name or Remove to remove a Cash Flow.

To add a new Cash Flow:

1) In the Analytics - Cash Flow Setup window, Cash Flow tab, click Add to open the Cash Flow window, Select Cash Flow for Analytics.

   Note: This list includes the available Cash Flow items, from all CBS Shells with Detail Levels of CBS, Summary CBS, and Commitment in alphabetical order.

2) Select one Cash Flow, or select as many as you need, and click OK to add the Cash Flow to the log.

> **Note**: After you add a Cash Flow, that Cash Flow will no longer be available in the Select Cash Flow for Analytics list.

You can remove a Cash Flow item that is published for Analytics. To remove a Cash Flow item for use in Analytics, select the Cash Flow item from the Select Cash Flow item for Analytics list and click **Remove**. You can delete multiple Cash Flow items from the list. You can add a removed Cash Flow item for Analytics reporting. Click **Add** if you want to add a removed Cash Flow item to the list.

Data Mapping tab (Cash Flow)

The Data Mapping tab allows you to map the predefined Analytic Cash Flow fields to a corresponding Unifier Cash Flow Curve type.

> **Note**: The Data Mapping tab is available after you have added a Cash Flow item, in the Cash Flow tab, and clicked Apply or OK.

The Data Mapping tab displays the following information:

- **Name**: Predefined and represents the fields used in OBI.
  - The names are grouped logically and sorted based on Initial Baseline, Current Baseline, Actuals, Forecast, and User Defined Curves (1 through 10).
  - The drop-down list for the Initial Baseline and Current Baseline includes the items that are based on the Baseline Cash Flow curve type, defined under the Cash Flow data sources (Cashflow Datasources window) in the Standard & Libraries.
  - The drop-down list for the Actuals includes the items that are based on the Spends curve type.
  - The drop-down list for the Forecast includes the items that are based on the Forecast curve type.
  - The drop-down list for the User Defined Curves (1 through 10) includes all the Cash Flow data sources. The items listed are based on the Cash Flow curve type and sorted in alphabetical order.
- **Data Source**: The Cash Flow data sources defined under the Cash Flow > Data Sources node of the Standards & Libraries.
  - The fields displayed in the Data Source drop-down list is a concatenation of the Cash Flow data source name and Cash Flow curve type.

The Analytic field name can be the same as the Data Source name. For example, you can map a User Defined Curve to data source named, "Initial Baseline."

The following is a list of fields that need mapping for Cash Flow:

- Initial Baseline
- Current Baseline
- Actuals (Spends)
- Forecast
- User Defined Curve 1
- ...
- User Defined Curve 10

> **Note**: Cash Flow Derive curve is not supported.

Analytics Log (Cost Sheet) Setup

You can set up Dashboards and Analyses, for Unifier Cost Sheet data, in Oracle Business Intelligence Enterprise (OBIE) analyses and select the Cost Sheet column data that you want to use for analyses.

This section explains the following topics:

- **Data Mapping - Columns**
- **Data Mapping - Cost Attributes**

When you open a Cost Sheet record in the Analytics node, the **Analytics - Cost Sheet Setup** window opens with the following tabs:

- **Data Mapping - Columns**
- **Data Mapping - Cost Attributes**

The following explains each tab and their respective fields.

Data Mapping - Columns

The **Data Mapping - Columns** tab is divided in two sections:

- System-defined columns: Listed on top of the window.
- User-defined Columns: Listed under **User Define Columns** section of the window.

The system-defined columns of the **Data Mapping - Columns** tab allows you to map the Cost Sheet Analytic fields to a corresponding Cost Sheet Data Source defined in Unifier.

In addition to the system-defined Cost Sheet columns, you can add additional user-defined columns (total of 20). The **User Defined Columns** section, in **Data Mapping - Columns** tab of the Cost Sheet Setup, displays the additional 10 columns (User Defined Columns from 11 to 20).

The top section of **Data Mapping - Columns** tab (system-defined columns) has the following columns:

- **Name**
- **Data Source**

The following explains each column.

Name

Lists a series of predefined fields which correspond to the fields used in OBI.

> **Note**: Since the fields under Name are grouped logically, the order displayed are according to the list of fields that need mapping for Cost Sheet.

This is a list of predefined fields:

- Estimate
- Original Budget

- Pending Budget Revisions
- Approved Budget Revisions
- Revised Budget
- Contracts
- Purchase Orders
- Original Commitments
- Forecast
- Pending Change Orders
- Pending PO Amendments
- Pending Commitment Changes
- Approved Change Orders
- Approved PO Amendments
- Approved Commitment Changes
- Revised Commitments
- Pending Payment Applications
- Pending Invoices
- Pending Spends
- Approved Payment Applications
- Approved Invoices
- Approved Spends
- Actuals Received
- Journal Entries
- Risks & Issues
- Forecast Adjustments
- Budget Variance
- Remaining Budget
- Budget Percent
- Commitment Percent

Data Source

Lists the corresponding data source to each field that is listed in the **Name** column. The values in the **Data Source** fields:

- Are divided into two sources (*Single Sources* and the *Logical Sources*).
- Are sorted in alphabetic order.
- Exist in the Cost Sheet for all CBS type Shells.

The lower section of **Data Mapping - Columns** tab (under the **User Defined Columns** section) has the following columns:

- **Name**
- **Data Source**
- **Label**

The following explains each column.

Name

This is a list of predefined columns:

- User Defined Column 1
- ...
- User Defined Column 20

The Analytic field name can be the same as the Data Source name. For example, you can map a User Defined Curve to data source named, "Initial Baseline."

Data Source

- The P6 data sources are included under the Single Sources, and the element is included within the parenthesis of the P6 Data Source. For example, `Current Baseline (Planned Cost).`
- In addition to the predefined list displayed, you can add up to 10 additional mappings for the Cost Sheet data sources.
- You can pick the same data source for multiple fields.

Label

- Labels are required for the User Defined Columns. A red-color asterisk (*/star symbol) appears for the columns that have been mapped to a data source.

  Note: Asterisk (*/star symbol) does not appear for a column that has not been mapped to a data source.

- For existing mappings of user-defined Cost Sheet columns, the labels are populated based on the data source name.
- Labels support non-ISO characters (UTF-8 characters).
- If there are no labels, then the data source names will be sent to OBIEE.

  Note: Custom String translation is not applied.

- When you select a data source for the first time, the label is populated based on the data source name. You can modify the label according to your business need.
- The maximum characters allowed in the label field is 50, same as the Cost Sheet Data Source Name.

  Note: The system does not perform Label Uniqueness test.

Data Mapping - Cost Attributes

The **Data Mapping - Cost Attributes** tab contains user-defined Attributes, listed under the **User Defined Attributes** section.

To add a new field, click **Add** to open the **Add User Defined Attribute** window. Enter name, source, and label in the following fields:

- **Name**
- **Data Source**
- **Label**

The **Data Type** field is read-only and set as "String" by default. The value in the **Data Type** field determines if the selected field is a Dimension object or a Fact object in Analytics. If the **Data Type** field is "String," then the field is a Dimension object in Analytics.

> **Note**: Only the "String" type field is supported for Cost Code Attributes data mapping in Analytics.

You can add up to 20 String type Data Elements (DEs) from the *Cost Code Attributes Detail Form* as User Defined Attributes.

The **Name** field is a required field and lists User Defined String Field 1 through 20.

- If a name has been selected, for example, User Defined String Field 1, then the list does not include User Defined String Field 1 and starts with User Defined String Field 2.
- If an existing name has been deleted, the name will appear in the list.

The **Data Source** field lists Data Elements (DEs) in the *Cost Code Attributes Detail Form*.

Only DEs with the "String" type Data Definitions (DDs) are displayed in the **Data Source** field. The "String" type DDs in the list are:

- Text Box
- Multiple Text Lines
- Pull-Down Menu
- Radio Buttons
- Multi-select Input

The DDs in the **Data Source** field include the DEs. For example, Description (uuu_cost_description). If a DE that has already been added is deleted from the deployed design, then the DE name will be seen, only.

Unifier populates the **Label** field based on the DE that has been selected in the **Data Source** drop-down list. The **Label** field is a required and editable field, and it will accept non-ISO characters (UTF-8), to support internationalization.

The maximum allowed length is the same as the DE label, and Unifier does not check for label name uniqueness.

Analytics Log (Generic Cost Sheet) Setup

Analytics supports reporting and analyses of data from the various cost attributes in the Generic Cost Sheet of Shells with Generic Cost Codes.

> **Note**: You work with a Generic Cost Sheet in the same way that you work with Cost Sheet (CBS Shells); however, the difference is that the data in the Generic Cost Sheet comes from Generic Shells and sub-shells, but the data for Cost Sheet comes from the CBS Shells.

You can access your Generic Cost Sheet from the Analytics node in Unifier (**Shell** > **Admin** mode > **Analytics** > **Generic Cost Sheet**) and map your Analytics fields to the corresponding Generic Cost Sheet columns.

Double click **Generic Cost Sheet** to open the **Analytics – Generic Cost Sheet Setup** window.

The **Data Mapping** tab (in the **Analytics – Generic Cost Sheet Setup** window) enables you to map the Generic Cost sheet Analytic fields to the corresponding Generic Cost Sheet columns, defined in Unifier. The **Data Mapping** tab has the following fields:

- Name
- Data Source
- Label

The **Data Source** values are the Single Sources and Logical Sources existing in the Generic Cost Sheets of all the Generic type Shells. You can pick the same data source for multiple fields.

The **Label** field is required field for the user-defined columns. The system supports a total of **40** user-defined columns, for the Generic Cost Sheet.

> **Note**: An asterisk (*) appears for columns where mapping has been completed. The asterisk (*) does not appear if the column is not mapped to any data source.

The system populates the **Label** column with the Name column for the data source, as set in the Generic Cost sheet column definition. You can modify the values in the Label column, based on your business needs. The Label column supports non-ISO and UTF-8 characters.

The maximum number of characters allowed for this field is 50, same as the maximum number of characters in the Generic Cost Sheet Data Source Name.

> **Notes**:
>
> - The system does not support Custom String translation.
> - The system does not perform label uniqueness verification.

Analytics Log (P6 Summary Sheets)

You can set up Dashboards and Analyses, for P6 Summary Sheets, in Oracle Business Intelligence Enterprise (OBIE) analyses and select the P6 Summary Sheets data that you want to use for analyses.

When you open P6 Summary Sheets in the Analytics node, you will see the Analytics – P6 Summary Sheets Setup window with the following tab: P6 Data Sources.

P6 Data Sources tab

The P6 Data Sources tab allows you to select the P6 Data Sources that you want to use in Analytics (P6 Data Sources for Analytics).

Use the Add or Remove buttons to add or remove the P6 Data Sources that you want to use in Analytics.

To add a P6 Data Sources for Analytics:

Click **Add** to open the Select P6 Data Sources for Analytics window and select a P6 data source for Analytics. The following data sources are available to select:

> **Note**: The P6 Data Sources that need to send data to OBIEE are set up here.

- Current Schedule
- Customer Sign-Off Baseline
- Initial Planning Baseline
- Management Sign-Off Baseline
- New P6 Data Source for Analytics Testing
- P6 Testing datasource

These are all the published P6 data sources defined under Standards & Libraries.

When finished, click **Apply** and then **OK**.

You can select more than one data source. To select more than one data source, click one source, click OK, and click to add additional data sources.

> **Note**: Once you add a data source, that data source will not be shown in the Select P6 Data Sources for Analytics window.

Additional information

- You can use the P6 Summary Sheets that are included in the following types of Unifier CBS Shells for Analytics:
  - Duration
  - Resource loaded
  - Cost loaded

> **Note**: The P6 Summary Sheets for the above data sources will send data to Analytics.

- If fields overlap between the CBS Shells and the existing P6 Summary Sheets, then the system-defined fields in the P6 Summary Sheets will be used.

  Example:

  Planned Start and Planned Finish are mapped fields in Unifier CBS Shells; however, these fields will be replaced by the system-defined fields in the P6 Summary Sheets.
- Data analysis can be performed on P6-Unifier integrated data. Since there is no user interface (UI) component for the P6 Summary Sheets in Unifier, when Unifier sends data to OBIEE, the details of the P6 Summary Sheets of the selected P6 data source is sent to Analytics. In Analytics, views are created based on the details of the P6 Summary Sheets and the user can see the daily-level data.

Analytics Log (Shells)

You can set up Dashboards and Analyses, for Unifier Shells, in Oracle Business Intelligence Enterprise (OBIE) analyses and select the Shell data that you want to use for analyses.

When you open a Shell in the Analytics node, you will see the Analytics - Shells Setup window with one tab:

Data Mapping.

The Data Mapping tab is divided in two sections:

- System defined and User defined attributes
- User Defined Columns

The system defined columns of the Data Mapping tab allows you to map the Shells (called "Projects" in Analytics) Analytic fields to a corresponding Shell attribute Data Element (DE) defined in Unifier.

The top section of the Data Mapping tab displays all the system defined fields in the following columns:

- Name
- Data Source

Name

Lists a series of predefined, read-only fields, which represent the fields used in OBI.

> **Note**: When the user adds a new user-defined field on a Shell mapping page, the "Name" field displays fields up to 100 (minus the ones used already).

- Shell Phase
- Anticipated Start
- Anticipated Finish
- Start
- Finish
- Forecast Start Date
- Forecast Finish Date
- Planned Start
- Planned Finish
- Scheduled Finish
- Current Budget
- Original Budget
- Proposed Budget
- Address 1
- Address 2
- City
- State
- State Code
- Country
- Country Code
- Postal code

Data Source

- Lists all of the Data Elements (DEs), in the Shell attributes, with matching Data Definitions (DDs).
- The DEs are listed in alphabetical order.
- The values listed in the drop-down list have a matching DD as in the Name field and includes a consolidated list of all the DEs across all Shell attribute forms. For example, when you select the "Project Start Date," the drop-down list will include all the date fields in all of the Shell attribute forms.

The bottom section of the Analytics - Shells Setup window includes the User Defined attributes/fields presented in the following columns:

- Name
- Data Type
- Data Source
- Label

Use the Add, Modify, and Remove to add, modify, or remove user defined attributes.

To modify a user-defined attribute, click to select the attribute, click **Modify**, and modify the fields.

To remove a user-defined attribute, click to select the attribute, click **Remove**, and modify the fields.

> **Note**: If you remove a user-defined attribute, the DE name will remain in the list for future use.

To add a user-defined attribute, read the following information:

When you click **Add**, the Add User Defined Attribute window opens. This window allows you to select the following mandatory fields:

- Data Type
- Name
- Data Source
- Label

> **Notes**:
>
> - The Label field is populated based on the Data Element that you have selected from the Data Source drop-down list.
> - The Label field is editable and required. You will receive an error message if you leave the Label field blank.
> - If you notice that the value in the Label field has changed, it means that other fields have been updated at one point.

The Data Type that you select impacts the Name and the Data Source of the user-defined attribute. The **Data Type** field allows you to select the following attributes, only:

- String (default)
- Date
- Numeric

For example, if you select **String** as your Data Type, you can:

- Add up to 20 names (User Defined String Fields 1 - 20) as the Name.
- Select from a predefined set of data sources from Data Source drop-down list.
- The content of the Label filed will be selected by the system and according to your other selections.

Dimension and *Fact*

The Data Type that you select corresponds to the Analytics fields as follows:

- If the Data Type that you select is String/Date, then your selection corresponds to a Dimension object in Analytics.
- If the Data Type that you select is Numeric, then your selection corresponds to a Fact object in Analytics.

Additional Information

Pickers are available for String field mappings for both canned and user defined attributes are as follows:

- BP Data Picker
- User Data Picker
- Planning Data Picker
- User Picker
- Location Picker
- P6 Activity Picker
- Auto-update Status Setup Picker

Analytics Log (Space Manager)

You can set up Dashboards and Analyses, for Space Manager, in Oracle Business Intelligence Enterprise (OBIE) analyses and select the Space Manager data that you want to use for analyses.

When you open the **Space Manager** in the **Analytics** node, you will see the **Analytics - Space Manager Setup** window with one tab: **Space Types**.

The **Space Types** tab contains a list of space type names under the **Space Types for Analysis** section. You can add and remove a Space type using the **Add** and **Remove** buttons on this tab and below the **Space Types for Analysis** section. When finished, click **Apply** and **Ok** to complete the operation.

Adding Space Types

To add new Space Types click **Add** to open the **Select Space Types for Analytics** window. If available, a list of available Space Types that have been deployed in the Company appear in the window, in alphabetical order. The list contains all Active and Inactive Space Types.

Click to select one, or more, Space Types.

Click **OK** to add the selected Space Types to the Space Types log.

Once added:

- The selected Space Types do not appear in the Select Space Types for Analytics window.
- The Data Mapping - Space Types tab appear.

Click **Apply** to complete the adding operation.

Removing Space Types

You can remove the Space Types that have been published for Analytics. To remove the Space Types, click to select one, or more, Space Types and click **Remove**. Once removed:

The selected Space Types do not appear in the Select Space Types for Analytics window.

If you want to add removed Space Types, read the instructions in the Adding Space Types topic.

Working with Space Types

If you (Company Administrator) inactivate a space type, and the inactivated space type was used for Analytics, then the inactivated space type remains in the Space Types tab.

If a published space type is removed from the Space Types tab, the data that exists in Analytics (for the removed space type) remains as is.

Note: Added new data will not be published.

If an unpublished space type is removed from the Space Types tab, then no information related to the space type, and Level, is sent to Analytics.

The following sections explain the following tabs that appear after you add Space Types:

- Data Mapping - Space Types tab
- Data Mapping - Level tab

Data Mapping - Space Types Tab

The **Data Mapping - Space Types** tab appears after you add **Space Types**, and it enables you to add custom fields, from various Space Types, to use in Analytics. You can use this tab to map the Analytics field to the corresponding **Space Types** field. The **Data Mapping - Space Types** tab contains a list of user-defined attributes under the **User Defined Attributes** section. The **User Defined Attributes** section is a log that lists the following fields for each user-defined attributes:

- **Name**
- **Data Type**
- **Data Source**
- **Label**

All the fields mentioned above are read-only fields. You can add, modify, and remove user-defined attributes using the **Add**, **Modify** and **Remove** buttons on this tab.

Adding new user-defined fields

To add new user-defined fields, click **Add** to open the **Add User Defined Attribute** window and enter values in the following required fields:

- **Data Type**
- **Name**
- **Data Source**
- **Label**

About Data Type

The values for Data Type field are:

- *String*
- *Date*
- *Numeric*

When you select a Data Type, you set the value of the of the field as either a **Dimension** or a **Fact**. If you select the Data Type as **String**, or **Timestamp**, then the field will be a **Dimension** object in Analytics. If you select the Data Type as **Numeric**, then the field will be a **Fact** object in Analytics.

Data Type	Analytics
String	Dimension
Date	Dimension
Numeric	Fact

Adding new user-defined fields (custom fields) for Data Type: String

If you select the Data Type as **String**, then up to 20 String type Data Elements can be added from the Space Detail Form, as user-defined attributes.

To add new user-defined fields (custom fields) for **String** Data Type, click **Add** to open the **User Defined Attribute** window and enter values in the following required fields:

Name

The **Name** drop-down list contains values from “User Defined String Field 1" to "User Defined String Field 20.” If a name has already been selected, then the name is not listed in the Name drop-down list.

Example

If the "Department" field has been added as a “User Defined String Field 1," then the “Name” drop-down list does not display the “User Defined String Field 1."

If a previously added field has been deleted, then that Name is displayed in the Name drop-down list.

Data Source

The **Data Source** drop-down list contains a list of Data Elements from the Space Detail Form.

If you select the Data Type as **String**, the Data Elements in the Data Source drop-down list are:

- Strings and Integer Pull Downs

- Integer and String Radio Buttons
- Check Boxes
- Test Data Elements

There are no Pickers listed/available. The Data Source field displays a series of interconnected Data Element names and Data Element labels in the following format: DE Label(DE name). For example, `Project Type(prjt_type)`. If a previously added Data Element is deleted from the Deployed design, then the Data Element name is displayed, only.

Label

The **Label** field is populated based on the Data Element that you select in the Data Source. You can modify the value of this field with non-ISO characters (UTF-8), in order to support internationalization, only. The maximum allowed length is similar to Data Element label. The system does not perform a label uniqueness verification.

Adding new user-defined fields (custom fields) for Data Type: Date

If you select the Data Type as **Date**, then up to 10 "Date" Data Elements can be added from the Space Detail Form, as user-defined attributes.

To add new user-defined fields (custom fields) for **Date** Data Type, click **Add** to open the **User Defined Attribute** window and enter values in the following required fields:

Name

The **Name** drop-down list contains values from “User Defined Date Field 1" to "User Defined Date Field 20.” If a name has already been selected, then the name is not listed in the Name drop-down list.

Example

If the "Project Commission Date" field has been added as a “User Defined Date Field 1," then the "Name" drop-down list does not display the “User Defined Date Field 1."

If a previously added field has been deleted, then that Name is displayed in the Name drop-down list.

Data Source

If you select the Data Type as **Date**, the Data Elements in the Data Source drop-down list are:

- Date
- Date only Picker

The Data Source field displays a series of interconnected Data Element names and Data Element labels in the following format: DE Label(DE name). For example, `Project Archive Date(prjt_arc_date)`. If a previously added Data Element is deleted from the Deployed design, then the Data Element name is displayed, only.

Label

The **Label** field is populated based on the Data Element that you select in the Data Source. You can modify the value of this field with non-ISO characters (UTF-8), in order to support internationalization, only. The system does not perform a label uniqueness verification.

Adding new user-defined fields (custom fields) for Data Type: Numeric

If you select the Data Type as **Numeric**, then up to 40 numeric data elements can be added from the Level Detail Form, as user-defined attributes.

To add new user-defined fields (custom fields) for **Numeric** Data Type, click **Add** to open the **User Defined Attribute** window and enter values in the following required fields:

Name

The **Name** drop-down list contains values from “User Defined Date Field 1" to "User Defined Date Field 40.” If a name has already been selected, then the name is not listed in the Name drop-down list. For example, if the "Total Count" field has been added as a “User Defined Date Field 1," then the Name drop-down list does not display “User Defined Date Field 1." If a previously added field has been deleted, then that Name is displayed in the Name drop-down list.

Data Source

If you select the Data Type as **Numeric**, the Data Elements in the Data Source drop-down list are the Data Elements found on the Space Detail Forms and are:

- Integer
- Currency
- Decimal Amount

There a no Integer Pull Downs, Integer Radio Buttons, and Integer Check Boxes. The Data Source field displays a series of interconnected Data Element names and Data Element labels in the following format: DE Label(DE name). For example, `Contract Amount(con_amt)`. If a previously added Data Element is deleted from the Deployed design, then the Data Element name is displayed, only.

Label

The **Label** field is populated based on the Data Element that you select in the Data Source. You can modify the value of this field with non-ISO characters (UTF-8), in order to support internationalization, only. The maximum allowed length is similar to Data Element label. The system does not perform a label uniqueness verification.

Data Mapping - Level Tab

The **Data Mapping - Level** tab appears after you add **Space Types**, and it enables you to add custom level/floor fields, from various Levels, to use in Analytics. You can use this tab to map the Analytics field to the corresponding **Levels** field.

The **Data Mapping - Level** tab contains a list of user-defined attributes under the **User Defined Attributes** section. The **User Defined Attributes** section is a log that lists the following fields for each user-defined attributes:

- **Name**
- **Data Type**
- **Data Source**
- **Label**

All the fields mentioned above are read-only fields. You can add, modify, and remove user-defined attributes using the **Add**, **Modify** and **Remove** buttons on this tab.

Adding new user-defined fields

To add new user-defined fields, click **Add** to open the **Add User Defined Attribute** window and enter values in the following required fields:

- **Data Type**
- **Name**
- **Data Source**
- **Label**

About Data Type

The values for Data Type field are:

- *String*
- *Date*
- *Numeric*

When you select a Data Type, you set the value of the of the field as either a **Dimension** or a **Fact**. If you select the Data Type as **String**, or **Timestamp**, then the field will be a **Dimension** object in Analytics. If you select the Data Type as **Numeric**, then the field will be a **Fact** object in Analytics.

Data Type	Analytics
String	Dimension
Date	Dimension
Numeric	Fact

Adding new user-defined fields (custom fields) for Data Type: String

If you select the Data Type as **String**, then up to 20 String type Data Elements can be added from the *Level Detail Form*, as user-defined attributes.

To add new user-defined fields (custom fields) for **String** Data Type, click **Add** to open the **User Defined Attribute** window and enter values in the following required fields:

Name

The **Name** drop-down list contains values from “User Defined String Field 1" to "User Defined String Field 15.” If a name has already been selected, then the name is not listed in the Name drop-down list. For example, if the "Department" field has been added as a “User Defined String Field 1," then the Name drop-down list does not display “User Defined String Field 1." If a previously added field has been deleted, then that Name is displayed in the Name drop-down list.

Data Source

The **Data Source** drop-down list contains a list of Data Elements from the *Level Detail Form*.

If you select the Data Type as **String**, the Data Elements in the Data Source drop-down list are:

- Strings and Integer Pull Downs
- Integer and String Radio Buttons
- Check Boxes
- Test Data Elements

There are no Pickers listed/available. The Data Source field displays a series of interconnected Data Element names and Data Element labels in the following format: DE Label(DE name). For example, `Project Type(prjt_type)`. If a previously added Data Element is deleted from the Deployed design, then the Data Element name is displayed, only.

Label

The **Label** field is populated based on the Data Element that you select in the Data Source. You can modify the value of this field with non-ISO characters (UTF-8), in order to support internationalization, only. The maximum allowed length is similar to Data Element label. The system does not perform a label uniqueness verification.

Adding new user-defined fields (custom fields) for Data Type: Date

If you select the Data Type as **Date**, then up to 10 "Date" Data Elements can be added from the *Level Detail Form*, as user-defined attributes.

To add new user-defined fields (custom fields) for **Date** Data Type, click **Add** to open the **User Defined Attribute** window and enter values in the following required fields:

Name

The **Name** drop-down list contains values from “User Defined Date Field 1" to "User Defined Date Field 10.” If a name has already been selected, then the name is not listed in the Name drop-down list. For example, if the "Project Commission Date" field has been added as a “User Defined Date Field 1," then the Name drop-down list does not display “User Defined Date Field 1." If a previously added field has been deleted, then that Name is displayed in the Name drop-down list.

Data Source

The **Data Source** drop-down list contains a list of Data Elements from the *Level Detail Form*.

If you select the Data Type as **Date**, the Data Elements in the Data Source drop-down list are:

- Date
- Date only Picker

The Data Source field displays a series of interconnected Data Element names and Data Element labels in the following format: DE Label(DE name). For example, `Project Archive Date(prjt_arc_date)`. If a previously added Data Element is deleted from the Deployed design, then the Data Element name is displayed, only.

Label

The **Label** field is populated based on the Data Element that you select in the Data Source. You can modify the value of this field with non-ISO characters (UTF-8), in order to support internationalization, only. The system does not perform a label uniqueness verification.

Adding new user-defined fields (custom fields) for Data Type: Numeric

If you select the Data Type as **Numeric**, then up to 30 numeric data elements can be added from the Space Detail Form, as user-defined attributes.

To add new user-defined fields (custom fields) for **Numeric** Data Type, click **Add** to open the **User Defined Attribute** window and enter values in the following required fields:

Name

The **Name** drop-down list contains values from “User Defined Date Field 1" to "User Defined Date Field 30.” If a name has already been selected, then the name is not listed in the Name drop-down list. For example, if the "# of Spaces" field has been added as a “User Defined Date Field 1," then the Name drop-down list does not display “User Defined Date Field 1." If a previously added field has been deleted, then that Name is displayed in the Name drop-down list.

Data Source

If you select the Data Type as **Numeric**, the Data Elements in the Data Source drop-down list are the Data Elements found on the Level Detail Forms and are:

- Integer
- Currency
- Decimal Amount

There a no Integer Pull Downs, Integer Radio Buttons, and Integer Check Boxes. The Data Source field displays a series of interconnected Data Element names and Data Element labels in the following format: DE Label(DE name). For example, `Contract Amount(con_amt)`. If a previously added Data Element is deleted from the Deployed design, then the Data Element name is displayed, only.

Label

The **Label** field is populated based on the Data Element that you select in the Data Source. You can modify the value of this field with non-ISO characters (UTF-8), in order to support internationalization, only. The maximum allowed length is similar to Data Element label. The system does not perform a label uniqueness verification.

Analytics Log (Vendors)

You can set up Dashboards and Analyses, for Unifier Vendors data, in Oracle Business Intelligence Enterprise (OBIE) analyses.

When you open a Vendors record in the Analytics node, you will see the Analytics - Vendors Setup window that contains the following tabs, after you add a Vendor record and click Apply:

- Vendors tab
- Data Mapping tab

Vendors tab

> **Note**: You need to first select the Business Processes that you want to set as Vendor Business Processes for use in Analytics.

In the Vendors tab, click **Add** to open the Select a Business Process as Vendor for Analytics window. The list of Business Processes in this window is in alphabetic order.

> **Note**: Only one Business Process can be marked as Vendor, so the Add option is disabled after your selection.

Select a Business Process (Company and Shell level - Active and Inactive), then click **OK**. You can select one Business Process, only.

You can remove a Vendor Business Process by selecting the item and clicking Remove.

Use the Vendors tab to select the Vendors names that you want to use in Analytics. Once selected, you can use Add to add the name or Remove to remove a Vendors.

You can remove a Vendor Business Process that is published for Analytics. To remove an item for use in Analytics, select the item from the list in the Select a Business Process as Vendor for Analytics window and click **Remove**. You can add a removed item for Analytics reporting. Click **Add** if you want to add a removed item to the list.

If the Company Administrator inactivates a Business Process marked as Vendor, and if the item is used for Analytics, then this Vendor Business Process remains in the Vendors tab.

If a Vendor is removed from the Vendors tab, data that exists in Analytics (for the removed Vendor Business Process) remains as is; however, the new data will not be published.

Data Mapping tab

The Data Mapping tab allows you to map the predefined Analytic Vendor related fields to a corresponding Unifier Data Element (DE) in the Business Process. As mentioned earlier, this tab is available after you have added a Business Process in the Vendors tab and clicked Apply or OK.

In the Data Mapping tab, the following columns, or fields, are present:

- Name
- Source
- Data Source

Name

Pre-populated and represents the fields used in OBI. These are read-only fields and you cannot modify them.

Source

Displays the location of the Data Element (DE) seen in the Data Source. The DEs for Vendor mapping are the Upper form DEs.

Data Source

Allows you to select from a list of all Upper form DEs, for the selected Vendor Business Process in the Vendors tab. The list is filtered based on the Data Definition (DD) match. You can change the mapping of the fields.

The following is a list of fields that need mapping for Vendors:

- Vendor ID
- Name
- Type

The fields displayed in the Data Source drop-down list is a concatenation of DE Label and DE Name, and the DE Name is displayed within parenthesis. For example, `Department(contract_department)`

Rules for Data Mapping

- If the Analytic field is of a String type, then all pull-downs (Integer and String), Radio Boxes (Integer and String), check boxes, and text DEs are displayed. No pickers will be seen.
- If the Analytic field is of a Pull-down type, then the list of DEs displayed in the Data Source drop-down list are filtered and only the DEs of Pull-down type are displayed. This list includes both Integer and String Pull-downs.
- If the Analytic field is of a Numeric type, then the list of values displayed is a consolidated list of all numeric data elements, which include DEs of type Integer Amount, Currency Amount, and Decimal Amount. No integer pull-downs or Radio boxes will be seen.

Scheduling Setup

Unifier sends data from all Shells, regardless of the Shell status. If you need to filter the data, based on the Shell status, you (the Administrator responsible for setting up the Analytics Schedule) must set up filter condition on the data and set up a schedule to send the data to OBI.

You can set up Scheduling by clicking the Schedule (on the log toolbar). The Schedule Setup window allows you to set the following:

- **Frequency**
- **Filters**

> **Note**: If you change the filter setup, the change only applies to the subsequent runs. Since the scheduled runs sends incremental data (Data that has changed between runs) only, the filter change is applicable to the sent incremental data.

The default option is: Include data from all Shells.

If you select to set up a filter to include data from Shells with a particular status (Include data from Shells with Statuses), the system provides the following Shell statuses:

- Active
- On-Hold
- View Only
- Inactive

You can exclude data, also. Include the Shell that you want its data to be excluded (Exclude data from selected Shells) to prevent the data in that Shell to be sent to OBI.

- **Data Refresh**

  Select this option if you want the system to apply your filtering to the existing data in OBI.

- **Additional Information**

  Use this option to determine who must receive the error notifications. Notifications are emails that contain failure of data exchange between Unifier and Analytics server. The Administrator can set up Users and Groups to receive these notifications.

Unifier sends data to Analytics periodically. To accommodate your business needs, the following additional granularity, for sending the data, is available.

A user can send Unifier data to OBIE every 4, 6, 8, or 12 hours so that the dashboards and reports in Analytics get the latest data. You can set up Scheduling by clicking the **Schedule** (on the log toolbar). The **Schedule Setup** window allows you to set the **Frequency**. Furthermore, you can update the **Publish at** values according to the frequency.

In addition, since the Company-level data that is seen in Analytics is determined by permissions (see Granting Permissions for Analytics), user permissions impact the data that is being available to the users. An administrator can set permissions in terms of who can view the *Company-level* information from the respective level Business Processes that are enabled for Analytics.

The **Run Now** option (toolbar), in the Analytics setup page, enables the admin to run the data publish at-will, for Analytics.

Upon selecting the **Run Now** option, Unifier displays the following message: "This action will only publish the Unifier data for Analytics and will not update the data seen in Dashboards and Analyses. You must run Analytics ETL to update them. Do you want to proceed?"

This option is available for the users only if the **Modify** permission has been granted.

When Unifier is already running a job of data publish based on the schedule setup, an alert is displayed to inform the user that the job for data publish is already in progress: "Unifier data is already being published based on the schedule. You must wait for this to be complete before performing this action."

Access Control Changes for Analytics Node in User Mode Access

Use this access control to:

- Give permission to view or visit analytics or OBIEE at the company or shell levels
- Provide data level access for analytics or OBIEE dashboards

User Mode Access > Company Workspace

The root node "Non-navigational Nodes" (under Company Workspace section of the Access Control), contains the Analytics node, and the administrator can assign permissions to the root node "Non-navigational Nodes." The View option is the only permission option available for Analytics node.

When users have view permissions at Company Workspace level, the users can see the executive dashboard tab and the “Analytics” link, after opening the tab.

User Mode Access > Shells/Projects (Standard)

The Analytics node is available under the "Non-navigational Nodes." The administrator can assign permissions to both users and groups.

Analytics Subject Areas and Unifier Data

Analytics subject areas use the following Unifier data:

- Generic cost sheet
- P6 Summary Sheets
- Shells
- Space Manager
- Vendors
- Business Process

  Analytics uses this subject area to analyze cost and non-cost line items in business processes.
- Business Process History

  Analytics uses this subject area to analyze weekly historical business process facts to better understand changes over time. Note that dimensional business process history is not supported.
- Cash Flow

  Analytics uses this subject area to analyze CBS-level cash flows. You can map columns to predefined company-level cash flow curves. Five generic columns are included to support custom labels from Primavera Unifier. Any Cash Flow families will be designated in Primavera Unifier (based on Cash Flow 'Name' value).
- Cash Flow History

  Analytics uses this subject area to analyze weekly historical cash flow facts to better understand changes over time. Note that dimensional cash flow history is not supported.
- Cost Sheet

  Analytics uses this subject area to analyze cost sheets. You can map your data source to a predefined list of cost sheet columns. Ten generic columns are included to support custom labels from Primavera Unifier.
- Cost Sheet History

  Analytics uses this subject area to analyze weekly historical cost sheet facts to better understand changes over time.

> **Note**: Dimensional cost sheet history is not supported.

Granting Permissions to Setup Analytics

To initially setup the Analytics node within Unifier, permissions must be enabled in the Administration mode and User mode

To grant permission for Analytics (Administration Mode Access)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.

2) Click **Access Control** in the left Navigator.
3) On the right pane, select **Administration Mode Access** > **Analytics**. The **Permission Settings for: Analytics** window opens. Here you can add, modify, or remove permission settings.
4) Click **Add** to open a new **Permission Settings for: Analytics** window.
5) Click **Add Users/Groups**. The **Users/Group Picker** window opens.
6) Select the intended users and/or groups and click **Add**.
7) Click **OK** to return to the Permission Settings window.
8) Select the users or groups in Select Users/Groups, located in the upper portion of the window, and select the appropriate level of access for the user or group in Permissions Settings, located in the lower portion of the window.

   View: This option allows users and groups to open and view the contents in **Analytics** node. Users with View permission cannot make any changes.

   Modify: This option allows users and groups to configure and modify the data required for Analytics. This setting includes View permission. Users are also able to set schedule for publishing data, for various areas in Unifier, to the Oracle Business Intelligence (OBI) server.
9) Click **OK**.
10) Click **Apply** to save changes and keep the window open, or click **OK** to save changes and close the window.

To grant permission for Unifier data in Analytics (User Mode Access)

1) Go to the **Company Workspace** tab and switch to **Admin** mode.
2) Click **User Mode Access** to expand.
3) Click **Company Workspace** to expand.
4) Click **Non-navigational Nodes** to expand.
5) Click **Analytics** to open the **Permission Settings for: Analytics** window.
6) Click **Add** to open a new **Permission Settings for: Analytics** window.
7) Click **Add Users/Groups**. The **Users/Group Picker** window opens.
8) Select the intended users and/or groups and click **Add**.
9) Click **OK** to return to the Permission Settings window.
10) Select the users or groups in Select Users/Groups, located in the upper portion of the window, and select the appropriate level of access for the user or group in Permissions Settings, located in the lower portion of the window.

    View All Records: This option allows users and groups to open and view Company level Business process data and all the available project level data in Analytics . Users with **View All Records** permission cannot make any changes.

    View All Company Records: This option allows users and groups to open and view only the *Company-level* information from the respective level Business Processes that are enabled for Analytics. Users with **View All Company Records** permission cannot make any changes.

    View All Shell Records: This option allows users and groups to open and view all the available/mapped shell level data in Analytics, like Cost, Cashflow etc. Users with **View All Shell Records** permission cannot make any changes.

Note: For existing users, the first checkbox option (View All Records) is automatically selected, after upgrade.

Analytics and Dashboards

Each of the following dashboards has filter selections, or prompts, to help you narrow the results in the sections by the date, project, location, and so on. You can access the Analytics node in **Company Workspace** > **Administration** mode > **Analytics**.

- Business Process

  The Business Processes dashboard enables you to view business process data, including business process overview analyses, business process data by geographic location, and business process history analyses.
- Cash Flow

  The Cash Flow dashboard enables you to view cash flow data, including comparisons of actuals vs. forecast and forecast vs. baseline, cash flow data by geographic location, and cash flow history analyses.
- Cost Sheet

  The Cost Sheet dashboard enables you to view cost data, including a comparison of original and revised budget details, and cost history analyses.

Accessing the Unifier Analytics Dashboard in OBI

Users can access the Unifier Analytics dashboard designed in Oracle Business Intelligence (OBI) platform by using the link provided in Unifier.

With Single Sign On (SSO)

When accessing the Unifier Analytics dashboard *with Single Sign On (SSO) enabled*, you navigate from Unifier to the OBI, directly.

If a user goes to the OBI landing page, the accessibility of the landing page, dashboards, analyses, and so forth are controlled by the settings for the user that is logged in OBI.

If a Shell analytics user cannot go to the corresponding dashboard, the system will take the user to the default landing page set in OBI.

Without Single Sign On (SSO)

To access the Unifier Analytics dashboard *without Single Sign On (SSO) enabled*, you need to login to the OBI server.

Accessing Unifier from OBI server

You can access Unifier from OBI server by way of Action Links. Action Links are a way of providing easy and seamless navigation from an Analysis to other local content (such as other Analyses or Dashboards) or external content (such as websites). The Action Links in Analytics allows you to view the data in Unifier.

Action Links (from OBI to Unifier)

The following is a list of available Action Links:

- Link to BP Log
- Link to BP Record
- Link to Cash Flow log
- Link to Cost Sheet log
- Link to Shell landing page
- Link to P6 Summary Sheet log
- Link to Spaces log (Space Manager)
- Link to Level log (Space Manager)

With Single Sign On (SSO)

When accessing from OBI server *with Single Sign On (SSO) enabled*, you must have appropriate permission to access a particular page, and pertinent navigation, in Unifier. For example, if you want to access a Cost Sheet using the Cost Sheet Action Link, you must have permission to access that particular Cost Sheet, for the selected project (Project Cost Sheet).

If you do not have permission to a Unifier page that is linked to an Action Link, then the system will take you to the default landing page.

Without Single Sign On (SSO)

To access the Unifier Analytics dashboard *without Single Sign On (SSO) enabled*, when using an Action Link, you need to login to the OBI server and enter your credentials.

If a Unifier session is already in progress and you click an Action Link, the system will take you to the Unifier page, directly.

Users must have appropriate permission to access a particular page, and pertinent navigation, in Unifier. For example, if you want to access a Cost Sheet using the Cost Sheet Action Link, you must have permission to access that particular Cost Sheet, for the selected project (Project Cost Sheet).

If you do not have permission to a Unifier page that is linked to an Action Link, then the system will take you to the default landing page.

About Link to BP Record

With Single Sign On (SSO) enabled, if you click the Link to BP Record (Action Link), you can launch Unifier application and open the Business Process Record, provided that you have the appropriate permissions to the Business Process record. If you do not have the required permissions to the Business Process record, then the system will take you to the Business Process Log.

Without Single Sign On (SSO) enabled, if you click the Link to BP Record (Action Link), the system displays the Sign In page or Unifier landing page (depending on whether the session is expired or not). If you click the Link to BP Record (Action Link), you can launch Unifier application and open the Business Process Record, provided that you have the appropriate permissions to the Business Process record. If you do not have the required permissions to the Business Process record, then the system will take you to the Business Process Log.

Accessing Analytics from Unifier

You can access Analytics from the following places in Unifier:

Company level Dashboards

The company level access is typically provided to executive level users who want to view the Analytics dashboards at a Company level. These users will be able to access data from all Shells.

Dashboards

You can access the executive Analytics Dashboards by clicking the Analytic Dashboards icon. This icon will be in place of the existing Custom Dashboard tab. Clicking the Analytic Dashboards icon, on the top left-hand corner of the screen, allows you to open the Analytic Dashboards in OBIE.

The Analytic Dashboards icon can be seen by users who have access to Company level Analytics (Company Workspace > Non Navigational Nodes: View access).

When a user has access to both Custom dashboards (Small Web Format (SWF) Dashboard) and Analytics, the existing Custom Dashboards tab remains as is; however, an additional button called “Analytics Dashboards…” will be seen in the Dashboards page.

When a user has access to Custom SWF Dashboards, only, there are no changes to the existing User Interface (UI).

When a user has no access to the Custom SWF Dashboards or Analytics, the Analytic Dashboards icon will be hidden.

Shell-level Dashboards

The Shell members can configure Custom Shell dashboards.

In the Source Details section of the Edit Dashboard window, the Analytics option for the Block Type supports Analytics for Shell details.

Any user with the Edit Dashboard permissions can add the Analytics option for the Block Type.

Publishing Unifier Data to Analytics

You must send Unifier data to Analytics periodically on an incremental basis. To send data to analytics ,you will need to:

1) Publish Unifier data to staging tables
2) Run ETL Using the Primavera Analytics Administration Web Application to send data to the STAR schema of Primavera Data Warehouse

   For more details on how to use the Primavera Analytics Administration Web Application, see *Primavera Analytics Cloud Service Administration Guide*.

You can set the frequency of sending data to Analytics to Oracle Business Intelligence (OBI), by using the **Schedule** option in the toolbar.

> **Note**: If you need location-specific details for Spatial Data in Analytics, ensure that the values for Country and State Data Elements (DEs) are according to the ISO standards. These values can be pulldowns or plain text fields.

Schedule Setup

The frequency for the data publication can be Daily, Weekly or None. The default value is **Daily**.

You can set the frequency to **Daily**, **Weekly**, or **None**.

The default frequency is **Daily**.

If you select **Weekly**, the system sets the day to Sunday. You can change the day.

If you select **None**, there will be no periodic publication of Unifier data to Analytics.

You can set the time for the publication of data.

You must set the time format to 24-hour notation in the form hh:mm, for the publication of data. The **Hour** drop-down lists hours from 0 to 23 for hour and 0 to 59 for minute. The default option for time is set to 00:00. The system displays the server time zone after the minute.

You must select the checkbox for the **Data Refresh** option if you made changes to the DD value or labels. By default, the checkbox is unchecked.

You must select the checkbox for the **Data Refresh** option if you made changes to the data mapping fields. After the run is complete, the system resets the checkbox for the **Data Refresh** option and the checkbox will be unchecked.

Mapping Linked Elements

The linked elements can be mapped to Analytics fields. The values of linked elements from the source are rendered at run-time in the destination record. However, if there are any changes to the value of the linked elements in the source record, then you need to conduct a full refresh of data in order for Analytics to display these values. As a result, you must select **Refresh All data** for this purpose.

Run History

The **Run History** option allows you to see the status of the scheduled runs of the Unifier data publication to the Analytics server. When you select the **Run History** option, by clicking **Run History** on the toolbar, the Run History window opens and displays the following information:

- **Requestor**: Is always "System"
- **Submit Date**: The date entered by user
- **Start Data**: The date entered by user
- **End Date**: The date entered by user
- **Status**: The run status

You can view the Run History details by opening a record in the Run History log.

The history details window includes the Start Date, End Date, and a message.

- Success message: *Data was sent to Analytics, successfully*.

- Failure message: For example, *An error occurred and data was not published to Analytics successfully. Contact System Administrator.* The system then displays the actual error after the generic failure message.

Unifier Configurator and OBI Server for On-Premises

The Unifier Configurator has an additional option for users to enter the URL to the OBI server. Refer to the *Unifier Installation Guide (WebLogic)* for details.

Analytics Block

The following provides detailed information about the Analytics Block window:

- Block Title: This field contains the title of the Analytics Block.
- Name: This field contains the name (as a hyperlink) of the Analytics Block.
- URL: This field contains the URL, entered by the user, and it must match the URL specified in the Configurator.

> **Note**: The URL protocol, server path, and port must all match; otherwise, the validation fails.

Example

If the URL is: `http://slc44.us.oracle.com:7001/analytics`, then the Analytics URL must be: `http://slc44.us.oracle.com:7001/analytics`.

> **Note**: The system does not validate the other URL parameters, for example, the Dashboard name.

When you post the Analytics Block, it appears in the Source Details log and provides the following information:

- Block Title: Title entered by the user.
- Source Name: Same as the name entered in the Name field.
- Block Type: Analytics
- Result Type: Blank
- Display Type: Blank

The Analytics Block is also displayed in the Shell landing page. In the Unifier Analytics pane, you can click Analytics Dashboards to go to the shell dashboard in the Analytics server.

If a user does not have permissions to access the Shell dashboards defined in OBIEE server, then the link is disabled and displays as plain text.

You can add Analytics block to “My Dashboards”. However, the link connecting Unifier to the Analytics server, from this "My Dashboards" is completely driven by the Access Control > Mode Access > Shells/Projects (Standard) > Non-Navigation Nodes > Analytics.

Analytics Block and Shell Templates

The Analytics Block that is defined in the Shell dashboard of the Shell templates can be pushed to Shell instances.

Unifier and Primavera P6

Unifier receives the integrated data, from P6, and uses the data for the following **Cost** modules:

- Cost Sheet
- Cash Flow
- Earned Value (EV)

As a part of integration, you can capture the "summarized" P6 data within the Cost modules and view the information in a columnar and comparative format, for example, Cost Sheet columns, Cash Flow Curves, and Earned Value Curves). In addition, the Reporting functionality within Unifier enables you to create "User-Defined" or "Custom" reports using the "summarized" P6 data.

Prerequisites for a Successful Integration

- Use CBS type Shells to use Unifier cost modules with data integrated from P6.
- Use the system Data Element `uuu_int_schedule_type` within the Integration -> Detail section of Shell attribute form definition.
- Create and Publish P6 Data Sources to pull P6 data into Cost Sheet.
- Create Shell instances corresponding to each P6 Schedule that needs to be integrated with Unifier by following these instructions:
  - Each Shell instance must have the same ‘Shell Number’ as the corresponding P6 Project ID.
  - To bring the P6 internal Project id to Unifier, you need to add the P6 Internal Project ID field (`uuu_int_internal_proj_id`) to the Attribute form and the Integration Detail form (Company Workspace > Admin mode > uDesigner > Shell Manager > Integration > Detail)
  - Create or use separate Shell Templates for Duration Based and Resource or Cost Loaded integrated Shells in Unifier because the Cost Sheet for Duration Based schedules will not contain columns rolling up from P6 Summary Sheets (when the other two types of schedules will have columns rolling up from P6 Summary Sheets)
- Include the following in the Role attribute form, if the integration will be Resource or Cost Loaded:
  - `uuu_role_imported_from_p6`
  - `uuu_role_type, uuu_role_id`
  - `uuu_role_uom`
- For correct cost calculations in Resource Loaded schedules, update all imported roles with Rate values.
- If you create Unifier Roles via integration, include the Roles above the Data Elements (DEs) in the integration detail section in uDesigner Role attribute design.
- For Resource Loaded or Cost Loaded schedules:
  - (Recommended) Do not change or update the ID of Roles created via integration manually because when you create Roles via integration the Role ID is used as the identifier by means of which the integration interface maps the P6 Resource to Unifier Role.

- If you want to integrate the CBS codes with P6, do the following:
  - Include `uuu_cost_imported_from_p6` and `uuu_int_hidden_from_p6` in the CBS attribute form
  - Define the default CBS segment values within Data Structure Setup -> Data Definitions -> Cost Codes
- If you want to create Cost Codes for a Shell using the P6 CBS structure, ensure that the Cost Sheet structure in P6 is Tree.
  - Do not include Unifier Cost Code separators (“-”, “.”,) in P6 CBS Codes if you are creating Cost Codes in Unifier using P6 data.
- When working with P6 data sources or Cost Sheet columns:
  - You can create or publish P6 data sources via integration and when the "Send Summary data" integration is used.
  - You can add published P6 data sources, as columns, in Cost Sheet Templates, only.
  - If you create P6 data sources via integration, and not manually, then you can add columns to Cost Sheet after the "Send Summary data to Unifier" is used, only.
  - If you create P6 data sources manually, and not via integration, then create or publish P6 data sources by:
    - Creating or publishing one P6 Data Source called "Current Schedule." This datasource is used by the system to define the "Type" of all Master Summary sheets (Summary sheets which contain summary data from the main P6 project which is integrated with Unifier).
    - Creating or publishing all "Baseline Type" values defined within P6 Enterprise Data as P6 Data Sources in Unifier.
    - Once you created or published the P6 data sources, you can use the P6 data sources to create columns in the Cost Sheet Template and push the information to the Shell instances.

In This Section

P6 Data Sources node

The **P6 Data Sources** node is located under the **Standards &Libraries** node. The **P6 Data Sources** node enables you to access the following information, based on your permissions:

- Data source

  Captured from P6 Summary Sheets, for use in Cost Sheets or Cost Sheets Templates.

  Examples of P6 Data Sources: Current Schedule Summary, Original Baseline Summary, Sanctioned Baseline Summary
- Dataset for the attribute "Type" for P6 Summary Sheets

> **Note**: Unifier allow a maximum of 12 P6 Data Sources to be integrated, with "`Current Schedule`" as one of the 12 P6 Data Sources must be named.

P6 Data Sources Permissions

The P6 Data Sources node appears under the Standards &Libraries node, when in Administration mode. The following permissions are available for the P6 Data Sources:

- Create

  User with Create permission have full access to the P6 Data Sources node and is allowed to create new data sources, modify existing data sources, and delete and view all data sources.

  If a user has "Create" permission, the remaining two permissions is enabled automatically.
- Delete/Modify

  User with Delete/Modify permission will not be able to Create new data sources.

  If a user has "Delete/Modify" permission, the "View" permission is enabled automatically.
- View

  User having View Permission will not be able to Create, Modify or Delete, but will only be able to View the different data sources.

P6 Data Sources Log Window (Main menu)

File

New: To create a new Data Source

Copy: To copy a Data Source

Open: To open a Data Source

> **Note**: Data Sources must have unique names.

Edit

Delete: To delete a P6 Data Source

If the P6 Data Source has been published already, you cannot delete.

Properties: To edit the Data Source properties

> **Note**: You cannot edit the name of a Data Source.

View

To find a Data Source.

Help

To access online hep and documents.

P6 Data Sources Log Window (Toolbar menu)

New

To define a new P6 Data Source, using the New window.

Open

To open a defined P6 Data Source.

Delete

To delete an existing Data Source, one record at a time.

Publish

To make the P6 Data Source available to be added as Cost Sheet columns. You can select and Publish more than one Data Source at a time.

> **Note**: Once a Data source is published, it appears as a "single" Data Sources within a Cost Sheet or Cost Sheet Template that have the option of "Enable P6 Sources" selected in the properties. Unpublished Data Sources are not be available as Cost Sheet "Single" Data Sources.

Find

To find a Data Source

P6 Data Sources Properties Window

- **Name**

  Text (maximum 120 characters). This content of this field is from P6 and maps to the P6 Project Name.
- **Description**

  Editable field allowing you to enter a description (maximum 500 characters).

P6 Activity Data

If you are using both Unifier and P6, you can link the two applications using Primavera Gateway and send data from a P6 Schedule to Unifier Projects. You can "pick" activities and Auto-populate (AP) or Reverse Auto-populate (RAP) from the corresponding P6 project.

Corresponding P6 Project

The term “Corresponding P6 project” refers to that P6 project which has the:

- Same ID as Unifier Project

  or
- Same ID as captured in a system element in Unifier project attributes

Maintaining Projects (Unifier and P6)

Maintain projects between the two applications by ensuring that the:

- ID of the projects match in both applications

  or
- System Data Element (DE) (`uuu_int_p6_project_id`) is present on the Shell Attribute form, and the value is the same as the corresponding P6 project ID.

If only when one of the conditions above is met that the Gateway - Unifier Provider can determine which P6 project corresponds to which Unifier project.

> **Note**: Integration with P6 application applies to Unifier CBS type Shell only. The integration does not apply to the Unifier Project (Standard).

P6 Activity Picker Query Configuration

You can query the P6 Activity Picker elements by using the fields associated with the P6 Activity Attribute form.

To define query conditions for P6 Activity Picker elements, from the same place as Data Picker query conditions in Unifier, switch to the **Admin** mode > **uDesigner** > **Business Processes** > **Open** > **Data picker**.

In the **Query Condition** window, you can add query conditions under the **Add Query Condition** section:

- **Data Element**

  A drop-down list that contains all the elements (pre-defined or custom) from the P6 Activity Attribute form. Yo can use the Data Element to create any query to filter out P6 Schedule activities from the P6 Activity Picker.
- **Condition**

  To set conditions for the query.

P6 Data and Cash Flow Templates

You can use a Cash Flow Shell template (Shell instances and Shell templates) to select the Summary Sheets by selecting the associated P6 data sources. As a result, when you use a Cash Flow Shell template to push the Cash Flow settings, the system updates the Shell instance with the Cash Flow settings of the template.

> **Note**: The following applies to both Distribution, Cost, and Schedule sections.

At runtime, the system uses the data from Summary Sheets, associated with the P6 data source, to render the Cash Flow curves.

Distribution and Schedule

Admin mode > **Templates** > **Shells** > **Building** > **Template** > **Cost Manager** > **Cash Flow**

In the Distribution or Schedule sections of the Cash Flow templates (with Detail level CBS), click **Select** from the Use data from P6 Sources option to open the Select Data sources window. This window displays all the data sources listed in the Standards & Libraries.

> **Note**: The Data Type option (under the P6 Source selection option) is a required field, if you select Use data from P6 Sources option. Use the drop-down list in the Data Type field to see a list of all the data types available for the selected P6 data source.

Since the Schedule type will be blank, the Cash Flow template displays all the options available regardless of the Schedule type.

The P6 sources in Distribution, Cost (only for Actuals), and Schedule sections are always enabled in the Cash Flow templates.

The P6 Sources window (source selection) lists all the Published data sources, in alphabetical order. You can click on a source name to select that source. To find a source, go to Find, click the drop-down list, and follow the prompts. Depending on the type of the Cash Flow curve, this option is available only if you select the Distribution/Schedule/cost option as Use data/dates from P6 Sources.

The Data type options for the Baseline curves are:

- At Completion
- Planned

The Data type options for the Forecast curves are:

- At Completion
- Remaining

You can copy the Cash Flow curve properties that exist in a Shell template to the Cash Flow curves that exist in instances if:

- The Shell template push is done
- The Shell template is used to create new instances

Unifier and Primavera Gateway

Gateway allows data to be moved between two applications (at least one of them is a Primavera application) on schedule or on demand. It is a single integration hub where all the data integration happens with Primavera applications.

For a Unifier object to exchange data with an object in another application via Gateway, the object must be pre-defined within:

- Unifier Provider
- Gateway
- Oracle application/external application Provider

Additionally, objects within each Provider must have a hard-coded (Java code) link to the corresponding object (with which it exchanges data) in Gateway.

Example

To expose Unifier Project object for integration with another application via Gateway, there must be:

- Project object defined in Unifier Provider
- Project object defined in Gateway
- Project object defined in Unifier Provider must be hard-coded (Java code) to link to Gateway Project object

Correspondingly, to exchange data with Unifier Project object, the Oracle application/external application Provider must have a Project object within it and that object must be hard coded (via java coding) to link to Gateway Project object.

Unifier Objects and Gateway

Unifier sends data to the Oracle application through Gateway. The following Unifier objects can be integrated with Oracle applications via Gateway:

- **Projects/Shells**

  You can create and update Projects in Unifier using project data from an external application via Gateway. The exchange of information is bi-directional, from the Oracle application to Unifier and from Unifier to the Oracle application.

  > **Note**: Integration with an Oracle application/external application does not apply to the **Unifier Project (Standard)**.

- **Business Processes**

You can create and update Business Process records using data from external applications sent to Unifier via Gateway. The exchange of information is bi-directional, from the Oracle application to Unifier and from Unifier to the Oracle application.

- **Roles**

  You can create and update Unifier Roles using data sent over from Gateway. The exchange of information is bi-directional, from Oracle application to Unifier and from Unifier to the Oracle application.

- **CBS Codes**

  You can create CBS codes, within a Cost Sheet, using data sent over from Gateway. The exchange of information is one-directional, from the Oracle application to Unifier.

  > **Note**: Integration with P6 application applies to Unifier CBS Shell-type only.

Document exchange support through Gateway

Unifier supports exchanging documents attached to BP records, or Line Items, through Gateway. In particular, through integration between Unifier and Gateway, Gateway performs as an intermediary and supports:

Attaching documents to the respective BP records, or Line Items, while importing the documents into Unifier.

Exporting documents (attached to BP records, or Line Items,) out of Unifier and to any Oracle application which is receiving the BP records, or Line Items.

> **Notes**:
>
> - The Oracle application must support receiving and exporting documents.
> - Once the documents are sent across to the Oracle application, the system deletes the documents from Gateway.

Gateway Objects and Unifier Provider Objects

Business Processes

When you deploy a BP design to Gateway, the system maps to the BP design, in Gateway, in two ways:

- Mapping to the existing, predefined, objects in Gateway.
- Mapping to a newly created object in Gateway, under Unifier Provider.

Mapping to a newly created object in Gateway requires that you:

- Use the dynamic object mapping, in Gateway, to map the newly created objects from Unifier Provider to an existing object in Gateway.
- or
- Create a new object in Gateway and map the Unifier Provider object to newly created object in Gateway.

The new objects created in Unifier Provider contain the following default information:

- Object name.
- Description that is added in the Unifier.
- Fields (including respective properties) associated with the design

Before you can use the object, you must configure the remaining information for the newly created object:

- Data related to Flow Type
- Cross-reference to the Gateway object

Once you complete mapping the object in Gateway, you can use the object for creating business flows in Gateway and use the data.

Configuring Unifier Objects on Gateway

By default, the mapping of data involves the following applications in order:

1) Unifier
2) Unifier Provider on Gateway
3) Gateway Provider on Gateway

Mapping to a newly created object in Gateway requires that you match the information of that object in Gateway to the information of the object that you deployed from Unifier. In Gateway, once you find and select an object that you can use (i.e., an object that has matching information), you can proceed by cross-referencing the object in Unifier to the selected object in Gateway.

Default Gateway Objects

The following table lists the object names that are available for mapping in Gateway, by default, and provides a description:

Item	Object Name	Description
1	`BlanketPurchaseOrder`	A company level purchase order, which enables agreements with vendors to provide services across multiple projects, released on a per-project/per-period basis with work authorizations against a previously determined maximum.
2	`BlanketPurchaseOrderDetail`	Line Items for Blanket Purchase Orders
3	`Contract`	Base Commit for EPC Activities (SOV = Payment Application)
4	`Contract Detail`	Line Items for Contracts
5	`Purchase Order`	To track money committed to be spent (General Spends type Base Commit)
6	`Purchase OrderDetail`	Line Items for Purchase Orders
7	`WorkRelease`	Process that is connected to Blanket Purchase Order Business Process that is deployed at company level. This process can be used to write against the blanket purchase order

Item	Object Name	Description
8	WorkReleaseDetail	Line Items for Work Releases
9	ChangeOrder	A formal commit change to the contract.
10	ChangeOrderDetail	Line Items for Change Orders
11	POAmendment	Approval process for purchase order changes.
12	POAmendmentDetail	Line Items for PO Amendments
13	Invoice	A general process for requesting and approving payments against commitments (invoice at the CBS or breakdown level, do not calculate retainage or stored materials)
14	InvoiceDetail	Line Items for Invoices
15	PaymentApplication	A process to track your payment information using a standard payment application method (for example, tracking retainage, stored materials, past payments, etc.)
16	PaymentApplicationDetail	Line Items for Payment Applications
17	Estimate	Used to create multiple project estimates and identify the preferred scenario.
18	EstimateDetail	Line Items for Estimates
19	BudgetApproval	Used to approve project budget
20	BudgetApprovalDetail	Line Items for Budget Approval
21	BudgetChange	For requesting additional (or reduced) budget beyond the existing budget.

Item	Object Name	Description
22	BudgetChangeDetail	Line Items for Budget Changes
23	BudgetTransfer	For transferring budget from one CBS code to another. Most typically used to release budget contingency to other cost items.
24	BudgetTransferDetail	Line Items for Budget Transfers
25	PotentialChangeOrder	Contractor initiated potential change order.
26	PotentialChangeOrderDetail	Line Items for Potential Change Orders
27	JournalEntry	A process for adjusting spends line items. Most commonly used to reassign costs to alternate cost centers or GL codes; Generic spend to transfer across cost codes
28	JournalEntryDetail	Line Items for Journal Entries
29	Payment	BP to hold Checks Processed Information from Financial System.
30	PaymentDetail	Line Items for Payments
31	RiskAndIssue	A log for documenting, tracking, and estimating impacts of open issues and risks; Log of items that may impact schedule/scope/cost
32	RiskAndIssueDetail	Line Items for Risks & Issues
33	FundAppropriation	Fund accounts as assigned to projects
34	FundAppropriationDetail	Line Items for Fund Appropriations
35	ProjectInformation	Project attribute information

Item	Object Name	Description
36	VendorEvaluation	Document vendor performance for consideration for future work (Simple)
37	Vendor	Company vendor directory
38	VendorDetail	Line Items for Vendors
39	Timesheet	Used to capture Employee Timesheets (project / non-project hrs)
40	TimesheetDetail	Line Items for Timesheets
41	RequestforSubstitution	A change of identical material or equipment
42	RequestforSubstitutionDetail	Line Items for Request for Substitution
43	BudgetChangeOrder	A change to a budget that is typically created for a contractor that is based on changes to a contract between the contractor and owner.
44	BudgetChangeOrderDetail	Line Items for Budget Change Orders
45	BudgetItem	A budget that is typically created for a contractor that is based on a contract they have with an owner for a project.
46	BudgetItemDetail	Line Items for Budget Items
47	PaymentApplicationtoOwner	A payment application that is raised by a contractor to the owner in order for the contractor to receive payment.
48	PaymentApplicationtoOwnerDetail	Line Items for Payment Applications to Owner
49	PaymentFromOwner	A record of the actual payments a contractor will have received from the owner based on the payment application they presented to the owner.

Item	Object Name	Description
50	PaymentFromOwnerDetail	Line Items for Payments From Owner

User-Defined Report (UDR)

Unifier displays a project-level/company-level UDR that is enabled for integration in the log page of the Business Objects node (**Company Workspace** > **Admin** mode > **Gateway** > **Business Objects**).

You can export data, generated out of a project-level/company-level UDR that is enabled for integration, to an Oracle/external application Provider through Gateway.

To export, you can select the listed UDR and click Deploy to send the data in the UDR to Gateway and use the data for integration with an Oracle/external application Provider.

Gateway Node in Unifier

To access the **Gateway** node go to Unifier **CBS** type **Shell** > **Company Workspace** > **Admin** mode > **Gateway** > **Business Objects**

The **Gateway** node provides the following information on the **Gateway Integration** landing page:

- API URL
  - This element captures the Gateway API URL that Unifier goes to in order to establish connection with Gateway.
  - Data Definition: SYS Description Text 250
- User Name
  - This element contains the user's name who logs into Gateway URL.
  - Data Definition: SYS Long Name
- Unifier Deployment
  - Allows you to enter the name of the Unifier Deployment, which needs to be accessed to exchange data with external applications
  - Data Definition: SYS Short Description Text 250
- P6 Integration Parameters
  - P6 Activity Sheet Synchronization
  - Import Synchronization
  - Export Synchronization

To see the Integration Settings, click **Open** from the toolbar. In the Integration Settings window, you can edit fields and run test.

Integration Settings Window (Editable fields)

- API URL

- User Name
- Password
  - Contains the password required to log into the Gateway URL.
  - Data Definition: Short Description Text
- Unifier Deployment
  - Allows you to enter the name of the Unifier Deployment, which needs to be accessed to exchange data with external applications
  - Data Definition: SYS Short Description Text 250
- Import Synchronization
  - Contains the name of the Gateway Synchronization, which will be used to Import Activity data from Unifier to P6
  - Using the Gateway URL and the Unifier Deployment details captured within the "Integration" tab of "Company Properties," this field lists all the "Import" synchronizations from the URL, which are applicable to the mentioned Unifier Deployment.

    Note: For Unifier, this is an "Import" synchronization (to import data into Unifier). From P6 perspective, this is an "Export."
  - Editable Drop-down (size 250 chars)
- Export Synchronization
  - Contains the name of the Gateway Synchronization, which will be used to Export Activity data from P6 to Unifier
  - Using the Gateway URL and the Unifier Deployment details captured within the 'Integration' tab of Company Properties, this field lists all the "Export" synchronizations from the URL which are applicable to the mentioned Unifier Deployment.
  - **Note**: For Unifier, this is an "Export" synchronization (to export data from Unifier), from P6 perspective, this is an "Import."
  - Editable Drop-down (size 250 chars)

Integration Settings Window (Editable fields)

Run a test to verify that the Gateway URL and other credentials are valid. to run a test to verify that the Gateway URL and other credentials are valid use the Test Connection button. If the system is unable to establish connection, you will receive an error message. If the system is able to establish connection, you will receive a confirmation message.

Business Objects Node in Unifier

You can expand the **Gateway** node to see the **Business Objects** node (**Company Workspace** > **Admin** mode > **Gateway** > **Business Objects**). When you click the **Business Objects** node the Business Objects log window appears on the right-hand side.

The Business Objects log window in Unifier provides the following information:

- List of Unifier objects that have been deployed from uDesigner. The Unifier objects are:
  - Projects/Shells (Attribute form)
  - Business Processes

> **Note**: The following types of BPs are not supported for integration: Project/Shell Creation BP - Resource BP - RFB BP - Text BP.

  - Roles (Attribute form)
  - CBS Codes (Unifier CBS Shell-type only)
- Detailed information about each Unifier object that has been deployed:
  - Name
  - Category
  - Type
  - Last Updated
  - Last Deployed to Gateway
- A mean to deploy a Unifier Business object that is ready to Gateway
  - Deploy to Gateway

In the Business Objects log window, the columns provide detailed information about each Unifier object that has been deployed.

Column name	Description
Name	The name of the Unifier object.
Category	The category of the Unifier object: Business Processes, Shell Manager, and so forth
Type	The type of the Unifier object: Activity Sheet Attributes (from P6 and not defined in uDesigner), Resource Attributes, Roles Attributes, Cost, Simple, Shell Type, Document, Line Item, and so forth.
Last Updated	The date when the Unifier object was last updated, which is the Unifier object "Deploy" date from uDesigner.
Last Deployed to Gateway	The date when the Unifier object was last deployed to Gateway.

In the Business Objects log window, the *menu* enables you to:

- Deploy a Unifier object to Gateway
  - Edit
- Find a Unifier object by applying filters
  - View
- Review the history of a Unifier object
  - View
- Access Unifier Help, documentation library, and productivity kit

- Help

In the Business Objects log window, the *toolbar* enables you to:

- Deploy a Unifier object to Gateway
  - **Deploy to Gateway**
- Review the history of a Unifier object
  - **History**
- Find a Unifier object by applying filters
  - **Find**

Deploy to Gateway

When deployed to Gateway, the system appends the attributes of the objects in **Unifier** to the corresponding object in **Unifier Provider**. You can select multiple items and deploy the selected items to Gateway. For the selected objects, the user can create the following and synchronize the data exchange:

- Data Mapping templates
- Business Process flows

If the "Integration" form of the following is set in uDesigner, you can use this option to deploy:

- Activity Sheet Attributes (as captured in Unifier > Unifier Provider > Gateway)

  The deploy action only sends the values that you had manually entered in the Activity Attribute form to Gateway.

  The "Activity Sheet" object in Gateway contains all the pre-defined Activity Attributes fields by default.

  If you have added bitemID field in the Activity Sheet, then the P6 CBS code (P6) can then be mapped to the `bitemID` (Unifier) in the field mappings on Gateway.
- Projects/Shells (Attribute form)
- Business Processes
- Roles (Attribute form)
- CBS Codes (Unifier CBS Shell-type only)
- Project-level/Shell-level User-Defined Reports (UDRs)
- Company-level UDRs

How to exchange data through UDR with an Oracle application Provider

You can export the data generated out of a UDR through Gateway and out to an external system. UDRs that are enabled for integration (i.e., the "**Enable for Integration**" option is selected) appear in the Business Objects node log, under Gateway in Company Workspace. You can deploy these UDRs and integrate them with Oracle integrators.

> **Note**: For a UDR to be eligible for deploying to Gateway, you must select the "Enable for Integration" option.

All the UDRs, which have been enable for integration (i.e., the "Enable for Integration" option is selected), are listed in in the **Business Objects** node, and you can choose to deploy those UDRs to Gateway to configure them for Data Exchange.

The Business Objects node log displays UDR types and categories.

All Project-level/Shell-level UDRs have Project-level/Shell-level as their type and User Defined Report as their category.

All company-level UDRs have company-level as their type and User Defined Report as their category. You can search for and find a UDR Business Object by type or category.

If you deselect the "Enable for Integration" option of a UDR after it has been deployed to, and configured in (for a Business Flow), Gateway, the system generates an error when synchronizing.

If you delete a UDR that you have recently deployed to, and configured in (for a Business Flow), Gateway, the system generates an error when synchronizing.

When a Line Item Type BP is deployed to Gateway, from Unifier, the system creates two objects for that BP.

You can create different field mapping templates, according to the template requirements, and use the templates in different Business Flows to transfer the data.

If you share documents between Unifier and any Oracle application, and the Oracle application does not support document integration, the system completes the Business Flow but without transferring the documents.

History

The system logs all the deployed Unifier objects in History. The **History** option allows you to view the status of a deploy action, informing you whether the deployment was successful, or not, in addition to the following information:

- Requestor

  The name of the user who has deployed the record.
- Source

  If you select Unifier objects of same type and deploy, then the system provides all selected objects (including names of all objects which were chosen by you for deploy) in alphabetical order.

  If you select Unifier objects of multiple types and deploy, then the system provides separate history entries for each of the objects that are getting deployed to Gateway.
- Start Date

  The date when the deployment action started (Unifier started to prepare the xml file for Gateway).
- End Date

  The date when the deployment action ended.
- Status

  The status of deployment action (Finished, In Progress, Finished with Errors).

In the History window toolbar, you can:

- Open

  To open an item in the History log.

- Similar to the Open option in other "History" windows in Unifier, this action opens the "History Details" window.

- Similar to other places in Unifier, you can take this action on one selected row only.

- Find

  To allow you to search the History records. You can search on all columns (Requestor, Attribute Form, Submit Date, Start Date, End Date, Status).

- Close Window

  To close the History window.

History Details

- If you select a row in the History window and click Open, the History Details window opens. This window includes information about:
- Business Processes

  The name of the attribute form that was deployed.

- Gateway URL

  The Gateway API URL through which link to the 3rd party applications is established, as defined by the user within Unifier Company Properties > Integration tab.

- Unifier Deployment Name

  The name of the Unifier Deployment as defined within the Unifier Company Properties > Integration tab.

- Deploy action status details

  The details of the status of the deploy action, successful or not.

Find

The Find option allows you to search for records in all of the Business Objects window columns.

Configuring Permissions for Business Objects

To configure the permissions for Business Objects go to: **Company Workspace** > **Admin** mode > **Access Control**. The Access Control node includes the **Gateway** node.

To set permission for **Gateway** node:

- **Configure**

  If you check this permission, the user can update the "Integration Settings" at "Gateway Integration" landing page.

- **Get / Set Activity Sheet Data**

  If you check this permission, the user can do the following from the Shell log File menu (Unifier CBS type Shell):

  - **Get Activity Sheet Data** (from the Shell toolbar):

    - All Shells

    - Selected Shells

    - Filtered Shells

    - History

- **Send Activity Sheet Data** (from the Shell toolbar):
  - All Shells
  - Selected Shells
  - Filtered Shells
  - History

  Permission for "Get / Set Activity Sheet Data" from Shell log are configured in Unifier Admin Mode while permissions to take these action from within a Shell (User mode) are given at Unifier User mode level.

To set permission for Business Objects node:

Deploy

If you check this permission, you will enable the Deploy option, in the right-had pane of the Business Objects page.

You can grant permissions, for Business Objects, by way of the User Mode Access in Access Control node: **Company Workspace** > **Admin** mode > **Access Control** > **User Mode Access** > **Shells / Projects (Standard)** > **Schedule Manager** > **Activity Sheet**.

Note: You can move the Activity Sheet module under other nodes.

The following permissions are available for **Activity Sheet**:

- **Get Data**

  If you check this permission, the user can go in the **Activity Sheet** (**Shell** > **User** mode > **Schedule Manager** > **Activity Sheet**) and perform "Get Activity Sheet Data" or view "History."

  If you select the "Get Data" permission, the "View" permission will be selected automatically. In addition to the "Get Data" permission, the user needs the "View" permission in order to be able to have the "Get Activity Sheet Data" permission. You can grant "View" permission without granting the "Get Data" permission.
- **Send Data**

  If you check this permission, the user can go in the **Activity Sheet** (**Shell** > **User** mode > **Schedule Manager** > **Activity Sheet**) and perform "Send Data" or view "History."

  If you select the "Send Data" permission, the "View" permission will be selected automatically. In addition to the "Send Data" permission, the user needs the "View" permission in order to be able to have the "Send Activity Sheet Data" permission. You can grant "View" permission without granting the "Send Data" permission.
- **View**

  If you check this permission, the user can view **Activity Sheet** data (**Shell** > **User** mode > **Schedule Manager** > **Activity Sheet**) and perform "Open."

The permissions above are also available:

- When granting permissions through User Administration (**Company Workspace** > **Admin** mode > **User Administration**).
- Within a Shell Template or Shell Instance Access Controls.
- When granting permissions within a Shell Template or Shell Instance Access Control through User Administration.

- Where all nodes are listed in Unifier Navigator (User mode), when appropriate.

Unifier Provider, Unifier, and Gateway

The following Unifier objects are available in Unifier Provider:

- **Project**

  Includes attributes that support the creation of projects in Unifier by way of Gateway. The Project object in Unifier Provider includes the following information:
  - Status
  - Location
  - Template Number
- **Business Processes** (BPs)

  Enables you to create/update different types of BPs such as Cost, Line Item, Document, and so forth, in Unifier. To correspond to the Gateway infrastructure, separate objects are available to capture the information in the BP Upper Form and Detail tab. To support the creation of BPs in Unifier, the Business Processes object in Unifier Provider includes the following information:
  - Name
  - Status
  - Detail tab Name
- **Roles**

  Enables you to create/update Roles in Unifier (Resource Manager > Roles).
- **Resources**

  Enables you to create/update Roles in Unifier (Resource Manager > Roles). You can use the Resources object to identify whether a data from Unifier Provider can create a Role, or not.
- **CBS Codes** (Unifier CBS Shell-type only)
  - Enables you to use the CBS object in Unifier Provider to import/export the CBS code data from Unifier.
  - Enables you to use the CBS object in Unifier Provider to import the CBS code data into Unifier.

The following provides more details.

Project/Shell

To create/update Project/Shell in Unifier you can use the following attributes:

- Data Dictionary
- Business Flow
- Synchronization
- End-to-end solution

The following sections provide more details.

Project/Shell Data Dictionary

The following table describes the Data Dictionary for Unifier Provider (Project/Shell):

Attribute Name	Description
Status	To capture the status of Unifier project. Since Unifier projects must have one of following statuses, the user must define the data value mapping XML to map status of source project and to a project status value in Unifier. ▸ Active ▸ On-Hold ▸ View-Only ▸ Inactive
Location	The location of the destination Unifier Project. Example All Regions > Sites > Properties
Template	The "Number" of the template which must be used to create the new project in Unifier. ▸ Unifier Shell Template Numbers are enforced to be unique across all shell template types. ▸ Unifier determines the "Type" of the shell that must be created, using the template number.

Project/Shell Business Flow

When defining a Business Flow in Unifier Provider (Project/Shell), the destination application parameters for Unifier Provider, Project object, enable you to define the location (Location) and template (Template) as parameters. The attributes are specific to Unifier and eliminate the need for the source application to send the values for Unifier fields.

If the source application sends value for either of the parameters mentioned below via data mapping and you define the parameter value in the business flow, then the value sent by way of mapping takes precedence.

The following parameters are required for successful project creation in Unifier.

Note: Oracle recommends that you set these parameters as "Required" in the Business Flow definition.

Object	Value	Description
Project Location	This is a Text field. You must enter one location, only. Example All Regions > Sites > Properties If you enter multiple locations, Unifier Provider will not be able to resolve the location in Unifier and project creation will fail.	Use this parameter to identify the location (Location): Where the Unifier project must be created in Unifier. You can also add the location as "Shell Attribute" (uuu_location) when defining the "Project" object filters. If you define the location parameter as a shell attribute (uuu_location = <xyz>), and use the available drop-down field (Location) for the Project object, then project creation will fail. If you add a filter row by selecting the fields as Shell Attribute Form and provide a value of the Shell Location, for Project object, then project creation will fail.
Project Template Number	This is a Text field. You must enter one number, only. If you enter multiple numbers, Unifier Provider will not be able to resolve the template in Unifier and project creation will fail.	Use this parameter to identify the templates which must be used to create the new Project in Unifier.

Project/Shell Synchronization

Synchronization in Unifier Provider (Project/Shell) occurs when you set the parameters (Project Location and Project Template Number) as "Required" or "Optional" in the Business Flow definition.

Project/Shell End-to-End Solution

The following explains the end-to-end solution for Unifier Provider (Project/Shell). The configuration settings are for:

- Unifier
- Unifier Provider

To configure the creation of projects in Unifier via Gateway

> **Note**: This is an optional step. You can skip deploying the objects from Unifier and add relevant fields in Gateway Data Mapping Templates directly, manually.

In Unifier, go to **Company Workspace** > **Admin** mode > **Gateway** > **Business Objects**.

Deploy the Shell Attribute Forms of the shells that you want to create in Unifier, via Gateway Integration.

All fields from the deployed Shell Attribute Forms appear as attributes of Project object in Unifier Provider Data Dictionary.

To configure the creation of projects in Unifier Provider via Gateway

You must:

- Create Data Mapping Templates
- Define Business Flow
- Define Synchronizations
- Synchronize

The following provides the details for each step:

Create Data Mapping Templates

Create Data Mapping Templates to map attributes of the Shell that needs to integrate with the Oracle application. All attributes of the Unifier Data Dictionary Project object are available to be added to the Data Mapping Template.

> **Note**: Ensure that you create one Data Mapping Template per Shell type.

If you do not want to deploy from Unifier and want to create the Data Mapping Templates in Gateway directly, then add each Shell Attribute Form Data Element that needs to receive data from the Oracle application Project object, manually.

If you want to deploy from Unifier, after adding the Shell Attribute Form Data Element, then:

- If the manually added field is same as one of the fields that were deployed from Unifier, then there will be no adverse impact on the existing fields.
- If the manually added field does not exist as a Data Element in Unifier, then there will be no adverse impact on the existing fields.

The fields remain as they are when the Oracle application sends values for the fields that were added to Unifier Provider and those values are not sent to Unifier.

Define Business Flow

Define Business Flow using the appropriate Data Mapping Template.

Create one Business Flow per Shell type in Unifier.

Add the appropriate source (Source) application parameters to filter the projects that you want to create in Unifier.

Add the values of relevant destination (Destination) application parameters (Location and Template).

Configure the Business Flow to be used for creating (Create) and updating (Update) the project in Unifier.

Define Synchronizations

Define Synchronizations by using the appropriate Business Flow.

Define the appropriate parameter values for data exchange.

Define the schedule frequency so that the synchronization does not have to be run manually for the project creation or update.

Synchronization

When a synchronization is run, Unifier Provider sends data to Unifier to:

- Create or update a Shell instance (as per Business Flow configuration).
- Populate the Data Element with the name of the application that is integrating with Unifier, if the destination Shell Attribute Form contains the "uuu_integrated_with" Data Element.

> **Note**: The application name value is sent by Gateway. The name is not hard-coded by Unifier.

Gateway maintains a cross-reference table between objects of the two applications to monitor whether to create or update the records of an object. The cross-reference table has IDs of projects in Unifier and P6. If the cross-reference table has and entry for a Unifier project against a P6 project, then Gateway will update the Unifier project; otherwise, Gateway will create a Unifier project.

> **Note**: If a project exists in Unifier and does not have an entry in the Gateway cross-reference table, then when Gateway proceeds to create a project in Unifier, to prevent creating aduplicat project in Unifier, Unifier converts the create request to update request and proceeds to update the existing project, instead of creating a new project.

Business Processes

To create/update Business Process records in Unifier you can use the following attributes:

- Data Dictionary
- Business Flow
- Synchronization
- End-to-end solution

The following sections provide more details.

Business Processes Data Dictionary

Data Dictionary (Unifier Provider Business Processes)

Notes:

- The remaining attributes are deployed from Unifier, as Data Elements, and will be added to relevant business processes, per business need.
- If available, the Object IDs in Gateway are noted in the corresponding field.
- The Parent Element ID is the tag in the Line Item which connects the Line Item with the parent record in which the Line Item has to exist in.
- Create separate templates for importing data into different BPs.

Item	Object Name	Description	Object Attributes
1	Company Costs	Unifier business processes that hold company level costs. When deployed from Unifier, the Upper forms of the Business Processes of the following category provide data for this object: Type = Cost AND Sub-type = Commit at Company Level AND Classification = <Null> OR Generic	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Status (status) ▸ Amount (amount)

Item	Object Name	Description	Object Attributes
2	Company Costs Detail	Detail tabs of Company Cost business processes. When deployed from Unifier, the Detail tabs of all business processes that are in Company Costs category provide data for this object.	▸ Parent Record Number ▸ Line No./LiNum in Unifier Provider and LineNo in Gateway Object field (S.No 3) ▸ Tab Name (uuu_tab_id) ▸ Short Description (short_desc) ▸ Item Quantity (uuu_quantity) ▸ Item Unit Cost (uuu_unit_price) in Unifier Provider and PricePerUnit in Gateway Object field (S.No 4) ▸ Amount (amount)

Item	Object Name	Description	Object Attributes
3	Project Commits	Unifier Project level business processes related to money committed to be spent. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Cost AND Sub-type = Line Items with CBS Code OR Line Items with Multiple Codes AND Classification = Base Commit OR Change Commit	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Due date (due_date) ▸ Effective Date (uuu_effective_date) ▸ Transaction Currency (currencyid) ▸ Rate in Project Currency (currencyrate) ▸ Status (status) ▸ Description (description) ▸ Amount (amount) ▸ Publish Path (uuu_dm_publish_path) ▸ Reference BPO (ref_bpo) ▸ Contract/PO (refid)

Item	Object Name	Description	Object Attributes
4	Project Commits Detail	Detail tabs of the Project commits type business processes. When deployed from Unifier, the Detail tabs of all business processes that are in Project Commits category provide data for this object.	▸ Parent Record Number ▸ Line No./LiNum in Unifier Provider and LineNo in Gateway Object field (S.No 3) ▸ Tab Name (uuu_tab_id) ▸ Cost Code (bitemID) ▸ Short_Description (short_desc) ▸ Description (description) ▸ Work Package (wpid) ▸ Item Quantity (uuu_quantity) ▸ Item Unit Cost (uuu_unit_price) in Unifier Provider and PricePerUnit in Gateway Object field (S.No 4) ▸ Amount (amount) ▸ Reference BPO Lineitem (ref_bpo_lineitem) ▸ Reference (uuu_sovlinum) ▸ Parent Detail Id (ParentDetailId)

Item	Object Name	Description	Object Attributes
5	Project Invoices	Unifier invoice related Project level business processes. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Cost AND Sub-type = Line Items with CBS Code OR Line Items with Multiple Codes AND Classification = General Spends OR Payment Applications	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Due date (due_date) ▸ Effective Date (uuu_effective_date) ▸ Contract/PO (refid) ▸ Transaction Currency (currencyid) ▸ Amount (amount) ▸ Status (status) ▸ Publish Path (uuu_dm_publish_path)

Item	Object Name	Description	Object Attributes
6	Project Invoices Detail	Detail tabs of the Project invoices type business processes. When deployed from Unifier, the Detail tabs of all business processes that are in Project Invoices category provide data for this object.	▸ Parent Record Number ▸ Line No./LiNum in Unifier Provider and LineNo in Gateway Object field (S.No 3) ▸ Tab Name (uuu_tab_id) ▸ Cost Code (bitemID) ▸ Short_Description (short_desc) ▸ Description (description) ▸ Work Package (wpid) ▸ Item Quantity (uuu_quantity) ▸ Item Unit Cost (uuu_unit_price) in Unifier Provider and PricePerUnit in Gateway Object field (S.No 4) ▸ Amount (amount) ▸ Effective Date (uuu_effective_date) ▸ Scheduled Value (scheduled_value) ▸ Parent Detail Id (ParentDetailId)

Item	Object Name	Description	Object Attributes
7	Other Project Costs	Unifier Project level business processes that captures costs other than commits or invoices. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Cost AND Sub-type = Line Items with CBS Code OR Line Items with Fund Code OR AND Classification = Generic OR Transfer OR	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Status (status) ▸ Amount (amount) ▸ Publish Path (uuu_dm_publish_path)

Item	Object Name	Description	Object Attributes
8	Other Project Costs Detail	Detail tabs of the Other Project costs type business processes. When deployed from Unifier, the Detail tabs of all business processes that are in Other Project Costs category provide data for this object.	▸ Parent Record Number ▸ Line No./LiNum in Unifier Provider and LineNo in Gateway Object field (S.No 3) ▸ Tab Name (uuu_tab_id) ▸ Cost Code (bitemID) ▸ Fund Code (uuu_fund_code) ▸ Short_Description (short_desc) ▸ Description (description) ▸ Item Quantity (uuu_quantity) ▸ Item Unit Cost (uuu_unit_price) in Unifier Provider and PricePerUnit in Gateway Object field (S.No 4) ▸ Amount (amount) ▸ Effective Date (uuu_effective_date)

Item	Object Name	Description	Object Attributes
9	Project Simple	Unifier project level Simple business processes. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Simple AND Level = Project/Shell	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Status (status) ▸ Publish Path (uuu_dm_publish_path)
10	Company Simple	Unifier company level Simple business processes. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Simple AND Level = Company	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Status (status) ▸ Due Date (due_date) ▸ Publish Path (uuu_dm_publish_path)

Item	Object Name	Description	Object Attributes
11	Company Line Item	Unifier company level Line Item type business processes. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Line Item AND Sub-Type = Any AND Level = Company	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Status (status) ▸ Due Date (due_date) ▸ Publish Path (uuu_dm_publish_path)
12	Company Line Item Detail	Detail tabs of the company Line Item type business processes. When deployed from Unifier, the Detail tabs of all business processes that are in Company Line Item category provide data for this object.	▸ Parent Record Number ▸ Line No./LiNum in Unifier Provider and LineNo in Gateway Object field (S.No 3) ▸ Tab Name (uuu_tab_id) ▸ Short Description (short_desc)

Item	Object Name	Description	Object Attributes
13	Project Document	Unifier Project level Document type business processes. When deployed from Unifier, the Upper forms of the business processes of the following category provide data for this object: Type = Document AND Sub-Type = Any AND Level = Project/Shell	▸ Record Number (record_no) ▸ Title (title) ▸ Creator (uuu_creator_id) in Unifier Provider and CreateUserId in Gateway Object field (S.No 2) ▸ Creation Date (uuu_creation_date) in Unifier Provider and CreateDate in Gateway Object field (S.No 1) ▸ Short Description (short_desc) ▸ Status (status) ▸ Publish Path (uuu_dm_publish_path)
14	Project Document Detail	Detail tabs of Project Document type business processes. When deployed from Unifier, the Detail tabs of all business processes that are in Project Invoices category provide data for this object.	▸ Parent Record Number ▸ Line No./LiNum in Unifier Provider and LineNo in Gateway Object field (S.No 3) ▸ Tab Name (uuu_tab_id) ▸ Name (uuu_Name) ▸ Short Description (short_desc) ▸ Line Item Status (uuu_line_item_status) ▸ Issue Date (uuu_issue_date)

Summary Payment Application (SPA) SOV type BPs

The creation and update of the Line Items in the Summary Payment Application (SPA) SOV type BPs requires three fields in Unifier Provider. These fields are designed to identify and separate the SPA SOV type BPs in Unifier Provider from the existing SPA SOV type BPs in Unifier.

Note: Line Item update is not supported for Project Invoice (Payment Applications) Type of BP's through Gateway Integration. As a result, every Update from Gateway to Unifier will result in the creation of a new Line Item.

Depending on which Line Item is referenced, the Line Items coming from Gateway follow a certain structure as described in the examples below:

Base Commit Type BP Line Item

Example

```
<_bp_lineitems>  <!—Summary Line -- >
<ElementId>Summary1</ElementId>
<ParentDetailId></ParentDetailId>
<short_desc>desc 1</short_desc>
</_bp_lineitems>

<_bp_lineitems>  <!—Costed line -- >
<ElementId>costed line 1</ElementId>
<ParentDetailId>Summary1</ParentDetailId>
<short_desc>desc 1</short_desc>
</_bp_lineitems>
```

> **Note**: The `parentdetailid` connects the BP Line Item to its parent Summary Line Item in the SOV.

Change Commit Type BP Line Item

Example

```
<_bp_lineitems> <!—Summary Line -- >
<ElementId>Summary1</ElementId>
<ParentDetailId></ParentDetailId>
<short_desc>desc 1</short_desc>
<uuu_sovlinum>1</uuu_sovlinum>
</_bp_lineitems>

<_bp_lineitems> <!—Costed line -- >
<ElementId>costed line 1</ElementId>
<ParentDetailId>Summary1</ParentDetailId>
<short_desc>desc 1</short_desc>
<uuu_sovlinum>1.1</uuu_sovlinum>
<bItemID>Code 1</bItemID>
</_bp_lineitems>
```

Notes:

- The `parentdetailid` connects the BP Line Item to its parent Summary Line Item in the SOV.
- The Data Element `uuu_sovlinum` is an optional field. If the value is received by Unifier for the same field, then Unifier will try to update an existing row; otherwise, the update will create a new Line Item in the SOV (based on the settings of the SOV).

Invoice Type BP Line Item

Example

```
<_bp_lineitems> <!—Summary Line -- >
<ElementId>Summary1</ElementId>
<ParentDetailId></ParentDetailId>
<short_desc>desc 1</short_desc>
<bItemID></bItemID>
<_refnum>1</_refnum>
</_bp_lineitems>

<_bp_lineitems> <!—Costed line -- >
<ElementId>costed line 1</ElementId>
<ParentDetailId>Summary1</ParentDetailId>
<short_desc>desc 1</short_desc>
<bItemID>Code 1</bItemID>
<_refnum>1.1</_refnum>
</_bp_lineitems>
```

Notes:

- The `parentdetailid` connects the BP Line Item to its parent Summary Line Item in the SOV.
- The `refnum` is for Unifier and is used when creating the structure within the SOV for the incoming Line Items and the Summary lines.

Unifier Provider BP Objects and Gateway Objects

To correspond to the Unifier Provider objects (explained in the preceding Data Dictionary section), Gateway will introduce new objects to support the various business processes.

You can use the mapping information in the following table to see how data is sent from Unifier to an Oracle application and flows from object to object (Unifier Provider > Gateway).

Item	Unifier Provider Object Name	Corresponding Gateway Object Name
1	Company Costs	BlanketPurchaseOrder
2	Company Costs Detail	BlanketPurchaseOrderDetail
3	Project Commits	BudgetChangeOrder BudgetItem Contract PurchaseOrder WorkRelease ChangeOrder POAmendment
4	Project Commits Detail	BudgetChangeOrderDetail BudgetItemDetail ContractDetail PurchaseOrderDetail WorkReleaseDetail ChangeOrderDetail POAmendmentDetail
5	Project Invoices	Invoice PaymentApplication PaymentApplicationtoOwner
6	Project Invoices Detail	InvoiceDetail PaymentApplicationDetail PaymentApplicationtoOwnerDetail
7	Other Project Costs	Estimate BudgetApproval BudgetChange BudgetTransfer PotentialChangeOrder JournalEntry Payment PaymentFromOwner RiskAndIssue FundAppropriation

Item	Unifier Provider Object Name	Corresponding Gateway Object Name
8	Other Project Costs Detail	EstimateDetail BudgetApprovalDetail BudgetChangeDetail BudgetTransferDetail PotentialChangeOrderDetail JournalEntryDetail PaymentDetail PaymentFromOwnerDetail RiskAndIssueDetail FundAppropriationDetail
9	Project Simple	ProjectInformation
10	Company Simple	VendorEvaluation
11	Company Line Item	Vendor Timesheet
12	Company Line Item Detail	VendorDetail TimesheetDetail
13	Project Document	RequestforSubstitution
14	Project Document Detail	RequestforSubstitutionDetail

Business Processes Business Flow

When defining a Business Flow in Unifier Provider (Business Processes), the destination application parameters for Unifier Provider, BP object, enable you to define which BP needs to receive data by way of the Business Flow configuration. The attributes are specific to Unifier and eliminate the need for the source application to send the values for Unifier fields.

Notes:

- To avoid duplicating records, create separate Business Flows (for two BPs of the same type) when importing data into Unifier.
- Do not use a single Business Flow in Gateway to import into two Company Costs type BPs. Instead, use different Business Flows for setting up the data flow.

If the source application sends value for either of the parameters mentioned below via data mapping and you define the parameter value in the business flow, then the value sent by way of mapping takes precedence.

The following parameters are required for successful project creation in Unifier.

Object	Value	Description
Business Process Name	Text field If you enter more than one value, then the integration will fail.	Use this parameter to identify the Name of the business process that requires the data from the Oracle application. The value that you enter in this parameter is used by Unifier Provider to identify which BP requires data. Example Creating Data Mapping Template ▸ Unifier Provider object: Project Commits ▸ Gateway object: Contracts ▸ Oracle Application object: xyz

Object	Value	Description
Business Process Detail Tab Name	Text field If you enter more than one value, then the integration will fail.	Use this parameter to identify the Detail tab of the business process that requires the data from the Oracle application. The value that you enter in this parameter is used by Unifier Provider to identify which BP requires data. Example Creating Data Mapping Template ▸ Unifier Provider object: Project Commits Detail ▸ Gateway object: Contracts Detail ▸ Oracle Application object: xyz **Note**: The tab Name is also an attribute for all Line Item objects in Unifier Provider. If the Oracle Application sends value for tab name by way of mapping, then the mapped value will override the parameter value defined in Business Flow.

Object	Value	Description
Line Item Identifier	Text field **Note**: Oracle recommends that you use the Data Element name. If you enter more than one value, then the integration will fail.	This parameter is used by Unifier during an update of an existing Line Item (in Unifier), only. The value that you enter in the Data Element of this parameter is used by Unifier to identify which Line Item requires update. **Note**: Within this parameter text box, enter the name (not label) of the Data Element on the Detail tab that must be used as the identifier for Line Item update. Unifier Provider identifies the value entered in this text boxas the DE name (not label).

Business Processes Synchronization

Synchronization in Unifier Provider (Business Processes) occurs when you set the parameters (Business Process Name, Status, and Detail Tab Name) as "Required" or "Optional" in the Business Flow definition.

Business Processes End-to-End Solution

The following explains the end-to-end solution for Unifier Provider (Business Processes). The configuration settings are for:

- Unifier
- Unifier Provider

To configure the creation of Business Processes in Unifier via Gateway

> **Note**: This is an optional step. You can skip deploying the objects from Unifier and add relevant fields in Gateway Data Mapping Templates directly, manually.

Go to **Company Workspace** > **Admin** mode > **Gateway** > **Business Objects**.

Deploy the business process record that you want to create in Unifier, via Gateway Integration.

All Data Elements from the deployed business process record appear as attributes of Business Process object (Company Costs, Project Commits, Project Invoices, etc.) in Unifier Provider Data Dictionary.

To configure the creation of Business Processes in Unifier Provider via Gateway

You must:

- Create Data Mapping Templates
- Define Business Flow
- Define Synchronizations
- Synchronize

The following provides the details for each step:

Create Data Mapping Templates

Create Data Mapping Templates to map attributes of the BPs Upper Form data that needs to integrate with Gateway > Oracle application.

> **Notes**:
>
> Ensure that you create one Data Mapping Template per BP.
>
> If the BP that needs to integrate has Detail tab, then create additional Data Mapping Template, one template per Detail tab, to ensure that the map the Detail Form elements to Gateway > Oracle application.

Once you deploy the BP from Unifier to Gateway, all the attributes of the Business Process object Unifier Provider (Company Costs, Project Commits, Project Invoices, etc.) will be available for you to add to the Data Mapping Template.

If you do not want to deploy from Unifier and want to create the Data Mapping Templates in Gateway directly, then you must add each BP Data Element that needs to receive data from a Oracle application object in Gateway, manually (use the Add New Field in the Add Template window). After you add each BP Data Element in Gateway, you must deploy the BP from Unifier. Note the following conditions:

- If the manually added field is the same as one of the fields that you deployed from Unifier, there will be no impact on the existing field. This is similar as if you deployed the manually added field from Unifier.
- If the manually added field does not exist as a Data Element in Unifier, there will be no impact on the existing field. When the Oracle application sends value for this field to Unifier Provider, the value remains as is and it is not sent to Unifier.

Define Business Flow

Define Business Flow using the appropriate Data Mapping Template.

Create one Business Flow per BP Upper Form and one Business Flow per BP Detail tab in Unifier.

Add the appropriate source (Source) application parameters to filter the BP records that you want to extract for the Oracle application and create in Unifier.

Add the values of the following relevant destination (Destination) application parameters in order for the BP Records/Line Items to be created in Unifier:

- Project ID
- Business Process Name

- Business Process Detail Tab Name

Configure the Business Flow to be used for creating (Create) and updating (Update) the BP Records/Line Items in Unifier.

Define Synchronizations

Define Synchronizations by using the appropriate Business Flow.

Define the appropriate parameter values for data exchange.

Define the schedule frequency so that the synchronization does not have to be run manually for the BP Records/Line Items creation or update.

Synchronize

When a synchronization is run, Unifier Provider sends data to Unifier to create or update BP Records/Line Items instance (as per Business Flow configuration).

Example

To create BP records of Base Commits type in Unifier:

1) In Unifier, deploy the Base Commits BP to map to Unifier Provider object (Project Commits).
2) Log in to Gateway instance and create the following two Data Mapping Templates:
   a. Using the Gateway object "Project Commits" to map the Base Commits BP "Upper Form" information to the Oracle application.
   b. Using the Gateway object "Project Commits Detail" to map the Base Commits BP "Detail" tab information to the Oracle application.
3) Using the appropriate Gateway objects, create the following two Business Flows:
   a. Using Gateway object "Purchase Orders" and selecting the corresponding Data Mapping Template that you created (sub-step "a" above).
   b. Using Gateway object "Purchase Orders Detail" and selecting the corresponding Data Mapping Template that you created (sub-step "b" above).
4) Add the appropriate source (Source App Parameters) to filter records from the source application and set the destination application parameters (Destination App Parameters) to:
   a. Business Process Name = Base Commit
   b. Business Process Detail Tab = <detail tab name>
5) Create two synchronizations:
   a. For Base Commit BP in Unifier
   b. For Base Commit Line Item in Unifier
6) Define the schedule frequency so that the synchronization does not have to be run manually for the BP Records/Line Items creation or update.

Roles

You can create a Role in **Unifier** by using both Role and Resource data from a Oracle application. The Role object in **Unifier Provider** can be used to create and update Roles in Unifier. The following sections provide details about:

- Roles Data Dictionary
- Roles Business Flow

- Roles Business Flow (Destination App Parameters)
- Roles Synchronization
- Roles End-to-End Solution

Roles Data Dictionary

The Role object in Unifier Provider has the following default attributes which are the mandatory fields needed to create a Role object in Unifier:

Attribute Name	Description
Role Name	The name of the Role object in Unifier.
Role Status	The Role status is either Active or Inactive. - If the Oracle application Role Status values do not match the Unifier Role Status values, then use Data Mapping values. - If the Oracle application does not send any values for this attribute, then Unifier creates a Role with a default status of "Active."
Role Currency	The currency for the Role. This attribute is mandatory/required for creating a Role object in Unifier. If the Oracle application does not send any values for this attribute, then Unifier creates a Role with a default currency of company base currency.

As a result of the Summary Sheet integration that creates Role in Unifier (by pulling data from P6 Schedule Summary data, the Role ID (uuu_role_id) is a mandatory/required field for creating a Role object in Unifier.

Creating a Role object in Unifier by pulling data from Gateway (Role/Resource object) does not require the Role ID (uuu_role_id) field for creating a Role object in Unifier.

Creating a Role object in Unifier via Gateway integration (by pulling data from Gateway Role/Resource object) require the values of the following fields, mentioned in the table above:

- Role Name
- Role Status
- Role Currency

Roles Business Flow

Role, or Resource, mapping in Unifier (from an Oracle application) is achieved by way of the "Dynamic Object Mapping" field in Gateway.

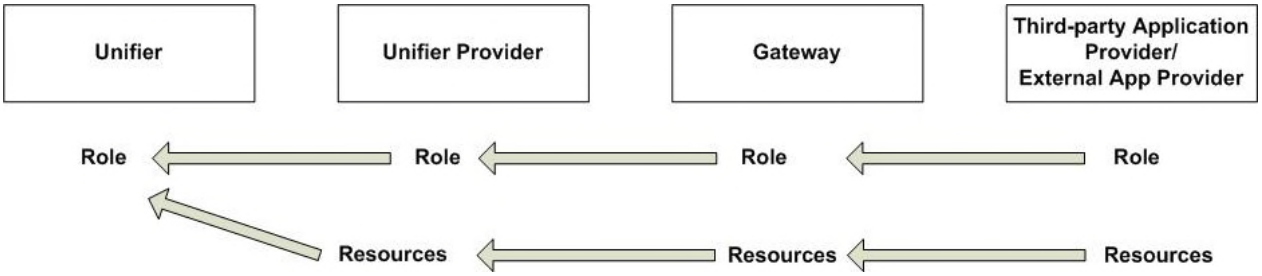
The "Create Template" window in Gateway enables you to select "Provider 1" as a Oracle application and "Provider 2" as Unifier.

In the section available for mapping objects, you can select "Resource" as the object in the Oracle application and "Role" as the object in Unifier (Provider 2).

You can choose a criteria to bring the "Resource" data from the Oracle application by selecting the "Use Criteria Step" checkbox. You can then proceed to the next step and add the required mappings.

Roles Business Flow (Destination App Parameters)

You can create the Roles object in Unifier from both Resources and Roles objects in Unifier Provider. As a result, when defining a Business Flow, you need to identify the parameters (Destination App Parameters) within Unifier Provider. The following explains the Roles Business Flow:



Roles Synchronization

You can create synchronization using the appropriate Business Flow.

Roles End-to-End Solution

Follow these steps to create Roles objects in Unifier, via Gateway integration:

1) From Unifier, deploy the Roles attribute form to Gateway.
   - This is an optional step. You can use this step to add additional Data Elements (required for Role creation or to receive values from the Oracle application) to the Roles attribute form.
   - You can create the Role object in Unifier from Role, or Resource, object in Unifier Provider by using the destination parameter (see the Roles Business Flow (Destination App Parameters) above); however, when a Roles object is deployed from Unifier, it only provides attributes for the Role object in Unifier Provider, only.
2) Create Data Mapping Template.

   Unifier Provider "Role" object > Gateway "Role" object > Oracle Application "xyz" object
3) Create Business Flow.

   Use the Gateway "Role" object and Data Mapping Template.
4) Create Synchronization.

   Use the Business Flow.
5) Create Schedule.

   Enable the scheduled creation/update of roles.

Resources

You can use the Resources object to identify whether a data from Unifier Provider can create a Role/Resource, or not. When you map a Unifier "Resource" object to a Gateway "Resource" object, you can create/update both the Resources and Roles object in Unifier. The following sections provide details about:

- Resources Data Dictionary
- Resources Business Flow
- Resources Synchronization
- Resources End-to-End Solution

Resources Data Dictionary

The Resources object in Unifier Provider has the following default attributes which are the mandatory fields needed to create a Resources object in Unifier:

Attribute Name	Description
Resource Name	Unifier Resource Name.
Resource Status	The Resource status is either Active or Inactive. If the third-party application Role Status values do not match the Unifier Resource Status values, then use Data Mapping values. If the third-party application does not send any values for this attribute, then Unifier creates a Resource with a default status of "Active."
Resource Code	Resource Code.
Resource Capacity	Resource Capacity.
User First Name	First name of the Unifier user who is being added as a resource.
User Last Name	Last name of the Unifier user who is being added as a resource.
User E-mail ID	E-mail ID of the Unifier user who is being added as a resource.
Default Role Name	The role that the resource is allocated to.

Resources Business Flow

You can create the Business Flow by using the appropriate Resource-to-Resource Data Mapping Template.

Resources Synchronization

You can create the Synchronization by using the appropriate Business Flow.

Resources End-to-end Solution

Follow these steps to create Resources objects in Unifier, via Gateway integration:

1) From Unifier, deploy the Resource attribute form to Gateway.
   - This is an optional step. You can use this step to add additional Data Elements to the Resources attribute form that are required for:

     Resource, or Role, creation.

     Receiving value from the third-party application.

   When a Resource object is deployed from Unifier, it only provides attributes for the Resource object in Unifier Provider, only.
2) Create Data Mapping Template.

   Unifier Provider "Resource" object > Gateway "Resource" object > Third-party Application "xyz" object
3) Create Business Flow.

   Use the Gateway "Resource" object and Data Mapping Template.
4) Create Synchronization.

   Use the Business Flow.
5) Create Schedule.

   Enable the scheduled creation/update of resources.

CBS Codes

You can create and update the CBS Codes in Unifier Cost Sheet via Gateway integration with any Oracle application.

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