

Primavera Contractor®

Reference Manual

Version 6.1

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bzip2/libbzip2 version 1.0 of 21 March 2000

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Preface

In this preface:

[Using Documentation and Help](#)
[Where to Get Support](#)

Primavera Contractor helps you plan and control your project schedule. Use Primavera Contractor to plan the activities that will complete the project, track project progress, and determine how quickly the project can be completed.

Read this manual to learn how to effectively use Primavera Contractor with your project schedules.

Using Documentation and Help

For a list of new features included in this version of the application, refer to the *What's new in Primavera Contractor?* topic of the Help.

This book guides you through the process of planning and controlling projects using Primavera Contractor. Read the first chapter to become familiar with the process of project management, then follow the steps in each successive chapter to build projects and project components, manage the resources required to complete the project plan, update projects as work gets underway, and report results throughout the project life cycle. This manual is organized as follows:

Part 1: Overview and Configuration Provides installation instructions, an overview of project management, simple steps for getting started quickly, and information about the standard layouts you can use to view project data. This part also provides a quick tour, instructions for configuring user options and preferences, and best practices information for collaborating with other Primavera users.

Part 2: Structuring Projects Describes how to set up the project structure, add new projects, open existing projects, and define project properties. In addition, [Part 2](#) describes how to

- Establish the personnel and equipment required to perform the work and define unlimited hierarchical resource codes for grouping and rollups.
- Establish and use a work breakdown structure (WBS) as the basis for specifications and milestones.
- Create user-defined fields to store custom data for activities, activity steps, resources, resource assignments, expenses, and the WBS.
- Create calendars that define national and organizational holidays, project-specific work/nonworkdays, and resource vacation days.

Part 3: Implementing the Schedule Describes how to define a set of codes you can use to categorize project activities for organizing, grouping and selecting. [Part 3](#) also explains how to

- Establish the activities that compose projects and apply durations, dates, resource information, activity types, activity relationships, and other activity details.
- Set up the expenses, or nonresource costs, associated with a project, and create global cost accounts to track activity costs and earned value according to your specific cost account codes.

Part 4: Updating and Managing the Schedule Describes how to establish and update baseline plans against which you can track project cost, schedule, and performance data. **Part 4** also describes how to update projects by applying actual dates directly to activities, how to schedule projects, and how to compare projects and baselines using Claim Digger.

Part 5: Customizing Projects Describes how to customize layouts for analysis and easier data entry, and to display specific information about projects. **Part 5** also describes how to produce reports that detail project information and answer key questions that arise as the project progresses.

Part 6: Importing, Exporting, and Linking Data Describes how to import and export projects using Primavera's proprietary exchange format (XER). **Part 6** also describes how to exchange project data with other Contractor and Primavera Project Management users using Primavera XML files and how to exchange data with Microsoft® Project, Microsoft Excel (XLS), Primavera Project Planner (P3), Primavera Contract Manager (formerly known as Expedition), and Primavera Contractor 5.0.

Primavera Contractor Help Provides an online help system to supplement the documentation. Use Help to access general information about program options, detailed descriptions of windows and dialog boxes, and step-by-step instructions for specific project tasks. Help also includes Hint Help for column values in various windows. To access Hint Help, click the Display Options bar, choose Hint Help, then click a value in a column.

Where to Get Support

If you have a question about using Primavera products that you or your network administrator cannot resolve with information in the documentation or Help, contact Primavera Customer Support at the times and locations listed below.

Please provide your Primavera product serial number when contacting Primavera. Each interaction is logged to help Primavera resolve your questions quickly.

Office	Time Zone	Hours	Telephone	FAX	Internet Address*
Bala Cynwyd, Pennsylvania, USA	ET	8:00–8:00 (Mon–Fri) 9:00–2:00 (Sat)	1-610-668-3030	1-610-667-0652	support@primavera.com
London, England, UK	GMT	8:30–6:30 (Mon–Thur) 8:30–5:30 (Fri)	44-20-8563-5555	44-20-8563-5543	support@primavera.com
Hong Kong	GMT +8	8:00–5:00 (Mon–Fri)	+852-2111-8299	+852-2111-9477	support@primavera.com

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Overview and Configuration

In this part:

Installing Primavera Contractor

Understanding Project Management

**Collaborating with Project Management
Module Users**

Quick Tour

Setting User Preferences

Setting Global Options

Read this part to learn more about project management.

“[Installing Primavera Contractor](#)” explains how to install and register the software.

“[Understanding Project Management](#)” discusses Primavera’s approach to managing projects and provides an overview of the methods used to successfully manage and control projects.

“[Collaborating with Project Management Module Users](#)” describes the best practices Primavera recommends for exchanging project data between Primavera Contractor and Project Management module users.

“[Quick Tour](#)” introduces key project management concepts and explains how to perform basic tasks, such as opening a new project and using wizards.

The “[Setting User Preferences](#)” chapter explains how to customize the application to fit your special needs, while the “[Setting Global Options](#)” explains how to apply a series of parameters and values that apply to all projects.

Installing Primavera Contractor

In this chapter:

[Install Primavera Contractor 6.1](#)

[Upgrade to Primavera Contractor 6.1](#)

[Register Primavera Contractor](#)

This chapter shows you how to install/upgrade and register Primavera Contractor.

Install Primavera Contractor 6.1

Follow the instructions in this section to install Primavera Contractor if you do not have a previous version installed. If a previous version of Contractor exists on your machine, refer to the next section, [“Upgrade to Primavera Contractor 6.1”](#) on page 11.



You must have administrator rights on the computer on which you want to install Primavera Contractor.

Before you begin Primavera Contractor can only be run using Microsoft SQL Server 2005 Express. During the installation, the following components are installed, depending on your computer's setup:

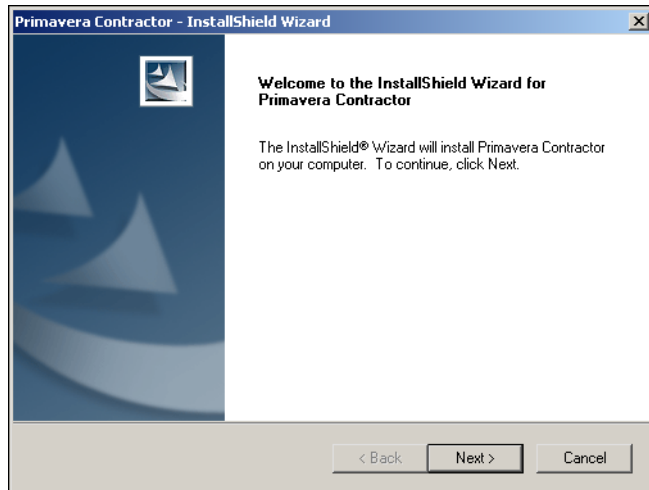
- Microsoft SQL Server 2005 Express sp2 (if not already present on your computer)
- Microsoft .NET Framework 2.0
- DBExpress
- Sample data (if selected)

Install Primavera Contractor Follow these steps to install the application. On each wizard screen, click Next to continue.

- 1 Insert the Primavera Contractor installation CD into your CD-ROM drive.

The setup program automatically launches. If the setup program does not automatically launch, navigate to the contents of the installation CD and double-click setup.exe.

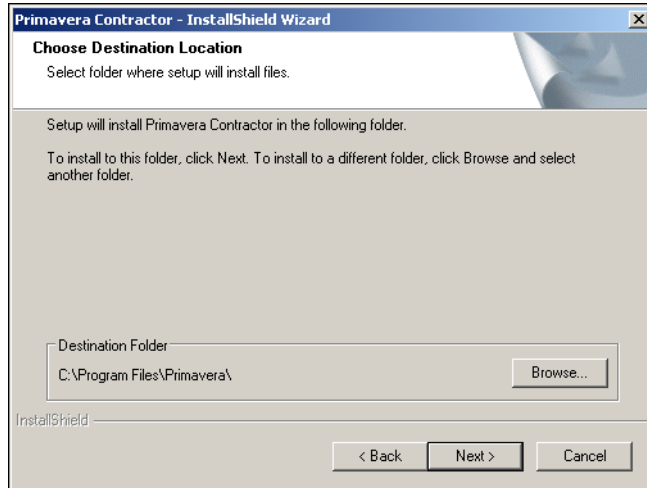
- 2 The Contractor installer is launched automatically. Click Next on the Welcome screen.



- 3 Enter your name, company, and serial number. The serial number is located on the Primavera CD case.

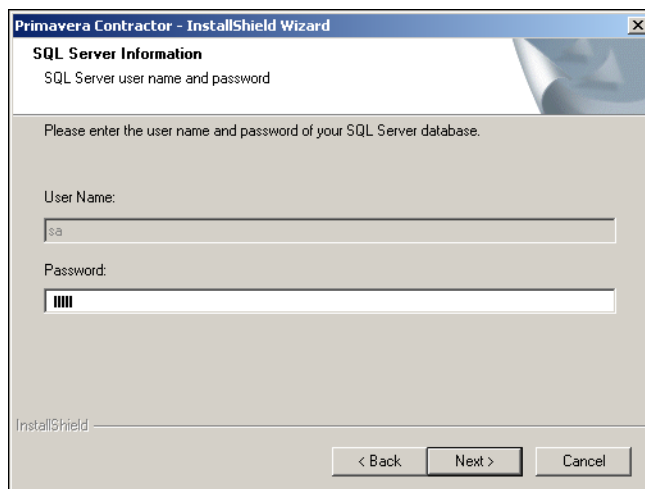
The screenshot shows the 'Primavera Contractor - InstallShield Wizard' window at the 'Customer Information' step. The title bar says 'Primavera Contractor - InstallShield Wizard'. The main heading is 'Customer Information' with the instruction 'Please enter your information.' Below this, a paragraph states: 'Please enter your name, the name of the company for which you work, and the product serial number. The product serial number is located on the Primavera CD case.' There are three input fields: 'User Name:' with the text 'Primavera User', 'Company Name:' with the text 'Primavera', and 'Serial Number:' with the text '84000000'. At the bottom left is the 'InstallShield' logo. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

- 4 Choose the destination folder for the Primavera Contractor installation. By default, Primavera Contractor installs in the Primavera folder.

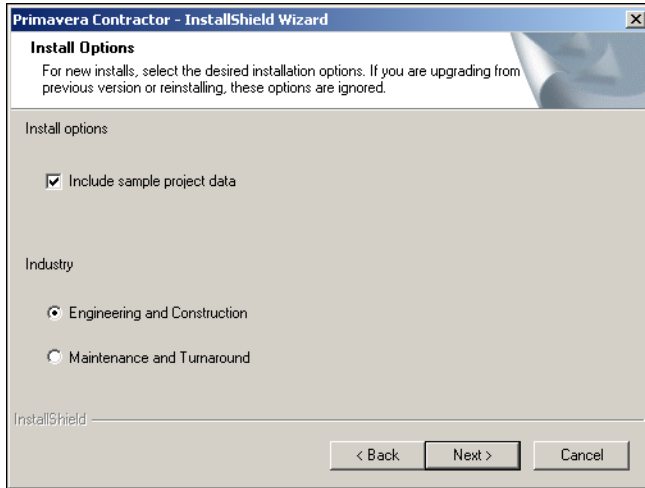


*The following step applies only to users who already have Microsoft SQL Server 2005 installed AND use a different password to login to SQL Server than the default password. **If you do not have Microsoft SQL server 2005 installed, the screen in the next step does not appear.***

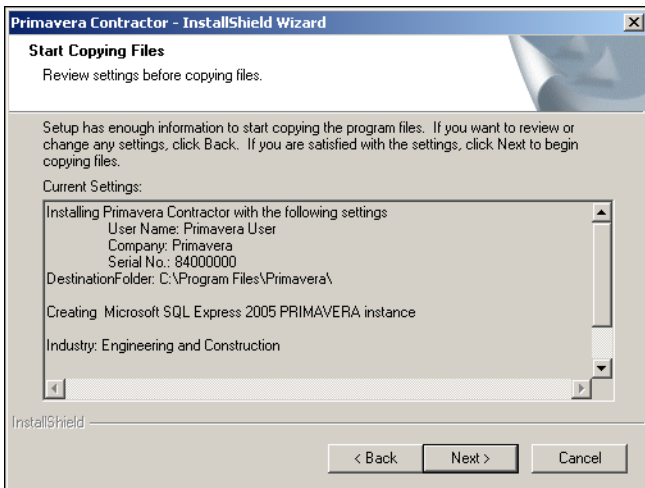
- 5 Enter the password you use to log in to Microsoft SQL Server. The default password is Prima123Vera.



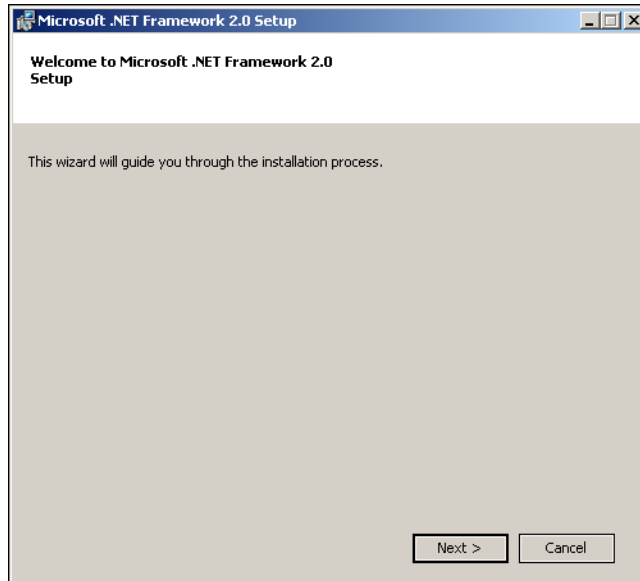
- 6 If desired, choose to install sample project data. Also, choose the industry that best describes the work performed in the projects you manage.



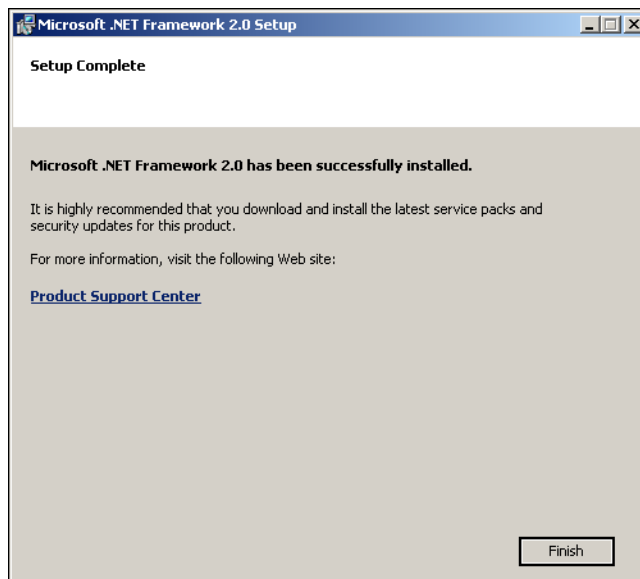
- 7 Review the setup information. Click Next to begin the installation.



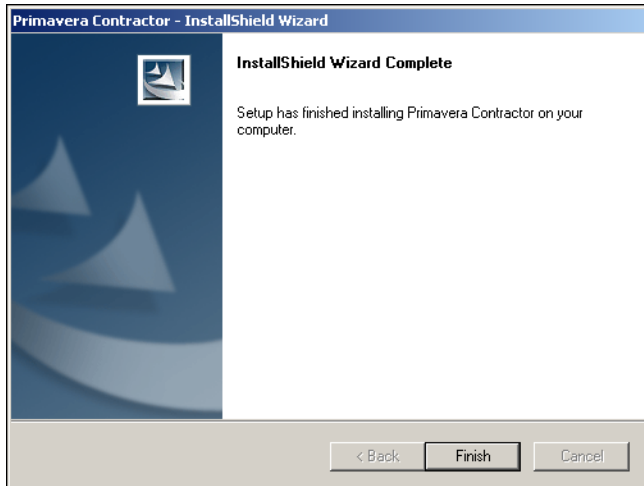
- 8 You will be prompted to install Microsoft .NET Framework, if it is not already present on your computer. Click Next to begin the installation.



- 9 Click Finish to continue with the Contractor installation.



Microsoft SQL Server 2005 Express and DB Express will be installed, along with the application and sample data (if you chose to install sample data). The Primavera API, Claim Digger, and Update Baseline utilities are automatically installed along with Primavera Contractor. The project comparison tool, Claim Digger, runs on Windows XP and Vista platforms.



10 Start Primavera Contractor.

If you'd like to register the product immediately, follow the instructions in "[Register Primavera Contractor](#)" on page 17. You have up to 45 days after installation to register Primavera Contractor.

- 11** If you do not want U.S. Dollars to be the base currency, set the base currency that will be used to calculate cost values across all projects in the database (as described in the next section, "Setting the Base Currency").

Setting the Base Currency

The base currency is the monetary unit used to store cost data for all projects in the database and is controlled by a global administrative setting. The default base currency for Primavera Contractor is U.S. Dollars (\$). The view currency is the monetary unit used to display cost data in Primavera Contractor and is controlled by a user preference.

The exchange rate for the base currency is always 1.0. When you select a different currency than the base currency to view cost data, the base currency value is multiplied times the current exchange rate for the view currency to calculate the values displayed in cost and price fields.

For example, if the base currency is U.S. Dollars, the view currency is Euros, and the exchange rate for Euros is .8, a value of \$10 stored in the database is displayed as 8 Euros in cost and price fields. Similarly, if you enter 8 Euros in a cost or price field, it is stored in the database as \$10.

When data is displayed in a view currency that is different than the base currency, some cost and price values may vary slightly (e.g., due to rounding). As long as the correct base currency is selected, a user can view completely accurate cost and price data by changing the view currency to match the base currency.

For instructions on setting the base currency to a currency other than U.S. Dollars, refer to “[Defining Currencies](#)” on page 70.



YOU MUST SET THE BASE CURRENCY IMMEDIATELY AFTER INSTALLATION IS COMPLETE IF YOU DO NOT WANT US DOLLARS (\$) TO BE THE BASE CURRENCY. IT IS NOT POSSIBLE TO CHANGE THE BASE CURRENCY ONCE PROJECTS ARE IN PROGRESS.

Upgrade to Primavera Contractor 6.1

Follow the instructions in this section to upgrade Primavera Contractor from version 5.0 to version 6.1. If you are installing Contractor for the first time, refer to [“Install Primavera Contractor 6.1”](#) on page 4.



PRIMAVERA STRONGLY RECOMMENDS THAT YOU DO NOT UNINSTALL VERSION 5.0 BEFORE UPGRADING TO VERSION 6.1. IF YOU UNINSTALL VERSION 5.0 BEFORE UPGRADING TO 6.1, CONTACT CUSTOMER SUPPORT FOR INSTRUCTIONS ON HOW TO PROCEED.



You must have administrator rights on the computer on which you want to install Primavera Contractor.

Before you begin Primavera Contractor can only be run using Microsoft SQL Server 2005 Express. During the installation, the following components are installed, depending on your computer's setup:

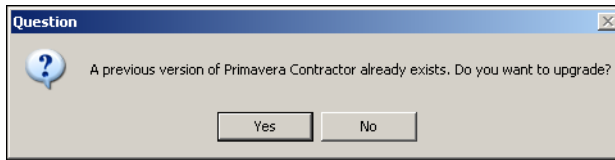
- Microsoft SQL Server 2005 Express sp2 (if necessary)
- Microsoft .NET Framework 2.0
- DBExpress
- Sample data (if selected)

Upgrade Primavera Contractor Follow these steps to upgrade to Contractor 6.1. On each wizard screen, click Next to continue.

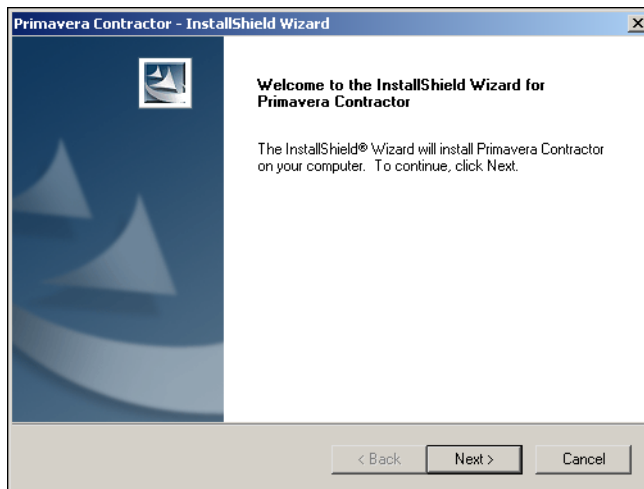
- 1 Insert the Primavera Contractor installation CD into your CD-ROM drive.

The setup program automatically launches. If the setup program does not automatically launch, navigate to the contents of the installation CD and double-click setup.exe.

- 2 A message will appear asking if you would like to upgrade. Click Yes to proceed. Click No to exit setup.



- 3 Click Next on the Welcome screen.



- 4 The information on this screen is automatically populated. Modify as needed, and then click Next.

The screenshot shows the 'Customer Information' screen of the 'Primavera Contractor - InstallShield Wizard'. The window title is 'Primavera Contractor - InstallShield Wizard'. The main heading is 'Customer Information' with the instruction 'Please enter your information.' Below this, a larger text block says: 'Please enter your name, the name of the company for which you work, and the product serial number. The product serial number is located on the Primavera CD case.' There are three input fields: 'User Name:' with the text 'Primavera User', 'Company Name:' with the text 'Primavera', and 'Serial Number:' with the text '84000000'. At the bottom left is the 'InstallShield' logo. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

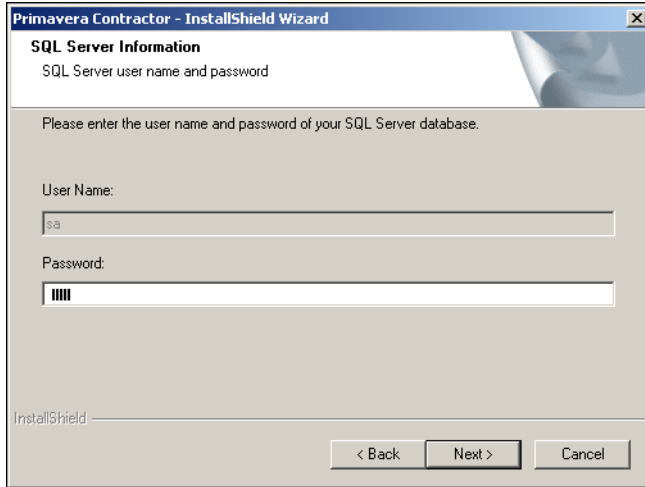
- 5 Choose the destination folder for the Primavera Contractor installation. By default, the destination folder will be the location where version 5.0 was installed.

The screenshot shows the 'Choose Destination Location' screen of the 'Primavera Contractor - InstallShield Wizard'. The window title is 'Primavera Contractor - InstallShield Wizard'. The main heading is 'Choose Destination Location' with the instruction 'Select folder where setup will install files.' Below this, a text block says: 'Setup will install Primavera Contractor in the following folder.' Another text block says: 'To install to this folder, click Next. To install to a different folder, click Browse and select another folder.' There is a 'Destination Folder' input field containing the text 'C:\Program Files\Primavera\' and a 'Browse...' button to its right. At the bottom left is the 'InstallShield' logo. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.



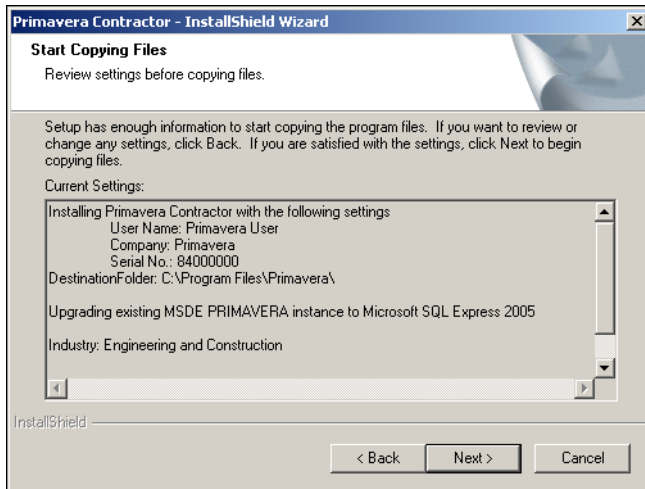
The following step applies when you already have Microsoft SQL Server 2005 installed AND use a different password to login to SQL Server than the default password. This step also applies when you use the default password along with the default SQL Server 2005 instance (rather than a Primavera instance).

- 6 You will need to enter your SQL Server password only if your password is not the default password, prima. If necessary, enter your password, then click Next.



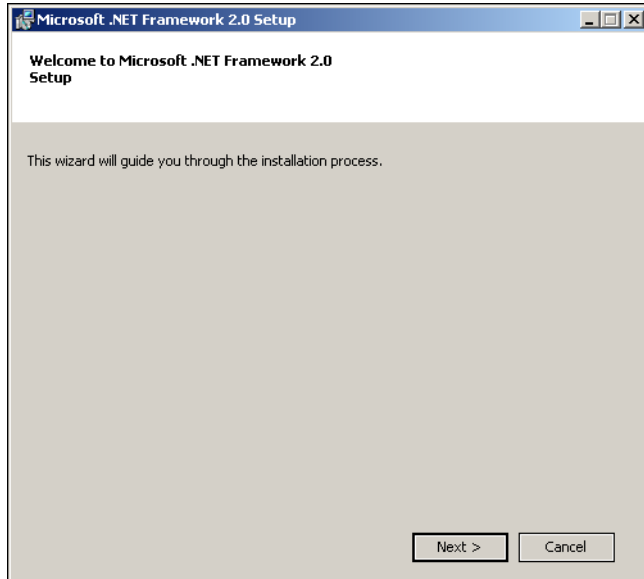
The screenshot shows the 'SQL Server Information' step of the 'Primavera Contractor - InstallShield Wizard'. The title bar reads 'Primavera Contractor - InstallShield Wizard'. The main heading is 'SQL Server Information' with the subtitle 'SQL Server user name and password'. The instruction says 'Please enter the user name and password of your SQL Server database.' There are two input fields: 'User Name:' with the text 'sa' and 'Password:' with masked characters '■■■■'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

- 7 Review the setup information. Click Next to begin the installation.

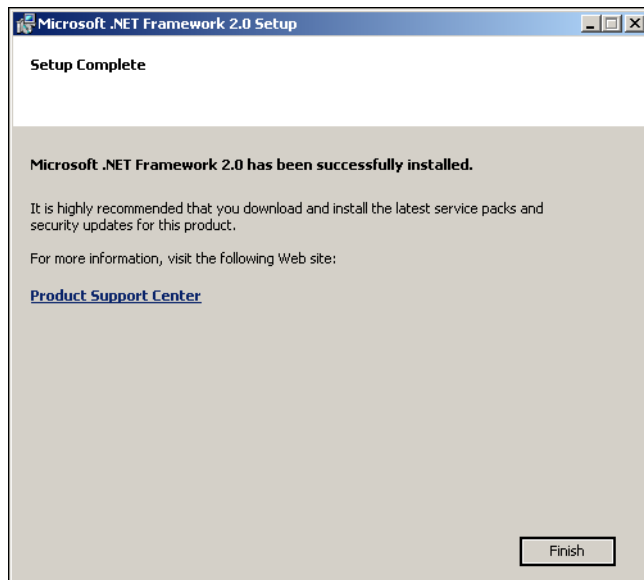


The screenshot shows the 'Start Copying Files' step of the 'Primavera Contractor - InstallShield Wizard'. The title bar reads 'Primavera Contractor - InstallShield Wizard'. The main heading is 'Start Copying Files' with the subtitle 'Review settings before copying files.' The instruction says 'Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.' Below this, there is a section titled 'Current Settings:' followed by a list of settings: 'Installing Primavera Contractor with the following settings', 'User Name: Primavera User', 'Company: Primavera', 'Serial No.: 84000000', 'DestinationFolder: C:\Program Files\Primavera\' (highlighted), 'Upgrading existing MSDE PRIMAVERA instance to Microsoft SQL Express 2005', and 'Industry: Engineering and Construction'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

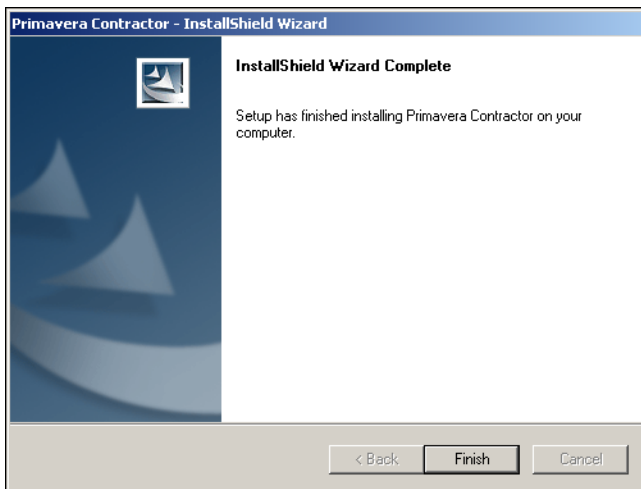
- 8 You will be prompted to install Microsoft .NET Framework, if it is not already present on your computer. Click Next to begin the installation.



- 9 Click Finish to continue with the Contractor installation.



Microsoft SQL Server 2005 Express and DB Express will be installed, along with the application and sample data (if you chose to install sample data in version 5.0). The Primavera API, Claim Digger, and Update Baseline utilities are automatically installed along with Primavera Contractor. The project comparison tool, Claim Digger, runs on Windows XP and Vista platforms.



10 Start Primavera Contractor.

There is no need to register Primavera Contractor again if registration was completed in version 5.0. If you did not previously register, follow the instructions in [“Register Primavera Contractor”](#) on page 17. You have up to 45 days after the initial installation to register Primavera Contractor.

Register Primavera Contractor

You must register Primavera Contractor within 45 days of installation. The registration dialog appears every time you launch the application until you register. When the 45-day registration period expires, the application is disabled. You can complete the registration online (required if you have internet access) or send a fax (if you do not have internet access).

Register online Follow these steps to register Primavera Contractor using the internet. If the computer on which you installed the application does not have internet access, refer to the next section to submit your registration by fax.

- 1 From the Start menu, choose Programs, Primavera, Primavera Contractor.

The Registration dialog automatically opens.

- 2 Enter your registration information, or click Later to complete the registration form at another time.



If you select Later, you can complete the registration form at any time from within the application. To do so, choose Help, Registration.

Indicates the number of days you have to register the software.

Indicates that the software has not been registered.

Click Later to complete the registration form later.

- 3 Click Register.

The application launches the Primavera Contractor registration website. The information you entered in the Registration dialog is automatically populated in the online registration form.

- 4 Enter the remaining registration information in the online form and submit your registration.



When Primavera receives your registration and verifies the information, Primavera will send an activation key to the e-mail address you specified in your registration form. Please allow up to three business days to receive the activation key.

- 5 When you receive the activation key, save the key to the folder in which you installed Primavera Contractor.
- 6 From the Start menu, choose Programs, Primavera, Primavera Contractor.

The application automatically launches the Registration dialog.

- 7 In the Registration dialog, click Registration File.
- 8 In the Open dialog, navigate to the folder in which you saved the activation key.
- 9 Double-click the activation key.

The application is automatically registered. The Registration dialog should look similar to the following:

The Registration dialog box displays the following information:

Name		Company
Primavera User		Primavera
Address 1		Phone Number
3 Bala Plaza West		610-949-6285
Address 2		E-Mail Address
Suite 700		primaverauser@primavera.com
City	State/Region	Serial Number
Bala Cynwyd	PA	84000000
Postal Code	Country	
19428	USA	

Buttons: Registration File..., Register..., Cancel, OK.

A blue circle highlights the word "Registered" next to the serial number. A blue arrow points from the text "Indicates that the product is registered." to this circle.

Indicates that the product is registered.

Register by fax If the computer on which you installed the application does not have access to the internet, follow these instructions to register the software.

- 1 From the Start menu, choose Programs, Primavera, Primavera Contractor.

The Registration dialog automatically opens.

- 2 Enter your registration information, or click Later to complete the registration form at another time.



If you select Later, you can complete the registration form at any time from within the application. To do so, choose Help, Registration.

- 3 Click Register.

The application launches a text file containing your registration information.

- 4 Save the text file.
- 5 In the text file, enter the remaining required information.
- 6 Print the text file.
- 7 Fax your registration information to the number specified in the text file.



When Primavera receives your fax and verifies the information, Primavera will send a disc containing your activation key to the address you specified in your registration form. Please allow up to three business days for Primavera to send the disc.

- 8 From the disc, download the activation key to the folder in which you installed Primavera Contractor.
- 9 From the Start menu, choose Programs, Primavera, Primavera Contractor.
The application automatically launches the Registration dialog.
- 10 In the Registration dialog, click Registration File.
- 11 In the Open dialog, navigate to the folder in which you saved the activation key.
- 12 Double-click the activation key. The application is automatically registered.

Understanding Project Management

In this chapter

What Is Project Management?

**Project Management Process
Overview**

If you are new to formal project management techniques, or if you just want to review the concepts, read this section to understand project management and to identify the basic steps in project planning and control. This section provides an overview of building a schedule by creating activities necessary to achieve the project objective, adding project calendars, linking activities, and identifying and assigning the resources necessary to complete the project.

What Is Project Management?

A project is a unique, one-time endeavor with a specific start and end, usually confined to a budget. Whether a project involves the construction of a new building, creation of a new product, the relocation of a manufacturing facility, or the installation of a new computer system, successfully completed projects are the means by which a company builds its future. Projects “make things happen” for companies.

A project differs from ongoing work. Ongoing work focuses on activities—daily operations such as manufacturing, selling, distribution, or customer service—performed repeatedly, ideally with increasing productivity. A project is unusual. In many companies, a project is foreign to the daily routine. It may pull people away from their usual work, asking them to focus on achieving a deliverable result such as a new product design, a procedure for improving productivity, or a company-wide sales conference. Other enterprises are innately project-oriented—aerospace, construction, maintenance and turnaround, and most engineering disciplines, for example.

Project management helps you plan and control any kind of project by using a dynamic schedule—a schedule that provides a realistic model of a project’s anticipated behavior, then changes to match the project’s actual behavior. Because Primavera Contractor uses your own project information to predict the effects of your decisions, you can be sure that each decision you make will move the project efficiently toward completion.

Project planning involves detailed consideration of all the activities needed to complete the project, realistic estimates of how long each activity will take, and relationships between activities. The relationships you establish between activities affect how the project proceeds and how quickly it can be completed. Together, these elements of project management answer the questions, “What must be done?” and “When must it be done?”

Project planning also involves many other questions that you need to ask yourself, such as the following:

- What is the overall duration of this project?
- How much money will it cost to complete the project?
- How much equipment and materials are needed?
- How many people do we need at each stage of the project?

- How can we avoid scheduling conflicts?
- How will a delay affect labor requirements?
- Who needs to receive information about progress?
- What kinds of reports will I prepare?

The remainder of this chapter helps you understand the steps you should follow for planning and managing your own projects successfully.

Project Management Process Overview

Primavera Contractor provides many tools that help you plan and control your project schedule. But where do you begin? What do you do first? As you become more familiar with project management and Primavera Contractor, you will develop your own way of organizing projects and entering data.

The key elements that should guide your decisions in project management are planning, controlling, and managing.

Planning a project The first step in project management is to define your project.

- 1 *What is the scope of the work?* What activities will make up the project and what is their relationship to each other? You'll also want to identify the major milestones that will help you monitor the project's progress.
- 2 *What is the project duration?* What are the dates when the project will begin and end?
- 3 *What resources are available to the project?* Beyond labor, think about all the types of resources you will require.
- 4 *Who will perform what tasks?* Determining your labor resources and their available workhours is a key part of building a successful project. You'll need to plan for downtime and holidays and determine the regular workweek for various staffing types.
- 5 *How much will the project cost?* What are the costs per resource? Are there any hidden project costs?

The answers to these questions form the framework of your project.

Controlling a project Once you have built your project and estimated your budgeting needs, you save this original plan as a *baseline*, or *target schedule*, to help you control the project. A baseline provides a solid point of reference as your schedule changes over time. It allows you to compare the original schedule to the current one and identify significant changes and develop contingency plans.

You control a project to keep it heading in the right direction. You'll want to track work progress and costs, compare them to your baseline, and then recommend what actions should be taken.

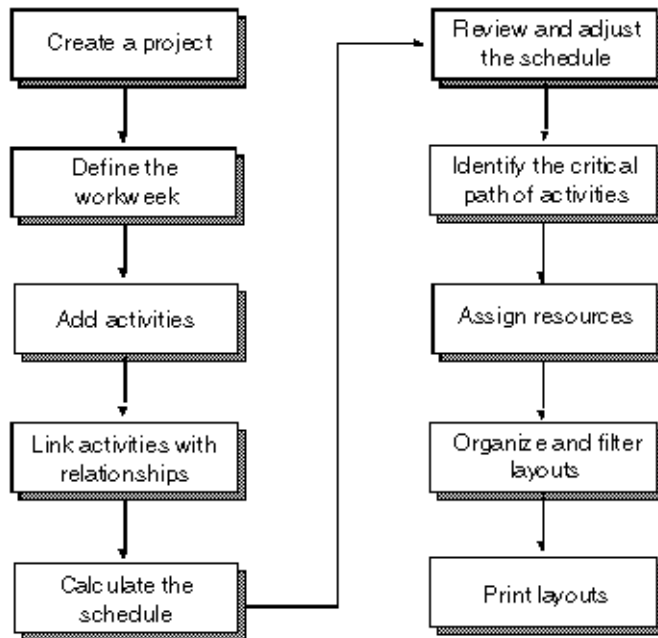
Managing a project The process of guiding a project from start to finish is the responsibility of a project manager. A good project manager wears many hats, acting at various times as a motivator, communicator, coordinator, and advisor. As you control the project's progress, it is your job to keep your team aware of changes to the schedule and possible consequences. In many ways, you are the project's ambassador, ensuring that your project organization is carrying out its responsibilities for the best possible outcome.

To be an effective project manager, you must consistently update your projects. Select a day each week, or biweekly, when you will regularly update projects. This regular update will include progress on values such as

- Dates on which activities started or finished.
- Dates when resources are consumed.
- Changes to resource rates.

Determine a standard policy for the updating and scheduling procedure, and for reporting progress.

The flow chart on the next page shows the typical steps for creating a basic schedule. First, create a list of activities and tie them together using relationships. Calculate and review the schedule according to a timescale, assign the necessary resources required to complete the activity, then customize and print your presentation.



After you create a basic schedule, you may want to define and enhance dictionary data, such as activity coding, or refine the schedule by changing calendar definitions.

Collaborating with Project Management Module Users

In this chapter

**Introduction to Collaborative
Schedule Management**

Collaboration Best Practices

As a Primavera Contractor user, you may be required to collaborate with users of Primavera's project portfolio management application, the Project Management module, to update the project schedule. Read this chapter to learn the best practices for collaborating with Project Management module users.

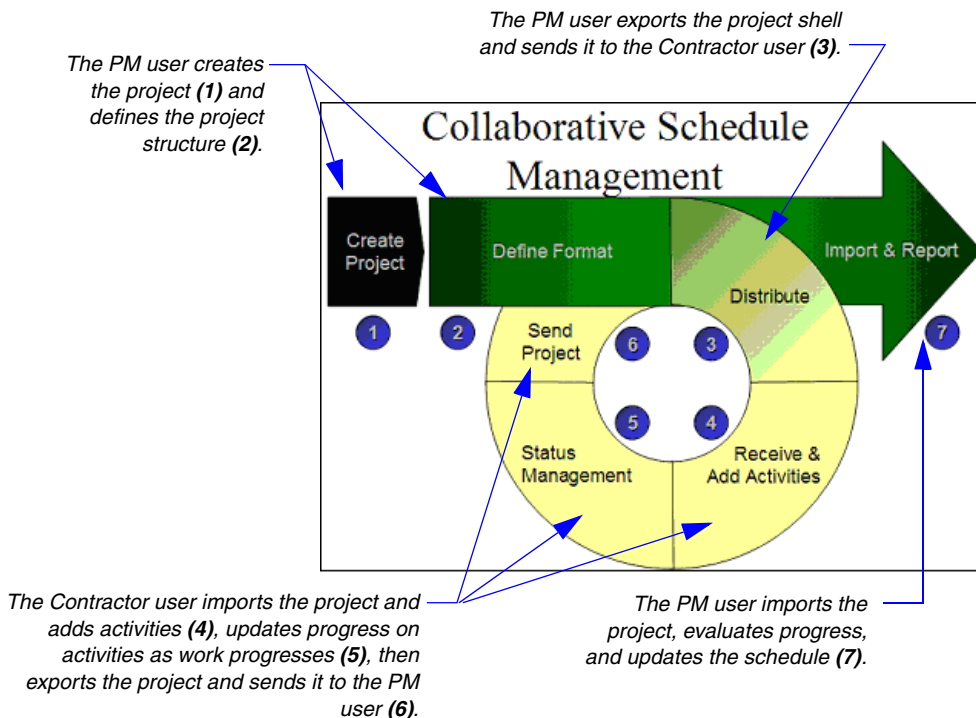
Introduction to Collaborative Schedule Management

Collaborative schedule management is the process of exchanging project data during the project life cycle to initiate, update, and manage the project schedule. Program managers and project controls engineers use Primavera's Project Management module (PM), along with other Primavera applications, to manage organizational data in their project portfolios; project managers and schedulers use Primavera Contractor to status activities and update the schedule.

For more information on importing and exporting XER files, refer to "Transferring Primavera Data (XER and XML)" on page 311.

Primavera's proprietary data exchange format (XER) provides a fast, reliable way to exchange project data between Contractor and PM users. PM users can create a project "shell" containing the necessary organizational-level data and export it to Contractor users; Contractor users can status activities and export the project back to PM users at regularly scheduled intervals.

The following diagram represents an effective way to utilize Contractor and PM to manage your project schedule.



Steps 1 through 4 only occur once, during the initial project planning phase. Steps 5 through 7 are repeatable processes that occur at specific intervals during the project life cycle as determined by the project's requirements. Depending on the project, you may be required to update status and send the project to the PM user monthly, weekly, or even daily.



If required for your organization, you can also exchange data between Contractor and PM using the Primavera PM XML format. Details on importing and exporting using this process can be found in [Transferring Primavera Data \(XER and XML\)](#).

Collaboration Best Practices

When exchanging data between Contractor and PM users in a scenario in which PM users create the initial project and Contractor users simply add activities and update the schedule, Primavera recommends that you follow the best practices described in this section.

Process overview In a typical collaborative schedule management scenario, a PM user creates a project shell containing all the project data relevant to managing the project schedule, except activities. Using Primavera's XER import/export capability, you can import the PM project shell into your Contractor database, add the activities that must be finished to complete the project, status activities as work progresses, and export the project back to the PM user at specified intervals.

PM user responsibilities In a typical scenario, before you receive an initial project from a PM user, the PM user is responsible for:

- creating the project shell.
- defining activity codes, resources, and resource codes.
- adding start and finish milestones to the project schedule.
- adding constraints, such as a Must Finish By date.
- defining budget data.
- determining if the contractor working on the project uses costs or units to update the schedule. If using costs, the PM user will also define cost accounts and resource rates.



In most cases, the PM user will also set up the Work Breakdown Structure (WBS), which is the project's work hierarchy. You will add the project's activities to the WBS. If you, rather than the PM user, are responsible for creating the WBS, you must create the WBS before adding activities. Refer to ["Reviewing Work Breakdown Structures"](#) on page 101 for instructions on creating the WBS.

Contractor user responsibilities After you receive a project from a PM user, you are typically responsible for:

- importing the project.

For details on importing XER projects, refer to [“Importing Projects”](#) on page 319. For details on importing XER projects via e-mail, refer to [“Importing and Exporting Projects Using E-mail”](#) on page 335.

- adding activities to the Work Breakdown Structure (WBS).

For details on adding activities to projects, refer to [“Working with Activities”](#) on page 139.

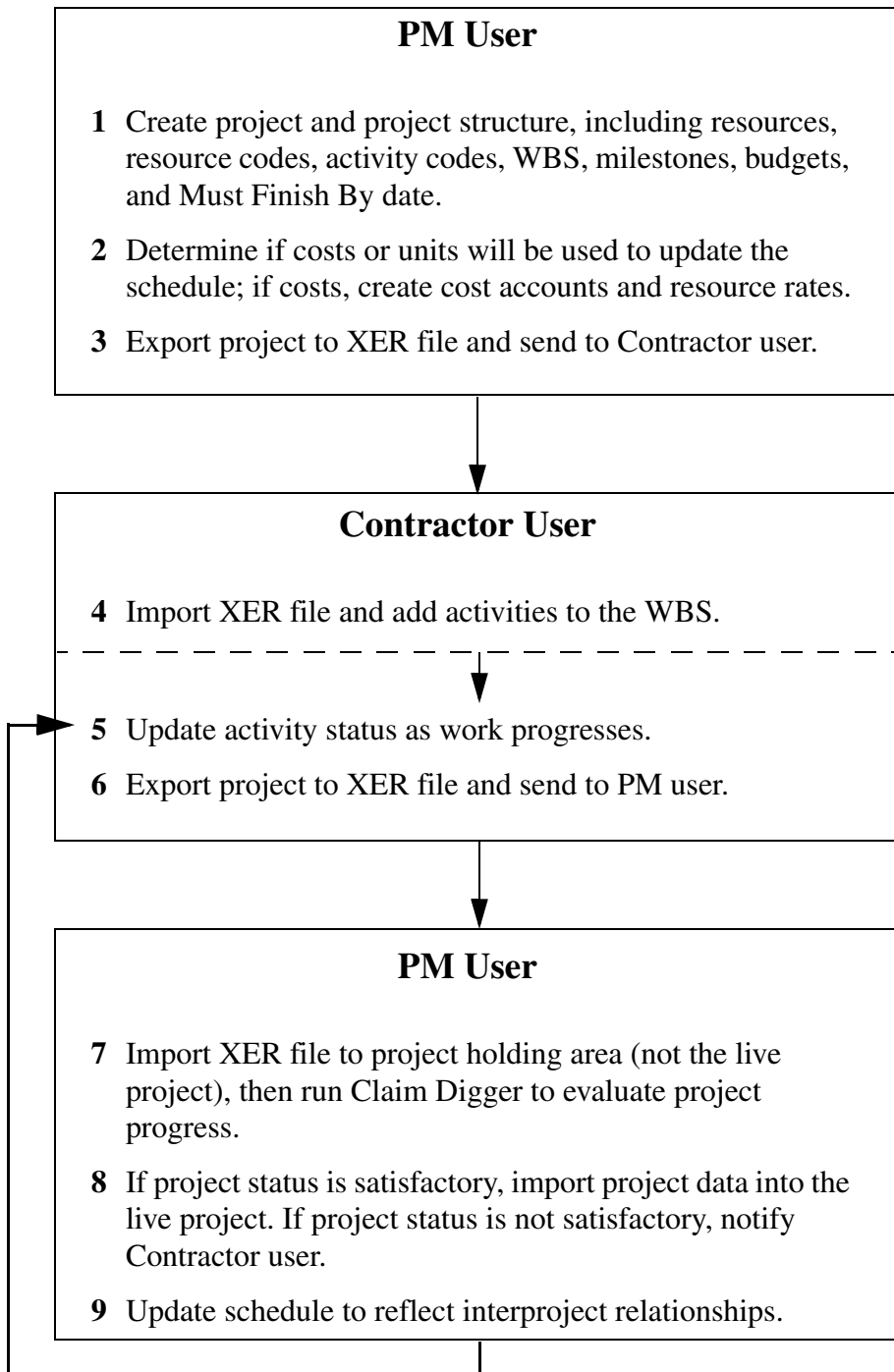
- updating activity progress.

For details on updating activity progress and scheduling projects, refer to [“Updating and Scheduling”](#) on page 203.

- exporting the project back to the PM user.

For details on exporting XER projects, refer to [“Exporting Projects”](#) on page 312. For details on exporting projects to XER format and e-mailing the project in one step, refer to [“Importing and Exporting Projects Using E-mail”](#) on page 335.

The diagram on the next page depicts the recommended collaboration workflow for a project.



Quick Tour

In this chapter

Getting Started

Selecting a Language

The Workspace

What Is a Layout?

Customizing Displays

Sample Layouts

Using Wizards

Using Undo

This quick tour introduces you to the application and its workspace. It discusses the layout approach to viewing data and includes samples to help you start creating your own layouts. You will also learn the basic steps for starting the application, opening a project, and using wizards to speed up your work.

Getting Started

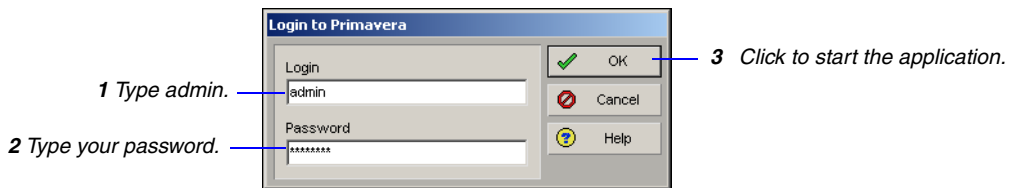
This section describes how to start the application and log in (if required), and introduces you to the workspace.

Start the application Click Start, then choose Programs, Primavera, Primavera Contractor.

Log in You are not required to log in to the application. However, you can specify a password at any time. If you create a password, you are required to login each time you launch the application.

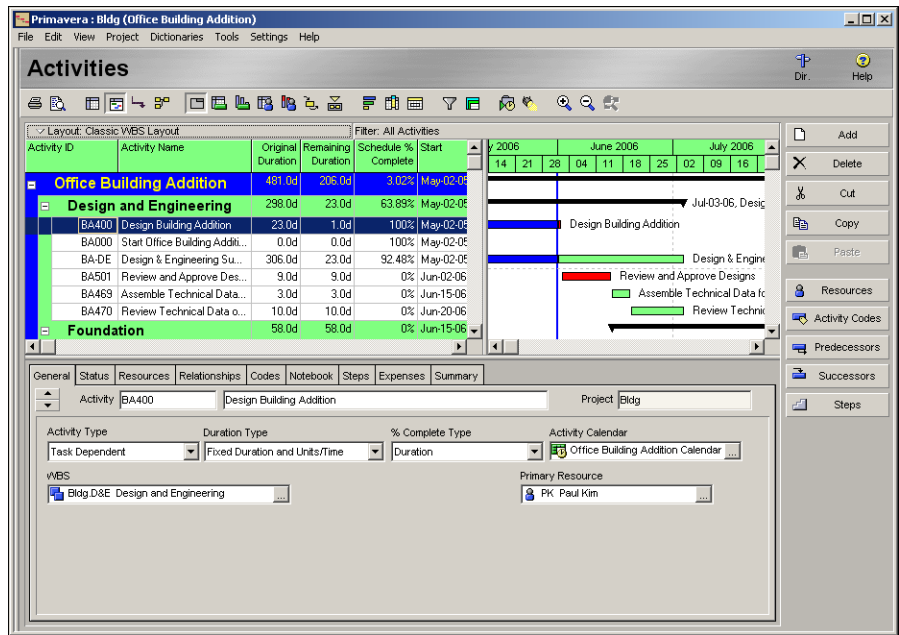
To create a password, choose Edit, User Preferences. In the Password tab, click Password to specify the login password. The next time you launch the application, you must enter a valid login name and the password you specified. The Login Name is always 'admin'.

For more information on changing/adding a password, refer to "Changing Your Password" on page 57.



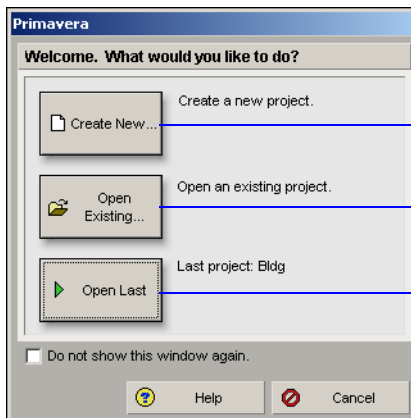
Passwords are case-sensitive and can be up to 20 characters in length. Use ASCII text characters only.

The first time you launch the application, the Activities view is displayed by default if you downloaded sample data during installation. If you did not download sample data, the Welcome dialog box is displayed.



If desired, you can display the Welcome dialog each time you open the application. Use the Welcome dialog box to create a new project, open an existing project, or open the last project you worked on.

For more information on displaying the Welcome dialog each time you launch the application, refer to “Creating a Log of Tasks and Setting Startup, Group and Sort, and Column Options” on page 56.



Starts the Create a New Project wizard for adding a new project

Displays the Open Project dialog box for selecting an existing project

Opens the last project you used

Mark the Do Not Show This Window Again checkbox if you do not want the Welcome dialog box to appear each time you open the application. If you select this option, the last project you used automatically opens. To turn this option back on, choose Edit, User Preferences. In the Application tab, mark the Show the Welcome Dialog at Startup checkbox.

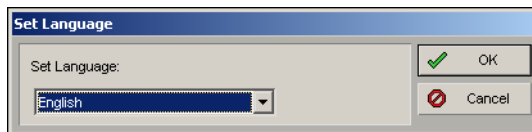
Selecting a Language

Use the Set Language dialog box to select the language in which to display the information in menus, dialog boxes, and messages.



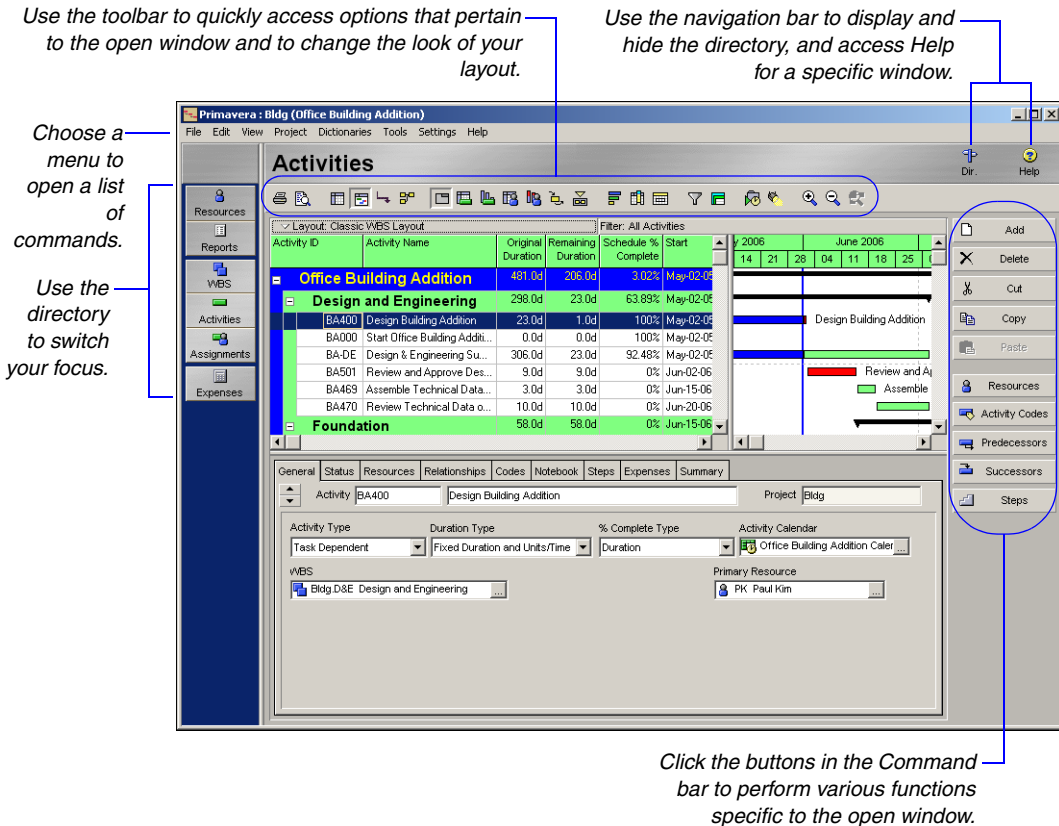
This option does not affect the data you enter; manually entered data appears exactly as typed.

Select a language To display the Set Language dialog box, choose Tools, Set Language.

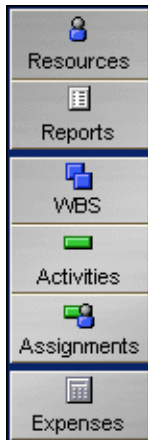


The Workspace

The application contains five main windows: WBS, Activities, Resources, Reports, and Expenses. When you first open a project, the application displays the Activities window. The workspace for each main window consists of a menu bar, navigation bar, directory bar, toolbar, and command bar.



Display the directory bar Use the directory bar to display windows quickly. Choose View, Toolbars, Directory, to display or hide the directory bar. To display or hide directory bar button text, choose View, Toolbars, Directory Button Text.



Displays the Resources window. Use to add or modify your organization's resources.

Displays the Reports window. Use to produce reports for all projects or the open project.

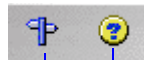
Displays the Work Breakdown Structure window. Use to add or modify the open project's work breakdown structure (WBS).

Displays the Activities window. Use to work with activities in the open project.

Displays the Resource Assignments window. Use to view, add, and delete resources assigned to activities.

Displays the Project Expenses window. Use to work with expense items for the open project.

Display the navigation bar Use the navigation bar to display and hide the directory and open Help for the current window or dialog box. The navigation bar is displayed or hidden when you choose View, Toolbars, Navigation Bar. To display or hide navigation bar button text, choose View, Toolbars, Navigation Bar Button Text.



Displays or hides the directory

Opens Help for the active window

Use shortcut menus Instead of using standard menus and buttons, you can also right-click to access frequently used commands. To use shortcut menus, right-click an element or the white space in any window, then choose the appropriate command.

Select multiple items To select a group of items that are next to each other in the display, hold down the Shift key, click the first item in the group, then click the last item in the group. To select multiple items that are not next to each other in the display, hold down the Ctrl key, then click each item you want to select.

What Is a Layout?

A layout is a customizable view of project information. To customize a layout to meet specific needs, you can choose from a wide range of project information, columns, colors, fonts, and activity groupings, and you can display these data in the top and/or bottom layouts. For example, show a Gantt Chart in the top layout and an Activity Table in the bottom layout. Each time you change the way data are presented in the top and bottom layouts, you create a unique layout. The application automatically prompts you to save a layout when you close it, allowing you to define a unique name for it so you can use the layout again with the current project or a different project.

For more information on using the Fill Down function in the Activity Table, see the Help.

Activity Table displays activity information in spreadsheet format. Use this type of layout to quickly update a project. Use the Fill Down function to quickly copy and paste contents of rows in the Activity Table. You can use filters and group data to see only those activities that occur in your current status cycle. You can customize Activity Table columns. You can also sort, filter, and group activities in the Activity Table, as well as change the font of the activity information and the color of the table background. The Activity Table is displayed in the top and bottom layouts.

Gantt Chart provides a graphical display of activity progress over the course of the project. You can customize Gantt Chart bars, colors, labels, and symbols. You can also sort, filter, and group activities in the Gantt Chart. The Gantt Chart is displayed in the top and bottom layouts.

Activity Usage Spreadsheet displays units, costs, or earned value data by activity over time. Use this type of layout to review per period and rolled up activity resource/cost data. The Activity Usage Spreadsheet is displayed in the top and bottom layouts.

Activity Network provides a graphical display of activities, including logical relationships. You can specify which information you want to display, and you can change the Activity Network colors and fonts. You can also group and filter activities in the Activity Network. The Activity Network is displayed in the top layout only.

Activity Details display detailed information for an activity you select in either the Activity Table or Activity Network. You can also use Activity Details to enter and edit an activity's information, such as dates and predecessor/successor relationships. Activity Details is displayed in the bottom layout only.

Resource Usage Spreadsheet displays resource data in spreadsheet format. This approach is helpful when you are updating and maintaining both your resource hierarchy and individual resource information. This spreadsheet is displayed in the bottom layout only.

Activity Usage Profile displays a time distribution of activity units and costs in a Bar Chart format. You can customize all aspects of the Activity Usage Profile display. You can also filter activity information in the Activity Usage Profile. This profile is displayed in the bottom layout only.

Resource Usage Profile displays a time distribution of resource units and costs in relation to activities in a Bar Chart format. You can customize all aspects of the Resource Usage Profile display. You can also filter activity and resource information. This profile is displayed in the bottom layout only. You can also display a stacked histogram for the profile in the Activity window.

Trace Logic provides a graphical display of dependency relationships for an activity you select in either the Activity Table or Activity Network. Trace Logic is displayed in the bottom layout only.

Use toolbar buttons to customize the layout.

To completely close the lower layout and view only the data in the top layout, click the Show/Hide Bottom Layout button.

To hide or show more of the information in each pane, drag the horizontal split bar between the two layouts.

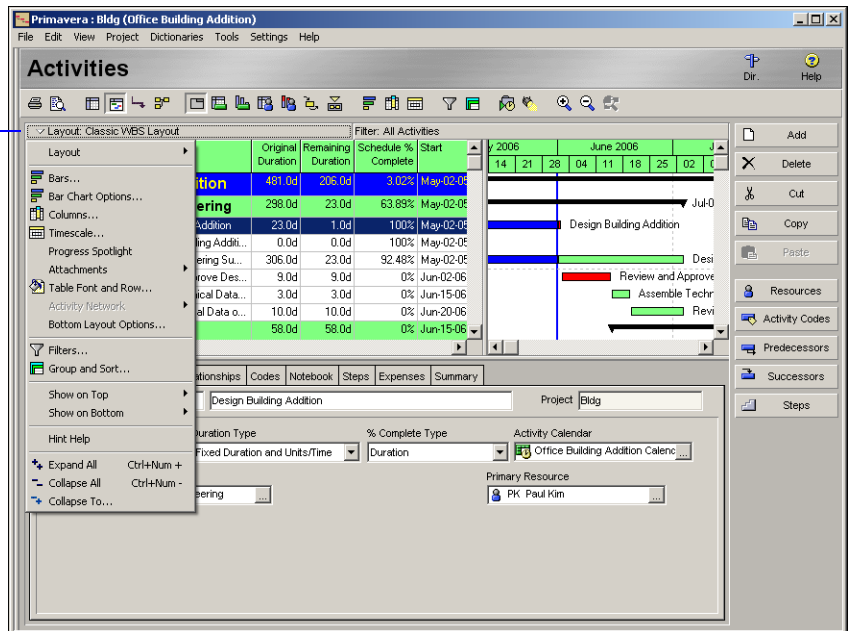
Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start
Office Building Addition					
	Design and Engineering	298.0d	23.0d	63.89%	May-02-06
BA400	Design Building Addition	23.0d	1.0d	100%	May-02-06
BA400	Start Office Building Addition	0.0d	0.0d	100%	May-02-06
BA40E	Design & Engineering Summary	306.0d	23.0d	92.48%	May-02-06
BA501	Review and Approve Designs	9.0d	9.0d	0%	Jun-02-06
BA469	Assemble Technical Data for	3.0d	3.0d	0%	Jun-15-06
BA470	Review Technical Data for	10.0d	10.0d	0%	Jun-20-06
Foundation					
		58.0d	58.0d	0%	Jun-15-06

In this sample layout, the top part of the window shows activity data in a Gantt Chart, and the lower part of the window displays the Activity Details.

Customizing Displays

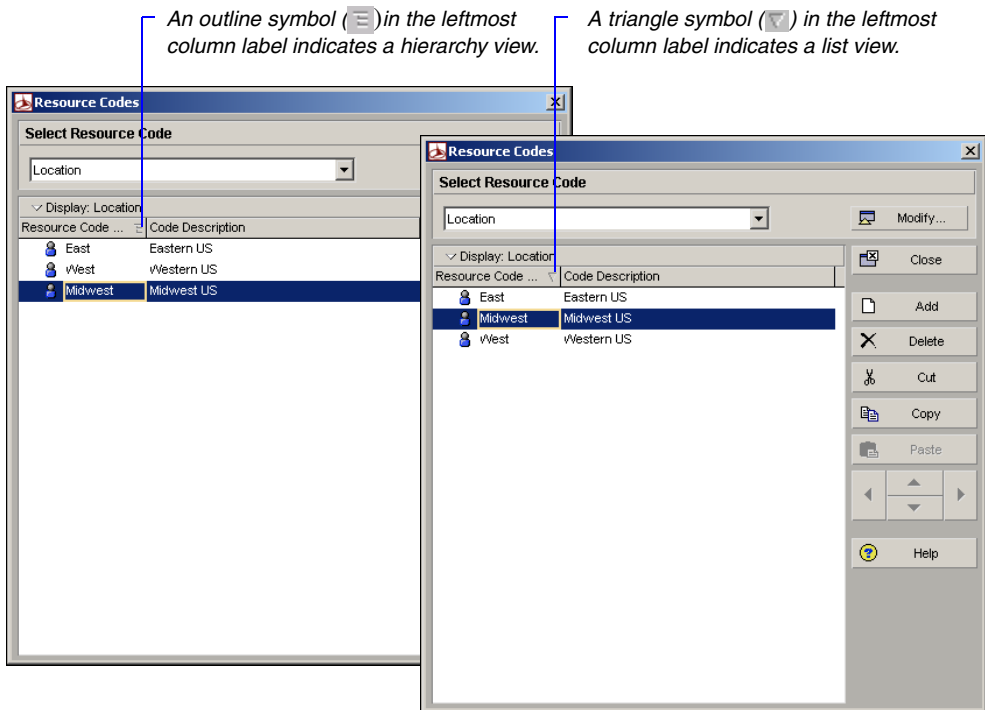
Most windows and dialog boxes include a Display or Layout Options bar at the top of the screen that contains commands that enable you to customize the current display. Click this bar to display a menu of the commands available for that window or dialog box. You can also access many of these commands from the View menu.

Click the Layout Options bar to display a menu of the options available for the Activities window.



For details about customizing layouts, see “Customizing Layouts” on page 267.

For hierarchical data, such as the work breakdown structure and resources, you can switch your display from a hierarchical view to a list view by clicking the leftmost column label that appears in the display.



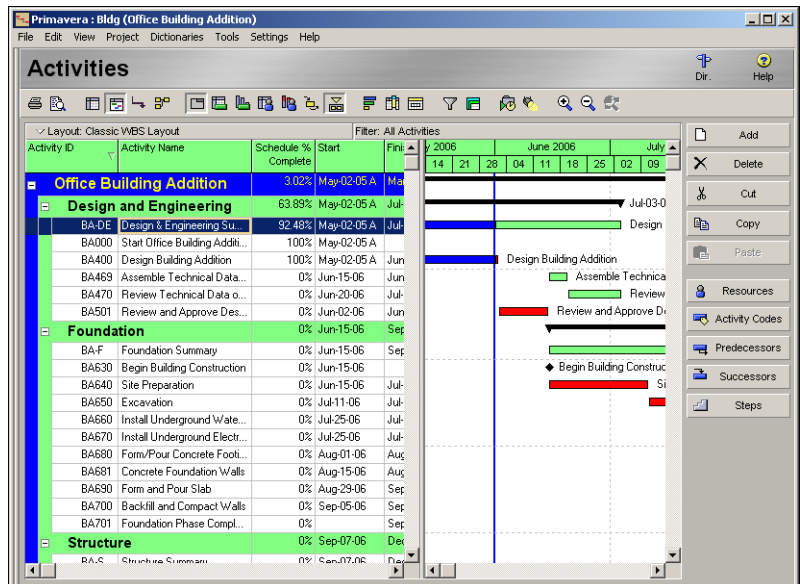
After you change a display to list view, you can also sort the displayed information by clicking any column label.

Sample Layouts

The sample database included with the application provides standard layouts that you can use with your own projects.

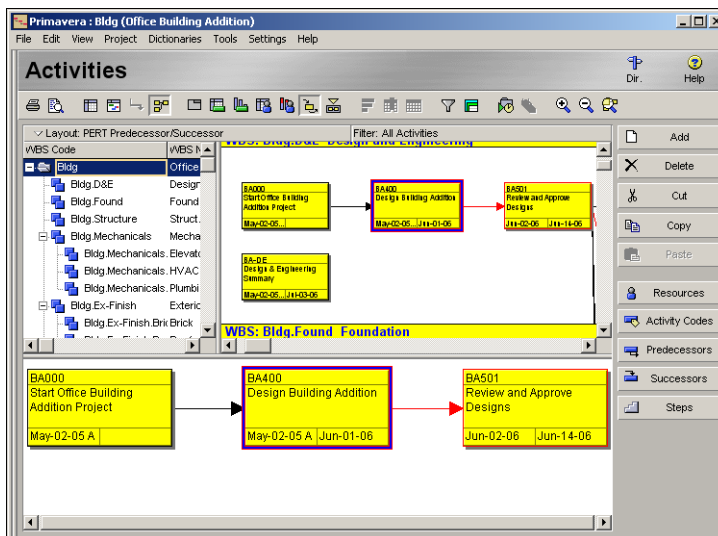
To open a sample layout, first open one of the projects from the sample database or your own database in the Activities window, then choose View, Layout, Open.

In this sample layout, you can view your project data based on the project's work breakdown structure (WBS).



Activity ID	Activity Name	Start	BL1 Start	Finish	BL1 Finish
Brick					
BA-B	Brick Summary	Jun-15-06	Jun-15-06	Dec-14-06	Dec-14-06
BA450	Assemble Brick Samples	Jun-15-06	Jun-15-06		
BA530	Review and Approve Brick Samples	Jun-15-06	Jun-15-06	Jun-28-06	Jun-28-06
BA421	Prepare and Solicit Bids for Brick Exterior	Jun-29-06	Jun-29-06	Jul-03-06	Jul-03-06
BA422	Review Bids for Brick	Jul-04-06	Jul-04-06	Jul-06-06	Jul-06-06
BA423	Award Contract for Brick	Jul-07-06	Jul-07-06	Jul-07-06	Jul-07-06
BA600	Deliver Brick	Jul-10-06	Jul-10-06	Jul-10-06	Jul-10-06
BA750	Brick Exterior Walls	Dec-06-06	Dec-06-06	Dec-14-06	Dec-14-06
Carpentry					
BA900	Install Ceiling Grid	Feb-13-07	Feb-13-07	Mar-05-07	Mar-05-07
BA-C	Ceiling Summary	Feb-13-07	Feb-13-07	Mar-19-07	Mar-19-07
BA911	Finish Carpentry and Millwork	Mar-13-07	Mar-13-07	Mar-19-07	Mar-19-07
Design and Engineering					
BA400	Design Building Addition	May-02-05 A	May-02-05	Jun-01-06	Jun-01-05
BA-DE	Design & Engineering Summary	May-02-05 A	May-02-05	Jul-03-06	Jul-03-06
BA000	Start Office Building Addition Project	May-02-05 A	May-02-05		
BA501	Review and Approve Designs	Jun-02-06	Jun-02-06	Jun-14-06	Jun-14-06

This layout enables you to compare your current dates to your baseline dates.

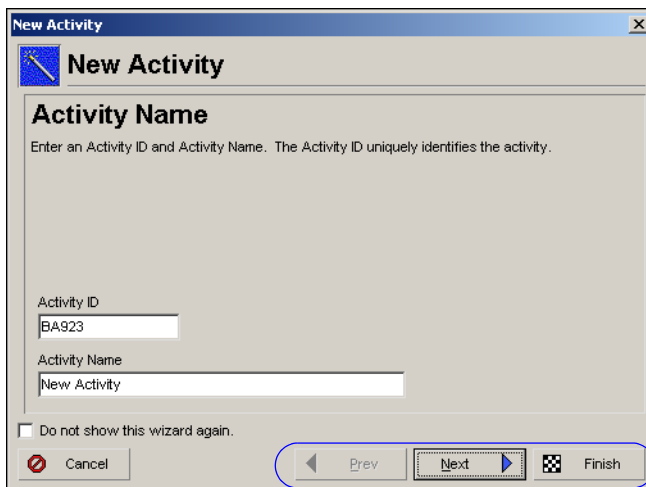


This Activity Network layout enables you to view your project graphically, by predecessor and successor relationships. Click the Activity Network boxes to move along the critical path of the project, or right-click to make changes to the data.

Using Wizards

Wizards are a great way to speed up your work. They quickly guide you through repetitive steps, doing most of the work for you.

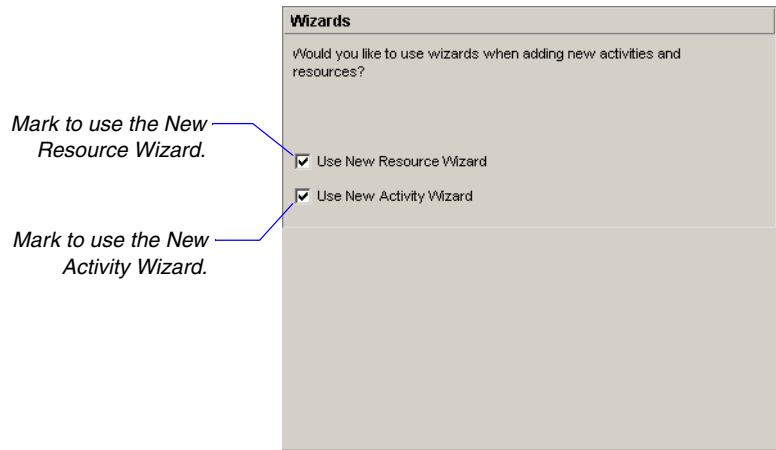
The application contains wizards for creating new projects, adding activities, creating resources, building reports, and importing/exporting data.



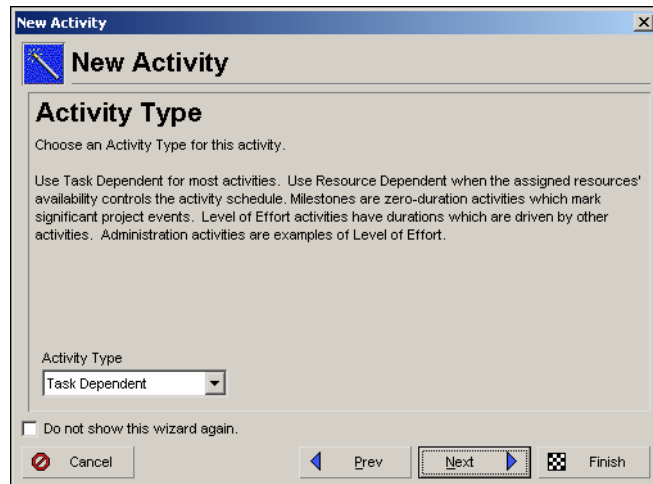
*These navigation buttons step you through the wizard. Click **Prev** to change your previous entries and **Next** to move forward.*

Wizards are discussed in more detail in the appropriate chapters of this manual and in the Help.

Set wizard options Choose Edit, User Preferences. Click the Assistance tab.



Navigate wizards To move between different wizard windows, click Prev or Next. To save your changes and close the wizard at any time, click Finish. To close the wizard without saving your changes, click Cancel.



Using Undo

Use undo to return project data to its previous state before changes were made. You can undo edits, additions, and deletions in the Activities window. The application stores actions that were made to the project database; however, the following actions will clear the stored actions:

- Creating a project
- Opening and closing a project
- Updating progress
- Refreshing data
- Importing
- Auto scheduling
- Opening the User Preferences and Options dialog boxes
- Exiting the application

You cannot undo any previous action after performing one of these actions.

For more information on using Undo, see the Help.

Undo an action Choose Edit, Undo. The latest action stored for undo is displayed next to the Undo command. For example, if you add a resource assignment to an activity, then choose to remove the assignment from the activity, the Undo command in the Edit menu is displayed as Undo Add Activity Resource Assignment.

Setting User Preferences

In this chapter

Formatting Time Units

Formatting Dates

Setting View Currency and Symbols

Implementing Wizards

Creating a Log of Tasks and Setting Startup, Group and Sort, and Column Options

Changing Your Password

Setting Profile and Spreadsheet Data Options

Setting Calculation Options for Resource Assignments

You can tailor certain options to fit your specific needs. For example, indicate the format for displaying time units and dates and specify the currency to use for viewing costs.

This chapter describes how to set these options.

Formatting Time Units

Time unit settings affect how the application displays time unit values in activity durations, resource prices, availability, and work efforts. Choose Edit, User Preferences, then click the Time Units tab.

Mark to display the time unit abbreviation with the time/duration value.

Units Format

Unit of Time

Hour

Sub-unit

☐ Minutes

Decimals

0

Show Unit label

☐

Example

41

Durations Format

Unit of Time

Day

Sub-unit

☐ Hours

Decimals

0

Show Duration label

☐

Example

10

Units/Time Format

Resource Units/Time can be shown as a percentage or as units per duration

☐ Show as a percentage (50%)

☒ Show as units/duration (4h/d)

This option is disabled when Show Unit label or Show Duration label is not marked.

Set time unit options In the Units Format section, select the time unit used to display work efforts, resource prices, and availability. In the Durations Format section, select the time unit used to display activity duration values.


Mark the Sub-Unit checkbox to include the next smallest time interval for the Unit of Time selected; the field name changes accordingly. For example, if you select Day in the Units field, the Sub-Units field displays Hours. You can also select the number of decimal places you want to include in time unit displays.

In the Units/Time Format section, choose to show resource units per time as percentages or as units per duration. Your choice determines how rates are displayed. For example, 4h/d is the same as 50 percent of an eight-hour day.

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Setting View Currency and Symbols

Choose Edit, User Preferences, then click the Currency tab to specify the currency used to view cost data, and whether to show or hide the currency symbol and/or decimal values in cost values.

 *You must enter all cost data in the view currency selected in User Preferences.*

Mark to include the symbol used for the currency.

Mark to show decimal values for costs.

Currency Options


Select a currency for viewing monetary values

Dollar

☒ Show currency symbol \$

☒ Show decimal digits 0.00

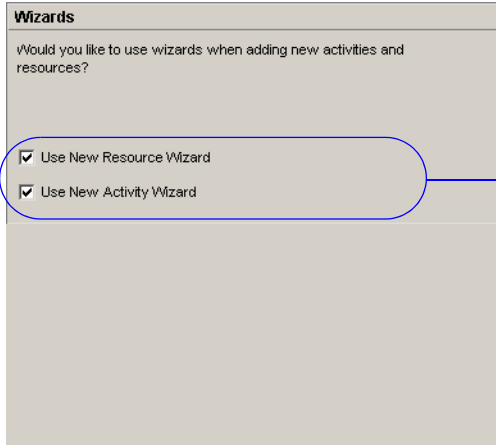
Click to select the currency for viewing costs; this may differ from the base currency used to store monetary values.

 *You can define the currencies available for viewing monetary units in the Currencies dialog box. Choose Settings, Currencies.*

Implementing Wizards

Choose Edit, User Preferences, then click the Assistance tab to enable the use of wizards when adding resources and activities.

To discontinue a wizard's use, you can either clear the checkbox in this dialog box or mark the Do Not Show This Wizard Again checkbox in the wizard dialog box. To enable a wizard for future sessions, mark the applicable checkbox again in the Assistance tab of the User Preferences dialog box.



If you clear one or both checkboxes and add a new resource or activity, you will need to use the current layout to add the information.

Set assistance options Wizards guide you through the steps necessary to complete a function. Once you feel comfortable adding resources and activities, you may not need to use them. Mark the checkboxes in the Wizards section to automatically display the New Resource Wizard when you add a new resource, and the New Activity Wizard when you add a new activity.

Creating a Log of Tasks and Setting Startup, Group and Sort, and Column Options

Choose Edit, User Preferences, then click the Application tab to display the Welcome dialog when you start the application and to record the actions you perform in the application to a log file. You can also set options for grouping and sorting.



Primavera recommends that you use the log file only with the assistance of Primavera Customer Support staff.

Mark to automatically create a log file called **ERRORS.LOG** each time you work in the application.

You must choose **Show ID/Code**, **Show Name/Description**, or both.

Startup Window

☐ Show the Welcome dialog at startup

Application Log File

☐ Write trace of internal functions to log file

Group and Sorting

Labels on grouping bands

☐ Show ID / Code

☒ Show Name / Description

☒ Reorganize Automatically

If you do not select this option, the Activities window is displayed by default when you launch the application.

Set grouping and sorting options You can show or hide the ID/Code or Name/Description fields as labels in the group-by bands when grouping by hierarchies that include both an ID/code and a name description. This user preference setting affects windows/dialog boxes where you cannot access a Group and Sort dialog box.

Mark the Reorganize Automatically checkbox to enable the application to immediately re-sort any changes to activity data in the current view to reflect the layout's grouping and sorting criteria.



If you do not want the application to automatically reorganize data, you can choose Reorganize Now from the Tools menu to apply the group and sort criteria to the updates in the current view.

Changing Your Password

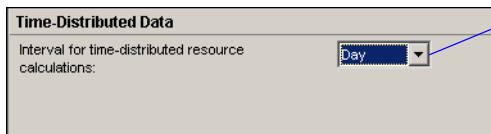
Choose Edit, User Preferences, then click the Password tab to change your current password for starting the application. A password is not required to run the application.



Passwords are case-sensitive and can be up to 20 characters long. Use ASCII text characters only.

Setting Profile and Spreadsheet Data Options

Choose Edit, User Preferences, then click the Resource Analysis tab. Profiles, spreadsheets, and layouts are only affected if their timescale interval is set lower than the interval set in the Interval for Time-Distributed Resource Calculations field.



Time-Distributed Data

Interval for time-distributed resource calculations: Day

If you manually plan future period resource allocation in the Resource Usage Spreadsheet, this setting determines the minimum timescale interval in which you can enter a value.

Setting Calculation Options for Resource Assignments

Choose Edit, User Preferences, then click the Calculations tab to specify how cost and units are allocated when you add or delete multiple resource assignments.

The application enables you to specify how to calculate remaining values when new resource assignments are added to or removed from activities. Remaining duration, remaining units, and remaining units/time will not change for existing assignments, regardless of the duration type.



When the first assignment is added, units/costs are calculated based on the activity's duration type.

Resource Assignments
When adding or removing multiple resource assignments on activities
<input checked="" type="radio"/> Preserve the Units, Duration, and Units/Time for existing assignments
<input type="radio"/> Recalculate the Units, Duration, and Units/Time for existing assignments based on the activity Duration Type
Assignment Staffing
When assigning a resource to an existing activity assignment:
<input type="radio"/> Always use the new resource's Units per Time and Overtime factor
<input type="radio"/> Always use current assignment's Units per Time and Overtime factor
<input checked="" type="radio"/> Ask me to select each time I assign

Preserve the units, duration, and units/time for existing assignments When adding or removing multiple resource assignments on activities, choose this option for units, durations, and units/time to remain constant when additional resources are assigned to any activity. Regardless of the duration type of an activity, this equation is always true:

Remaining Units = Remaining Duration x Remaining Units/Time

Recalculate the units, duration, and units/time for existing assignments based on the activity duration type When adding or removing multiple resource assignments on activities, choose this option to calculate a resource assignment's remaining values based on the activity's duration type, specified in the Activity Details General tab.

Choose assignment staffing defaults You can choose the application's default behavior when you replace a resource on an existing activity assignment with a different resource.

When replacing a resource on an existing activity assignment, you can choose to always use the units/time and overtime factor of the new resource or of the current assignment (i.e., the resource you are replacing); or, you can choose to be prompted to select which units/time and overtime factor you want to use each time.

Setting Global Options

In this chapter

Defining Default Options

Defining Standard Categories and Values

Defining Currencies

You can define a series of application-wide parameters and values that apply to all projects. Use these settings to customize the application to meet specific project management requirements and standards.

This chapter discusses the types of settings you can specify: Options, which are default settings; Categories, which are standard values that apply to all projects; and Currencies, which consist of a base currency used to store costs in the database and a view currency used to display cost data in windows and dialog boxes.

Defining Default Options

Use the Options dialog box to specify default settings. Choose Settings, Options.

General information Use the General tab to specify general default options, such as the weekday on which the calendar week begins. You can also change the character used to separate hierarchy levels in resource and activity codes, cost accounts, and WBS elements.

The first day of the week for global, project, and resource calendars

The default duration for new activities in all projects; simplifies the process of adding new activities

Code Separator

Specify the character for separating concatenated codes. It is also the default WBS code separator for new projects.

Code Separator

Starting Day of Week

Specify the starting day of the week for calendars.


First day of week

Activity Duration

Specify the default duration for new activities.

Default Duration

The character that separates hierarchy levels in resource codes, cost accounts, and activity codes; it is also the default separator for WBS codes in all new projects. You can enter a WBS code separator for specific projects in the Settings tab of the Project Properties dialog.



The start day of the week affects how all days in a week are displayed in profiles, spreadsheets, and other layouts in which a weekly timescale can be displayed. For example, if Wednesday is selected as the starting day of the week, the week is displayed as WTFSSMT in an Activity Usage Profile.

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Time Periods Use the Time Periods tab to define the default number of hours in a workday, workweek, workmonth, and workyear. The application uses these values as conversion factors when displaying the time units and duration display formats you select. You can also specify abbreviations for displaying minutes, hours, days, weeks, months, and years.

Valid entries range from 1.0 to 168.0.

Valid entries range from 1.0 to 744.0.

Valid entries range from 1.0 to 24.0.

Valid entries range from 1.0 to 8784.0.

Type a one-character abbreviation to use when displaying the time units and duration display formats you select.

Hours per Time Period			
Specify the number of work hours for each time period.			
Hours/Day	Hours/Week	Hours/Month	Hours/Year
<input type="text" value="8.0"/>	<input type="text" value="40.0"/>	<input type="text" value="172.0"/>	<input type="text" value="2000.0"/>

Time Period Abbreviations		
Specify the abbreviation for each time period.		
Minutes	Hours	Days
<input type="text" value="m"/>	<input type="text" value="h"/>	<input type="text" value="d"/>
Weeks	Months	Years
<input type="text" value="w"/>	<input type="text" value="m"/>	<input type="text" value="y"/>

For details about the fields on the Earned Value tab, see “Reviewing Work Breakdown Structures” on page 101.

Choose which type of baseline value is used to calculate earned value.

Earned value Use the Earned Value tab to specify default settings for calculating earned value. You can change the settings for specific WBS elements in the Earned Value tab in Work Breakdown Structure Details.

Technique for computing performance percent complete
☒ Activity % Complete ☐ 50/50 % Complete
☐ Use WBS Milestones ☐ Custom % Complete
☐ 0/100 % Complete 6

Technique for computing Estimate to Complete (ETC)
☐ ETC = remaining cost for activity
or
ETC = PF * (Budget at Completion - Earned Value), where:

☐ PF = 1
☐ PF = 1 / Cost Performance Index
☒ PF = 1 / (Cost Performance Index * Schedule Performance Index)
☐ PF = 0.88

Earned value calculation
When calculating earned value from a baseline use

Budgeted values with planned dates

Reports Use the Reports tab to define up to three sets of headers, footers, and custom labels for reports.

Choose to define a set that consists of a header, footer, and custom text label...

...then specify the custom text for that set's header, footer, and custom label.

Report Headers and Footers
Specify three sets of header, footer, and custom labels to place on application reports.

☒ First Set ☐ Second Set ☐ Third Set

Header Label 1
Header 1

Footer Label 1
(c) Primavera Systems, Inc.

Custom Label 1
User Variable 1

Rate Types Use the Rate Types tab to provide a title for each of the five available Price/Unit fields. The title should describe what the rate type represents. The rate type titles you define appear wherever the rate types are displayed in a list or column.

You can define new titles for these rate types, for example, Commercial Rate or Government Rate.

Default Title	User-defined Title
cost_per_qty	Price / Unit
cost_per_qty2	Price / Unit2
cost_per_qty3	Price / Unit3
cost_per_qty4	Price / Unit4
cost_per_qty5	Price / Unit5

For more information on linking Primavera Contractor projects to Contract Manager projects and importing Contract Manager data, refer to “Linking Primavera Contractor to Primavera Contract Manager” on page 394.

Contract Manager You can use this tab to set up a link to Primavera Contract Manager (formerly known as Expedition) version 9.x or higher.



Once a link to Contract Manager is set up, you can create a link to a Contract Manager project to import and view project-level data.

Type the URL and port number to connect to the Contract Manager Web server (version 9.x or higher).

Link to Contract Manager

☒ Enable Link to Contract Manager

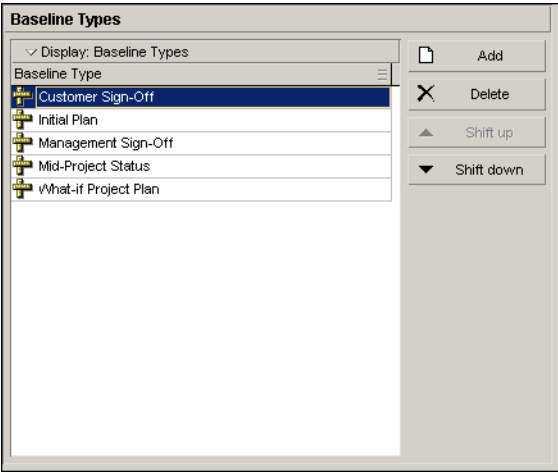
Contract Manager URL

Defining Standard Categories and Values

Use the Categories dialog box to define standard categories and values that you can apply to all projects. Choose Settings, Categories.

For more information about baselines, see [“Managing Baselines”](#) on page 189.

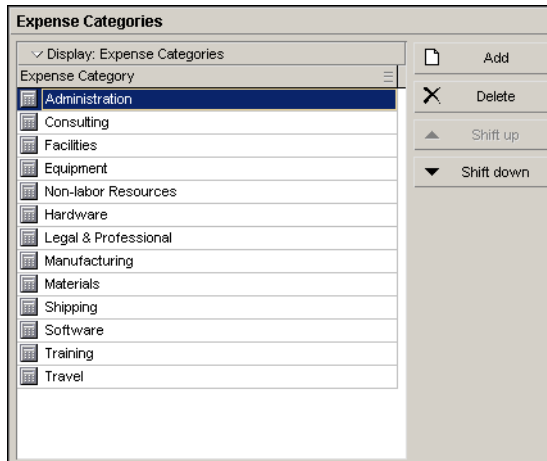
Baseline types Use the Baseline Types tab to create, edit, and delete baseline types. Baseline types enable you to categorize and standardize baselines across projects. To change the name of a baseline type, double-click it, then type a new name. The change applies to all projects to which the baseline is assigned.



Click the Shift Up/Shift Down buttons to move the selected category/type to a higher/lower position in the display. This changes the order in which the categories/types are listed when you assign them. These buttons are available only when the list is not sorted alphabetically.

For more information about expenses, see [“Working with Cost Accounts and Project Expenses”](#) on page 173.

Expense categories Use the Expense Categories tab to create, edit, and delete expense categories. Expense categories can be used to categorize and standardize project expenses, and to organize and maintain your expense information. To change an expense category, double-click it, then type a new name. The change applies to all projects to which the expense item is assigned.

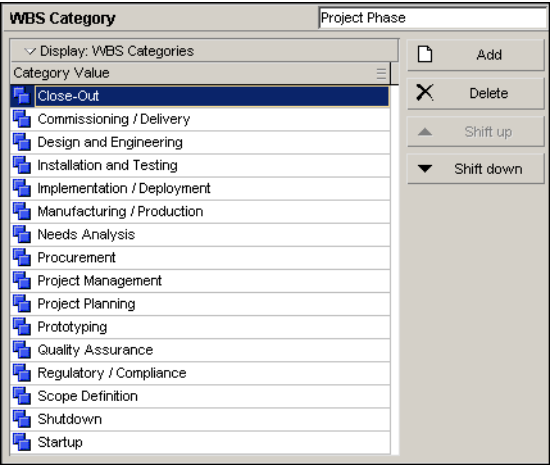


For more information about the WBS, see [“Reviewing Work Breakdown Structures”](#) on page 101.

WBS custom category Use the Project Phase tab to define a custom WBS category and category values. The tab displays the name you define. To change the category name, click in the field in the top right, then type a new name. Use this category to organize, filter, and report WBS information in all projects. To change a category value, double-click it, then type a new name. The change applies to all projects to which the WBS item is assigned.

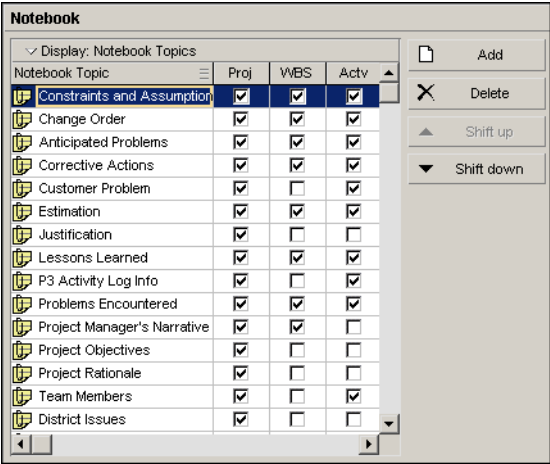


If you change the WBS category, the category's values or value assignments do not change.



For more information about activity notes, see [“Working with Activities”](#) on page 139.





Notebook topics Use the Notebook Topics tab to create, edit, and delete notebook topics. Notebook topics typically consist of instructions or descriptions for performing an activity. However, notebook topics can also be assigned at the project and WBS levels. Examples include Purpose, Entry Criteria, Tools and Techniques, and Exit Criteria. To change a notebook topic, double-click it, then type a new name. The change applies to all notebook assignments.





Units of Measure Use the Units of Measure tab to set up units of measure labels that you can assign to material resources. To change a unit of measure label, double-click it, then type a new name. The change applies to all unit of measure assignments.


Units Of Measure


▼ Display: Units of Measure

Unit Abbreviation	Unit Name
 cu yd	Cubic yards
 ea	Each
 hr	Hour
 lf	Lf

 Add

 Delete

 Shift up


 Shift down

Defining Currencies

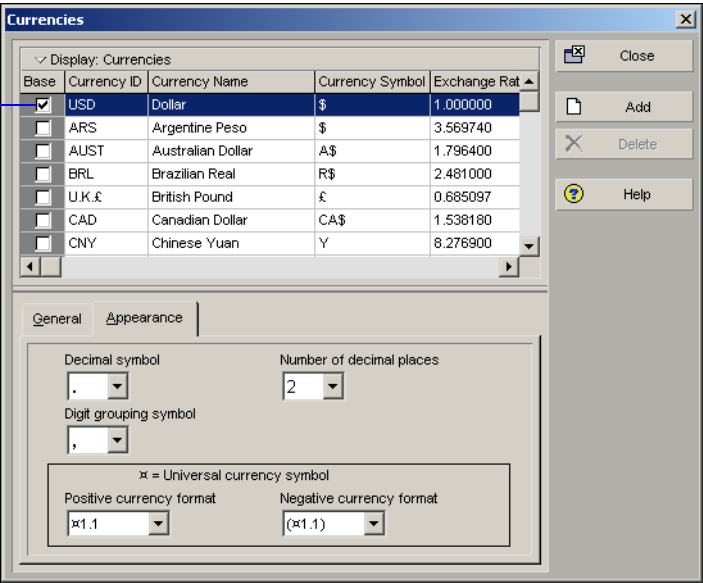
You can specify the monetary unit or *base currency* used to store cost data for all projects in the database, as well as the monetary unit or *view currency* used to display cost data in windows and dialog boxes.

The exchange rate for the base currency is always 1.0. If you select a different currency than the base currency to view cost data, the base currency value is multiplied times the current exchange rate for the view currency to calculate the values displayed in cost and price fields.

For example, if the base currency is U.S. Dollars, the view currency is Euros, and the exchange rate for Euros is 0.8, a value of \$10 stored in the database is displayed as 8 Euros in cost and price fields. Similarly, if you enter 8 Euros in a cost or price field, it is stored in the database as \$10.

 *When you enter values in cost and price fields, they are always displayed in the view currency.*

Indicates the currency is the base used to store cost data



Base	Currency ID	Currency Name	Currency Symbol	Exchange Rat
<input checked="" type="checkbox"/>	USD	Dollar	\$	1.000000
<input type="checkbox"/>	ARS	Argentine Peso	\$	3.569740
<input type="checkbox"/>	AUST	Australian Dollar	A\$	1.796400
<input type="checkbox"/>	BRL	Brazilian Real	R\$	2.481000
<input type="checkbox"/>	U.K.£	British Pound	£	0.685097
<input type="checkbox"/>	CAD	Canadian Dollar	CA\$	1.538180
<input type="checkbox"/>	CNY	Chinese Yuan	¥	8.276900

General | Appearance

Decimal symbol: . Number of decimal places: 2

Digit grouping symbol: ,

⌘ = Universal currency symbol

Positive currency format: ⌘1.1 Negative currency format: (⌘1.1)

Use the Currencies dialog box to set up the base and view currencies.

Define a base currency The base currency, by default, is U.S. dollars. To define a different currency as the base, choose Settings, Currencies. Select the base currency, then, in the General tab, type the currency's ID, name, and symbol. The exchange rate for the base currency is always one. Click the Appearance tab to further define how the currency is displayed.

Separates whole values from decimal values in the currency display, for example, 500.5 or 500,5

Separates groups of digits in the currency display, for example, 300,000 or 300-000

Decimal symbol: .

Number of decimal places: 2

Digit grouping symbol: ,

⌘ = Universal currency symbol

Positive currency format: ⌘1.1

Negative currency format: (⌘1.1)

Indicates how many decimal places to display, for example, none (70), one (70.1), or two (70.14)



If you want to view costs in the old base currency, you will need to add it to the list of available currencies.

Add a view currency Choose Settings, Currencies. Click Add. Specify the currency's ID, name, symbol, and exchange rate, and indicate how the currency should be displayed.

Choose Edit, User Preferences, then click the Currency tab to select the currency used to view costs.

Base	Currency ID	Currency Name	Currency Symbol	Exchange Rate
<input type="checkbox"/>	AUST	Australian Dollar	A\$	1.796400
<input type="checkbox"/>	BRL	Brazilian Real	R\$	2.481000
<input type="checkbox"/>	U.K.	British Pound	£	0.685097
<input type="checkbox"/>	CAD	Canadian Dollar	CA\$	1.538180
<input type="checkbox"/>	CNY	Chinese Yuan	¥	8.276900
<input checked="" type="checkbox"/>	EUR	EURO	€	1.087020
<input type="checkbox"/>	HKD	Hong Kong Dollar	HK\$	7.799200

General | Appearance

Currency ID: EUR

Currency name: EURO

Currency symbol: €

Exchange rate: 1.087020

Type an ID that clearly defines the currency type.

Enter the universal symbol used to identify the currency.

Enter the current global exchange rate for the currency.

Structuring Projects

In this part:

Setting Up Projects

Defining Resources

Reviewing Work Breakdown Structures

Working With Custom User Fields

Creating Calendars

*T*his part describes how to start planning and creating projects.

The first three chapters explain how to structure and add projects to the database; set up project resources; and use the work breakdown structure (WBS) to plan and manage project information.

Subsequent chapters explain how to define custom user fields, as well as the calendars that determine when work can and cannot occur.

Setting Up Projects

In this chapter

Project Structure Overview

Adding a New Project


**Working with the Project
Structure**

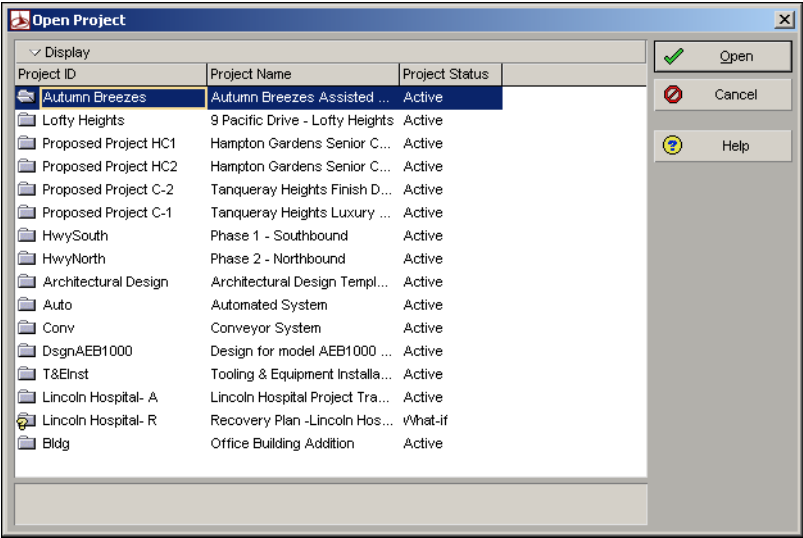
Defining Project Properties

This chapter describes how to define the project structure that will be used to organize and manage projects. In addition, it explains how to develop projects and define project attributes.

Project Structure Overview

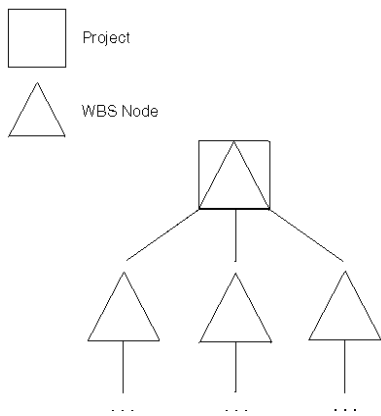
When you first start the application, click Open Existing on the Welcome dialog box, or click File, Open. The Open Project dialog displays a list of your projects (if any). Select the project you want to open, then click Open. You can only open one project at a time.

 *The Welcome dialog box only appears if you have selected the Show the Welcome Dialog at Startup option. To select this option, choose Edit, User Preferences, then click the Application tab. If you do not select this option, click File, Open, to open an existing project.*



Project structures Project data, such as the work breakdown structure (WBS) and resources, denote logical and meaningful divisions within a project.

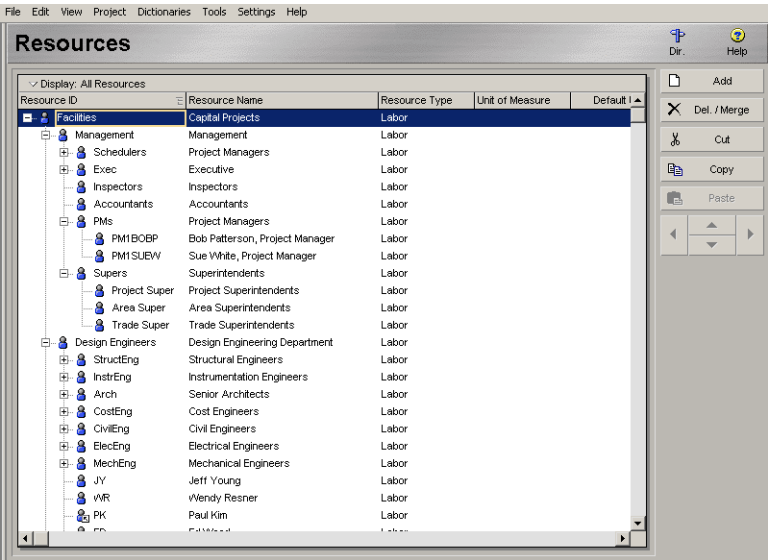
Work breakdown structure Each project has its own WBS, which shows the hierarchy of products and services produced during and by a project. The summary rollup of the highest WBS level is equal to that of the project level.



WBS nodes can be assigned dates and budgets—essential elements for top-down planning.

Resources Resources are the personnel and equipment that perform the work across all projects. You can set up a resource hierarchy that reflects your resource structure and supports the assignment of resources to activities.

For more information about the resource hierarchy, see “Defining Resources” on page 89.



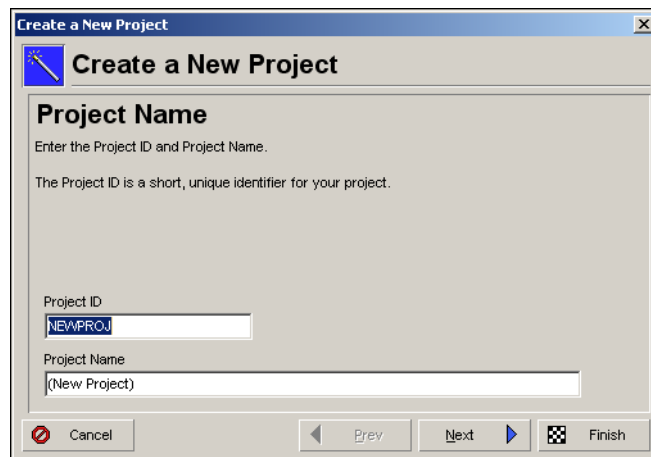
Adding a New Project

A project is a set of activities and their associated information that constitutes a plan for creating a product or service. A project has a start and finish date, work breakdown structure (WBS), and any number of activities, relationships, baselines, and expenses.

While resources typically work on several projects, each project has its own resource assignments. Similarly, while calendars, reports, and activity codes may span all projects, they may also be project specific.

Define general information such as the project's ID, name, planned start date, must finish by date, and anticipated dates.

Add a project Choose File, New. The Create a New Project Wizard opens. The wizard guides you through the steps required to add a project.



To define additional project information, click Project, Project Properties, then refer to [“Defining Project Properties”](#) on page 81.

For more information about importing and converting projects, see [“Importing, Exporting, and Linking Data”](#) on page 309.

Import projects If desired, you can import projects created in Microsoft Project, Microsoft Excel, Primavera Project Planner 3.x (P3), Primavera's Project Management module, and Primavera Contractor.

Working with the Project Structure

Once you have created projects, you can filter project views based on status, copy and paste a project to use as a new project template, or delete a project from the database.

Use status for filtering projects You can change an open (Active) project to closed (Inactive) when the project is completed. You can also assign a What-If status to a copied project that you want to use for analysis. Project status can be used to organize information and to filter projects.

Choose File, Open. Select the project whose status you want to change and click Open. Choose Project, Project Properties. In the General tab, select the Status as shown below.

Select a project's status in the General tab of the Project Properties dialog.

For more information on the Project Properties dialog, refer to the next section, "Defining Project Properties" on page 81.

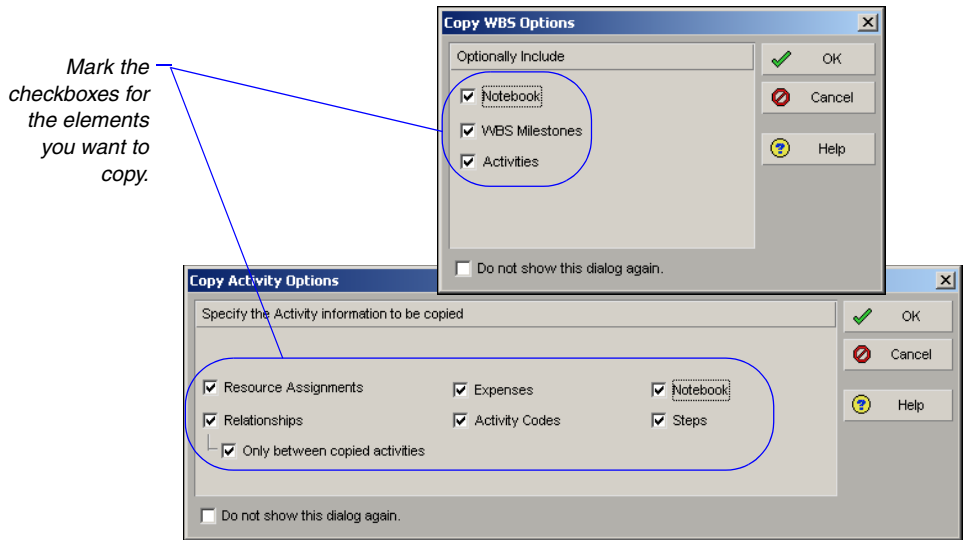
The screenshot shows the 'Project Properties' dialog box with the 'General' tab selected. The 'Project ID' field contains 'Bldg'. The 'Project Name' field contains 'Office Building Addition'. The 'Status' dropdown menu is set to 'Active'. The 'Activity Count' field displays '71'. The 'Project Web Site URL' field contains 'www.office.hydracorp.nul'. There is a 'Launch...' button with a small icon next to it.

To view projects by status, choose File, Open. Right-click anywhere in the Open Project dialog and choose Filter By, Status.

Copy a project You can copy an existing project to use as a template for a new one.

Choose File, New, to create a new project. Create the new project, then close the project. Open the project you want to copy, then choose Project, WBS, to open the WBS window (or click WBS from the directory bar). Select the top-level WBS node, then click Edit, Copy, or click Copy from the command bar. Open the new project you just created, then open the WBS window. Click Edit, Paste, or click Paste in the command bar.

When you click Paste, you are prompted to choose which links to copy to the WBS and activity elements. Mark the applicable checkboxes in the Copy WBS options dialog box, then click OK. The Copy Activity Options dialog box opens, in which you can select activity elements to copy. Make your selections, then click OK.



Delete a project To delete a project, open the project, then open the WBS window. Select the top-level WBS node, then choose File, Delete. Confirm that you want to delete the selected project by clicking Yes.

Defining Project Properties

Define project details and defaults used throughout a project using the Project Properties dialog. To display the Project Properties dialog, click Project, Project Properties.

Open each tab to view and edit that type of information for the selected project.

General information The General tab enables you to view and edit general information about the selected project. This information includes the ID, name, status, and activity count. You can also view or edit the project's Web site address, if applicable.

The Activity Count displays the number of activities in the open project. When a project exceeds the maximum allowable number of activities, you are prompted to delete a specified number of activities before you can proceed.

Use status to identify active (Active) or closed (Inactive) projects. You can also select What-If status for analysis before establishing a more permanent project schedule, or Planned status for use during the project planning phase.

Project ID: Bldg

Project Name: Office Building Addition

Status: Active

Activity Count: 71

Project Web Site URL: www.office.hydracorp.nul

Launch...

Dates The Dates tab enables you to edit schedule information for the selected project. This information includes the current data date, planned start date, and the scheduled finish date.

The image shows a software interface with two tabs: 'Scheduled Dates' and 'Anticipated Dates'. The 'Scheduled Dates' tab is active and contains the following fields:

- Planned Start:** 19-Jul-99. Callout: *The start date of the project*
- Must Finish By:** (empty). Callout: *A date constraint placed on the project end date*
- Data Date:** 27-Sep-99. Callout: *The date used as the starting point to calculate the schedule*
- Finish:** 27-Sep-99. Callout: *The latest early finish date calculated when the project was last scheduled*
- Actual Start:** (empty)
- Actual Finish:** (empty)

The 'Anticipated Dates' tab is below and contains:

- Anticipated Start:** (empty). Callout: *The actual finish date of the project, if the project has finished—all activities in the project have actual finish dates.*
- Anticipated Finish:** (empty). Callout: *The user-defined date the project is expected to start or finish*

Anticipated Dates

Anticipated start and finish dates are used during the project planning stage and can be set at the project or WBS level. If the selected project has no activities, or the activities have not started, the Start date or Finish date (in columns) is set equal to the Anticipated Start or Anticipated Finish. Click the Browse button to select a new date.

Default values The Defaults tab enables you to specify the default settings for the open project. This information includes the default cost account for resource assignments to activities, the defaults for automatic activity numbering, and the default activity calendar, duration type, and percent complete type.

Mark to automatically number new activities one increment greater than the selected activity, when adding manually.

New activity IDs are numbered according to this increment.

The default duration, percent complete, and activity types for activities in the project. Changing these settings does not affect existing activities.

If you change the default calendar, the application applies the default calendar only to new activities.

The default cost account for resource assignments to activities and project expenses in the project

Auto-Numbering Activity IDs

When a new activity is created, the activity ID is automatically generated using auto-numbering. Activity ID auto-numbering concatenates the prefix and the suffix, with the suffix incremented to make the ID unique. For example, “A” (prefix), “1000” (suffix), “10” (increment) yields activity IDs of “A1010,” “A1020,” “A1030,” and so on. If you change the activity ID prefix, suffix, or increment, the change applies to new activities only.

Settings The Settings tab enables you to view and specify subproject-level settings for the selected project.

The screenshot shows the 'Project Settings' dialog box. It has two main sections: 'Project Settings' and 'Critical Activities'. In the 'Project Settings' section, there is a text input field for 'Character for separating code fields for the WBS tree' and a dropdown menu for 'Fiscal year begins on the 1st day of' set to 'January'. In the 'Critical Activities' section, there is a label 'Define critical activities as' followed by two radio buttons: 'Total Float less than or equal to' (which is selected) and 'Longest Path'. A text input field next to the selected radio button contains the number '0'. Three callout lines point to these elements: one from the left to the 'Total Float' radio button, one from the top right to the 'Fiscal year' dropdown, and one from the right to the '0' in the float input field.

Choose to identify all activities that have an early finish equal to the latest calculated early finish for the project with driving relationships traced to the project start date.

The month the project's fiscal year begins. You can select a new month.

The maximum float time for activities in the project before they are marked critical. You can type a new number and timeperiod.

Calculations The Calculations tab enables you to set activity and resource assignment preferences for the open project.

In the Resource Assignments area, for the setting When Updating Actual Units or Cost, to calculate a new At Complete as the sum of the actual and remaining units or costs (At Complete = Actual units/costs + Remaining units/costs), choose Add Actual to Remaining. Actual units and costs are normally calculated using this option. To calculate the remaining units or costs as the difference between the At Complete and actual units or costs (Remaining units/costs = At Complete units/costs – Actual units/costs), choose Subtract Actual from At Completion.

Mark to allow the application to update the Planned unit/cost values, and finish dates, when the Remaining or At Completion values are changed on activities that have not started. Then, choose how to calculate the duration and units when progress is removed from an activity.

Choose to determine the true At Complete units/costs.

Choose to track the amount remaining before you exceed the budget.

Mark to allow the application to recalculate actual or actual this period units and costs when one of these values is updated.

Mark to base percent complete on activity steps when using the physical percent complete type.

This setting is used to calculate the cost for activities that have labor/nonlabor/material units with no assigned resources or resources that do not have prices.

Refer to the Help for further information about the calculation settings.

Mark the Recalculate Actual Units and Cost when Duration % Complete Changes checkbox to allow the application to automatically update the actual units and costs when the Duration % complete is updated. If this checkbox is cleared, the application does not estimate actuals, and the actual fields remain blank unless you specify values.



If you use Update Progress to update or apply actuals, this setting will not apply and the application will not recalculate actuals.

To recalculate units when costs are updated for resource assignments, mark the Update Units when Costs Change on Resource Assignments checkbox.

Resources The Resources tab enables you to specify whether resources can be assigned to the same activity more than once. You can also specify whether to allow the dates of new resource assignments to be independent of the activity or allow the new assignments to recalculate the activity dates and duration.

Mark to allow new resource assignments to determine the dates and durations of its activity.

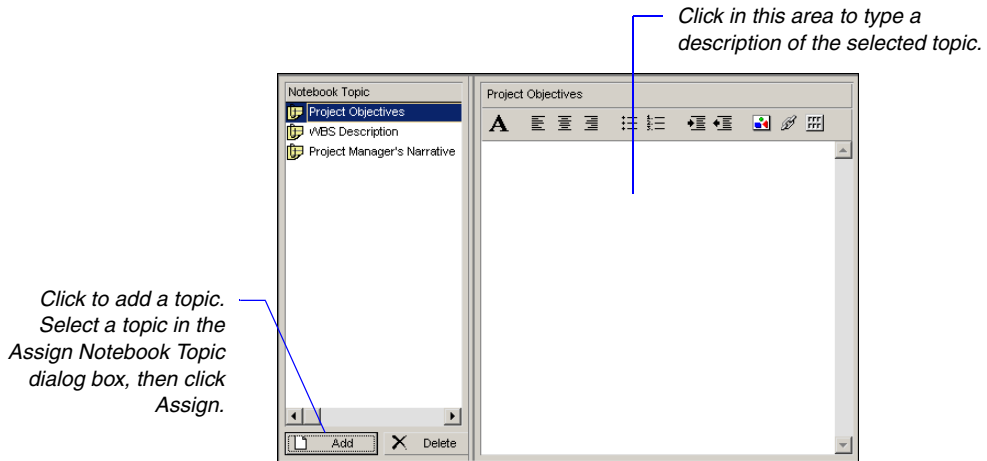
This setting is used to calculate the cost for activities that have labor/nonlabor units with no assigned resources or resources that do not have prices.

Resource Assignments	
<input checked="" type="checkbox"/>	Resources can be assigned to the same activity more than once
<input checked="" type="checkbox"/>	Drive activity dates by default
Assignment Defaults	
Specify the Default Rate Type for new assignments	Price / Unit



Marking the Drive Activity Dates by Default checkbox simply flags the corresponding resource in the Resource Breakdown Structure (RBS)—if you customize columns in the Resources window to include the “Drive Activity Dates” editable column, a checkmark will appear in that column for the corresponding resources.

Notebook The Notebook tab enables you to assign notebook topics and details to the open project. These topics are defined in the Notebook Topics tab of the Options dialog box (choose Settings, Options).



For free-form, user-defined details, you can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

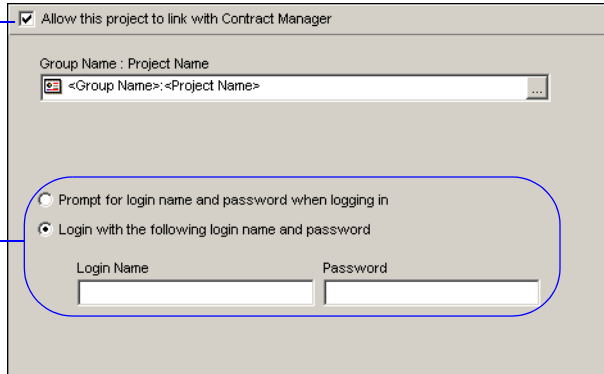
The Contract Manager tab will only appear if Primavera Contractor and Contract Manager are linked. For details on linking Contractor projects to Contract Manager projects and importing Contract Manager data, refer to “Linking Primavera Contractor to Primavera Contract Manager” on page 394.

Contract Manager The Contract Manager tab enables you to link the open Primavera Contractor project with a Primavera Contract Manager (formerly Expedition) project. Primavera Contractor automatically updates activities that share activity IDs with Contract Manager items when you link projects and import Contract Manager data.

For example, in Contract Manager, you can assign activity ID 1010 to an item (for example, a contract or purchase order). Assuming the Contract Manager project is linked to a Primavera Contractor project, when you import Contract Manager data into the Primavera Contractor project, activity ID 1010 in Primavera Contractor is automatically updated with Contract Manager data (for example, the contract or purchase order).

Select this option to link the project to a Contract Manager project. If the project is already linked to an Contract Manager project, deselecting this option will clear all values in the dialog.

You can choose to login to Contract Manager each time you launch Primavera Contractor, or you can automatically login with the specified login name and password.



The screenshot shows a dialog box titled "Allow this project to link with Contract Manager". It contains a checked checkbox at the top. Below it is a text field labeled "Group Name : Project Name" with a dropdown arrow. Underneath is a text field containing the template "<Group Name>:<Project Name>". There are two radio button options: "Prompt for login name and password when logging in" (unselected) and "Login with the following login name and password" (selected). The second option is enclosed in a blue rounded rectangle. Below the radio buttons are two text input fields labeled "Login Name" and "Password".

Defining Resources

In this chapter

[Resources Overview](#)

[Viewing and Adding Resources](#)

[Defining and Assigning Resource
Codes and Values](#)

Resources include the personnel and equipment that perform work on activities across all projects. Labor and nonlabor resources, such as engineers and equipment, are always time-based and are usually assigned to other activities and/or projects; material resources, such as supplies and other consumable items, are recorded in terms of cost per unit, rather than hours.

You can create a resource hierarchy that reflects your resource structure and supports the assignment of resources to activities. You can establish unlimited hierarchical resource codes for grouping and rollups.

You can also assign resource calendars and define a resource's contact information and price over time. This chapter describes resources and resource codes.

Resources Overview

You can develop a resource plan that integrates resources, costs, and the schedule so you can effectively control your projects. Begin by defining a list of all the resources necessary to complete your projects. For each resource, set availability limits, unit prices, and a calendar to define its standard worktime and nonworktime. Group the resources by broad categories so you can easily find a specific resource when assigning resources to a project.

To enable grouping and rollups of your resources, set up resource codes and assign code values. Use this information to produce resource reports and profiles. Analyze the resource allocation, and adjust your project plan to avoid overallocation and peaks and valleys of resource use.

Resources are different than expenses. While some resources are time-based and generally extend across multiple activities and projects, expenses are one-time expenditures for nonreusable items required by activities.

For information about assigning resources to activities, see “Assigning Resources” on page 156.

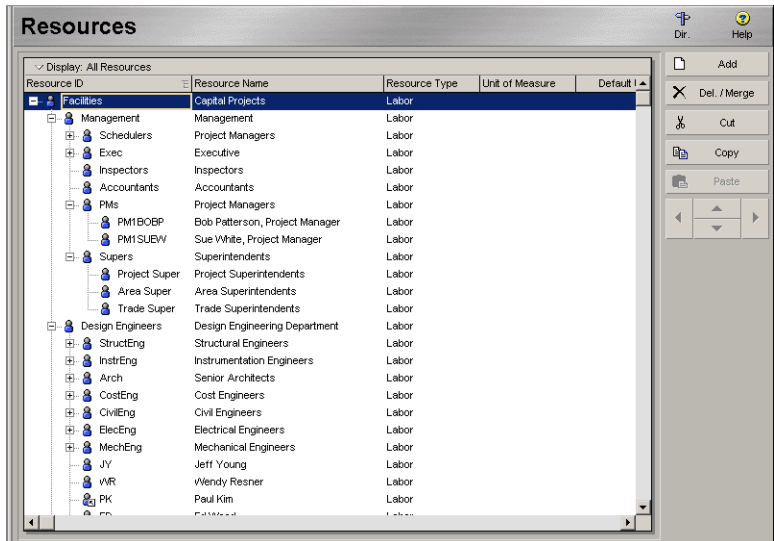
Primary resources An activity’s primary resource is typically the resource who is responsible for coordinating an activity’s work. The primary resource updates the activity’s start date, finish date, and expected end date. In addition, if an activity has any material resources, the primary resource may be responsible for reporting the material resource’s hours/units.

Viewing and Adding Resources

Use the Resources window to view and add the resources required to complete all of your projects. Structure the hierarchy of resources according to the work performed. For example, you may have various teams comprised of individuals in several resource groups. You can set up the hierarchy so that the people managing these groups are at a higher level than the resources in the groups.

You can set up multiple root, or top-level, elements in a resource breakdown structure (RBS). A root RBS element serves as the lead person (such as a manager), instead of a division or a department. For this reason, you cannot roll up lower-level resources to the root resource.

You can also open the Resources window at the global level—without any projects open.



To change the resource display from hierarchy to list view, click the Resource ID column label. A triangle symbol in this column label indicates a list display. You can sort resource information in a list display by clicking a column label.

View resources Choose Dictionaries, Resources, or click Resources on the Directory Bar. Click the Display Options bar, then choose one of the following:

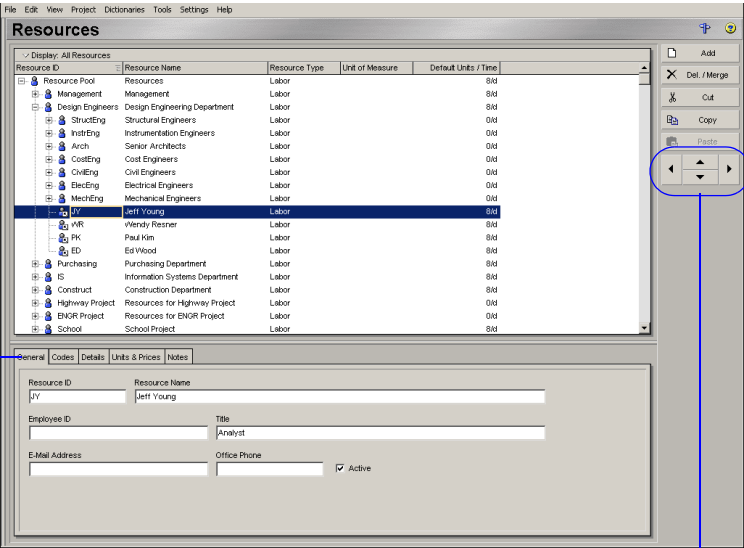
- To view detailed information about a specific resource, choose Details, then select the resource whose information you want to view.
- To view resources as a chart, choose Chart View.
- To select the columns to include in the display, choose Columns, Customize, or one of the predefined column displays.

- To organize the resource hierarchy, choose Group and Sort By, and choose one of the predefined groupings or customize your own.

Refer to this section to establish basic resource information. To specify additional information, refer to “Defining and Assigning Resource Codes and Values” on page 97.

Add a resource Choose Dictionaries, Resources. Click the Display Options bar, then choose Group and Sort By, Default, to display the resource hierarchy. Select the resource immediately above and at the same level as the resource you want to add, then click Add. Depending on your user preferences, the New Resource wizard may be started. The wizard prompts you to add the information included on each tab in Resource Details. If you do not use the wizard, this information can also be entered directly on each tab. To display Resource Details, click the Display Options bar, then choose Details.

Use Resource Details to add, view, and edit detailed information about a new or selected resource.



Click the left/right arrows to indent or outdent a selected resource to denote its position in the hierarchy; click the up/down arrows to move a selected resource up or down in the hierarchy.

General information Use the General tab to enter general information about the selected resource, including the resource’s ID, name, title, employee ID, e-mail address, office phone numbers, and status.

The employee identifier corresponding to the resource, such as social security number, used for the employee in your company

If this checkbox is marked, the resource is available for assignment; if cleared, it indicates an inactive status or unavailability.

Details Use the Details tab to specify a resource's labor classification—labor (personnel), nonlabor (equipment), or material (supplies), indicate whether a resource can log overtime hours, assign a calendar to the selected resource, specify the resource's default units/time, specify how actual and remaining units are applied for a resource's assignments, and indicate that any assignments for a resource will have its quantities recalculated whenever any cost changes occur.

The application uses your calendar assignments for activity scheduling and tracking; you can select a global calendar or a resource calendar for the resource.

The minimum amount of time a resource is available to work on an activity

You can select a unit of measure name and abbreviation for the material resource.

By default, displays the view currency selected in User Preferences when the resource was added. You can select a different currency to associate with the resource.

Type the number by which the resource's standard price should be multiplied to determine the resource's overtime price (standard price * overtime factor = overtime price).

Mark to indicate that any new assignments for this resource will have its costs recalculated whenever any quantity changes occur, such as changing the estimate to complete for an activity.

Default Units/Time

You can enter the default units/time value as a numeric value followed by a forward slash (/) and the appropriate time duration, depending on your user preference setting for time units, or as a percentage for labor and nonlabor resources. For example, if the selected resource is one person, a reasonable value may be eight hours (units) per day (duration). In this case, the Default Units/Time would be 8.00h/d, or eight hours of work per day. If you are entering a percentage, you would enter 100%, indicating that the resource is available to work full-time. Similarly, if the selected resource is a department with five people, the Max Units/Time may be 40.00h/d, or 500%. This means that five people can perform 40 hours of work per day, rather than one person performing 8 hours of work per day. The application uses this value in conjunction with the calendar assignment to calculate resource allocation/distribution during scheduling.



Marking the Calculate Costs From Units checkbox simply flags the corresponding resource in the RBS—if you customize columns in the Resources window to include the “Calculate Costs From Units” column, a checkmark will appear in that column for the corresponding resources. The actual setting to perform a recalculation of resource quantities is on the Calculations tab of the Project Properties dialog.

Units and prices Use the Units & Prices tab to specify available quantities (limits) for the resource. Setting limits helps you quickly identify areas of resource overload in Resource Usage Profiles using different colors to represent limits and overallocated units in histograms. The application automatically adjusts the resource’s costs for its assigned activities to reflect price changes for different timeperiods.

You cannot add resource shifts in Primavera Contractor; however, you can view them in imported projects that contain shifts.

Double-click the cell, then type the resource's price followed by a forward slash (/) and the unit associated with the price.

Effective Date	Max Units / Time	Price / Unit
01-Jan-99	8/d	\$30.00/h

You can set varying limits and prices over time by specifying the effective start date for each change.

The number of units available during each workperiod (hour, day, week, or month) of the specified timeframe; you can enter a percentage, or a numeric value followed by a forward slash (/) and the appropriate time duration, depending on your user preference setting for time units.



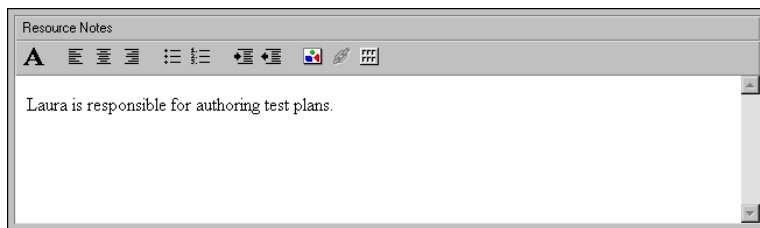
You can rename the five available Price/Unit fields from Settings, Options, Rate Types tab.

Using Limits for Delayed Resource Start

Use limits to delay the start of a resource in the project schedule until the resource is available. For example, suppose you hire a new engineer, Joe, but he does not start for another month. You can add Joe's activities and assignments to the project and then set the resource limits as follows:

Effective Date	Max Units/Time
10AUG01	0h/h
10SEP01	1h/h

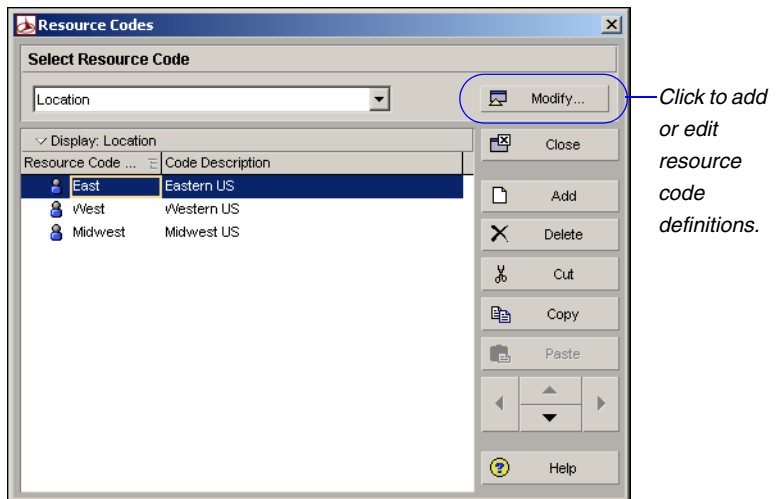
Notes Use the Notes tab to enter comments about the resource. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.



Defining and Assigning Resource Codes and Values

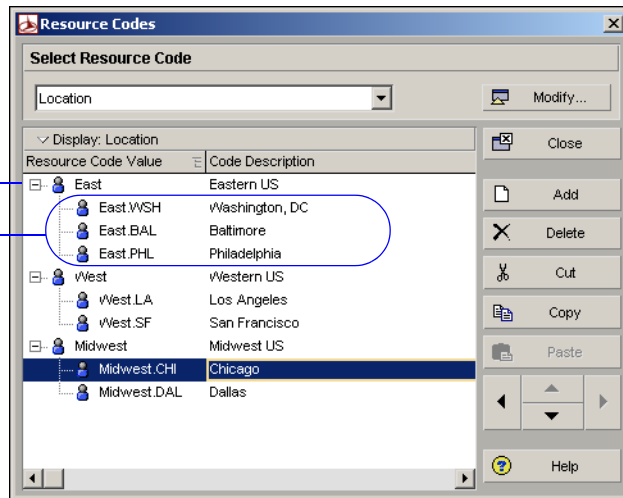
Resource codes enable you to categorize project resources. For example, establish a code called Location and create values for it, such as East, West, and Midwest. Assign these values to the appropriate resources so you can quickly group, filter, or sort by all managers or all resources by the appropriate location.

Set up resource codes Choose Dictionaries, Resource Codes. Click Modify to add resource code definitions—broad categories for which you will be adding values. Type the resource code name and enter the maximum number of characters for each value you will be assigning to the code. Click Close when you are finished adding codes and value lengths.



Add resource code values In the Resource Codes dialog box, select the code for which you want to establish values, then click Add. Type the resource code value name; the maximum number of characters is preset at the resource code level. Type a description for the value. To create a hierarchy of code values, click the right arrow key to indent the selected value one level.

You can further categorize code values by arranging them in a hierarchy.

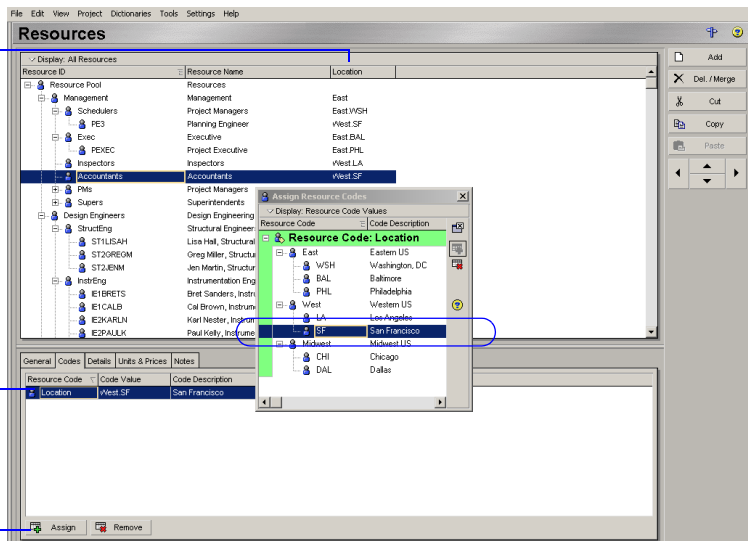


Assign resource code values You can assign code values to resources using the Codes tab in Resource Details or by creating resource code columns in the Resources window and then assigning values in the columns. To use the Codes tab, click the Display Options bar and choose Details (the box next to the Details command should be marked). Click the Codes tab, then click Assign. To use columns, click the Display Options bar, then choose Columns, Customize, and add one or more resource code columns. Refer to the following example:

Customize columns to include the resource codes for which you want to assign values; click in the column cell for each resource to select the resource code value assignment...

or

click Assign to select the resource code value for the selected resource.



Group and summarize using resource codes One way to use resource codes is for grouping and sorting in Resource Usage Spreadsheets. Right-click in a Resource Usage Spreadsheet layout and choose Group and Sort By, Customize. Grouping by resource codes enables you to quickly see the activities that are assigned to a particular area of responsibility or are being performed by a specific group. Click a group band to see a summary or rollup of a particular group.

This section lists the activity assignments for selected resources.

This section is grouped by resource code.

Display: All Resources			Display: Activity Resource Assignments		Display: Open Projects ...	
Resource ID	Resource Name	Re	Start	Finish	Remaining Units	Summary
Location: East: Eastern US						
Management						
Location: East:W.S. Washington, DC						
Schedulers						
Location: East: BAL. Baltimore						
Exec						
Location: East:PHL. Philadelphia						
PEXEC						
Location: West: Western US						
Location: West:LA. Los Angeles						
Inspectors						
Location: West:SF. San Francisco						
PE3						
Planning Engineer						
Resources						
Design Engineering						
Wendy Resner						
03-May-04 A						
08-Jul-04						
19-Jul-04						
04-Aug-04						
12-Jan-05						
Paul Kim						
24-Jun-04 A						
Ed Wood						
14-Jun-04 A						
08-Jul-04						
24-Sep-04						
Purchasing Department						
Oliver Rock						
08-Aug-04						
08-Jun-04						

For more information on future period bucket planning, refer to **"Manually Planning Future Period Assignments"** on page 158.

Viewing Resource Curves

Resource/cost distribution curves display how resource units or costs are spread over the duration of an activity. Resource units and costs are distributed evenly during an activity unless the activity is specified to use nonlinear distribution using curves, or future period budgeted and remaining units are manually entered in the Resource Usage Spreadsheet.

Primavera Contractor does not support the creation of resource curves. Resource curves can only be created in full versions of Primavera's Project Management module. However, when you import a project containing resource curves, you can view them in the Resource Usage Profile and Resource Usage Spreadsheet.

Reviewing Work Breakdown Structures

In this chapter

WBS Overview

Viewing a WBS

**Adding WBS Elements and
Assigning Properties**

Using WBS Milestones

Assigning WBS Category Values

**Defining Earned Value Settings
for Specific WBS Elements**

A work breakdown structure (WBS) is a hierarchical arrangement of the products and services produced during and by a project.

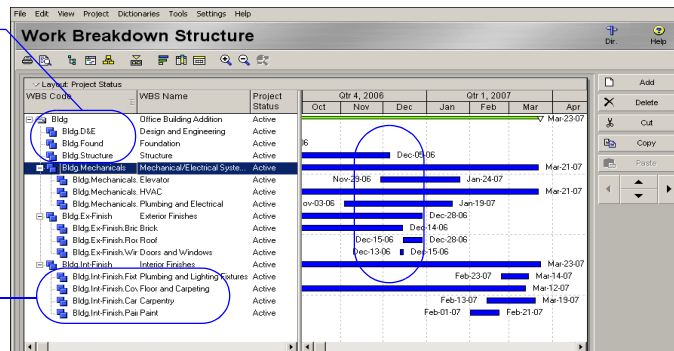
Read this chapter to learn how to set up and implement a WBS.

WBS Overview

The project is the highest level of the WBS; an individual activity required to create a product or service is the lowest level. Each project has its own WBS. Typically, users develop the WBS first, then define activities for performing the element's work. Specific earned value calculations can be specified for each WBS element.

You can only view the WBS of the open project. To view the WBS of the open project, choose Project, WBS, or select WBS from the directory bar.

When you create a project, the application automatically creates a WBS element at the same hierarchy level and with the same name as the project; you can differentiate the WBS level from that of the project by adding numbers or letters such as Bldg. 1, Bldg.D&E. You can break down the work further.

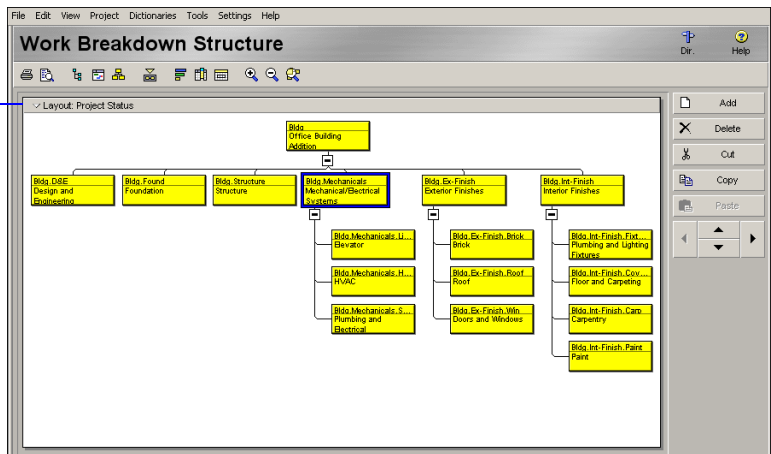


Viewing a WBS

You can view a WBS as a chart or a table. Open the Work Breakdown Structure window by choosing Project, WBS; you can also click WBS from the Directory bar.

View the Work Breakdown Structure chart Click the Display Options bar, then choose Show on Top, Chart View. To change the information displayed in each box, click the Display Options bar and choose Chart Box Template, then an information type.

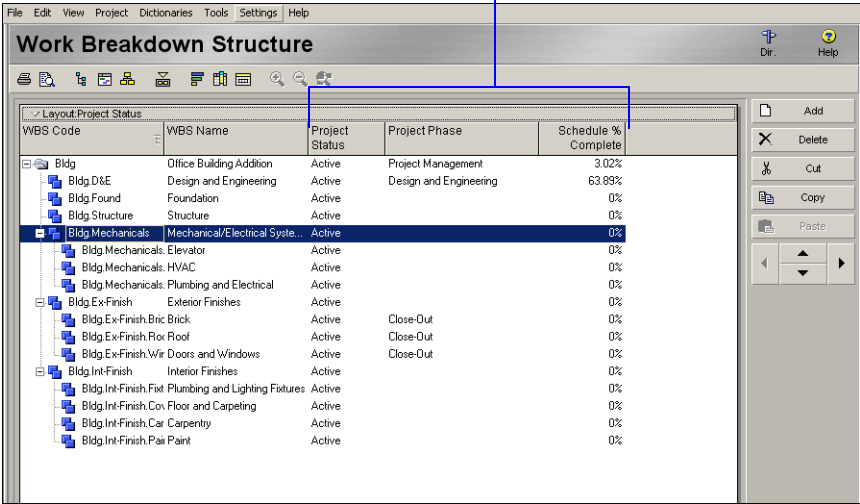
To change the display's content and appearance, click the Display Options bar, then choose Chart Box Template and/or Chart Font and Colors.



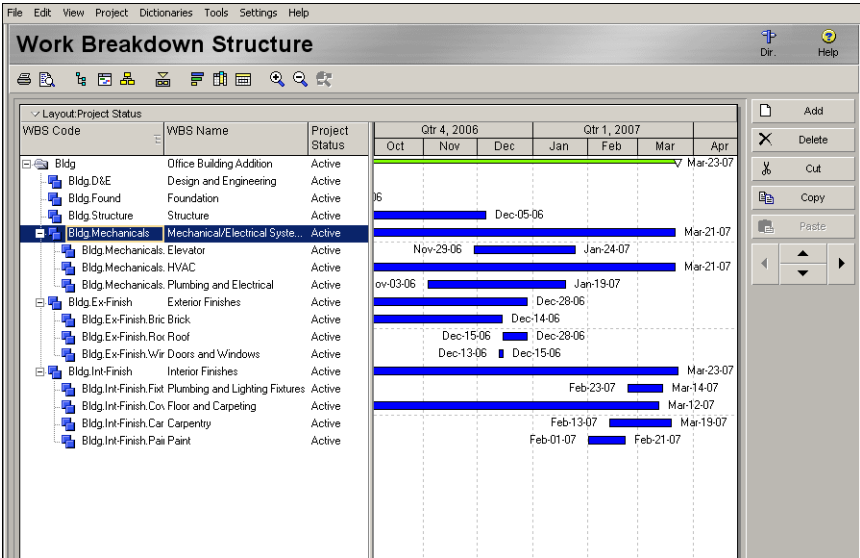
View the Work Breakdown Structure table Click the Display Options bar, then choose Show on Top, WBS Table. To list and sort WBS elements, click the WBS Code column label. To change the information the table displays, click the Display Options bar, then choose any of the following:

- To view detailed information about a specific WBS element, choose Show on Bottom, WBS Details, then select the WBS element whose information you want to view. To hide WBS Details, choose Show on Bottom, No Bottom Layout.
- To change the columns in the WBS display, choose Columns, then one of the predefined displays, or customize the columns.

Click the Display Options bar, then choose Columns, Customize, to select only the columns you want to display.



You can also choose to display a Gantt Chart to the right of the WBS table. Click the Display Options bar, then choose Show on Top, Gantt Chart.



Adding WBS Elements and Assigning Properties

When you create a project, the application automatically creates a top-level WBS element with the same name as the project. Use the Work Breakdown Structure window to view and edit the open project's WBS.

Add a WBS element Choose Project, WBS. Select the WBS element immediately above and under which you want to add the new element, then click Add. The new WBS element is indented one level under the selected WBS element.

Display Work Breakdown Structure Details by clicking the Display Options bar and choosing Show on Bottom, WBS Details. Refer to the following sections to establish basic WBS properties. To specify additional information, refer to the following:

To include/exclude tabs, right-click in the Details area, and choose Customize WBS Details.

- Notebook tab – “[Setting Up Projects](#)” on page 75
- WBS Milestones – “[Using WBS Milestones](#)” on page 107
- Earned Value tab – “[Defining Earned Value Settings for Specific WBS Elements](#)” on page 110

Display Work Breakdown Structure Details so you can add and assign information for each WBS element you create.

The screenshot shows the 'Work Breakdown Structure' window. The top menu bar includes File, Edit, View, Project, Dictionaries, Tools, Settings, and Help. Below the menu is a toolbar with icons for various actions. The main area displays a tree view of WBS elements. The selected element is 'Design and Engineering' under 'Bldg D&E'. The details pane at the bottom shows the 'General' tab with fields for WBS Code, WBS Name, Status, and Anticipated Dates.

WBS Code	WBS Name	Project Status	Project Phase	Schedule % Complete
Office Building Addition	Office Building Addition	Active	Project Management	3.02%
Bldg D&E	Design and Engineering	Active	Design and Engineering	63.83%
Bldg Found	Foundation	Active		0%
Bldg Structure	Structure	Active		0%
Bldg Mechanicals	Mechanical/Electrical Systems	Active		0%
Bldg Mechanicals	Elevator	Active		0%
Bldg Mechanicals	HVAC	Active		0%
Bldg Mechanicals	Plumbing and Electrical	Active		0%
Bldg Ex-Finish	Exterior Finishes	Active		0%
Bldg Ex-Finish	Brick	Active	Close-Out	0%

The details pane for the selected 'Design and Engineering' element shows the following information:

- General**
 - WBS Code: D&E
 - WBS Name: Design and Engineering
 - Status: Active
- Anticipated Dates**
 - Anticipated Start: [Empty field]
 - Anticipated Finish: [Empty field]

General information Use the General tab to view and edit the selected WBS element’s general information. This includes the code, name, and status.


The user-defined dates the project/activities associated with the WBS element are expected to start and finish; used during the project planning stage, and set at the WBS level.

The screenshot shows a software window with two tabs: 'General' and 'Anticipated Dates'. The 'General' tab is selected and contains three fields: 'WBS Code' with the value 'Bldg', 'WBS Name' with the value 'Office Building Addition', and 'Status' with a dropdown menu showing 'Active'. The 'Anticipated Dates' tab is partially visible on the right and contains two date fields: 'Anticipated Start' and 'Anticipated Finish'. These two date fields are circled in blue, and a blue line points from the explanatory text above to this circle.

You can also directly edit some WBS information in the Work Breakdown Structure table. Double-click the information you want to change, then type or select the new value.

Edit a WBS element Select the WBS element you want to edit. To change the element’s position in the WBS, click the appropriate arrow buttons at the bottom of the command bar on the right side of the Work Breakdown Structure window. Display Work Breakdown Structure Details by clicking the Display Options bar and choosing Show on Bottom, WBS Details, then enter new information in the tabs.

Delete a WBS element Choose Project, WBS. Select the WBS element you want to delete, then click Delete in the command bar. If the WBS elements you want to delete have activity assignments, you are prompted to delete the WBS element and all of its activity assignments, or delete the WBS element and reassign, or merge, all of its activity assignments to the element’s higher-level WBS element. Click OK, then click Yes.

 *If you delete a higher-level WBS element, the application also deletes all elements contained in that element.*

Using WBS Milestones

In the initial stages of project planning, you need to decide how the application will calculate earned value, percent complete, and resource use.

You can add an unlimited number of WBS milestones, which can also be used to calculate earned value. Milestones are assigned at the WBS level, and each milestone is given a weight that indicates its importance to the project schedule. When you mark a WBS milestone as complete, the application uses its weight to calculate the performance percent complete of all activities included in the WBS level. That is, the performance percent complete is applied to all activities under that WBS level and then rolled back up to the WBS.

For example, suppose a particular level of the WBS includes 10 activities, and actual finish dates have been entered for 5 of these activities. The same WBS level is also assigned four WBS milestones having equal weights, but only one of these milestones is marked as complete. The application uses the completed WBS milestone to calculate the WBS level's performance percent complete as 25, even though half the activities included in the WBS level are finished.

You may want to use WBS milestones when higher-level task increments comprise a body of activities and you want to control the activities at the WBS level. For example, to control the design of a new product, you might assign WBS milestones to the major steps required to complete the design—such as drafting the requirements, writing the design specifications, and so on. Each of these milestones would contain the detailed activities required to complete it.

The first milestone is complete, and the corresponding performance percent complete, relative to the other WBS milestones, is shown.

% Complete		33.33%	
WBS Milestone	Weight	Completed	
Mechanicals	1.0	<input checked="" type="checkbox"/>	
Exterior Finish	1.0	<input type="checkbox"/>	
Interior Finish	1.0	<input type="checkbox"/>	



If a WBS element has no activities beneath it, and you mark milestones as complete, the performance percent complete will remain zero. To calculate performance percent complete, add a dummy activity to the WBS element.

Add WBS milestones Use the WBS Milestones tab to add an unlimited number of WBS milestones to a WBS element. Click Add, then type a name for the milestone and assign a weight for calculating performance percent complete for all activities in the WBS element.

The application calculates this performance percent complete, or earned value, based on the weighted milestones you mark as Completed on this tab, independent of the child activities corresponding to the selected WBS element.

Type a number indicating the significance of this milestone relative to the others listed, and to calculate a corresponding percent complete value when the milestone is marked Completed.

WBS Milestone	Weight	Completed
Mechanicals	1.0	<input checked="" type="checkbox"/>
Exterior Finish	2.0	<input type="checkbox"/>
Interior Finish	2.0	<input type="checkbox"/>

When you mark the checkbox for a milestone, the application calculates the performance percent complete for the WBS element based on the milestone's weight value in combination with the other milestones listed.

How Weights Affect Percent Complete

If all weighted milestones for a WBS element have a value of 1.0 and you have a total of four milestones, marking one as Completed would indicate that the WBS element is twenty-five percent complete. If this same milestone had a weight of 9.0, and the other three had 1.0 weights, marking it Completed would indicate that the WBS element is seventy-five percent complete. The application uses the following formula to calculate percent complete from weighted milestones:

Actual Weight of Completed Milestones / Total Possible Weight of All Milestones

Applying this formula to the previous example, the completed milestone has a weight of 9.0, and is divided by the total weight of all milestones (12.0), to equal seventy-five percent complete.

Assigning WBS Category Values

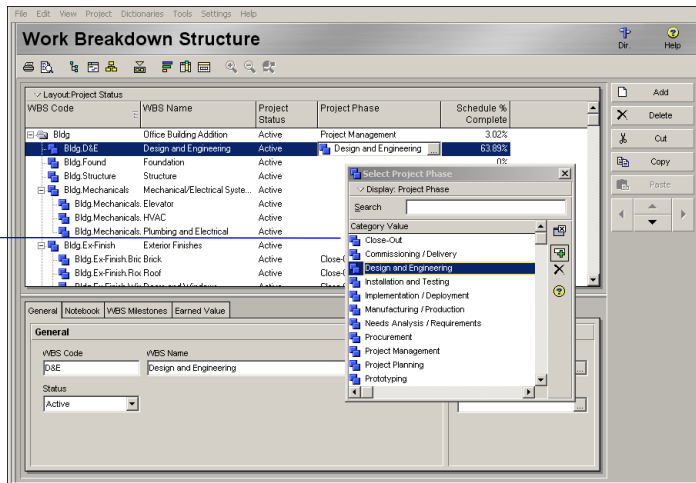
You can define a custom category and category values for WBS elements. The category and its values are not project-specific; you can assign category values to all WBS elements, which enables you to customize the application to reflect your desired terminology and unique requirements. The category and its values also enables you to group, sort, and filter WBS elements.

For more information about defining a WBS category and values, see "Setting Global Options" on page 61.

Establish a custom category and its values using the Categories dialog box (choose Settings, Categories).

Assign a WBS category value Choose Project, WBS. Add the WBS category as a column by clicking the Display Options bar and choosing Columns, Customize. Select the WBS category name under General in the Available Options area, then click the right arrow button to move it to the Selected Options column; click OK. Select the WBS element to which you want to assign a category value, then click the Browse button in the WBS category column.

Select the value to assign to the WBS element, click the Select button, then click the Close button.



Defining Earned Value Settings for Specific WBS Elements

Earned value is a technique for measuring project performance according to both project costs and the schedule. This technique compares the budgeted cost of the work to the actual cost. While earned value analyses are typically performed for WBS elements, you can also perform an earned value analysis for activities and groups of activities.

Use the Earned Value tab in Work Breakdown Structure Details to specify settings for calculating the selected WBS element’s earned value. Earned Value cost is the portion of the budgeted total cost of the activity that is actually completed as of the project data date; it is calculated as

Earned Value = Budget At Completion (BAC) x Performance % Complete

The method for calculating the performance percent complete depends on the earned-value technique selected for the activity’s WBS.

To define default earned value settings for all WBS elements, choose Settings, Options, then click the Earned Value tab.

Define earned value settings for a specific WBS element

Display Work Breakdown Structure Details by clicking the Display Options bar and choosing Show on Bottom, WBS Details. Select the WBS element whose earned value settings you want to define, then click the Earned Value tab.

Technique for computing performance percent complete	Technique for computing Estimate to Complete (ETC)
<div><input checked="" type="radio"/> Activity percent complete</div> <div><input type="checkbox"/> Use resource curves / future period buckets</div> <div><input type="radio"/> WBS Milestones percent complete</div> <div><div><input type="radio"/> 0/100</div><div><input type="radio"/> 50/50</div><div><input type="radio"/> Custom percent complete</div></div> <div><div>6</div><div></div></div>	<div><input checked="" type="radio"/> ETC = remaining cost for activity</div> <div>or</div> <div>ETC = PF * (Budget at Completion - Earned Value), where:</div> <div><div><input type="radio"/> PF = 1</div><div><input type="radio"/> PF = 1 / Cost Performance Index</div><div><input type="radio"/> PF = 1 / (Cost Performance Index * Schedule Performance Index)</div><div><input type="radio"/> PF =</div><div><div>0.88</div><div></div></div></div>

In the Technique for Computing Performance Percent Complete area, choose the completion percentage method you want to use when calculating an activity's earned value:

For more information on Future Period Bucket planning, see "Manually Planning Future Period Assignments" on page 158.

- **Activity Percent Complete:** Calculates earned value according to current activity completion percentages and the percent complete type selected on the General tab of Activity Details.
- **Use resource curves / future period buckets:** You cannot create resource curves in Primavera Contractor. However, when you import a project from the Project Management module that contains resource curves, you can view them in the Resource Usage Profile or Resource Usage Spreadsheet. This option allows you to use Resource Curves and manually entered Future Period Buckets when calculating Activity Percent Complete.
- **WBS Milestones Percent Complete:** Calculates earned value according to completion of the WBS element's weighted milestones, rather than the completion percentages of the element's activities.
- **0/100 Percent Complete:** Calculates earned value as 100 percent only after the activity ends. Until the activity is complete, the activity's earned value is zero percent.
- **50/50 Percent Complete:** Calculates earned value as 50 percent after the activity starts and until the activity ends. After the activity ends, the activity's earned value is 100 percent.
- **Custom Percent Complete:** Calculates earned value as a percentage you specify. This percentage applies after the activity starts and until the activity ends. After the activity ends, the activity's earned value is 100 percent.

In the Technique for Computing ETC area, choose the method you want to use when calculating an activity's estimate to complete (ETC) value:

- **ETC = Remaining Cost for Activity:** Calculates ETC values as the remaining cost to complete an activity ($\text{ETC} = \text{remaining duration of activity} * \text{applicable resource rates}$).
- **PF = 1:** Calculates ETC values as Budget At Completion (BAC) less Earned Value Cost. This method yields an optimistic result.
- **PF = 1/CPI:** Calculates ETC values according to a Performance Factor (PF) of 1 divided by the Cost Performance Index (CPI). This method yields the most likely result.

- **PF = 1/(CPI*SPI):** Calculates ETC values according to a PF of 1 divided by the product of the CPI and Schedule Performance Index (SPI). This method yields a pessimistic result.
- **PF =:** Calculates ETC values according to a PF you specify.

Working With Custom User Fields

In this chapter

Creating User-Defined Fields

Working with User-Defined Fields

Working with Indicators

User-defined fields enable you to customize fields and values and add them to the project database. For example, you can use them to track additional activity data such as delivery dates and purchase order numbers. You could also track resource- and cost-related data such as profit, variances, and revised budgets.

This chapter describes how to configure user-defined fields to meet your project's needs.

Creating User-Defined Fields

User-defined fields (UDFs) enable you to add an unlimited number of custom fields and values to the project database. Examples of UDFs include purchase order numbers, delivery dates, drawing numbers, profit, variances, and revised budgets.

Subject areas You may customize an unlimited number of UDFs in any of the following subject areas: Activities, Activity Resource Assignments, Activity Steps, Expenses, Resources, and WBS. In each of these subject areas, you can add columns and group, sort, and filter data based on the UDFs applicable to the subject area.

Data types For each custom field you create, you can specify any of the following data types for that field: Cost, Integer, Number, Text, Start Date, Finish Date, and Indicator. The data type you select determines the type of data you can specify in a field. For example, if you select Start Date, when you create a column for the Start Date you can only enter dates in the Start Date column.

For more information on Indicator-type UDFs, refer to “Working with Indicators” on page 118.



The Indicator UDF is a special type of field that enables you to enter color-coded values and display them in columns and reports.

The following table summarizes the data types available and their uses in user-defined fields:

Data Type	Use For
Text	Text or combinations of text and numbers
Start Date	Start date
Finish Date	Finish Date
Number	Numeric value with two decimal places
Cost	Currency value
Indicator	An indicator field that you can use to enter color-coded icon values in columns and display color-coded text in reports
Integer	Numeric data except money

Defining user-defined fields Choose Dictionaries, User Defined Fields. In the Select Subject Area drop-down list, select the subject area to which you want to add a new field, then click Add.

Double-click in the Title column and type a name for the UDF. Double-click in the Data Type column and select the appropriate data type, then click Close.

Be sure to select the desired subject area before entering a Title or Data Type.

Enter a Title and Data Type for the user-defined field. For example, you could enter Change Order # as the title and select Text as the data type.

Title	Data Type
Actual Cost	Number
Approved Changes	Number
Change Order #	Text
Change Order Cost	Number
Cost Indicator	Indicator
Cost To Complete	Number
Numeric Priority	Integer
Open Commitments	Number
Original Estimate	Number
Schedule Performance	Indicator
user_end_date1	Finish Date
user_end_date2	Finish Date
user_end_date3	Finish Date

Working with User-Defined Fields

Like other data fields, you can create columns for UDFs, group, sort, and filter based on UDF data, and view UDF data in reports. Read the following sections to learn more about utilizing these capabilities.

Creating UDF columns You can display UDFs in the columns of the Activity Table, Activity Resource Assignments, Activity Steps, Expenses, Resources, and WBS.

For detailed information on adding columns, refer to “Customizing Layouts” on page 267.



You can only create columns for a UDF in the layout of the subject area in which you created the UDF. For example, if you create a UDF called Purchase Order Number in the Expenses subject area, the Purchase Order Number UDF can only be viewed in the Expenses window.

For detailed information on grouping, sorting, and filtering data, refer to “Grouping, Sorting, and Filtering Data” on page 257.

Group, Sort, and Filter UDFs When you group a layout by user field, you can group, sort, filter, and view summaries. To group and sort based on UDFs, click View, Group and Sort; or, click the Display Options bar, then click Group and Sort. To filter data based on a UDF, select View, Filters.

For detailed information on reports, refer to “Customizing Reports” on page 293.

Viewing UDFs in reports You can create customized reports that contain UDF columns. In the Report Wizard, you can choose to include any UDF in a report. You can also group, sort, and filter data based on a UDF. After you run a report, any UDFs you selected will appear in columns.

For detailed information on formatting bars, refer to “Formatting Gantt Charts” on page 273 and “Customizing Layouts” on page 267.

Formatting UDF date bars You can create bars for user-defined date fields and view them in the Gantt chart. Click View, Bars. In the Bars dialog, click Add. Enter a name in the Name field. In the Timescale field, select User Dates (the User Start Date and User Finish Date fields will become enabled). Select the user-defined start and finish date values in the User Start Date and User Finish Date fields.



You must create user-defined start date and finish date fields in the User Defined Fields dialog before you can create bars for these fields in the Gantt chart. Also, the User Finish Date and User Start Date columns are only editable when you select User Dates in the Timescale column.

Click in the Filter column to open the Filters dialog. Select a filter and click Apply, OK. If desired, click on the Bar Style tab to change the bar’s appearance. Click Apply, OK.



If you select a User Finish Date that is earlier than the User Start Date, or if there is no value associated with those fields, the bar will not be displayed.

Select User Dates in the Timescale column.

The User Finish Date and User Start Date fields are automatically enabled when you select User Dates in the Timescale column.

Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
<input checked="" type="checkbox"/>	Remaining Lev...	Remain Bar			Level of Effort	
<input checked="" type="checkbox"/>	User-Defined	User Dates	user_start_date1	user_end_date1	All Activities	
<input type="checkbox"/>	Actual Level of ...	Actual Bar			Level of Effort	
<input type="checkbox"/>	Primary Baseline	Primary Baselin...			Normal	
<input type="checkbox"/>	Second Baseline	Secondary Bas...				
<input type="checkbox"/>	Third Baseline	Tertiary Baselin...				
<input checked="" type="checkbox"/>	Actual Work	Actual Bar			Normal	
<input checked="" type="checkbox"/>	Remaining Work	Remain Bar			Normal and Non-...	
<input checked="" type="checkbox"/>	Critical Remaini...	Remain Bar			Normal and Critical	

Bar Style Bar Settings Bar Labels

Shape:

Color:

Pattern:

Row:

Buttons: OK, Cancel, Apply, Add, Delete, Copy From..., Shift up, Shift down, Options..., Default, Help

If desired, click the Bar Labels tab and enter information to display UDFs as a label on any bar.

Working with Indicators

Indicators are a special type of user-defined field (UDF) that enable you to select color-coded icons as values for display in columns, group and sort, filters, and reports. Indicator UDFs can be used to highlight Activities, Activity Resource Assignments, Activity Steps, Expenses, Resources, and WBS. For example, you could group activities based on priority or status using Indicator UDFs.

Like all other UDFs, you can perform the following functions using Indicator UDFs:

- display in columns
- group and sort data based on indicators
- filter data based on indicators
- display as labels on timescale bars
- view indicator data in reports using columns, group and sort, and filters

For more information on defining UDFs, refer to “Working with User-Defined Fields” on page 116.

Defining Indicator UDFs Choose Dictionaries, User Defined Fields. In the User Defined Fields dialog, click Add, then select the Subject Area to which you want to add the indicator UDF. In the Data Type field, select Indicator. Enter a name (e.g., High Priority) in the Title field and click Close.

Selecting Indicator UDF values Once you create an indicator UDF, you can assign indicator values. You must create columns for indicator UDFs in order to assign values.

An Indicator UDF can have one of four values: red, yellow, green, or blue. These values, shown in the next figure, are selectable icons in a drop-down list when you click on an Indicator UDF field. You must select one of these values whenever you enter a value for an Indicator UDF, whether in columns, group and sort, filters, reports, or bars.



Indicator UDF example As an example, assume you want to create an Indicator UDF that signifies status and priority of activities based on the following parameters:

- Red - high priority activities that have not started
- Yellow - high priority activities that have started
- Green - completed activities
- Blue - low priority activities that have started

First, create an Indicator UDF in the User Defined Fields dialog called Priority Indicator. Then, in the Activities window, create a column for the Priority Indicator UDF. In the Priority Indicator column, identify the activities you want to add an indicator value to, click in the Priority Indicator field, and select the appropriate value. Then, you can group, sort, and filter data based on the Priority Indicator value. The Activity Table would look similar to the following figure, with Indicators grouped by type.

Layout: Classic WBS Layout			Filter: All Activities	
Activity ID	Activity Name	Activity Status	Critical	Indic...
ASSET-Q1.WIRE1 Upgrade Network				
A1730	Phase Three	Not Start...	<input type="checkbox"/>	
A1740	Analyze Project Costs	Not Start...	<input type="checkbox"/>	
A1800	Analyze Project Success	Not Start...	<input type="checkbox"/>	
A1870	Ship Product	Not Start...	<input type="checkbox"/>	
A1720	Phase Two	In Progress	<input type="checkbox"/>	
A1760	Detail Requirements	In Progress	<input checked="" type="checkbox"/>	
A1780	Cost Analysis of Proposed Improvements	In Progress	<input checked="" type="checkbox"/>	
A1700	Phase One	Completed	<input type="checkbox"/>	
A1790	Identify Current Design Shortcomings	Completed	<input type="checkbox"/>	
A1850	Review/Approve Refined Design	Completed	<input type="checkbox"/>	
A1860	Begin Construction	Completed	<input type="checkbox"/>	
A1750	Allocate Resources	In Progress	<input checked="" type="checkbox"/>	
A1810	Testing Iterations	In Progress	<input checked="" type="checkbox"/>	
A1820	Quality Assurance Testing	In Progress	<input type="checkbox"/>	

Indicator UDFs in columns, group and sort, filters, bars, and reports Modifying columns, group and sort, filters, bars, and reports to include Indicator UDF data is functionally the same as other types of UDFs.

The values display as icons in each of these cases, except reports. In reports, Indicator UDF columns show the text value of the icon (i.e., rather than displaying the icon, the value is red, yellow, green, or blue), as shown in the next figure.

Indicator UDF icon values
display as text in reports.

SR-07 Activity Breakdown By WBS

WBS				
Activity ID	Indicator	Activity Name	Activity Type	Activity Status
ASSET-Q1 Asset Inventory - Q1				
ASSET-Q1.WIRE1 Upgrade Network				
A1700	Green	Phase One	Level of Effort	Completed
A1720	Yellow	Phase Two	Level of Effort	In Progress
A1730	Red	Phase Three	Level of Effort	Not Started
A1740	Red	Analyze Project Costs	Task Dependent	Not Started
A1750	Blue	Allocate Resources	Task Dependent	In Progress
A1760	Yellow	Detail Requirements	Task Dependent	In Progress
A1780	Yellow	Cost Analysis of Proposed Improvements	Task Dependent	In Progress
A1790	Green	Identify Current Design Shortcomings	Task Dependent	Completed
A1800	Red	Analyze Project Success	Task Dependent	Not Started
A1810	Blue	Testing Iterations	Task Dependent	In Progress
A1820	Blue	Quality Assurance Testing	Task Dependent	In Progress
A1840	Blue	Prepare Refined Design	Resource Dependent	In Progress
A1850	Green	Review/Approve Refined Design	Resource Dependent	Completed
A1860	Green	Begin Construction	Start Milestone	Completed
A1870	Red	Ship Product	Start Milestone	Not Started
A1880	Blue	Install Network	Resource Dependent	In Progress

Creating Calendars

In this chapter

Adding Calendars

Modifying Calendars

You can create and assign calendars to each resource and each activity. These calendars define the number of available workhours in each calendar day. You can also specify holidays, project-specific work/nonworkdays, and resource vacation days. The application uses your calendar assignments for scheduling and tracking activities. An activity's type determines whether the activity uses the calendar of an assigned resource or its activity calendar.

You can link resource and project calendars to global calendars. Changes to a global calendar apply to all resource and project calendars linked to the global calendar.

Read this chapter to learn how to add and modify calendars.

Adding Calendars

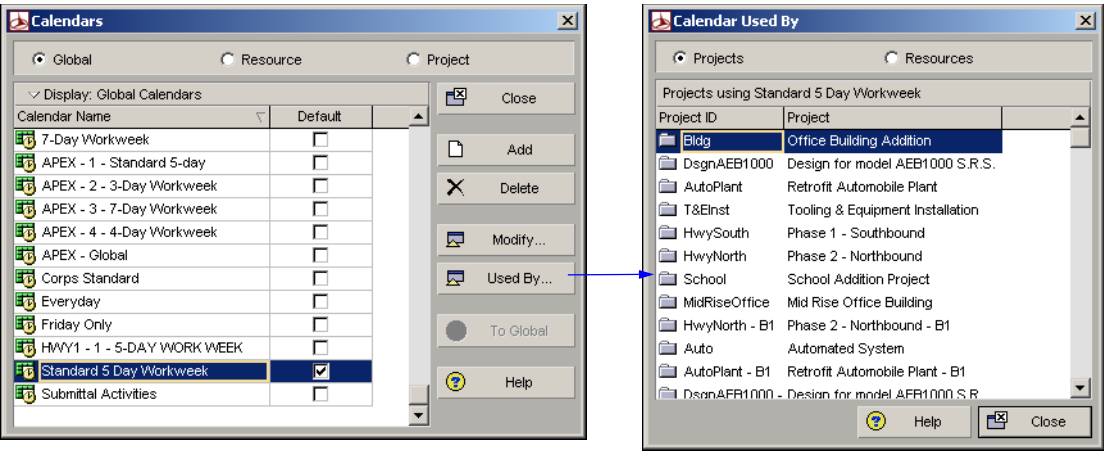
You can establish an unlimited number of calendars to accommodate different work patterns. For example, if some activities require a five-day workweek, while others are performed part-time (such as Monday, Wednesday, and Friday), you can create different calendars and assign the activities and resources in your projects to them.

For information about assigning global or project calendars to activities, see “Defining General Activity Information” on page 143.

For information about modifying calendars, see “Modifying Calendars” on page 124.

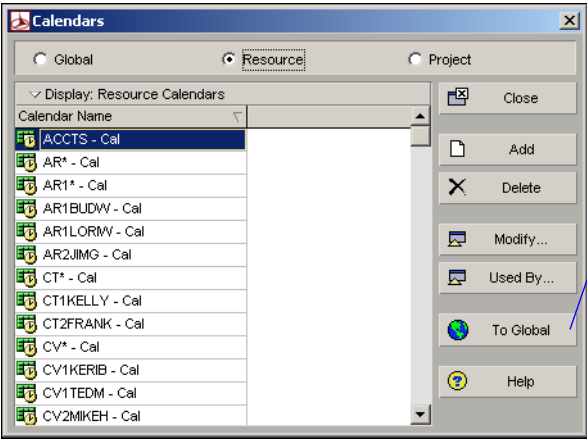
The application supports three calendar pools: global, resource, and project. The global calendar pool contains calendars that apply to all projects in the database. The project calendar pool is a separate pool of calendars for each project. The resource calendar pool is a separate pool of calendars for each resource. You can assign resource or global calendars to resources, and global or project calendars to activities.

Create a global calendar Choose Dictionaries, Calendars. Choose Global, then click Add. Select the calendar you want to copy for the new global calendar, then click the Select button. Type the new calendar’s name. To make the new calendar the default global calendar for activities and resources, mark the Default checkbox. To edit the new calendar, click Modify. To view the calendar’s assignments before changing it, click Used By.



For information about assigning resource calendars to resources, see “Defining Resources” on page 89.

Create a resource or project calendar Choose Dictionaries, Calendars. Choose Resource or Project, then click Add. Select the calendar you want to copy for the new resource or project calendar, then click the Select button. Type the new calendar’s name. To edit the new calendar, click Modify. To view the calendar’s assignments before changing it, click Used By.



Click to convert a resource or project calendar to a global calendar.

Modifying Calendars

For additional information about modifying calendars, refer to the Help.

A calendar consists of a standard workweek and a list of exceptions.

Use more than one calendar when your projects contain activities that can occur on different schedules. For example, you can create one calendar that specifies a normal Monday-through-Friday workweek and another calendar that specifies continuous worktime (24 hours/day). If you define multiple project calendars, you must assign each activity to the specific calendar that indicates the worktime available for performing that activity. The application schedules each activity only during the worktimes of the calendar to which it is assigned.

You can also create multiple calendars to control the times when work is performed by resources. You can then associate different holidays/exceptions from the global calendar for each work cycle to indicate individual resource availability.

Define the workhours for each day in the regular workweek. Use the Calendars dialog box to view and edit a global, project, or resource calendar.

Modify calendars Choose Dictionaries, Calendars. Select the calendar type (Global, Resource, or Project), then select the calendar you want to modify. Click Modify.



To base a resource or project calendar on another calendar, select a new global calendar in the Inherit Holidays and Exceptions from Global Calendar field.

Choose the month you want to modify by clicking the appropriate arrow button next to the month-year title. Modify the year by clicking the month/year title, and clicking the appropriate arrow button. To change the number of hours in a specific workday, click the date you want to change.



Work hours defined with decimal values other than .0 or .5 will round up or down to .0 or .5.

Displays a yearly calendar so you can select a specific month to view

Choose to define the total work hours in each day.

Set the number of hours available to work for a specific day.

Click to make the selected day a nonwork day.

Project Calendar: Automated System Calendar 1

☒ Total work hours/day ☐ Detailed work hours/day

October 2003

Work hours/day: 8.0

Mon Tue Wed Thr Fri Sat Sun

1 2 3 4 5

6 7 8 9 10 11 12

13 14 15 16 17 18 19

20 21 22 23 24 25 26

27 28 29 30 31

Standard ☐ Nonwork ☒ Exception ☐

Inherit holidays and exceptions from Global Calendar:

Standard 5 Day Workweek

OK Cancel Help Work Nonwork Standard Workweek...



To apply the same change to all instances of a specific weekday in the displayed month, click the weekday's column label.

Project Calendar: Automated System Calendar 1

☐ Total work hours/day ☒ Detailed work hours/day

Choose to define which hours of the day are work or nonwork hours.

Select the hours you want to change and click either Work or Nonwork.

To make an exception into a workday and apply the default number of work hours to that day, click the exception you want to change, then click Standard.

Click to specify the number of default work hours for the selected day in the open calendar.

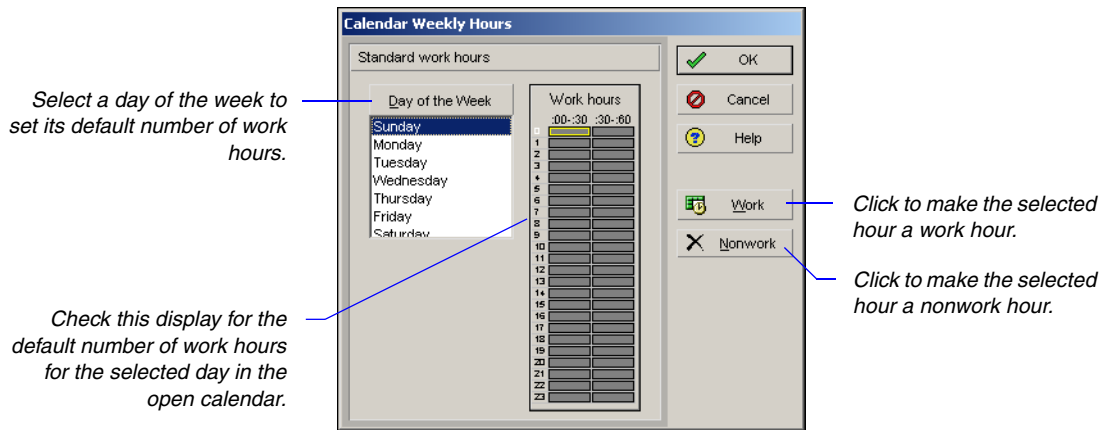


If the date's display color changes to white, the number of hours you entered does not equal the default number of work hours for that weekday.

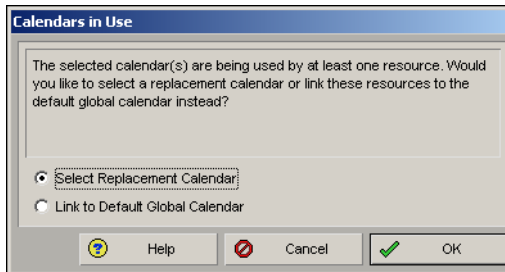
Each calendar's work/nonworktime is based on its regular workweek. The changes you make to the regular workweek are reflected in the global, resource, or project calendar dialog box. The calendar dialog box shows normal/standard, nonworktime, and exceptions in the colors indicated in the legend.

Apply exceptions directly in the calendar dialog box. To apply the same change to all instances of a specific weekday in the displayed month, click the weekday's column label.

Specify default work hours Use the Calendar Weekly Hours dialog box to specify the number of default work hours for each week day in the open calendar.



Delete a calendar Choose Dictionaries, Calendars. Choose Global, Resource, or Project, depending on the type of calendar you want to delete. Select the calendar you want to delete, then click Delete. If activities or resources are assigned to the calendar, the Calendars in Use dialog box is displayed.



To delete the calendar and link its assignments to a different calendar, choose Select Replacement Calendar, click OK, then select a replacement calendar when prompted. To delete the calendar and link its assignments to the default global calendar, choose Link to Default Global Calendar, then click OK.

Implementing the Schedule

In this part:

Establishing Activity Codes

Working with Activities

Working with Cost Accounts and Project Expenses

Read this part to learn how to define and use activity codes to organize and filter project activities, add activities and relationships to projects, and monitor project expenses using cost accounts.

“[Establishing Activity Codes](#)” describes how to structure project data using activity codes so you can organize the information in different ways.

“[Working with Activities](#)” describes how to create a schedule consisting of activities and resource assignments.

“[Working with Cost Accounts and Project Expenses](#)” discusses tracking activity costs and earned value throughout the project life cycle.

Establishing Activity Codes

In this chapter

Creating Activity Codes and Values

Grouping and Summarizing by Codes

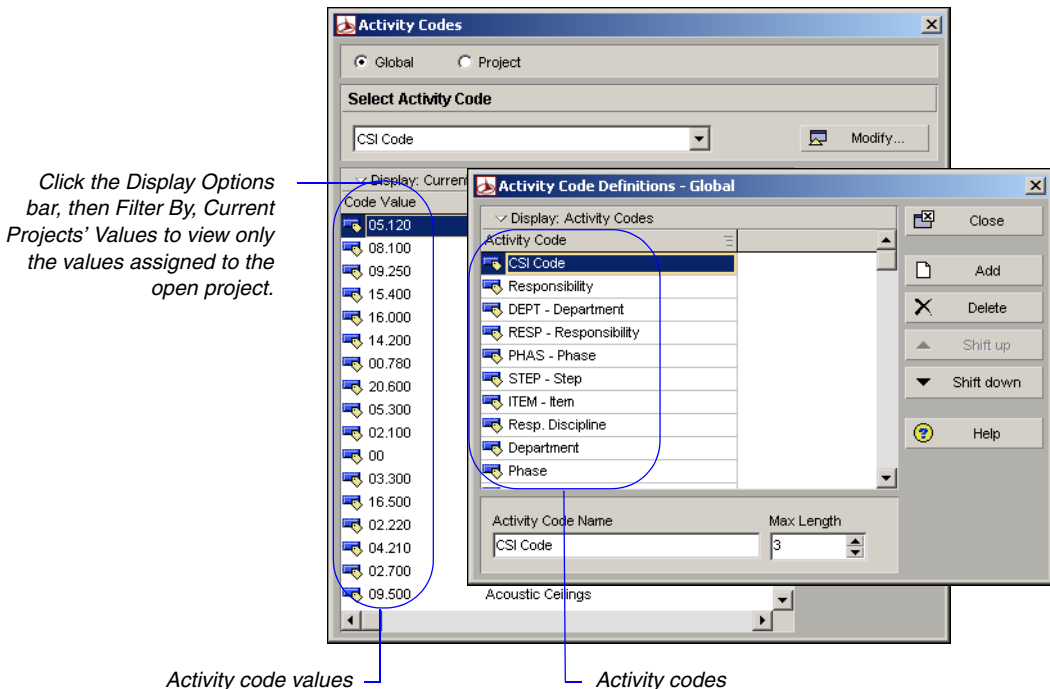
You can define a set of codes to categorize the activities in your projects. You can then sort, filter, and group activities according to the activity codes and values you assign.

This chapter describes how to use global codes to organize project activities according to specific categories, such as product and division. You will also learn how to establish project activity codes to filter and organize activities based on unique, project-specific features or requirements.

Creating Activity Codes and Values

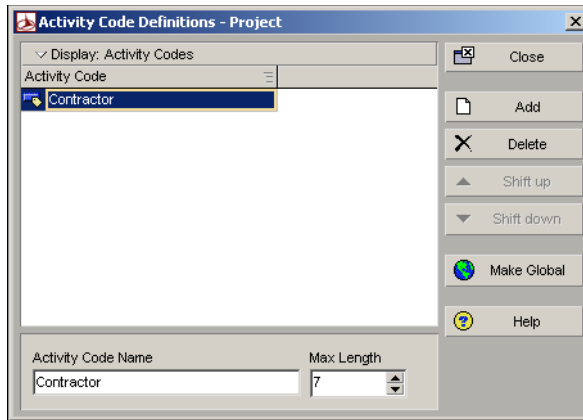
Activity codes represent broad categories of information, such as design, quality control, or location. For each code, you can define specific values that further describe that category. For example, if you have projects in more than one location, you can create a Location code with values such as New York, San Francisco, and Chicago. You can then associate activities with a specific location, such as New York, and define an unlimited number of values for each code.

Create global activity codes Choose Dictionaries, Activity Codes. Choose Global, then click Modify. Click Add, then type the name of the global activity code. Specify the maximum number of characters for the activity code's values.



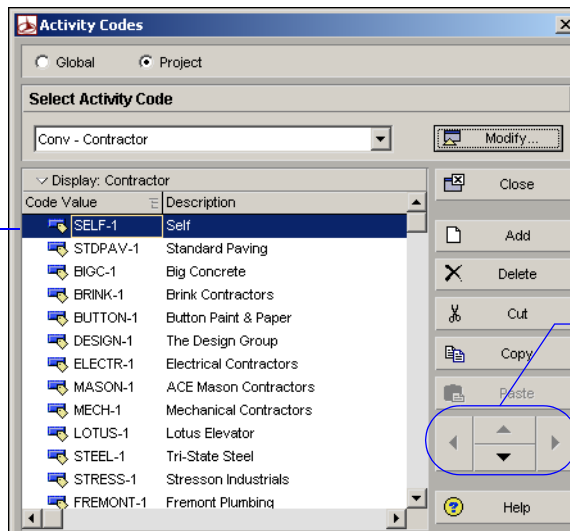
Create global activity code values Choose Dictionaries, Activity Codes. Choose Global. Select the activity code for which you want to create a value, then click Add. Type the value's name and description. The value cannot exceed the maximum character length specified for the activity code.

Create project activity codes Open the project for which you want to create activity codes, then choose Dictionaries, Activity Codes. Choose Project, then click Modify. Click Add, then type the name of the project activity code. Specify the maximum number of characters for the activity code's values.



Create project activity code values Choose Dictionaries, Activity Codes. Choose Project. Select the activity code for which you want to create a value, then click Add. Type the value's name and description. The value cannot exceed the maximum character length specified for the activity code.

Type the new value name and description directly in these cells; the name's length cannot exceed the length specified in the Max Length field for the code.



Use these arrows to indent/outdent a value in the activity code hierarchy, and to move a selected value up or down in the list.

For instructions on assigning activity codes and values to activities, see [“Assigning Activity Codes and Adding Expenses”](#) on page 164.

Convert project activity codes and values You can convert a project activity code and its values to a global activity code with global values. Choose Dictionaries, Activity Codes. Choose Project, then click Modify. Select the code you want to convert, then click Make Global. Click Yes to convert the code and its values.



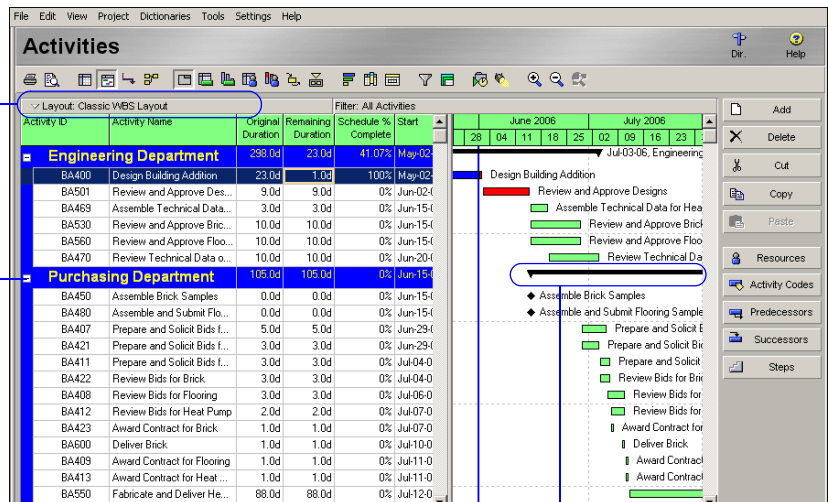
If you change activity codes or values, the application applies your changes to all activity assignments. In addition, if you convert project activity codes to global activity codes, the application applies these changes to all activity assignments.

Grouping and Summarizing by Codes

Use global and project activity codes to group activities and projects in Activity Table, Gantt Chart, and Activity Network layouts. Grouping enables you to focus on specific activities, such as those within a particular phase. The following example shows activities grouped by the global activity code Department.

Group by department so the layout is easy to read.

When you summarize an activity group, the early date bar begins at the earliest start date of all activities in the code value and extends to the latest early finish date of all activities in the code value.



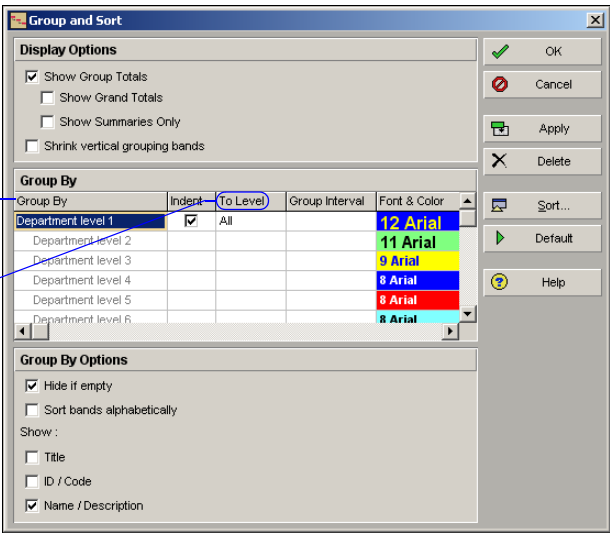
Summary bar

For more information about grouping and sorting, see "Grouping, Sorting, and Filtering Data" on page 257.

Group by activity code In the Activities window, click the Layout Options bar, then choose Group and Sort. Under Group By, click the first available line, then select the project or global activity code by which you want to group.

Group by as many fields as necessary for your layout.

If you are grouping by a hierarchical element, you can select the lowest level you want to include in the layout.

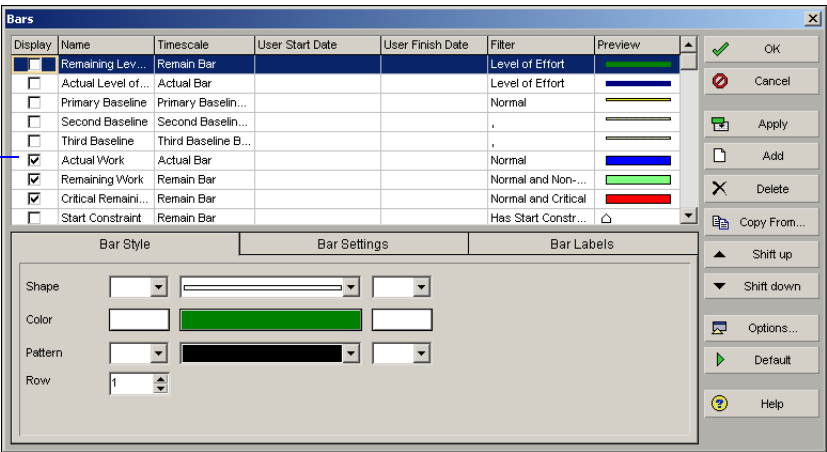


Summarize groups By default, the application summarizes the data included under each group band at the group band level in the layout and shows summary bars in the Gantt Chart. If the Gantt Chart is not displayed, click the Layout Options bar, and choose Show on Top, Gantt Chart.

For more information on Bars, see “[Formatting Gantt Charts](#)” on page 273.

To view the Bars dialog box, click the Layout Options bar, and choose Bars.

Mark to display a summary bar for each group band in the layout.



To exclude the project details and show only a summarized band, double-click the band. A plus sign (+) displays before the group band name when a group is summarized. To summarize all groups in the layout, click the Layout Options bar and choose Collapse All.

Working with Activities

In this chapter

Activities Overview

Adding Activities

**Defining General Activity
Information**

Defining Schedule Information

Establishing Relationships

**Displaying Activity Details for
Assignments**

Assigning Resources

**Manually Planning Future Period
Assignments**

**Assigning Activity Codes and
Adding Expenses**

Adding Steps

**Creating and Assigning Activity
Step Templates**

Viewing Activity Summaries

**Viewing Primavera Contract
Manager Documents**

Activities are the fundamental work elements of a project. They are the lowest level of a work breakdown structure (WBS) and, as such, are the smallest subdivision of a project that directly concerns the application. If you divide activities into steps, you can manage and track the progress of the steps, while also managing and tracking the progress of the overall activity.

This chapter describes how to add activities and their properties.

Activities Overview

Activities represent work that must take place in a determined amount of time. Use the Activity Table or Activity Network layouts to add activities and build your projects. Within these layouts, you can define the following activity information:

- Activity ID and name – to uniquely identify and describe the activity
- Predecessor and successor relationships – to define relationships with other activities in the same project
- Activity start and finish dates
- Activity calendar
- Activity type, duration type, and percent complete type; whether an activity is a start or finish milestone; how to keep an activity's unit values, duration values, and resource units/time values synchronized; and how to calculate an activity's percent complete
- WBS element
- Activity codes and values – to categorize activities
- Constraints on the activity's scheduled start and finish dates
- Expenses
- Resources
- Notes about performing the activity
- Steps – to divide the activity into smaller units
- Activity Step Templates – to define sets of reusable steps common to many activities in a project or across projects

Adding Activities

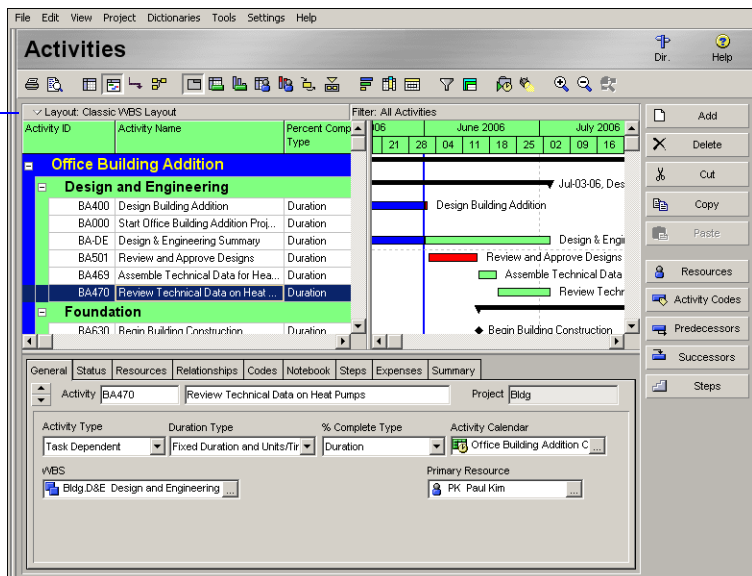
Use the Activities window to create, view, and modify activities for the open project. The Activities window can be divided into upper and lower layouts. For example, show an Activity Table, Gantt Chart, Activity Usage Spreadsheet, or Activity Network in the top layout, and/or show Activity Details, an Activity Table, Gantt Chart, Activity or Resource Usage Spreadsheet or Profile, or Trace Logic in the bottom layout. Customize the layouts to suit your requirements.



The maximum number of activities per project is determined by the license you purchased. When a project reaches the activity limit, the Add button is disabled. To view the number of activities in the open project, choose Project, Project Properties, General tab.

Choose Project, Activities, to display the Activities window.

To open a layout, click the Layout Options bar and choose Show on Top/Show on Bottom, then select the layout type.



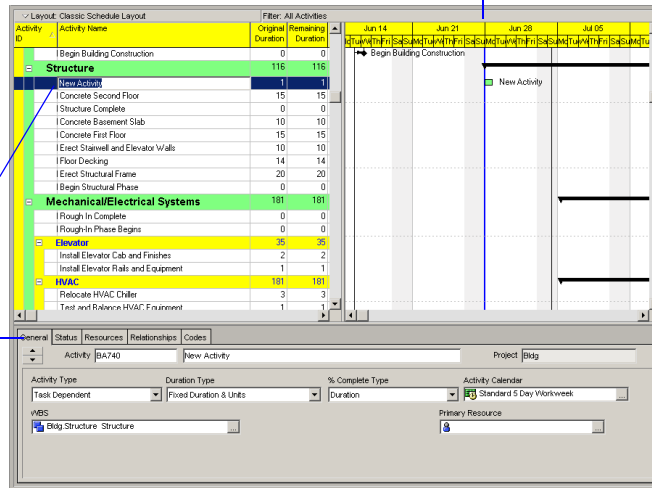
To add an activity to a project, use the Activity Table and Gantt Chart, or Activity Network. Depending on your user preferences, the New Activity wizard may start to help you add an activity.

Add activities in the Activity Table Select an activity within the group to which you want to add a new activity, then click Add. The new activity is placed according to the sorting options selected for the layout.

Include the Gantt Chart to see a timescaled version of your schedule as you add activities.

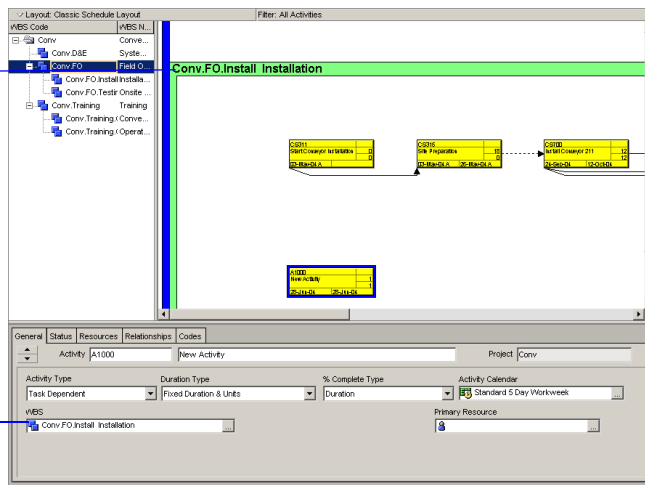
Type information directly in the column cells for the new activity...

...or use Activity Details to complete activity information.



Add activities in Activity Network In the Activity Network, select the group band or an activity box within the group band into which you want to add the new activity, then click Add.

The new activity was added to this second-level WBS group band.



If no groups have been set up in Activity Network, the activity will be added to the bottom of the layout.

Defining General Activity Information

Use the General tab of Activity Details to define general information for the selected activity, including duration type, WBS assignment, primary resource, activity type, and activity calendar.

In the Activities window, select the activity whose general information you want to define. Click the Layout Options bar, then choose Show on Bottom, Activity Details; click the General tab.

To specify which Activity Details tabs you want to display and their order, right-click anywhere in Activity Details and choose Customize Activity Details.

Activity type Select the activity type according to the activity's function in the project and the calendar that should be used for the activity during scheduling.

- To indicate that the activity's resources are scheduled according to the activity calendar, select Task Dependent.
- To indicate that each of the activity's resources are scheduled according to the resource's own calendar, select Resource Dependent.
- To indicate that the activity's duration is dependent on its predecessor and/or successor activities, select Level of Effort (LOE). LOE activities do not have constraints and are considered to be ongoing; examples include project management tasks, reviews, and meetings.



All finish to start and start to start predecessors and start to finish and start to start successors drive the start date of the LOE activity; all finish to finish and start to finish predecessors and finish to start and finish to finish successors drive the finish date of the LOE activity.

- To indicate that the activity marks the beginning of a major stage in the project, select Start Milestone. Milestones do not have time-based costs or resource assignments. However, a primary resource can be specified. Start milestone activities have a zero duration.

- To indicate that the activity marks the end of a major stage in the project, select Finish Milestone. Milestones do not have time-based costs or resource assignments. However, a primary resource can be specified. Finish milestone activities have a zero duration.
- To indicate that the activity's duration is dependent on the earliest start date and latest finish date of the activities that share a common WBS level, select WBS Summary.



Driving resources cannot be assigned to WBS Summary activities.

Duration type Select the duration type based on whether resources, the schedule, or costs will be most important when activities are updated in a project. The duration type applies only when resources are assigned to the activity. The following equation must hold true regardless of which data are updated:

$$\text{Remaining Units (resource)} = \text{Units/Time} \times \text{Remaining Duration (activity)}$$

For example, if a resource is assigned to an activity for 8 hours/day for 5 days, the remaining units or work effort is calculated as 40 hours. The duration type enables you to control which variables of this equation are calculated when you change a value.

- Select Fixed Duration & Units/Time or Fixed Duration & Units to indicate that the schedule is a limiting factor in your project. The activity's duration does not change regardless of the number of resources assigned when you modify or update activities. You usually choose these duration types when you are using task dependent activities.

When you update the remaining duration for the activity, you can choose to calculate either the remaining units or the units per timeperiod. If you want to recalculate the remaining units and keep the units/time for the resource constant, choose Fixed Duration & Units/Time. The application uses the equation:

$$\text{Remaining Units} = \text{Units/Time} \times \text{Remaining Duration}$$

If you want to keep the remaining units constant instead and recalculate the units/time, choose Fixed Duration & Units. The application uses the equation:

$$\text{Units/Time} = \text{Remaining Units/Remaining Duration}$$

- Select Fixed Units/Time to indicate that resource availability is the most critical aspect of your project. In this case, the units/time or rate of the resource remains constant, even if the activity's duration or work effort changes. You most often use this duration type when you are planning resource dependent activities.
- Select Fixed Units to indicate that the budget (units or cost) is a limiting factor; that is, the total amount of work is fixed. When you update activities, the work effort required to complete the activity does not change, even if the activity's duration or the resource rate changes. Typically, you would use this type in conjunction with resource dependent activities. Increasing resources can decrease the activity duration.

For more information on the percent complete type, see ["Updating Activities Manually"](#) on page 217.

Percent complete type You can choose to calculate an activity's percent complete according to activity duration, activity units, or a physical percent complete that you enter for each activity. You must define a percent complete type for each activity.

- To indicate that the activity's percent complete will be entered by the user for this activity, select Physical.
- To specify that the activity's percent complete be calculated from the original and remaining duration, select Duration.
- To specify that the activity's percent complete be calculated from the actual and remaining units, select Units.

Activity calendar This field displays the selected activity's calendar. Click the Browse button to select a new calendar.

WBS Click the Browse button to assign a new WBS element to the selected activity.

Primary resource This field displays the name of the selected activity's primary resource. The primary resource is the person responsible for the overall work on the activity and for updating activity status. Click the Browse button to select a new primary resource.

Defining Schedule Information

Use the Activity Details Status tab to view and edit detailed schedule information for the selected activity, including actual start and finish dates, free float, total float, suspend and resume dates, constraints, and duration. You can also view and edit the activity’s labor and nonlabor unit/cost values and material cost values.

The application automatically recalculates the time value and period you enter according to the project's calendar and the standard timeperiod you defined. To view the available timeperiod abbreviations, choose Settings, Options, then click the Time Periods tab.

In the Activities window, select the activity whose schedule information you want to define. Click the Layout Options bar, then choose Show on Bottom, Activity Details; click the Status tab.

Duration		Status		✓ Labor Units	
Original	10	<input checked="" type="checkbox"/> Started	21-Jun-04 ...	Duration %	50%
Actual	5	<input type="checkbox"/> Finished	02-Jul-04 ...	Suspend	...
Remaining	5	Exp Finish	...	Resume	...
At Complete	10				
Constraints					
Total Float	35	Primary	< None >	Secondary	< None >
Free Float	0	Date	...	Date	...
				Budgeted	80
				Actual	40
				Remaining	27
				At Complete	67

Duration Update the Duration fields when you are setting the duration or updating the activity as a whole. (Most likely, the activity type will be Task Dependent.)

For more information on updating the schedule, see “Updating and Managing the Schedule” on page 187.

- To enter the original duration for the activity, in the Original field enter the expected number of workperiods required to complete the selected activity.
- To enter the remaining duration for the activity, in the Remaining field enter the remaining number of workperiods needed to complete the selected activity. If the selected activity is in progress, type a new number immediately followed by the timeperiod abbreviation.



Use the General tab of the Options dialog box to specify the default duration for activities in all projects. Choose Settings, Options, then click the General tab.

- To enter a new at completion estimate, in the At Complete field enter an estimate of the duration at completion time for the selected activity. If the selected activity is in progress, type a new at completion estimate (At Complete Duration = Actual Duration + Remaining Duration).



If the Link Budget to EAC checkbox is cleared in the Project Properties, Calculations tab, the original budgeted /remaining units and costs, and the durations, will remain constant when you update the At Complete value for activities that have not started.

Status Once an activity is underway, update its start and finish dates and other status information.

- To enter the activity's planned start date, click the Browse button in the Started field, then select a date. If the activity has actually started, mark the Started checkbox, then specify the actual start date in the Started field.
- To enter the activity's planned finish date, click the Browse button in the Finished field, then select a date. If the activity is complete, mark the Finished checkbox, then specify the actual finish date in the Finished field.



If the planned date you enter differs from its scheduled date, you are prompted to apply a constraint to hold the activity in place. If you do not constrain the activity, your dates are overwritten when the schedule is calculated.

- If the selected activity has started, the Exp Finish field displays the date the activity is expected to end.
- If the selected activity's percent complete type is set to Duration, the Duration % is calculated from the original and remaining durations. If the selected activity's percent complete type is set to Units, the Units % is calculated from the actual and remaining units. If the selected activity's percent complete type is set to Physical, you can enter its physical percent complete in the Physical % field.

The % field name changes depending on the percent complete type set on the Activity Details General tab.



To edit the Physical % field, the activity must have started.

For more information on suspending and resuming activities, refer to [“Interrupting Activity Progress”](#) on page 224.

- If progress has stopped on an activity but will resume at a later date, enter a Suspend date. When progress on the activity resumes, enter a Resume date.
- Total float is the amount of time the selected activity can be delayed, without delaying the project’s finish date.
- Free float is the amount of time the selected activity can be delayed, without delaying the immediate successor activities.

Constraints Use constraints when activities must start or finish on a specific date. Network logic alone cannot reflect all project situations. Sometimes an activity must be accomplished according to specific dates rather than on dates determined by other activities in the project. To model dependence on specific dates, assign primary and secondary constraints to activities.

The application uses the date constraints only when they create a tighter schedule. For example, an imposed Start On date of December 1 will not affect a schedule-determined early start date of December 15. Conversely, if an imposed Start On or After date is set to December 30, the application schedules an activity whose early start is December 15 to the imposed start date.

- Choose the primary constraint for the activity, then click the Browse button in the Date field to select the date to which the primary constraint applies.
- Choose a secondary constraint if necessary. This list is filtered based on the value you select in the Primary field. Click the Browse button in the Date field to select the date to which the secondary constraint applies.



You can enter a constraint date only after you select a constraint type.

Labor/Nonlabor Units/Cost or Material Cost Click the Options bar and select Labor or Nonlabor units or cost, or Material cost. The amounts in the Status tab total the amounts for all resources assigned in the Resources tab.

- The budgeted amount is the expected number of labor/nonlabor units or cost, or material cost the selected activity’s resources will use.
- The actual amount is the actual number of labor/nonlabor units or cost, or material cost the selected activity’s resources have used. If the selected activity has started, type a new actual value.

- The remaining amount is the remaining number of labor/nonlabor units or cost, or material cost the selected activity's resources will use. If the selected activity is in progress, type a new remaining value.
- The at complete amount is an estimate of the labor/ nonlabor units or cost, or material cost at completion time for the selected activity's resources, (At Complete Units/Cost = Actual Units/Cost + Remaining Units/Cost). If the selected activity is in progress, type a new at complete estimate.



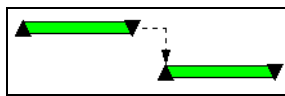
If the Link Budget and At Completion for Not Started Activities checkbox is cleared in the Project Properties, Calculations tab, the original budgeted /remaining units and costs and the durations will remain constant when you update the At Complete value for activities that have not started.

Establishing Relationships

Create relationships between activities to indicate whether an activity can begin only after other activities start or finish. Once you assign relationships, schedule the project to calculate early and late dates for each activity. You can only establish relationships between activities in the same project.

The application provides several methods for assigning relationships. Use the Activity Network to visualize the flow of logic as you link activities, or use the Gantt Chart to view relationships according to time. You can also use the Relationships tab in Activity Details to assign relationships.

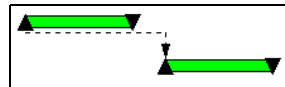
Relationship types and lag You can define the following four types of relationships. Typically, you define relationships from the predecessor to the successor activity.



Finish to start. The successor activity can begin only when the predecessor activity completes.



Finish to finish. The finish of the successor activity depends on the finish of the predecessor activity.



Start to start. The start of the successor activity depends on the start of the predecessor activity.



Start to finish. The successor activity cannot finish until the predecessor activity starts.

When a successor activity cannot start or finish as soon as its predecessor starts or finishes, you can define a lag time for the relationship. Lag is the number of time units from the start or finish of an activity to the start or finish of its successor. Lag can be a positive or negative value. For example, a start to start relationship with a three-day lag indicates that the successor activity can start three days after the start of its predecessor.

For more information on advanced scheduling options, see [“Updating and Scheduling”](#) on page 203.


You can select a calendar to calculate the lag between predecessors and successors for all activities. If you do not select a calendar, the Successor Activity Calendar is used to calculate lag. You can calculate lag based on the Predecessor Activity Calendar; the 24 Hour Calendar, which uses continuous, 7 days/week, 24 hours/day workperiods; or the Project Default Calendar, which is the calendar selected as Default for New Activities on the Defaults tab of the Project Properties dialog. To select the calendar for scheduling relationship lag, choose Tools, Schedule. Click Options. Select a calendar in the Calendar for Scheduling Relationship Lag field.

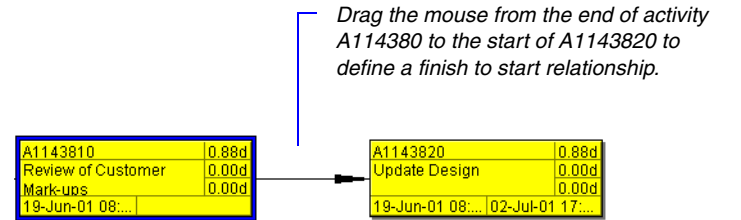
The screenshot shows the 'Schedule Options' dialog box with the 'General' tab selected. The 'Calendar for scheduling Relationship Lag' dropdown menu is highlighted with a blue circle and contains the text 'Successor Activity Calendar'. Other options in the dialog include checkboxes for 'Ignore external dates', 'Make open-ended activities critical', 'Use Expected Finish Dates', 'Schedule automatically when a change affects dates', and 'Recalculate assignment costs after scheduling'. There are also radio buttons for 'When scheduling progressed activities use' (Retained Logic, Progress Override, Actual Dates) and 'Calculate start-to-start lag from' (Early Start, Actual Start). The 'Define critical activities as' section has radio buttons for 'Total Float less than or equal to' (with a value of 0) and 'Longest Path'. The 'Compute Total Float as' section has a dropdown menu set to 'Start Float = Late Start - Early Start'.

View relationships in the Gantt Chart To assign relationships in the Gantt Chart, make sure relationships are displayed onscreen. Click the Layout Options bar, then choose Bars. Click Options in the Bars dialog box. Click the General tab in the Bar Chart Options dialog box and mark the Show Relationships checkbox, then click OK.

While you are dragging the relationship line between two activities, a hint window displays that indicates the type of relationship that will be created when you release the mouse button.

Create relationships in the Gantt Chart or Activity Network

Drag the mouse between any two activities that you want to connect. Point to the left or right of the predecessor activity and drag the mouse to the left or right of the successor activity. The mouse pointer changes to a  as you define relationships.

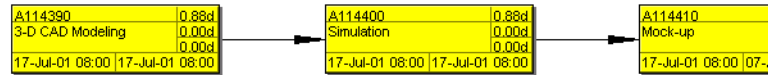


To modify or delete a relationship, double-click the relationship line.

Dissolving Activities

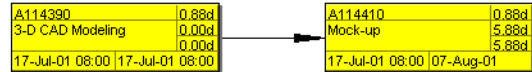
To maintain relationships when deleting activities, choose Edit, Dissolve, in the Activities window. Dissolving deletes an activity and joins its predecessor and successor activities with a finish to start relationship. The selected activity to be dissolved must have a predecessor and successor.

Prototyping



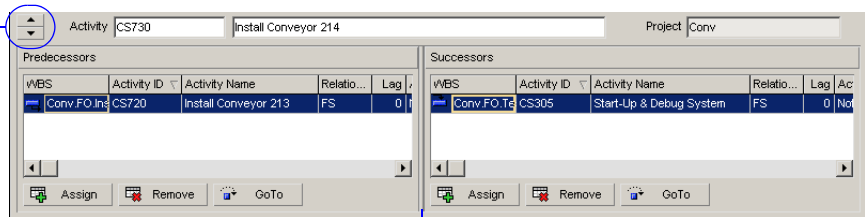
This sequence of activities above can be completed with just two activities. Dissolve activity A114400. Activity A114390 and A114410 automatically join with a finish to start relationship.

Prototyping



Assign relationships using Activity Details In the Activities window, select the activity to which you want to add a predecessor or successor relationship. Display Activity Details by clicking the Layout Options bar and choosing Show on Bottom, Activity Details, then click the Relationships tab. Click Assign in either the Predecessors or Successors section. Select the predecessor or successor activity you want to assign, click the Assign button, then click the Close button. Double-click the Relationship Type field, then select a relationship type. Double-click the Lag field, then type the relationship's lag time value.

Click the arrows to move from one activity to the next activity in the display.



To expand either the Predecessors or Successors area, drag the split bar separating the right and left panes.

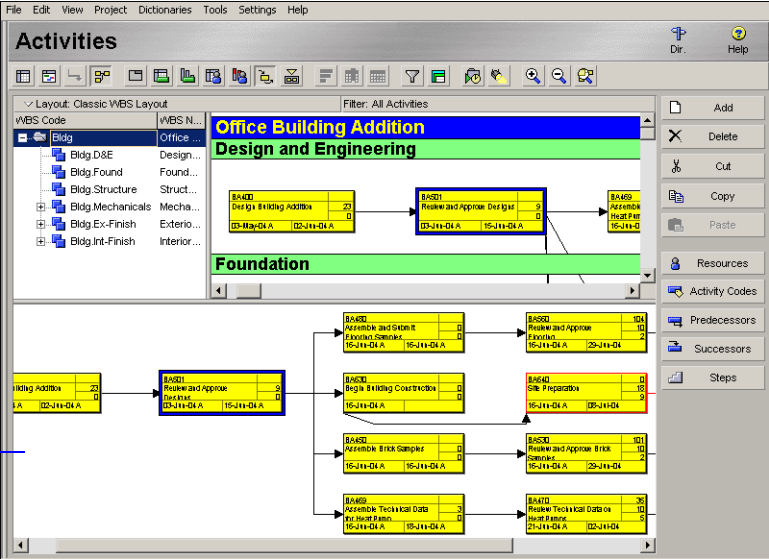


You can also use the Predecessors or Successors tabs in Activity Details to assign relationships. The Relationships tab combines the predecessor and successor information in a single tab. The data stored in the Relationships tab is synchronized with the information in the Predecessors and Successors tabs.

Trace Logic The Trace Logic layout enables you to examine a path while still viewing the entire project. Click the Layout Options bar and choose Show on Bottom, Trace Logic. In the Gantt Chart or Activity Network upper layout, select the activity from which you want to begin tracing logic.

To move through the chain of activities, click a predecessor or successor of the selected activity. To modify the number of predecessor/successor levels, click the Layout Options bar and choose Bottom Layout Options.

This Trace Logic layout shows three levels for both predecessors and successors.



Displaying Activity Details for Assignments

Display the following Activity Details tabs so you can assign additional project information:

- **Resources**, which include the personnel and equipment that perform work on activities across all projects. You can also assign and remove project personnel job titles.
- **Codes**, which are used to categorize activities according to your project needs.
- **Notebook**, which provide additional information that further describes the activity according to specific categories of information.
- **Steps**, which divide activities into smaller units. You can apply a weight to each step, which can be linked to the activity's physical percent complete for the completed steps.
- **Expenses**, which are one-time expenditures for nonreusable items. You can associate predefined cost accounts with expenses to categorize them.
- **Summary**, which displays detailed cost and unit information for the selected activity.
- **Contract Manager Docs**, which enables you to view Contract Manager (formerly known as Expedition) documents associated with the selected activity. This tab will only be available if the project currently opened is linked to a Contract Manager project.



For more information on linking to Contract Manager projects, see "Linking Primavera Contractor with Primavera Contract Manager" on page 393.

You can also right-click anywhere in Activity Details and select Customize Activity Details to modify Activity Details tabs.

Modify Activity Details tabs In the Activities window, click the Layout Options bar, then choose Show on Bottom, Activity Details. Click the Layout Options bar, then choose Bottom Layout Options. In the Available Tabs column, click the tab that you want to display, then click the right arrow button. To shift the tab to the left in the Activity Details display, select the tab name in the Display Tabs column and click the up arrow button; to shift the tab to the right in the display, click the down arrow button.

Assigning Resources

In the Activities window, select the activity to which you want to assign a resource. Click the Resources tab in Activity Details.

Activity		BA400		Design Building Addition				Project		Bldg							
Resource ID Name		Cost Account		Units / Time		Price / Unit		Budgeted Units		Actual This Period Units		Actual Units		Remaining Units		At Completion Units	
1 Mr. Paul Kim				8/d		\$30.00/h		184		-16		184		0		184	
 Add Resource		 Remove															

For information about establishing resources for your projects, see [“Defining Resources”](#) on page 89.

You can customize the Resources tab columns to include other information for resources. Right-click in the Columns area of the Resources tab, then choose Customize Resource Columns.

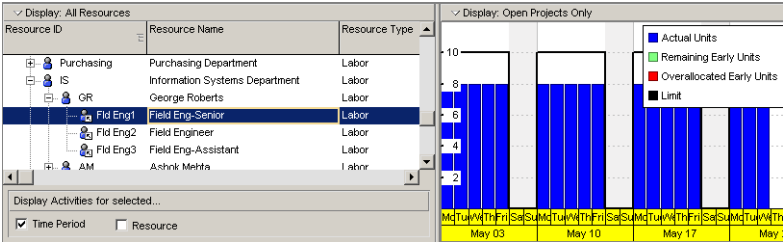
Click Add Resource to assign a resource to the selected activity. Select the resource you want to assign. To assign multiple resources, hold down the Ctrl key, then click each resource you want to assign. Click the Select button, then click the Close button.

To define detailed information, double-click each appropriate cell and enter the resource’s information for the selected activity. To replace a resource assigned to the activity, select the resource you want to replace, click Add Resource, then click the Replace button. Select the new resource with which you want to replace the existing resource, then click the Close button.

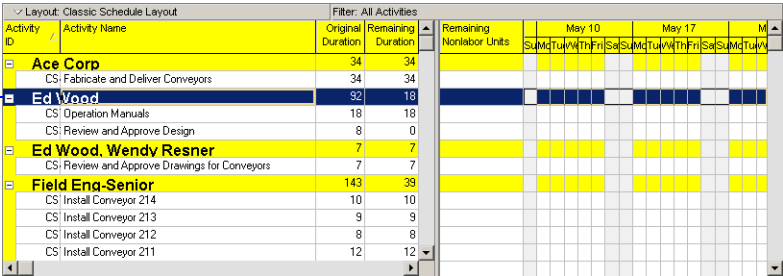
Recalculating Costs/Units for Assignments

If you want to calculate costs from the units indicated or to recalculate units based on actual cost, include the Cost Unit Linked column in Activity Details. If you mark the assignment’s checkbox for the Cost Unit Linked column, the application notifies you that costs will be recalculated. If no progress has occurred for the activity, the Budgeted Cost/Units, Remaining Cost/Units, and At Completion Cost/Units are equal. When you apply an actual start to the activity, and record an actual quantity value or an actual cost value for the resource assignment, the Budgeted Cost/Units value is retained and the Remaining and At Complete Costs/Units are recalculated automatically.

Once you assign a resource and specify the budgeted units anticipated for its use on activities, you can use Activity or Resource Usage Spreadsheets and Profiles to track its use as the project progresses.



This Activity Usage Spreadsheet is organized by resource, so you can see the weekly spread of resource use each month over the course of each activity's duration.



Manually Planning Future Period Assignments

Your project’s may contain activities for which you know work will be performed sporadically and at varying levels of effort. For these activities, it is not ideal to budget a resource assignment’s work on an activity using linearly spread units because the work you plan to perform per period on an activity will not be reflected. As a result, performance against the project plan cannot be accurately measured.

For example, assume an activity has an original duration of 28 days and budgeted units of 80 hours. For this activity, you know that the actual work will not be spread evenly across the duration of the activity; rather, the budgeted units will be spread as follows:

Week 1	Week 2	Week 3	Week 4
10h	30h	15h	25h

After planning future period resource allocation, you can create a baseline from the project plan. As the current project schedule progresses and you apply actuals, you can track how the project is performing against plan by comparing the current project’s budgeted future periods to the current project’s actuals.

To achieve the most precise resource distribution plan, you can manually enter the budgeted resource allocation per assignment in the timescale unit you choose (days, weeks, months, quarters, or years).

As the project progresses, if work on an assignment is not proceeding according to plan, you can manually update the remaining units for an assignment’s future periods, enabling you to measure the remaining work for an assignment without changing the original plan. You can manually modify an assignment’s budgeted past and future periods at any time, even if the activity associated with the assignment is in progress.



When you manually enter future period bucket values for an assignment, the module automatically identifies the future period values as a MANUAL resource curve. Although you cannot create or assign resource curves in Contractor, for some assignments you may see a value other than Manual in the Curve field when a project was imported from the Project Management module.

There are many factors to consider when manually planning future period resource distribution. For a more detailed list of guidelines and considerations, refer to the "Future Period Bucket Planning FAQ" topic in the Contractor application Help.

Guidelines When manually planning future period assignment buckets, adhere to the following guidelines:

You CAN enter future period values for . . .	You CANNOT enter future period values for . . .
. . . assignments in the Resource Usage Spreadsheet of the Resource Assignments and Activities windows.	
. . . all resource assignments.	
. . . Budgeted Units and Remaining (Early) Units.	. . . any other field.
. . . assignments to Task Dependent, Resource Dependent, Level of Effort, and WBS Summary activities.	. . . assignments to milestone activities.
. . . assignments to activities with duration types of Fixed Duration & Units and Fixed Duration & Units/Time.	. . . assignments to activities with duration types of Fixed Units and Fixed Units/Time.

Additionally, if the project-level setting 'Link Budget and At Completion for not started activities' is marked (Project Properties, Calculations tab), the total planned values of the Budgeted Units and Remaining (Early) Units for the assignment will always be equal for not started activities. For example, when you enter a value for a future period in the Budgeted Units field, the Remaining (Early) Units field is automatically populated with the same value; the reverse is also true. If this setting is not marked, you can enter different values for the same future period in the Budgeted Units and Remaining (Early) Units fields; in this case, the total values for each field are calculated independently for the assignment.

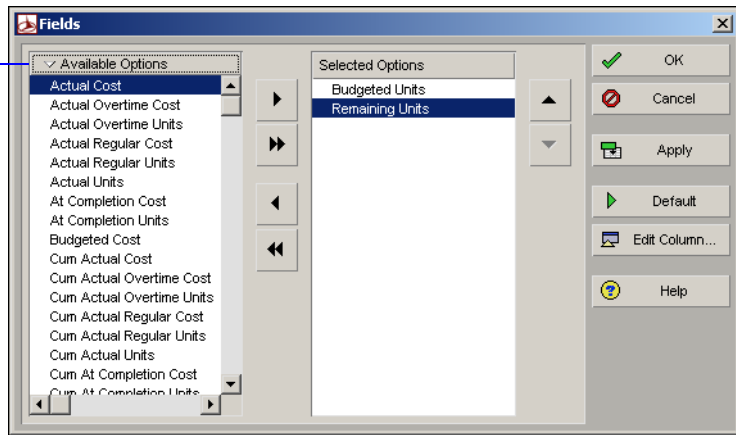


Once an activity is in progress, the Budgeted Units and Remaining (Early) Units fields are automatically unlinked.

When choosing the spreadsheet fields to display, you can also display Actual Units to compare the completed work against the budgeted and remaining work.

Display spreadsheet fields for future period bucket planning in the Resource Usage Spreadsheet Display the Resource Usage Spreadsheet in either the Activities window or the Resource Assignments window. To display the Budgeted Units and Remaining (Early) Units fields in the Resource Usage Spreadsheet, click the Display Options bar and choose Spreadsheet Fields, Customize. Move the Budgeted Units and Remaining (Early) Units fields to the Selected Options list and, if desired, remove all other fields from the Selected Options list. Click Apply, OK.

To sort the display in an alphabetical list, click the Available Options bar and choose Group and Sort By, List.



Create a future period bucket planning layout You can budget future period resource assignments in any type of layout in the Resource Assignments and Activities windows. Here are some helpful hints to consider before you begin:

For detailed information on creating layouts, modifying columns, and adjusting the timescale, refer to "Customizing Layouts" on page 267.

- Create or open a layout that enables you to easily identify resources and the activities to which they are assigned. Refer to the following image for sample layouts.
- Click the Layout Options bar and choose Columns, Customize. Move the Curve, Budgeted Units, and Remaining (Early) Units columns to the Selected Options list, then modify the remaining columns as desired. Click Apply, OK. By displaying the Curve column, you can determine which assignments already have an assigned pre-defined or custom curve (if the project was imported from the Project Management module), or a defined manual curve. When you manually enter or edit a value in a future period bucket for an assignment, the module automatically enters a value of Manual in the assignment's associated Curve column.

For assignments that do not have a defined total Budgeted Units or Remaining (Early) Units value, it is useful to display the Budgeted Units and Remaining (Early) Units columns. When you display these columns, you can enter or edit an assignment's total budgeted or remaining units to spread the units evenly over the duration of the assignment, then manually modify the future period distribution as necessary.

For detailed information on displaying the desired data, refer to “Grouping, Sorting, and Filtering Data” on page 257.

- Adjust the timescale in the Resource Usage Spreadsheet to reflect the planning periods in which you typically plan future resource distribution. For example, if you plan your work in daily buckets, adjust the timescale to Week/Day and enter hourly planning unit values.
- If you are planning future period resource distribution for a project that has already started, you may want to apply a filter to display only the activities you want to plan, such as activities that don't have an actual duration or that have a planned start after the current date or data date. Alternatively, if a project has already started and you want to update the remaining units for activities that are in progress, you could apply a filter to display only activities that have an Actual Start date and do not have an Actual Finish date.



If you use the Resource Usage Spreadsheet in the Activities window to plan future period resource distribution, you can only enter values for the currently opened project.

Spreadsheet fields displayed for Budgeted Units and Remaining Early Units.

Change the timescale intervals to reflect your planning, updating, and reporting periods.

Layout grouped and sorted by resource and by start.

List layout displaying columns for Resource Name, Start, Activity Name, and Curve. Use a list layout to sort the list in ascending or descending order for a specific column by clicking on a column heading.

When you edit a future period value for an assignment, the Curve column automatically displays a value of Manual, even if a pre-defined or custom curve was previously assigned.

Curves imported from the Project Management module.

Editable future period assignment values are displayed in white cells; non-editable values are displayed in gray cells.

For samples of manually-planned future period assignments using different planning periods, timescales, and user preference settings, refer to the Contractor application Help.

Manually enter future period values You can manually enter future period assignment values per bucket for labor, non-labor, and material resource assignments. After you display the Resource Usage Spreadsheet, create a suitable future period bucket planning layout, and display editable spreadsheet fields, enter or edit the Budgeted Units and/or the Remaining (Early) Units for each assignment bucket for the original or remaining duration of the activity.



Once an activity is in progress and changes occur to the project plan, you can manually edit the activity assignment's past and future period Budgeted Units and future period Remaining (Early) Units to reflect changes to the original plan.

Before entering values in future periods, consider the following:

- The values you should enter in future period buckets are dependent on the duration of your planning periods (buckets), the timescale you choose, and user preference settings.
- The values you enter in the Budgeted Units and Remaining Units fields are converted to the Unit/Time specified in the User Preferences, Time Units tab. For example, if the Unit/Time user preference is set to Hour and you enter 1d, the value is converted to 8h. To avoid planning mistakes, you should set the Unit/Time user preference to the same time unit you use to plan your work. For example, if you plan your work in hours, set the Unit/Time to Hours.

Assigning Activity Codes and Adding Expenses

In the Activities window, select the activity to which you want to assign a code and value. Click the Codes tab in Activity Details.

For information about establishing activity codes and values, see “Establishing Activity Codes” on page 131.

Activity Code	Code Value	Description
Location	US, Man.AnA	Ann Arbor, MI
Customer	Int	Internal Production

Click Assign. Select the activity code value you want to assign. To assign multiple codes and values, hold down the Ctrl key, then click each code value you want to assign. Click the Select button, then click the Close button.

Add expenses to activities In the Activities window, select the activity to which you want to add an expense. Click the Expenses tab in Activity Details.

You can customize the columns to include other information for the expense assignments. Right-click in the Columns area of the Expenses tab and choose Customize Expense Columns.

Expense Item	Cost Account	Expense Category	Accrual Type	Actual Cost	Remaining Early Cost
Design Consultation	Man.C-200.A-1	Consulting	Uniform over Act...	\$0.00	\$25,000.00

For information about setting up expenses for your projects, see “Working with Cost Accounts and Project Expenses” on page 173.

Click Add, then type the expense’s name. Double-click the item’s expense category listing, click the category you want to assign, then click the Select button. Double-click the Accrual Type cell, then select the expense’s accrual type. Type the number of budgeted units you expect the selected activity to use. Type the cost of each unit. The application calculates and displays the expense’s budgeted cost (budgeted units * price/unit) in the Budgeted Cost field.

For more information on automatically calculating actuals, see [“Estimating Progress Automatically”](#) on page 214.

To automatically calculate an expense’s actual cost based on the activity’s planned completion percentage, mark the Auto Compute Actuals checkbox.

The screenshot shows a software window with a table of expense items. At the top, there are fields for 'Activity' (A114320) and 'Project' (Spec-1). The table has six columns: 'Expense Item', 'Actual Cost', 'Auto Compute Actuals', 'Remaining Early Cost', 'Expense Category', and 'Accrual Type'. One row is visible with the item 'Design Consultation', an actual cost of '\$0.00', the 'Auto Compute Actuals' checkbox checked, a remaining early cost of '\$25,000.00', a category of 'Consulting', and an accrual type of 'Uniform over Ac'. Below the table are 'Add' and 'Delete' buttons.

Expense Item	Actual Cost	Auto Compute Actuals	Remaining Early Cost	Expense Category	Accrual Type
Design Consultation	\$0.00	<input checked="" type="checkbox"/>	\$25,000.00	Consulting	Uniform over Ac

To enter actual expense costs already incurred by the activity, type the cost in the Actual Cost field. Type the name of the vendor business or organization to which the expense is payable.

Adding Steps

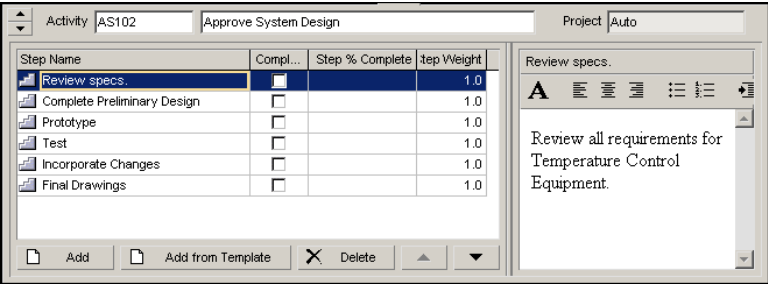
You can divide an activity into smaller task increments called steps and then assign weights to the steps to calculate the activity’s percent complete. Weighted steps enable you to track the progress of an activity based on the number of steps completed.

The percentage value is shown, relative to the weights of the other steps. For example, three steps are assigned to an activity; the first step has a weight of 2, and the second and third steps each have a weight of 1. When you mark the first step (weight of 2) complete, the percent complete is 50. When you mark the first and second steps complete, the percent complete is 75. When all three steps are marked complete, the percent complete is 100.

For more information on creating Activity Step Templates and assigning them to activities, refer to “Creating and Assigning Activity Step Templates” on page 168.

You can add steps unique to each activity. You can also create activity step templates that capture a group of steps common to multiple activities, then assign the step group to activities. This section describes how to add unique steps to activities; the next section describes how to create and assign activity step templates.

You may want to use weighted steps to status activities when a project consists of large activities that encompass distinct tasks.



Click Add. Type the name of the new step. Type a brief description of the step for the selected activity. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other information fields (while retaining formatting), and adding hyperlinks. To move the step to an earlier stage of the activity, click the up arrow. To move the step to a later stage of the activity, click the down arrow.

To indicate that the step is complete, mark the Completed checkbox. To add columns for percent complete, weight, weight percent, and user-defined fields, right-click over the columns in the Steps tab, and choose Customize Steps Columns.

- **Step % Complete** – Percent complete indicates progress on the step and can be used to calculate percent complete for the activity.
- **Step Weight** – The weight of the step indicates the step's importance. The higher the value, the greater the importance. The weight can be any number between 0.0 and 999999.0 and is relative to the other steps listed for the activity.



To change the weight of a step, double-click the Step Weight column and type a new weight for the step.

- **Step Weight Percent** – The step weight percent value is calculated based on the step weights assigned to the activity. This column is 0 percent for nonweighted steps.
- **User-defined fields** – You can change the title of user-defined fields and use them to enter values, such as finish date, start date, cost, or number of hours worked for a step. Choose Dictionaries, User Defined Fields to assign and edit these titles.

Setting Options for Using Weighted Steps

You must select Physical as the percent complete type in the General tab in Activity Details to use weighted steps to calculate an activity's percent complete. The Physical % field in the Status tab of Activity Details then becomes a calculated field, which displays the percent complete based on the relative weights of the completed steps versus the incomplete steps.

In addition, you must mark the Activity Percent Complete Based on Activity Steps checkbox in the Calculations tab of the Project Properties dialog to base percent complete on weighted activity steps.

If you do not set these options, you can still edit the Step Weight and Completed fields in the Steps tab, but they will not be used in any calculations. You will also be able to edit the Physical % field in the Status tab of Activity Details.

Creating and Assigning Activity Step Templates

You may have several activities that repeat within a project or across projects. For example, every time you start a project, several specifications must be written and approved. Developing a specification is a multi-step process that never changes.

For example, the “Write Specifications” or “System Design” activity could have the following steps:

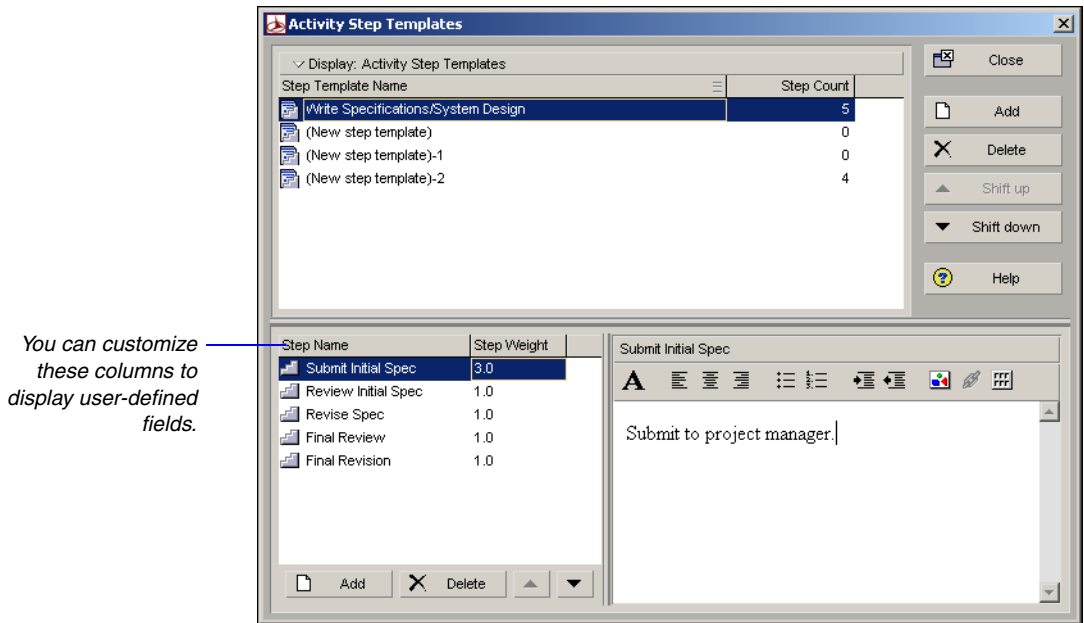
- Submit initial spec
- Review initial spec
- Revise initial spec
- Final review
- Final revision

These steps may apply to many or all “Write Specifications” activities in a project or across all projects. Rather than manually inputting these steps into each “Write Specifications” activity, you can create an activity step template containing these steps and assign the template to each applicable activity at once. You can create activity step templates manually or convert existing step(s) into a template.

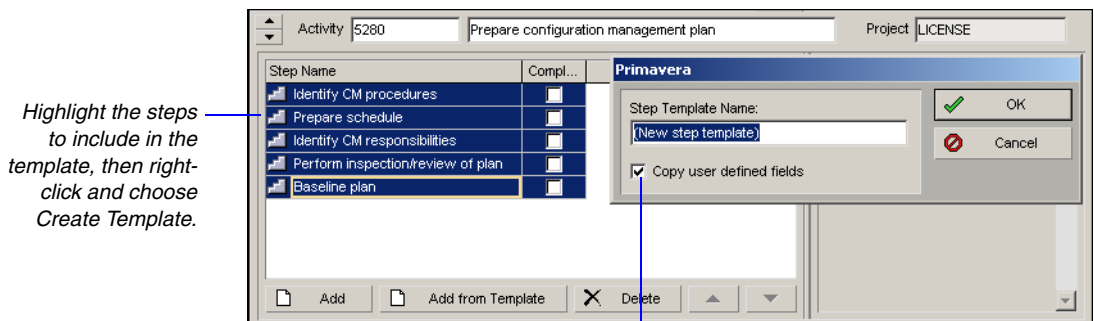
For more information on weighted steps, refer to “Adding Steps” on page 166.

Creating activity step templates manually Choose Dictionaries, Activity Step Templates. In the top grid of the Activity Step Templates dialog, click Add. Type a name in the Step Template Name field (e.g., Specification steps). To add steps to the template, click Add in the bottom grid. Type a Step Name and a Step Weight. The Step Weight is used to calculate the progress of an activity; the greater the weight of the step, the more progress has been made on the activity when you mark a step complete. You can add an unlimited number steps to a template.

You can customize the bottom grid to display user-defined field columns in which you can add step data such as dates and costs. Any user-defined field data you enter in an activity step template is saved as part of the template.



Converting existing step(s) into an activity step template In the Activity Table, select the activity that contains the step(s) you want to convert to a template. In the Steps tab of Activity Details, ctrl-click to select the desired step(s), then right-click on the selected step(s) and choose Create Template. Enter a name for the template when prompted. The step(s) and their associated name, description, and weight are added to the new template. You can also choose to add the steps' UDFs to the template.

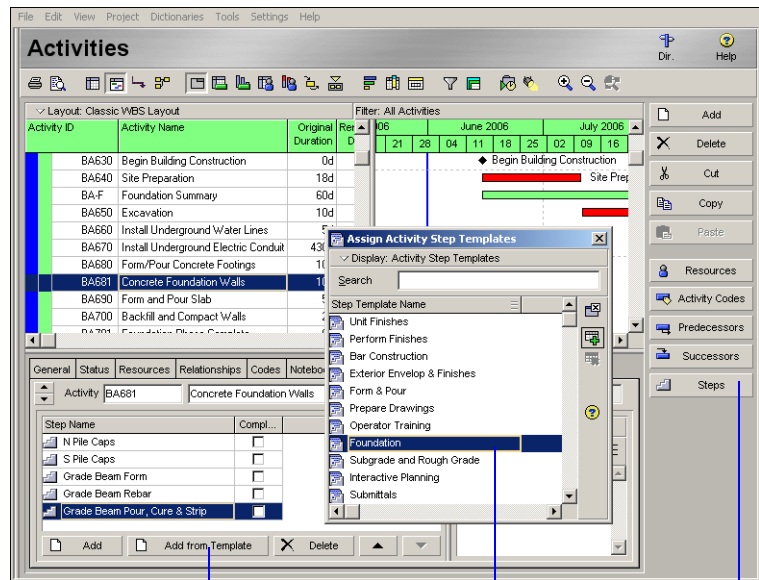


Mark to add UDFs assigned to the step(s) to the step template.



The application automatically updates step UDF data in activity step templates when a step UDF is added, deleted, or modified in the User Defined Fields dialog box.

Assigning activity step templates to activities You can assign an activity step template to activities separately or to several activities at once. To assign a template to one activity, select the activity in the Activity Table. Click the Layout Options bar and choose Show on Bottom, Activity Details. In the Steps tab, click Add From Template. In the Assign Activity Step Templates dialog, select the template you want to add and click the Select icon (+ symbol). The Steps tab is automatically populated with the steps listed in the template.



Click to add steps from an activity step template, then select the template and assign it to the activity.

Click to add a template to more than one activity (the activities must be selected in the Activity Table).

You can also assign an activity step template to multiple activities at once. In the Activity Table, Ctrl-click each activity to which you want to assign a template. From the Command Bar, click Steps to launch the Assign Activity Step Templates dialog. Choose the template you want to add to the selected activities, then click Assign.

Viewing Activity Summaries

In the Activities window, select the activity whose summary information you want to view. Click the Summary tab in Activity Details.

The screenshot shows the 'Activity Details' window for activity 'B3680' (Initial Design Sketch) under project 'Spec-1'. The 'Summary' tab is selected, displaying a table with activity metrics. The table has columns for 'Actual', 'Remaining Early', '% Complete', 'At Completion', and 'Complete Variance'. The rows show 'Labor Units' (40.00h, 90.00h, 30.77%, 130.00h, -40.00h), 'Nonlabor Units' (0.00h, 0.00h, 0%, 0.00h, 0.00h), and 'Duration' (114.00d, 5.00d, 50%, 119.00d, -109.00d). Below the table, there are three radio buttons: 'Display units' (selected), 'Display cost', and 'Display dates'.

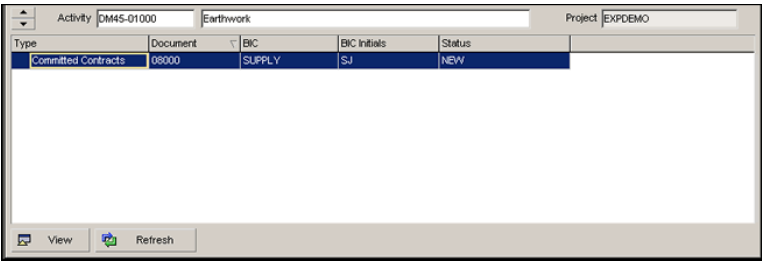
	Actual	Remaining Early	% Complete	At Completion	Complete Variance
Labor Units	40.00h	90.00h	30.77%	130.00h	-40.00h
Nonlabor Units	0.00h	0.00h	0%	0.00h	0.00h
Duration	114.00d	5.00d	50%	119.00d	-109.00d

☒ Display units ☐ Display cost ☐ Display dates

To view summary information about the activity's units, choose Display Units. To view summary information about the activity's costs, choose Display Cost. To view all of the activity's start and finish dates, choose Display Dates.

Viewing Primavera Contract Manager Documents

Contract Manager documents are documents from Primavera Contract Manager (formerly Expedition) that are associated with project activities. In the Activities window, select an activity that has a Contract Manager document associated with it. Click the Contract Manager Docs tab in Activity Details.



To view a document, select the document, then click View. The document displays in your default Web browser.



You can view Contract Manager documents only if your project is linked to a project in the Contract Manager. Refer to [“Linking a Primavera Contractor Project with a Contract Manager Project”](#) on page 395 for more information. You must access Contract Manager to associate a document with a project activity.

Working with Cost Accounts and Project Expenses

In this chapter

Cost Account and Expense Overview

Setting Up a Cost Account Structure

Adding Expenses and Entering Cost Information

Defining Expense Details

Analyzing Costs

Cost accounts enable you to track activity costs and earned value throughout the project life cycle. Set the default cost account at the project level so that it is automatically assigned to the project's activities. Cost accounts are established in a hierarchy available to all projects.

Expenses are nonresource costs associated with a project and assigned to a project's activities. They are typically one-time expenditures for nonreusable items. Examples of expenses include facilities, travel, consulting, and training.

Read this chapter to learn how to set up cost accounts and add expenses.

Cost Account and Expense Overview

You can create cost accounts that you can assign to activities in any project. Cost accounts are hierarchical and they enable you to track activity costs and earned value according to your specific cost account codes.

You can also add expenses, assign expense categories to them, and specify whether an expense accrues at the start or end of an activity or uniformly over its duration. Each expense has a budgeted actual, remaining, and at completion value for both cost and units.



Expenses are not the same as resources. Resources can be time-based and generally extend across multiple activities and/or multiple projects. Examples of resources are personnel and equipment. Unlike resources, expenses are project-specific and they are not time-based.

Setting Up a Cost Account Structure

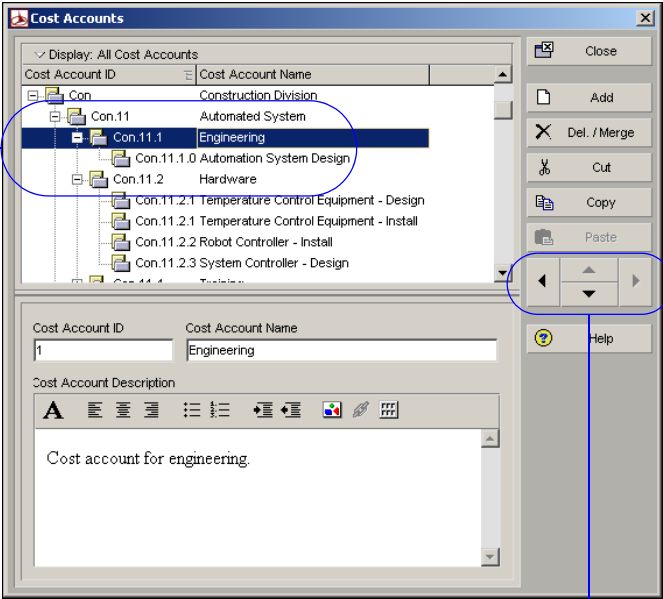
Set up a cost account structure and assign codes to activities and/or resources. Use the cost account structure to track the amount of work accomplished against the amount of money spent.

Create a cost account hierarchy Choose Dictionaries, Cost Accounts. Click the Cost Account ID column label to display the cost accounts hierarchy. An outline symbol in the Cost Account ID column label indicates a hierarchy display.

Select the cost account immediately above and at the same level as the cost account you want to add, then click Add. Type the cost account's ID and name. The cost account ID and name should identify a project component, such as engineering, hardware, or research. Create cost accounts beneath each main component to delineate the component's parts, such as coding and installation for hardware.

In the Cost Account Description area provide an optional, brief summary of the cost account. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

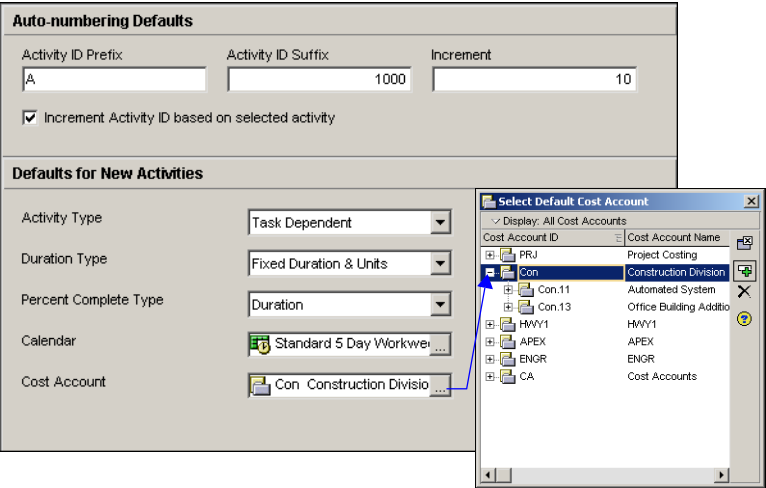
When you indent, or create a lower-level cost account, the application automatically prefixes the new account with the higher level's ID.



Use these arrows to indent/outdent a value in the cost account hierarchy and to move a selected value up or down in the list.

Set the project default cost account Specify a default cost account that will be used for resources assigned to activities and project expenses in the open project. Choose Project, Project Properties, then click the Defaults tab. Click the Browse button in the Cost Account field. Select the default cost account, then click the Select button.

You can assign a default parent cost account for the open project in the Project Properties dialog box, Defaults tab, then assign the child cost accounts when associating expenses with activities.





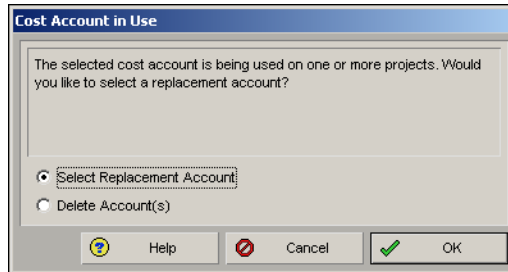
The application only uses your default cost account for new resource assignments to activities and new project expenses. Changing this setting does not affect existing resource assignments to activities or existing project expenses.

Edit a cost account Choose Dictionaries, Cost Accounts. Make sure the cost accounts hierarchy is displayed; an outline symbol in the Cost Account ID column label indicates a hierarchy display. Select the cost account you want to edit. Type a new cost account ID and name. To change the cost account's position in the cost accounts hierarchy, click the appropriate arrow buttons.



If you change a cost account's ID or name, the change applies to all activity assignments.

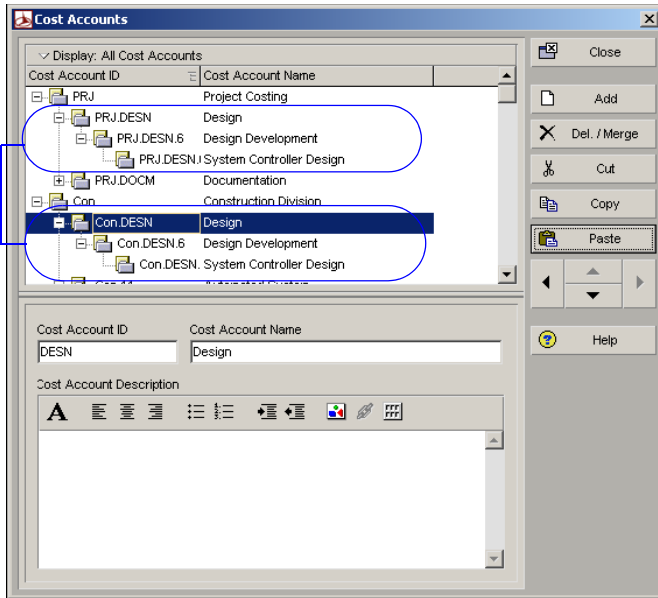
Delete a cost account Choose Dictionaries, Cost Accounts. Select the cost account you want to delete, then click Del./Merge. If the cost account is assigned to activities or projects, the Cost Account in Use dialog box is displayed.



To delete the cost account and specify a replacement cost account, choose Select Replacement Account, click OK, then select a replacement account. To delete the cost account without specifying a replacement cost account, choose Delete Account(s), then click OK.

Copy and paste cost accounts Choose Dictionaries, Cost Accounts. Make sure the cost accounts hierarchy is displayed; an outline symbol in the Cost Account ID column label indicates a hierarchy display. Select the cost account you want to copy, then click Copy. Select the cost account to which you want to paste the copied account, then click Paste.

The copied cost account displays below the selected cost account in the hierarchy, and includes any lower-level cost accounts in the copied cost account.



You cannot copy a cost account's activity and project assignments.

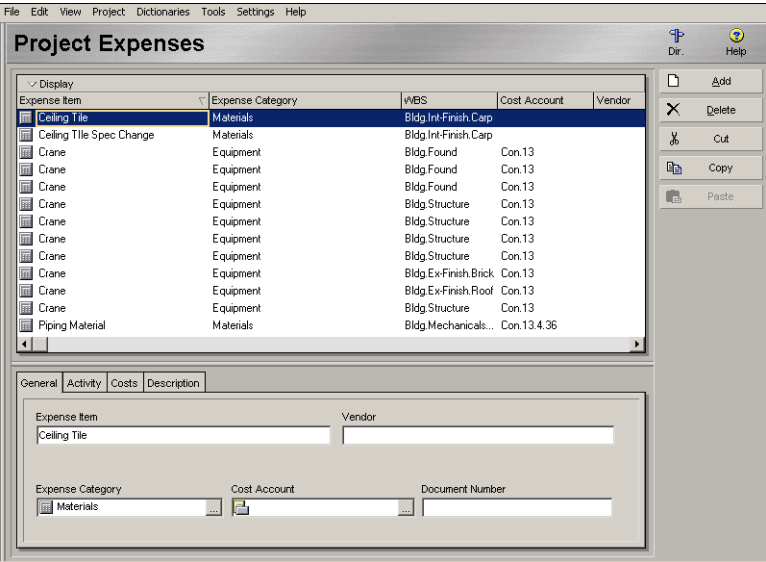
Cut and paste cost accounts Choose Dictionaries, Cost Accounts. Make sure the cost accounts hierarchy is displayed; an outline symbol in the Cost Account ID column label indicates a hierarchy display. Select the cost account you want to cut and paste, then click Cut. Select the cost account to which you want to move the cut account, then click Paste.



When you cut and paste a cost account, the application maintains the account's activity and project assignments.

Adding Expenses and Entering Cost Information

Use the Project Expenses window to create, view, and edit expenses and related cost information for the open project. You can assign a cost account and corresponding work breakdown structure (WBS) code so you can identify the project component associated with the expense, and the area of work with which it is associated. The Project Expenses window is displayed when you choose Project, Expenses. To include Project Expense Details at the bottom of the Project Expenses window, click the Display Options bar and choose Expense Details. (The box next to Expense Details should be marked.)



For steps on adding expenses to activities from the Activities window, see [“Working with Activities”](#) on page 139.

Add expenses Choose Project, Expenses. Click Add. Select the activity that incurs the expense, then click the Select button. Group the activities in the Select Activity dialog box so you can easily find the activity.

Click the General, Activity, Costs, and Description tabs, and enter the expense’s information. For an explanation of the fields on these tabs, refer to [“Defining Expense Details”](#) on page 183.

Enter cost information for expenses Choose Project, Expenses. Select the expense whose cost information you want to enter, then click the Costs tab. Type the number of units you expect the expense's assigned activity to use, then supply the price for each unit. The application calculates and displays the budgeted cost of the selected expense (budgeted units * price/unit) in the Budgeted Cost field.

For more information on automatically calculating actuals, see "Estimating Progress Automatically" on page 214.

To automatically calculate an expense's actual cost based on the activity's completion percentage, mark the Auto Compute Actuals checkbox. The application automatically updates the actual/remaining units when project actuals are applied. This setting assumes that all work for the activity proceeds according to plan.

Budgeted Units	Actual Units	Remaining Units	At Completion Units
1,000	0.000	1,000	1,000
Price/Unit	Unit of Measure		
\$6,620.00			
Budgeted Cost	Actual Cost	Remaining Cost	At Completion Cost
\$6,620.00	\$0.00	\$6,620.00	\$6,620.00
Expense % Complete			
0%			
<input type="checkbox"/> Auto Compute Actuals			

Enter an expense accrual type Choose Project, Expenses. Select the expense whose accrual type you want to enter, then click the Activity tab.

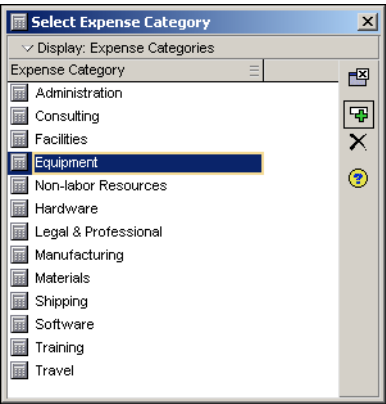
Activity Name		
B3690 Initial CAD review		
WBS	Accrual Type	Activity Status
Spec-1.NPD&M.PT.FSGD.102.ID	Uniform over Activity	Completed
Activity Start	Activity Finish	Primary Resource
09-Feb-00	10-Feb-00	Andy Jackson

Select one of the following accrual types:

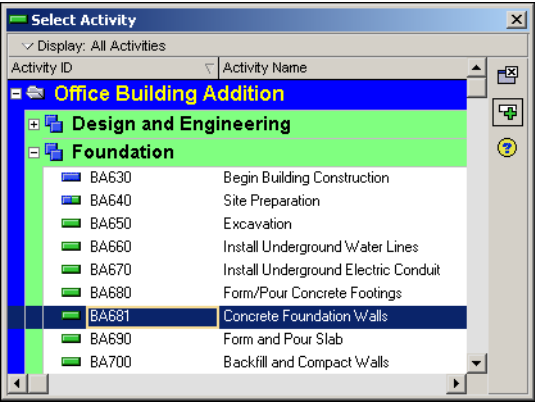
- **Start of Activity**, to accrue the entire expense on the date the activity begins
- **End of Activity**, to accrue the entire expense on the date the activity ends
- **Uniform Over Activity**, to evenly distribute the expense over the course of the activity's duration

To set up expense categories, choose Settings, Categories, then click the Expense Categories tab.

Assign an expense category Choose Project, Expenses. Select the expense to which you want to assign an expense category. Expense categories enable you to classify the type of cost and can be used to group, sort, filter, and report the expense and cost information for your projects. Click the General tab, then click the Browse button in the Expense Category field. Select the category you want to assign, then click the Select button.



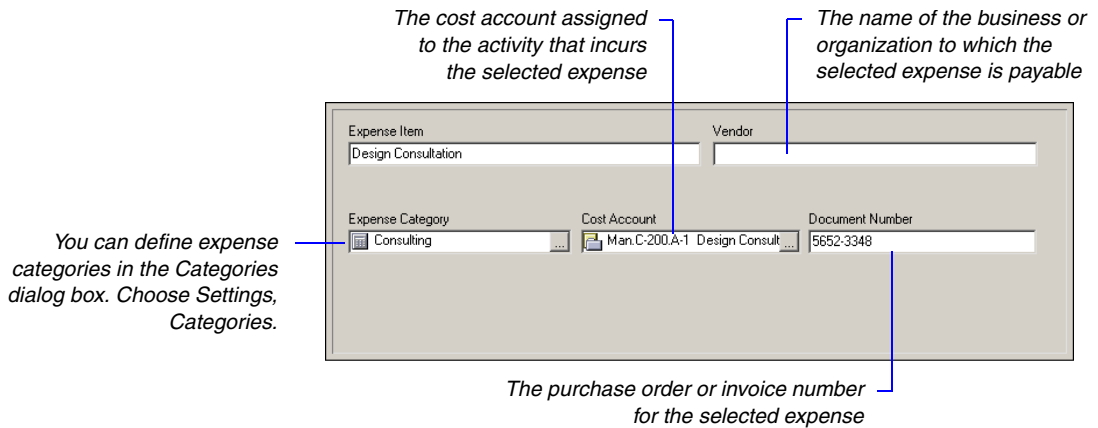
Change an expense assignment Choose Project, Expenses. Select the expense you want to reassign, then click the Activity tab. Click the Browse button in the Activity Name field. Select the activity to which you want to reassign the expense, then click the Select button.



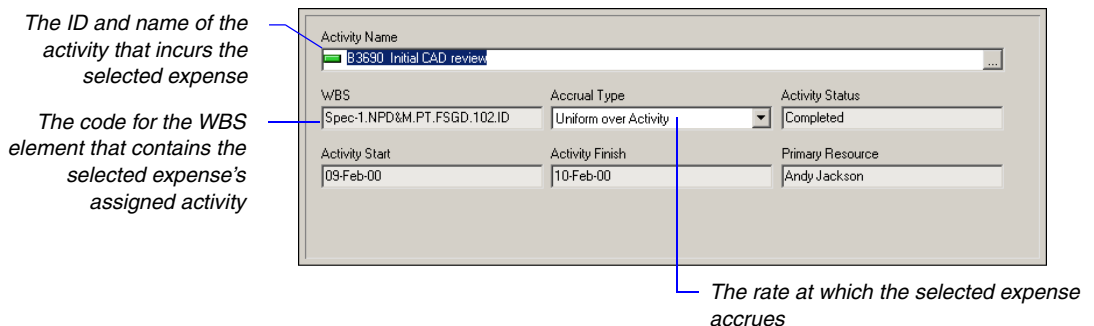
Defining Expense Details

Use Expense Details to view and edit detailed information about the selected expense item. Expense Details appear in the Project Expenses window when you choose Expense Details from the Display Options bar.

General information Use the General tab to define general information for the selected expense item, such as the item name and category. You can also specify the item's vendor, cost account, and document number.



Activity information Use the Activity tab to change the selected expense item's activity assignment and specify the expense item's accrual type. You can also view the item's activity assignment according to WBS element, activity status, activity start and finish dates, and primary resource.



Analyzing Costs

Use cost spreadsheets, profiles, and cost control reports to monitor spending. For example, the following summary report lists the expenses associated with each activity and provides the total budgeted, actual, and remaining costs for each expense.

24-May-04 17:20

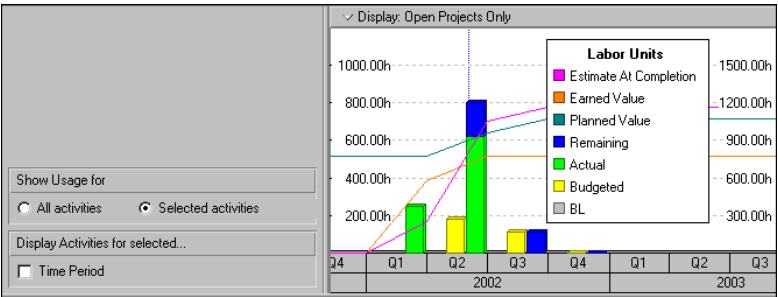
EX-01 Activity Expenses						
Activity Name Expense Item	Expense Category	Cost Account	Vendor	Budgeted Cost	Actual Cost	Remaining Cost
ENPHS1BREP Boring Report						
PHS1 BREP S	Consulting	PRJ.DESN		\$2,500.00	\$0.00	\$2,500.00
Subtotal				\$2,500.00	\$0.00	\$2,500.00
ENPHS1BRNG Borings in field						
PHS1 BRNG S	Consulting	PRJ.DESN		\$3,500.00	\$0.00	\$3,500.00
Subtotal				\$3,500.00	\$0.00	\$3,500.00
ENPHS1CEST Preliminary Cost Estimate						
PHS1 CEST S	Consulting	Con.DESN		\$4,000.00	\$0.00	\$4,000.00
Subtotal				\$4,000.00	\$0.00	\$4,000.00
ENPHS1DESN Schematic Architect. Design Analy.						
PHS1 DESN A	Consulting	Con.DESN		\$1,056.00	\$0.00	\$1,056.00
Subtotal				\$1,056.00	\$0.00	\$1,056.00
ENPHS1DRWG Site Plans Drafting						
PHS1 DRWG A				\$800.00	\$0.00	\$800.00
PHS1 DRWG D				\$1,000.00	\$0.00	\$1,000.00
PHS1 DRWG E				\$1,200.00	\$0.00	\$1,200.00
Subtotal				\$3,000.00	\$0.00	\$3,000.00
ENPHS1ENER Energy Analysis & Utility Data						

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The following Activity Usage Spreadsheet pairs activity duration columns on the left with the corresponding cumulative cost information on the right. You can see the cumulative remaining expense cost for each activity per month, along with the totals for the WBS elements.

Activity ID			Original Duration	Remaining Duration	Cum Remaining Expense Cost				
RC			881.92d	186.80d		Nov	Dec	Jan	Feb
PS			726.13d	31.00d		\$100.00	\$100.00	\$100.00	\$100.00
PSE			10.13d	0.00d		\$100.00	\$100.00	\$100.00	\$100.00
A10.20			9.13d	0.00d					
A10.10			1.00d	0.00d					
PG			715.13d	31.00d		\$100.00	\$100.00	\$100.00	\$100.00
A10.70			0.00d	0.00d					
A10.60			4.00d	4.00d					
A10.50			20.00d	27.00d					
A10.40			9.13d	0.00d					
A10.30			11.13d	0.00d					

Produce activity profiles to see a graphical representation of cost flow for all or selected activities in the Activities window. The histogram bars in the following example indicate quarterly expenses for multiple selected activities. Using a time-based graphic helps you gauge when and where costs are expended, and enables you to see if spending is staying within budget.



Updating and Managing the Schedule

In this part:

Managing Baselines

Updating and Scheduling

Comparing projects with Claim Digger

Successful project management doesn't end after you develop a project plan. You need to track daily events and update the schedule with accurate data. “[Managing Baselines](#)” describes how to create a copy of a project that can be compared to the current schedule to gauge progress, and “[Updating and Scheduling](#)” explains how to update the schedule. “[Comparing projects with Claim Digger](#)” describes how to compare project and/or baseline data using Claim Digger.

Managing Baselines

In this chapter

**Creating and Maintaining
Baselines**

Assigning Baselines to Projects

**Comparing Current and Baseline
Schedules**

Updating Baselines

A baseline is a complete copy of a project plan that you can compare to the current schedule to evaluate progress.

This chapter describes how to create baselines and assign them to projects. You will also learn how to modify a baseline, update a baseline with new data, and compare a project's current schedule to its baseline.

Creating and Maintaining Baselines

Before you update a schedule for the first time, you should create a baseline plan. The simplest baseline plan is a complete copy or “snapshot” of the original schedule. This snapshot provides a target against which you can track a project’s cost, schedule, and performance.

Designate any existing project, or a copy of the current project, as a baseline. Each baseline can be assigned a type that categorizes its purpose, for example, initial planning baseline, what-if project plan baseline, or mid- project status baseline. You can define baseline types in the Categories dialog box (choose Settings, Categories).

You can compare up to three baselines at one time. For example, you might want to create a baseline of the original project schedule, and then create two additional baselines at different stages of the project. You can compare these to the current schedule to see how the project is progressing according to the project plan. You can also create a project baseline that, by default, is used for earned value calculation.

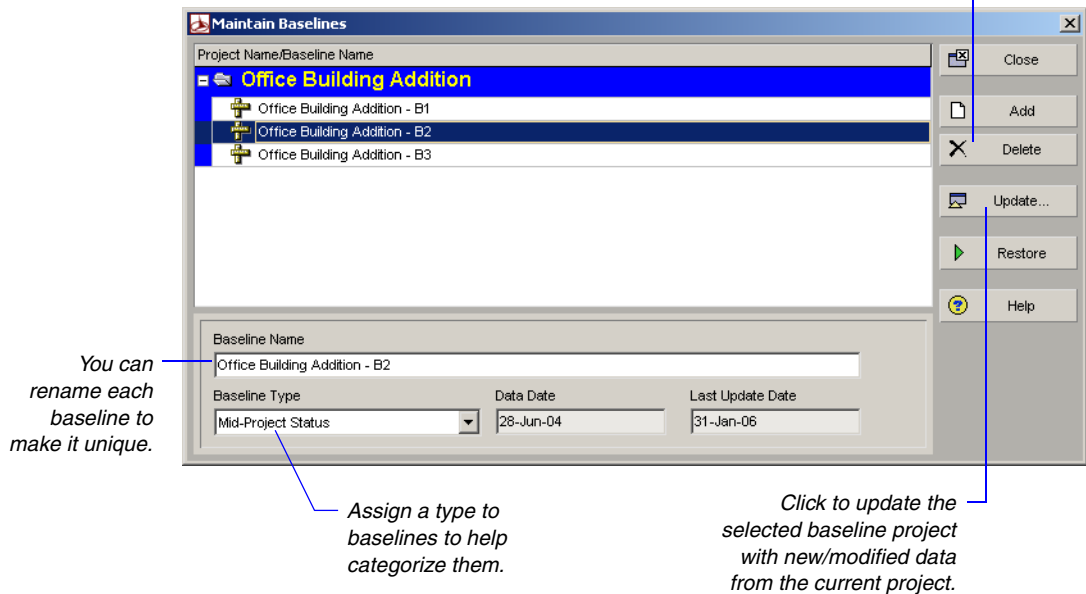
Baseline projects do not exist as separate projects that you can access. To copy or modify a baseline project manually, you must first unlink it from its current project. The “restored” baseline project then acts as any other project. You can also update a baseline project with new or modified project data from the current project. The application only updates the data types you select when you update a baseline.

Create project baselines Open the project for which you want to create a baseline or view assigned baseline projects. Choose Project, Maintain Baselines. The Maintain Baselines dialog box displays the currently open project and its existing baseline projects (if any).



After creating a baseline, you can set a baseline as the project, primary, secondary, or tertiary baseline in the Assign Baselines dialog box.

Click to delete the currently selected baseline project.



To create a baseline project, click Add. Choose to save a copy of the current project as a new baseline or convert another project to a new baseline.

If you choose to save the current project as a baseline, the application creates a baseline project with the same name and data date as the current project. To distinguish the baseline project, the application appends the name with – B1 and increments each new baseline added. For example, if Acme Project is saved with 3 baselines the new baselines should be saved as:

ID	Name
ACME – B1	Acme Project – B1
ACME – B2	Acme Project – B2
ACME – B3	Acme Project – B3

Before you convert a project as a baseline, you should copy it; it will no longer be available in the Open Project dialog box.

If you choose to convert another project as a baseline of the current project, you are prompted to select the project to designate as the baseline. You cannot select the open project, nor can you select a project that already has its own assigned baseline. The application creates a baseline project with the same name and data date as the selected project. (To distinguish the baseline project, the application appends the name with – B1.) This new baseline project is then removed from the list of projects and is no longer available as an individual project.

After you create a baseline, you can change its name and assign a baseline type to it.

Delete a baseline You can delete a baseline from the project database. Open the project that contains the baseline you want to delete. Choose Project, Maintain Baselines. Select the baseline, then click Delete.



You cannot delete an active baseline. An active baseline is any baseline designated as the primary, secondary, or tertiary baseline in the Assign Baselines dialog box.

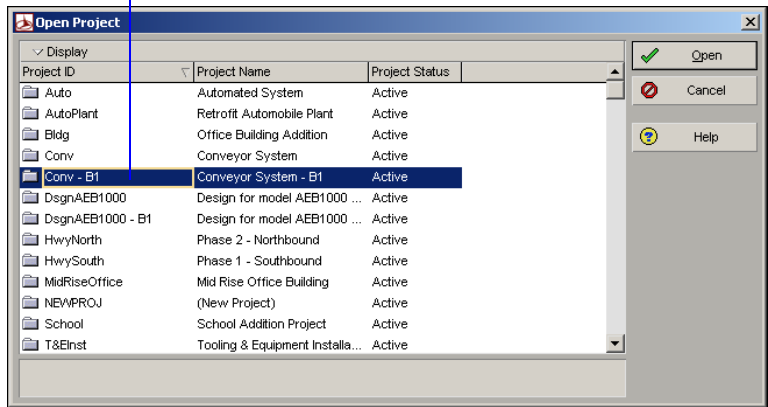
Modify a baseline manually As a project progresses and changes occur, you may want to modify a baseline project. You can restore a baseline project, making it available again as a separate project in the Open Project dialog box. Open the project that contains the baseline you want to restore. Choose Project, Maintain Baselines. Select the baseline you want to restore, then click Restore. Click Yes. The restored project is then displayed when you open the Open Project dialog box.



Restoring a project to modify a baseline manually is different than updating a baseline. When you update a baseline using the Update Baseline feature, the application updates every instance of every data type you select. If you want some, but not all, changes to the current project for a specific data type (e.g., resource assignments) reflected in the baseline, you should restore the baseline and edit the data. If you want all changes to a data type reflected in the baseline, you should update the baseline.

To learn more about updating baselines with new or modified data from the current project, refer to “Updating Baselines” on page 198.

The restored baseline project can be accessed in the list of projects.



After you make changes to a restored baseline project, you can return it as a baseline to retain the changes for comparison against the current project. For example, you may want to revise the baseline to indicate scope changes once the current project is underway.

Assigning Baselines to Projects

Use the Assign Baselines dialog box to designate the current project or an existing baseline as the project, primary, secondary, or tertiary baseline. The project baseline is, by default, used to calculate earned value. The primary, secondary, and tertiary baselines are user-defined baselines you can use to compare project data.

Assign the baseline to use for earned value To choose which baseline to use for calculating earned value, open the project for which you want to select a project baseline. Choose Project, Assign Baselines. In the Project Baseline field, select the desired baseline or the current project. If no baseline is designated as active, the current project is used as the project baseline.



You can assign only one project baseline to a project.

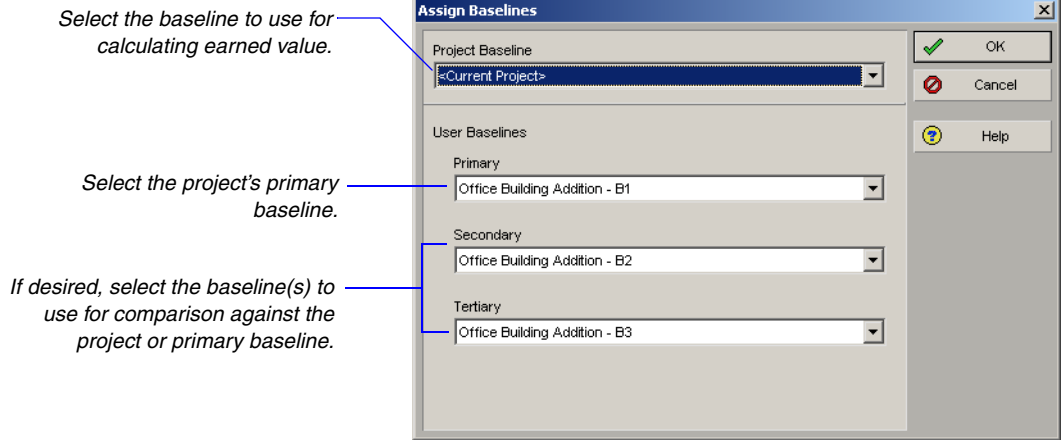
Assign the baseline to use for the current project Use the Assign Baselines dialog box to choose which baseline is the primary baseline for a project. Open the project for which you want to select a baseline. Choose Project, Assign Baselines.

Each baseline field in the Assign Baselines dialog lists the current project and all existing baselines for the project. To use an existing baseline as the primary baseline, select an existing baseline in the Primary field. If you do not select a value for the primary baseline, the current project is used as the primary baseline.

Assign baselines for comparison To assign an existing baseline as the secondary or tertiary baseline, choose Project, Assign Baselines. In the Secondary and Tertiary fields, select an existing baseline. You can assign the same project as secondary and tertiary baselines.



You can assign only one primary, secondary, and tertiary baseline to a project. Secondary and tertiary baselines are not required.




Comparing Current and Baseline Schedules

For more information about updating the schedule, see “Updating and Scheduling” on page 203.

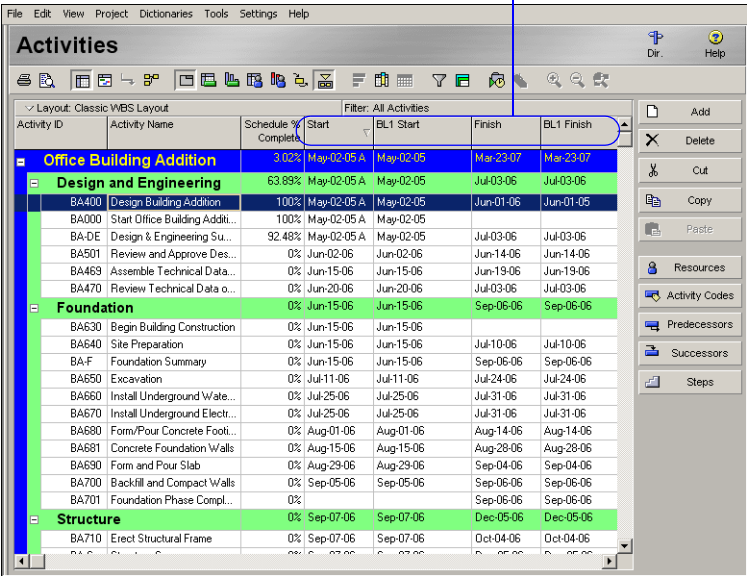
BL appears before any data item that is available from a baseline project.

After a project is updated, you can quickly evaluate progress and performance onscreen. Use a layout that shows current and baseline bars to identify tasks that start or finish later than planned. In the list of activities, include columns for the planned value, actual costs to date, and earned value to identify tasks that are behind schedule or over budget. For detailed reporting, create schedule and activity matrix reports and resource and cost graphics. Run the Earned Value report to analyze cost and schedule variance using the primary baseline. Displaying baseline and current bars in the Gantt Chart indicates how the schedule is progressing according to the original plan.

A target comparison makes it easy to see variances between the current and baseline dates. Add columns in the Activity Table for almost any data item from the baseline project. Display activity bars that represent baseline dates. You can also display target and variance data on the activity bars.

 When a project is open, you can view, but not change, baseline data. To modify the baseline, you must first restore it as a separate project. You can also update baseline project data using the Update Baseline utility.

This layout includes current and baseline columns for start and finish dates.



Activity ID	Activity Name	Schedule % Complete	Start	BL1 Start	Finish	BL1 Finish
Office Building Addition						
BA400	Design Building Addition	3.02%	May-02-05 A	May-02-05	Mar-23-07	Mar-23-07
Design and Engineering						
BA000	Start Office Building Additi...	100%	May-02-05 A	May-02-05	Jul-03-06	Jul-03-06
BA-DE	Design & Engineering Su...	92.48%	May-02-05 A	May-02-05	Jun-01-06	Jun-01-05
BA501	Review and Approve Des...	0%	Jun-02-06	Jun-02-06	Jun-14-06	Jun-14-06
BA469	Assemble Technical Data...	0%	Jun-15-06	Jun-15-06	Jun-19-06	Jun-19-06
BA470	Review Technical Data o...	0%	Jun-20-06	Jun-20-06	Jul-03-06	Jul-03-06
Foundation						
BA630	Begin Building Construction	0%	Jun-15-06	Jun-15-06	Jun-15-06	Jun-15-06
BA640	Site Preparation	0%	Jun-15-06	Jun-15-06	Jul-10-06	Jul-10-06
BA-F	Foundation Summary	0%	Jun-15-06	Jun-15-06	Sep-06-06	Sep-06-06
BA650	Excavation	0%	Jul-11-06	Jul-11-06	Jul-24-06	Jul-24-06
BA660	Install Underground Wate...	0%	Jul-25-06	Jul-25-06	Jul-31-06	Jul-31-06
BA670	Install Underground Electr...	0%	Jul-25-06	Jul-25-06	Jul-31-06	Jul-31-06
BA680	Form/Pour Concrete Footi...	0%	Aug-01-06	Aug-01-06	Aug-14-06	Aug-14-06
BA681	Concrete Foundation Walls	0%	Aug-15-06	Aug-15-06	Aug-28-06	Aug-28-06
BA690	Form and Pour Slab	0%	Aug-29-06	Aug-29-06	Sep-04-06	Sep-04-06
BA700	Backfill and Compact Walls	0%	Sep-05-06	Sep-05-06	Sep-06-06	Sep-06-06
BA701	Foundation Phase Compl...	0%	Sep-06-06	Sep-06-06	Sep-06-06	Sep-06-06
Structure						
BA710	Erect Structural Frame	0%	Sep-07-06	Sep-07-06	Oct-04-06	Oct-04-06

Setting preferences for baseline values Choose to calculate the earned value from the Budgeted or At Completion values of the primary baseline. For example, based on the setting chosen, you can add either the budgeted or the at completion duration to the BL Start date to calculate the BL Finish date. Additionally, you can choose to use planned dates rather than current dates. Go to Settings, Options. On the Earned Value tab, in the Earned Value Calculation section, choose Budgeted values with planned dates, Budgeted values with current dates, or At Completion values with current dates, to calculate earned value.

The screenshot shows the 'Options' dialog box with the 'Earned Value' tab selected. The 'Earned value calculation' section is highlighted with a blue oval. This section contains the text 'When calculating earned value from a baseline use' and a dropdown menu currently set to 'Budgeted values with planned dates'. Other sections visible include 'Technique for computing performance percent complete' with radio buttons for 'Activity % Complete', '50/50 % Complete', 'Use WBS Milestones', 'Custom % Complete', and '0/100 % Complete'; and 'Technique for computing Estimate to Complete (ETC)' with radio buttons for 'ETC = remaining cost for activity', 'PF = 1', 'PF = 1 / Cost Performance Index', 'PF = 1 / (Cost Performance Index * Schedule Performance Index)', and 'PF = 0.88'.

Updating Baselines

As a project progresses, certain types of project data are likely to change. When a project is in progress and data changes, the original baseline you created for the project will not accurately measure performance against the current project. Likewise, creating a new baseline may not yield accurate results for measuring performance because some data will change during the life of the project that should be measured against the original project data.

For example, changes to any of the following data types can affect results when comparing a project to its baseline:

- added/dropped activities
- modified activity data including dates, costs, resources, steps, notebooks, relationships, codes, expenses, and user-defined fields
- modified project-level data including details, calendars, and codes

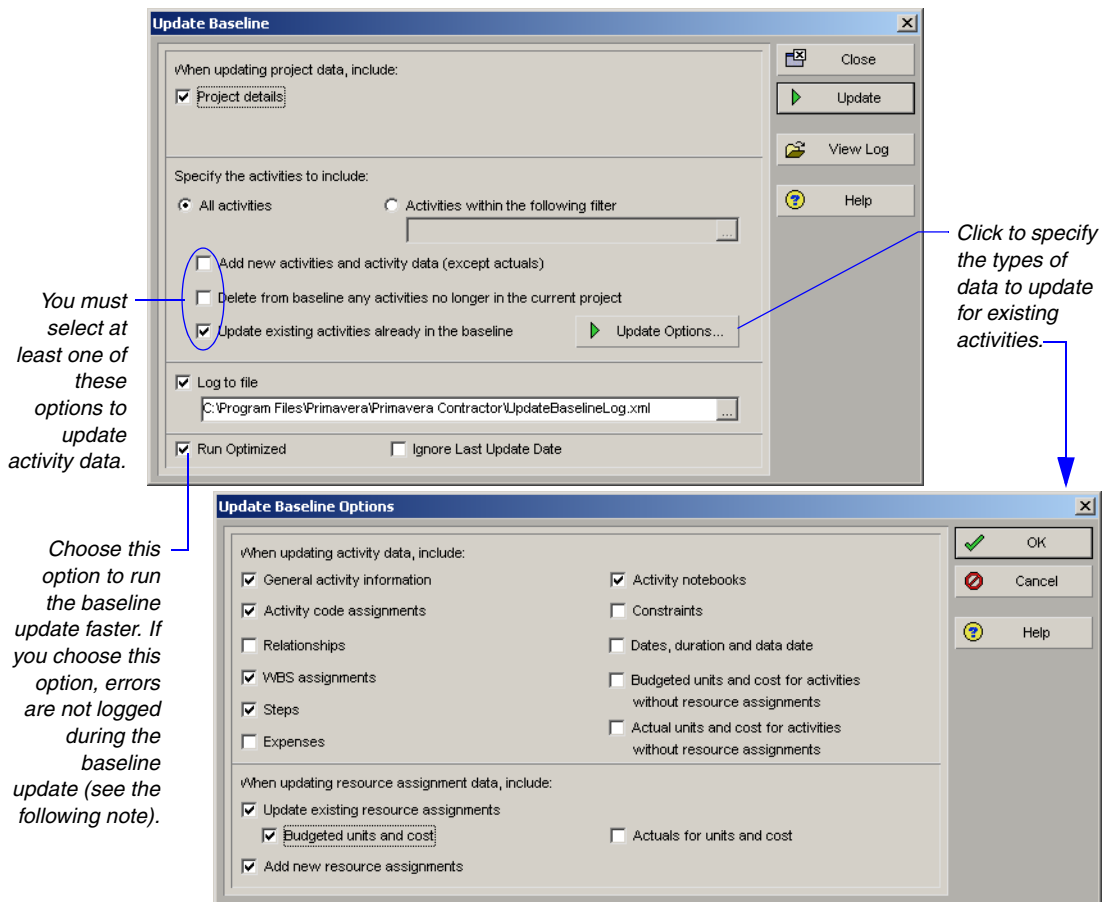
Using Primavera's Update Baseline utility, you can update the original baseline plan with new activity, resource assignment, and project data. When updating a baseline, you can choose to update all activities or you can apply a filter to update activities that meet the filter's criteria. You can also specify the types of data to update.



You can only update one baseline at a time.

Update a baseline To update a baseline, open the project that contains the data you want to add to the baseline. Choose Project, Maintain Baselines. Select the baseline you want to update. Click Update.

If desired, choose to update project details. Choose to update all activities or select a filter to only update activities that meet the filter's criteria. Choose to add new activities from the current project, delete activities no longer in the current project, and/or update existing activities. If you choose to update existing activities, click Update Options to select the types of activity and resource assignment data you want to update. To save the results of the baseline update to a file (including errors and warnings), enter a pathname or select a file. After selecting options, click Update. When the update is complete, click View Log to view the results of the update.



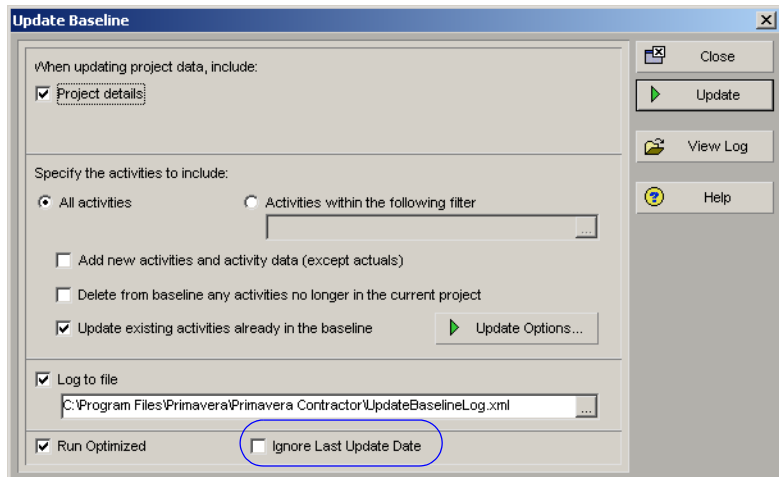


If errors occur when updating a baseline in optimized mode, you will not be able to determine the data item that is causing the update to fail. To determine the data item causing the failure, turn off the Run Optimized option and rerun the baseline update. After the update is complete, refer to the log file to determine which data item is causing the update to fail.

Ensuring Baseline Data Is Updated

When you update a baseline, the application stores the date on which the baseline was last updated. You can view this date in the Last Update Date field of the Maintain Baselines dialog box. The module does not consider the last update date when you choose the Ignore Last Update Date option in the Update Baseline dialog box.

Primavera recommends that you select the Ignore Last Update Date option if you plan to update different data types at different times (i.e., you will not simply be updating all baseline data each time). If you do not select this option, some data types may not be updated from the correct date when you run the baseline update.



For example:

- On June 1st, you run a baseline update that includes activity steps.
- On June 8th, you run a baseline update that does NOT include activity steps.

- On June 15th, you run a baseline update that includes activity steps. You do not select the Ignore Last Update Date option.

Given this scenario, when you run the baseline update on June 15th, activity steps are only updated from June 8th because the baseline is updated from the last update date. If you select the Ignore Last Update Date option, all changes to activity steps are updated regardless of the date the baseline was last updated.

Updating and Scheduling

In this chapter

The Update Process

Choosing a Method of Updating

Highlighting Activities for Updating

Updating Progress for Spotlighted Activities

Estimating Progress Automatically

Updating Activities Manually

Updating Progress

Interrupting Activity Progress

Tracking Actual Units and Costs

Scheduling Projects

Calculating Assignment Costs Using Time-Varying Resource Rates

Managing Resource Assignments

A good project schedule can serve as a key management tool for making decisions and predicting whether the project will finish on time. Update your project regularly so you can record progress and identify potential problems.

You can update project progress by applying actual data to activities. After you update the project, schedule it to calculate the earliest start and finish dates as well as the latest start and finish dates for each activity and for the entire project.

Read this chapter to learn how to update and schedule projects.

The Update Process

Once a project is underway, it is important to keep the schedule up to date. Actual durations will probably vary from your original estimates, and the sequence of activities may change once the work begins. In addition, you may need to add new activities and delete unnecessary ones. Regularly updating schedules and comparing them with baseline schedules ensures that you are using resources effectively, monitoring project costs, and keeping abreast of actual durations and costs so you can initiate your contingency plan if necessary.

To help develop procedures, ask questions such as these:

- What data need to be assembled for the update and what methods will be used to collect the data?
- How often should projects be updated?
- Are resources local or offsite?
- On which project teams are resources participating?
- Who on each team will be gathering the information used for the project update?
- Who needs to see the results of the update and when do they need to see them?
- What types of information need to be generated after each update to communicate progress before the next update?

The answers to these questions help determine how you will use the application to update projects.

Identify the types of data to collect The data to collect may depend on whether you are updating activities or individual resource assignments. You can update activities by simply recording actual dates and a remaining duration. For resource assignments, enter the actual hours to date and the hours remaining. The application can also estimate progress automatically.

Determine how data will be collected Will you import data from other systems supported by your company, such as an accounting system? Or will updates be handwritten on printouts of the schedule and then entered in the application?

If you answered Yes to either of these questions, your update process will probably involve more than one procedure—all handled equally well by the application.

Determine how often data should be updated Depending on how quickly your projects change, you may want to update monthly, weekly, or even daily. Although no rules exist for update frequency, consider these general guidelines: if your projects never seem to be accurate, you are not updating often enough, or the scope of your activities is too broad—you should divide activities into smaller ones. If you spend too much time updating, you’re updating too often, or the scope of your activities is too narrow.

Analyze and communicate data Recording progress is only the beginning of the update process; after you produce an updated schedule, you need to analyze the results.

Examine updated project schedules using the many display and print options available. You can first view onscreen layouts to see immediate results, then look at project data in more detail by generating reports. Pinpoint potential problems by comparing the current schedule to the target plan in the Bar Chart or by displaying a Resource Usage Profile for a graphical representation of resource use. If problems exist, you may want to perform “what-if” analyses before modifying the network. Use existing report templates, create new template specifications by modifying existing ones, or add your own template to produce the data you need to see.

Effective communication to all project participants is also essential to the success of every project. Use easily understood reports and layouts to show the project team and management what is happening. Focus on critical activities, resource and cost overloads, and slippages, and identify actual and required future progress.

The next several topics in this chapter discuss specific methods for recording progress.

Choosing a Method of Updating

You can update project schedules in several different ways. Update progress for all activities and resources as a whole, update activities and resources individually, or use a combination of these methods.

More than likely, your projects do not progress as planned—many activities start out-of-sequence, activities take more or less time to complete than originally planned, or actual resource use exceeds planned use. In these cases, update activities and resources individually. This will help you forecast the effects of unforeseen progress or lack of progress so that you can take appropriate corrective action wherever necessary. You can update activities and/or resources manually in the application.

Sometimes, you may only need to estimate progress. You can choose to auto compute actuals, then simply specify the data date and apply actual data. Before the first update, the data date is the project start date; once the project begins, the data date is the date up to which you are reporting progress. The application uses the data date to determine which activities have progressed and how much, and to calculate the remaining durations of activities that have started. The application also notes which activities are complete and sets their remaining durations to zero.

Most projects progress somewhere between these two situations: some activities are occurring as planned and some are not. If this is the case, you may want to combine the two updating methods. Allow the application to calculate a project schedule as if the project is progressing exactly as planned and then individually update those activities and resources that have deviated from the plan.

Regardless of the method you choose, the update process should proceed as outlined below:

- 1 Establish a standard update procedure that includes which method you will use to record progress.

Depending on the method you choose, set calculation variables for percent complete type and duration type.

- 2 Create a baseline plan as described in [“Managing Baselines”](#) on page 189.
- 3 Record progress on activities automatically or manually in the application.

Recording progress includes entering actual start and/or finish dates, updating actual resource use/cost to date, and estimating remaining work to complete.

- 4** Update project progress.
- 5** Calculate the schedule.
- 6** Compare the current schedule to the baseline plan and identify variances.
- 7** Analyze data through layouts and reports.
- 8** Make adjustments and communicate the schedule updates.

Types of Activity Dates

Date Field	Definition
Start	The current start date of the activity. Set to the remaining start date until the activity is started, then set to the actual start date. An 'A' after the Start value indicates that it is the Actual Start; an '*' indicates that a Start constraint is applied to the activity.
Finish	The current finish date of the activity. Set to the activity planned finish date while the activity is not started, the remaining finish date while the activity is in progress, and the actual finish date once the activity is completed. An 'A' after the Finish value indicates that it is the Actual Finish; an '*' indicates that a Finish constraint is applied to the activity.
Actual Start	The date on which the activity actually started.
Actual Finish	The date on which the activity actually finished.
Early Start	The earliest possible date the remaining work for the activity can begin. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Early Finish	The earliest possible date the activity can finish. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Late Start	The latest possible date the remaining work for the activity must begin without delaying the project finish date. Calculate this date based on activity relationships, schedule constraints, and resource availability.
Late Finish	The latest possible date the activity must finish without delaying the project finish date. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Planned Start	The date the activity is scheduled to begin. This date is set equal to the early start date by the project scheduler but can be updated manually by the project manager. This date is not changed by the project scheduler once you apply an Actual Start date.
Planned Finish	The date the activity is scheduled to finish. This date is set equal to the early finish date by the project scheduler but can be updated manually by the user. This date is not changed by the project scheduler once you apply an Actual Finish date.
Remaining Start	The date the remaining work for the activity is scheduled to begin. This date is calculated by the project scheduler but can be updated manually. Before the activity is started, the Remaining Start is the same as the Planned Start.
Remaining Finish	The date the remaining work for the activity is scheduled to finish. This date is calculated by the project scheduler but can be updated manually. Before the activity is started, the Remaining Finish is the same as the Planned Finish.
Expected Finish	The date the activity is expected to finish. When scheduling your projects, you may choose to use or ignore the Expected Finish dates.
Constraint Date	The date for which the activity's constraint applies. Depending on the constraint type, this date could be a start or finish date. For example, for a Finish On constraint, the constraint date is the date on which the activity must finish. If the activity does not have a constraint, this field will be empty.
External Early Start	For an activity with an external relationship, the date the external relationship was scheduled to finish. This date may be used to calculate the start date of the current activity during scheduling. This field is populated on import when an external relationship is lost.

Date Field	Definition
External Late Finish	For an activity with an external relationship, the late start date of the lost external relationship. This date may be used to calculate the finish date of the current activity during scheduling. This field is populated on import when a successor relationship is lost.
Suspend Date	The date on which an activity's progress was, or is planned to be, suspended.
Resume Date	The date on which an activity's progress was, or is planned to be, resumed.

Highlighting Activities for Updating

Progress Spotlight highlights the activities that should have been worked on during a specified timeperiod. You can also drag the data date line to a specific date to highlight the activities that fall between the last data date and the new data date. Once you spotlight activities, you can automatically status them or manually update them.

Unlike selected activities, when Progress Spotlight is active, activities remain spotlighted even when you click in another area of the workspace.

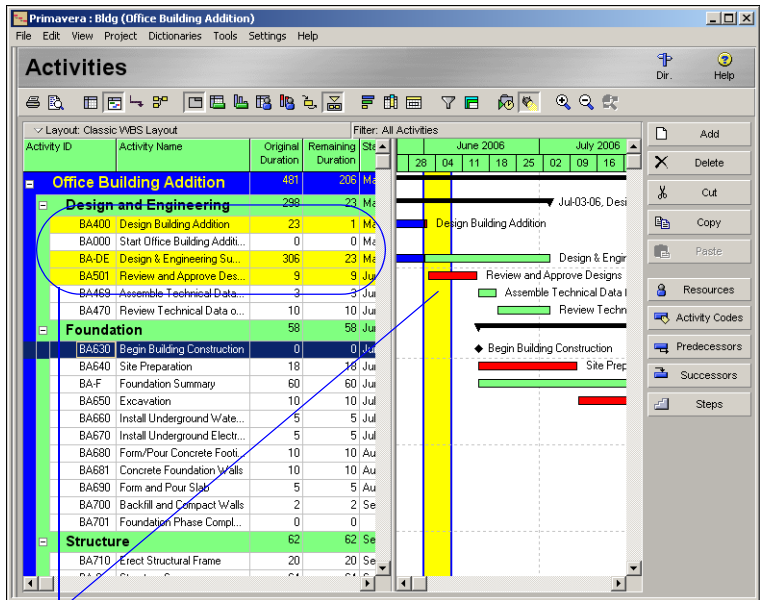
Using Progress Spotlight Choose View, Progress Spotlight, or click the Progress Spotlight icon to highlight a timeperiod equal to the smallest increment of the displayed timescale from the previous data date. To increase/decrease the highlighted area between the previous data date and the new date by one or more timescale increments, drag the data date line to the right or the left.

Update activities as described later in this chapter, or reschedule the project immediately according to the new data date by pressing F9.

Drag the data date line Click the data-date line; when it changes to an arrow, drag the line to the right until you reach the new data date. The application spotlights the activities between the last data date and the new data date. Update activities as described later in this chapter, or reschedule the project immediately according to the new data date by pressing F9.

For more information about the Update Progress dialog box, see “Updating Progress” on page 223.

Depending on the density of the timescale above the activity bars, you may not be able to position the data date line on the exact date and time you want to use. In this case, enter the data date in the Update Progress dialog box and have the application estimate progress as of that date before you update individual activities.



The application spotlights activities that should have started, progressed, or finished between the previous data date and the new data date in the Gantt Chart.

Updating Progress for Spotlighted Activities

If activities are progressing on schedule, you may want to estimate progress for all activities as of the new data date you specify. The application can quickly estimate activity dates, percent complete amounts, and remaining durations when you use the Update Progress dialog box to update a project.

Estimating activity progress is a quick and convenient way to update your project. The application estimates progress only for those activities that were supposed to take place. Since progress can occur out of sequence, you may need to update additional activities—especially if you selected activities by dragging the data date line or by using Progress Spotlight. You should also review all incomplete activities to make sure their remaining durations, actual dates, and percent complete amounts are realistic. Once you spotlight activities, you can quickly update the project as “on time.”

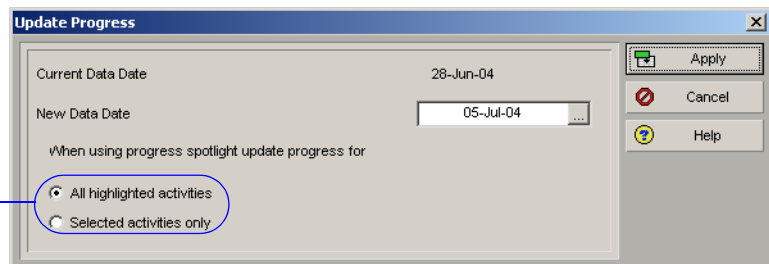
You can update projects automatically, update each activity manually, or use both methods.

Estimate progress for all spotlighted activities Spotlight the activities for which you want to estimate progress by dragging the data date line or by using Progress Spotlight. Choose Tools, Update Progress. Select a new data date if the one shown is not accurate.



You cannot drag the new data date line to a date that is before the old data date line.

Choose to update all activities scheduled to work during the current update period or only selected activities.



Click Apply. For each activity in the update, the application estimates percent complete amounts as of the data date, sets dates to actual dates if they fall before the new data date, and estimates remaining durations for activities that are not finished as of the data date. The application also updates resource assignments based on each activity's revised percent complete and remaining duration while adhering to Autocost Rules. In addition, the application takes into account only the first price per unit in the Resource Dictionary, if more than one price per unit for varying through dates exists, when updating resource assignments.



If you estimate progress for selected activities that do not fall within the update period, those activities will show no progress. When spotlighting activities, you can only estimate progress—percent complete, remaining duration, and so on—for activities that are within the update period. If you manually update a spotlighted activity then run Update Progress, the application will overwrite your manual changes.

Estimating Progress Automatically

If you want to estimate progress as if activities are proceeding on schedule, you can automatically calculate actual data based on activity, resource, and/or expense data.

Estimating activity progress is a quick and convenient way to update your project. The application estimates progress only for those activities that were supposed to take place. Since progress can occur out of sequence, you may need to update additional activities.

Set Auto Compute Actuals by activity If you set the Auto Compute Actuals option by activity, the application determines actual dates, percent complete amounts, remaining durations, and actual and remaining units for all assigned resources. Choose, Project, Activities, and open a layout that contains the activities you want to automatically update. Add a column for the Auto Compute Actuals option and mark the checkbox next to each activity.

Mark the Auto Compute Actuals checkbox for each activity you want to update automatically.

The Auto Compute Actuals option is listed in the General section of Available Options in the Columns dialog box.

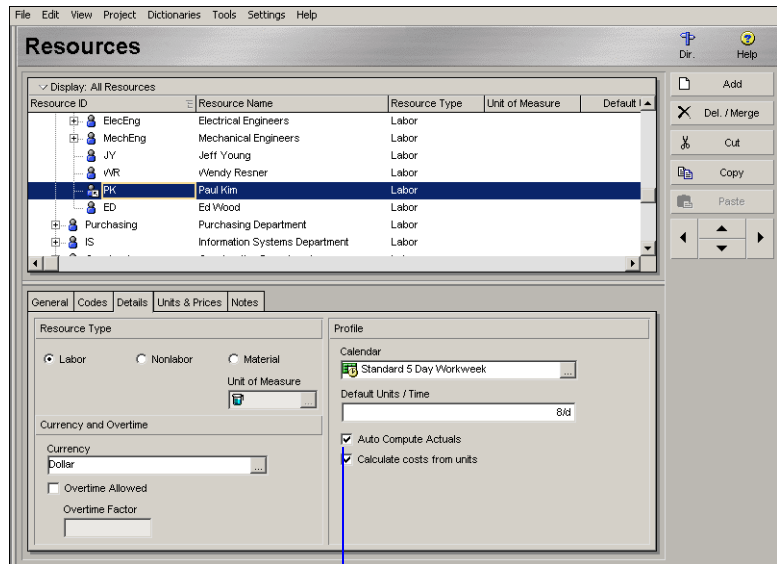
To quickly find an available column, click the Available Options bar, then choose Group and Sort By, List. All available columns are listed alphabetically.

The screenshot displays the Primavera Contractor interface. The 'Activities' window is open, showing a list of tasks under the 'Office Building Addition' project. The 'Auto Compute Actuals' checkbox is checked for several activities, including 'Design & Engineering Summary', 'Review and Approve Designs', 'Assemble Technical Data for...', 'Review Technical Data on H...', and 'Foundation Phase Completion'. The 'Columns' dialog box is also open, showing the 'Available Options' list. The 'Auto Compute Actuals' option is selected in the 'Available Options' list, and the 'Activity Name' option is selected in the 'Selected Options' list.

Activity ID	Activity Name	Auto Compute Actuals	Original Duration	Remaining Duration	Resources	Schedule % Complete	Status
Office Building Addition							
Design and Engineering			298	23		63.89%	Ma
BA400	Design Building Addition	<input checked="" type="checkbox"/>	23	1	Paul Kim	100%	Ma
BA000	Start Office Building Addition...	<input type="checkbox"/>	0	0		100%	Ma
Design & Engineering Summary			306	23		92.48%	Ma
BA501	Review and Approve Designs	<input checked="" type="checkbox"/>	9	9	Paul Kim	0%	Jur
BA469	Assemble Technical Data for ...	<input checked="" type="checkbox"/>	3	3	Paul Kim	0%	Jur
BA470	Review Technical Data on H...	<input checked="" type="checkbox"/>	10	10	Paul Kim	0%	Jur
Foundation			58	58		0%	Jur
BA630	Begin Building Constructi...						
BA640	Site Preparation						
Foundation Summary							
BA650	Excavation						
BA660	Install Underground Wate...						
BA670	Install Underground Elect...						
BA680	Form/Pour Concrete Foot...						
BA681	Concrete Foundation Wa...						
BA690	Form and Pour Slab						
BA700	Backfill and Compact Wa...						
BA701	Foundation Phase Compl...						
Structure							
BA710	Erect Structural Frame						

Set Auto Compute Actuals by resource If you set the Auto Compute Actuals option by individual resource, the application automatically updates actual units and remaining units using the budgeted units and the activity's percent complete. Choose Dictionaries, Resources, and select the resource that you want to automatically update when actuals are applied. Click the Details tab and mark the Auto Compute Actuals checkbox.

To set Auto Compute Actuals for expenses, choose Project, Expenses, then click the Costs tab and mark the Auto Compute Actuals checkbox. Actual and remaining costs and units are updated.



Mark to automatically calculate actuals for the selected resource.

Setting Auto Compute Actuals

Setting the Auto Compute Actuals option to ON for an activity automatically updates actual and remaining units/costs for all resources/expenses assigned to the activity, regardless of whether the individual resources/expenses have the Auto Compute Actuals option set to ON. If you don't want to update all assignments, turn OFF the activity's Auto Compute Actuals option and turn it ON only for those resources/expenses you want updated automatically. For those resources from which you are collecting actual data, turn OFF the activity- and resource-level Auto Compute Actuals option, and turn it ON for those resources not reporting data.

For more information on updating progress, see ["Updating Progress"](#) on page 223.

Update progress automatically Once you set the appropriate Auto Compute Actuals options, you can update progress automatically. Choose Tools, Update Progress.

Updating Activities Manually

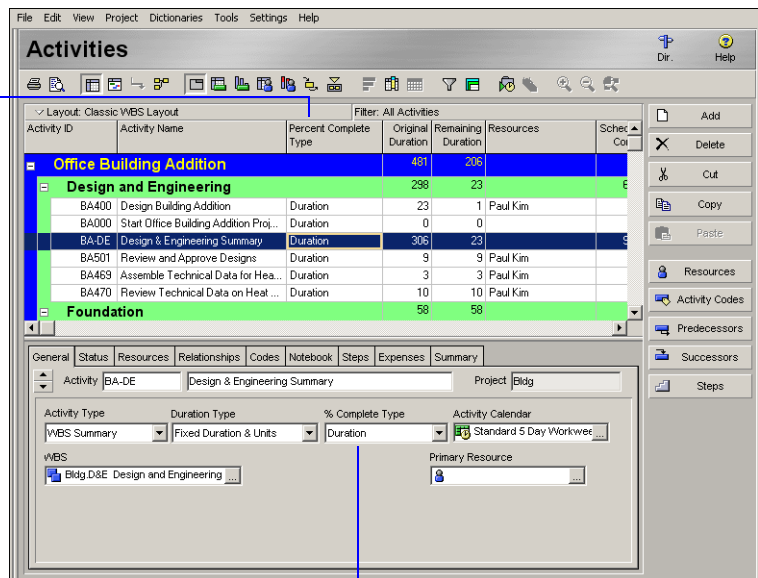
You can also manually update future period unit values for assignments to activities. For more information, refer to **"Manually Planning Future Period Assignments"** on page 158.

For more information on defining activity and duration types, see **"Working with Activities"** on page 139.

In addition to updating activities automatically, you can manually update data for each activity. Record actual dates, actual resource use, and costs incurred up to the data date or "time now." The application provides different activity types, percent complete types, and duration types to accommodate your scheduling requirements. You should set these variables at the start of the project when you establish your update procedures.

Set percent complete type An activity's percent complete can be calculated according to activity duration, activity units, or a physical percent complete that you enter for each activity. Choose Project, Activities, and display the Activity Details General tab or add a column for Percent Complete Type in the Activity Table.

You can add a column to review or modify the percent complete type.



Select the percent complete

Select the percent complete type based on how you report progress for the activity.

- Select Physical Percent Complete when activity progress can most easily be reported based on personal judgment. Enter the activity percent complete.

- Select Duration when activity progress can be easily reported in terms of actual calendar days of work remaining.

$$\text{Duration \% Cmp} = \frac{[(\text{Original Duration} - \text{Rem Duration}) / \text{Original Duration}] \times 100}{}$$

- Select Units when progress is best reported based on the work effort that has been accomplished and how much effort remains. Enter the actual and remaining units.

$$\text{Units \% Cmp} = \frac{[\text{Actual Units} / \text{At Completion Units}] \times 100}{}$$

Update actual dates Once an activity is underway, update its start and finish dates and other status information. Choose Project, Activities and display the Activity Details Status tab. If the activity has actually started, mark the Started checkbox, then specify the actual start date in the Started field. If the activity is complete, mark the Finished checkbox, then specify the actual finish date in the Finished field.

To update any other activity data, such as remaining duration or actual units, you must first enter an actual start date for the activity.

Update activities with Duration percent complete type In the Activities window, select the activity to update and display the Activity Details Status tab. In the Remaining field, type the remaining number of workperiods needed to complete the selected activity. When you schedule or update progress, the actual duration is calculated as the total working time from the actual start date to the current data date (for in-progress activities) or to the actual finish date (for completed activities), using the activity’s calendar.

If resources are assigned to the activity, each resource’s remaining units are calculated as the activity’s remaining duration multiplied by its remaining units per time.

Type a new remaining duration for the activity.

Update activities with Physical percent complete type In the Activities window, select the activity to update and display the Activity Details Status tab. Enter the physical percent complete and the remaining duration for the activity. If resources are assigned, you must also update each resource's actual regular units.

Type the percent complete for the activity when the percent complete type is Physical.

The application calculates the actual duration for the activity when you update progress or schedule the project.

Type a new remaining duration for the activity.

Update activities with Units percent complete type If you are updating activities with the Units percent complete type, most likely your focus is on resource planning and scheduling. (You may also have specified the activity type as Resource Dependent and the Duration type as Fixed Units/Time.) You should update the labor units (and/or nonlabor units) for the activity, rather than the duration. If multiple resources are assigned to an activity, you should update each resource individually in the Resources tab. In the Activities window, select the activity to update and display the Activity Details Resources tab.

Actual Regular Units for a resource indicate the actual amounts without considering overtime units. Actual Units include Actual Regular Units plus Actual Overtime Units.



When you update activities manually, you should turn off Auto Compute Actuals settings; otherwise, your changes are overwritten when you update progress or calculate the schedule.

Update the actual regular units and the remaining units for each resource.

Resource ID Name	Actual Units	Actual Regular Units	Remaining Units / Time	At Completion Units
PK,Paul Kim	40h	40h	5h/d	67h

When you update units in the Resources tab, the Started checkbox in the Status tab is automatically marked.

The Labor Units amounts in the Status tab total the amounts for all resources assigned in the Resources tab.

Duration

Original: 10d

Actual: 5d

Remaining: 5d

At Complete: 10d

Total Float: 35d

Free Float: 0d

Status

☒ Started 21-Jun-04 Units % 60%

☐ Finished 02-Jul-04 Suspend

Exp Finish Resume

Constraints

Primary: < None > Secondary: < None >

Date: Date

Labor Units

Budgeted: 80h

Actual: 40h

Remaining: 27h

At Complete: 67h

The units % complete is calculated from the actual and at completion amounts.

How Activity Duration, Units, and Resource Units/Time Are Synchronized

The application automatically synchronizes the duration, labor/nonlabor units, and resource units/time for activities so that the following equation is always true for each activity: $\text{Duration} = \text{Units} / (\text{Resource Units/Time})$. Since three variables are involved (duration, units, and units/time), when you change the value of one variable, the application must alter the value of a second to balance the equation.

The Duration Type setting for an activity allows you to control how the application synchronizes these variables when any one of the equation's variables are changed.

The following table lists the value that is automatically changed to synchronize these variables whenever the value of one of the duration type variables is changed.

Activity duration type	When you change units, this value changes...	When you change the duration, this value changes...	When you change units/time, this value changes...	When you add the first resource, this value changes...	When you add additional resources, this value changes...
Fixed Units/Time	Duration	Units	Duration	Units	Duration
Fixed Duration & Units/Time	Units/Time	Units	Units	Units	Units
Fixed Units	Duration	Units/Time	Duration	Units	Duration
Fixed Duration & Units	Units/Time	Units/Time	Units	Units	Units/Time of each resource

For more information on the Project Properties, Calculations tab, refer to the Help.

Removing Progress from Activities

You can remove progress from an activity by removing the Actual Start and/or Actual Finish from the activity. When the actual start or actual finish is removed from an activity, the activity’s budgeted units and its durations are recalculated. The application calculates these changes based on the project setting in the Calculations tab of the Project Properties dialog box. Depending on the option selected, the application will either redistribute the remaining work on the activity by setting the original duration equal to the remaining duration, and setting the budgeted units equal to the remaining units; or, the application can distribute the original work by setting the remaining duration equal to the original duration, and setting the remaining units equal to the budgeted units.

If the Link Budget and At Completion for Not Started Activities checkbox is cleared in the Activities section of the Project Properties dialog box, Calculations tab, only activity and assignment dates will be adjusted when progress is removed from an activity.



Alternatively, if progress on an activity stops but will resume at some point, you can suspend the activity’s progress, then resume progress when the activity starts again. Refer to [“Interrupting Activity Progress”](#) on page 224 for more information.

Activities

Default Price / Unit for activities without resource Price / Unit

\$10,000,000/h

☒ Activity percent complete based on activity steps

☒ Link Budget and At Completion for not started activities

☐ Reset Original Duration and Units to Remaining

☒ Reset Remaining Duration and Units to Original

Resource Assignments

When updating Actual Units or Cost

☐ Add Actual to Remaining

☒ Subtract Actual from At Completion

☐ Recalculate Actual Units and Cost when duration % complete changes

☐ Update units when costs change on resource assignments

☒ Link Actual and Actual This Period Units and Costs

Choose to re-distribute the remaining work, or the original work for activities, when progress is removed.

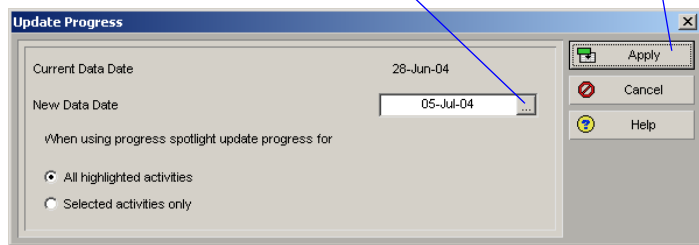
Updating Progress

Once progress is recorded by entering actual data and/or setting the Auto Compute Actuals options, you must update progress in the application. Updating progress schedules activities with progress and/or that have the Auto Compute Actuals option set. When you update progress, you move the data date or “time now.” The application schedules activities only within the specified timescale (between the current data date and new data date) and calculates progress for those activities that are set to automatically calculate actuals.

Update progress Open the project you want to schedule. Choose Tools, Update Progress.

Click to select a new data date for the corresponding project.

Click to update the schedule.



Interrupting Activity Progress


At some point in the project, you may need to stop work on an activity for a period of time. Indicate this interruption by specifying suspend and resume dates in the Status tab of Activity Details.

Suspend an activity’s progress Display the Activity Details, Status tab. In the Activity Table, select the activity you want to suspend, then enter a Suspend date. When the activity resumes, enter a Resume date. The activity must have an actual start date before you can enter a suspend date.

The screenshot shows the 'Activity Details' dialog box for activity BA470. The 'Status' tab is active. The 'Duration' section on the left shows Original (10d), Actual (3d), Remaining (5d), and At Complete (7d). The 'Status' section in the middle has 'Started' checked with date 21-Jun-04, 'Finished' unchecked with date 02-Jul-04, and 'Exp Finish' empty. The 'Suspend' date is 24-Jun-04 and the 'Resume' date is 29-Jun-04. The 'Units %' is 60%. The 'Constraints' section shows Primary and Secondary constraints as '< None >'. The 'Date' section has empty date fields. The 'Labor Units' section on the right shows Budgeted (80h), Actual (40h), Remaining (27h), and At Complete (67h). A blue circle highlights the 'Suspend' and 'Resume' date fields, with a blue line pointing from the circle to the text below.

Record the Suspend date as the end of the last day on which work occurred for the activity. When work begins again, record the Resume date.

The application calculates an actual duration for all activities based on the amount of time actually worked. The amount of time an activity’s progress is suspended is considered nonworktime based on activity and resource calendar definitions. You can use bar necking to graphically display the suspended activity’s nonworktime. In the Bars dialog, Bar Settings tab, select the Calendar nonwork time option under Bar Necking Settings. You can also show suspend and resume dates as columns.

 *You can only enter suspend and resume dates on Task Dependent and Resource Dependent activities. When you enter a suspend or resume date, the activity is suspended or resumed at the beginning of the specified day.*



If you manually plan future period allocation for assignments to activities, the Budgeted Units values you enter for an assignment are not affected when you enter a suspend and resume date for an activity; the values remain in the same future period buckets in which you originally entered them. However, an assignment's manually-planned future period Remaining (Early) Units are pushed out to the resume date once you schedule the project.

Tracking Actual Units and Costs

You can track an actual this period value for actual units and costs using Period Closeout. When you run Period Closeout, the application resets the actual this period costs and units for all activities and resource assignments to zero. You can view or edit actual this period costs and units in the Activity Table of the Activities window and in reports.

Run Period Closeout Choose Tools, Period Closeout. Click Yes to close out the current period. You can display the Actual this Period Unit and the Actual This Period Cost columns in the Activity Details, Resources tab. Right-click in the details area and choose Customize Resource Columns.

You can edit these columns.

Activity BA470		Review Technical Data on Heat Pumps		Project Bldg	
Resource ID Name	Remaining Units / Time	Actual Regular Units	Actual This Period Cost	Actual This Period Units	
PK.Paul Kim	5h/d	40h	\$1,200.00	40h	

Scheduling Projects

The application employs the Critical Path Method (CPM) scheduling technique to calculate project schedules. CPM uses activity durations and relationships between activities to calculate project dates. This process is performed in two phases or “passes” over the activities in a project.

The first pass or “forward pass” calculates the early start and early finish dates for each activity, based on the start or finish dates of predecessor activities as well as the duration of the activity itself.

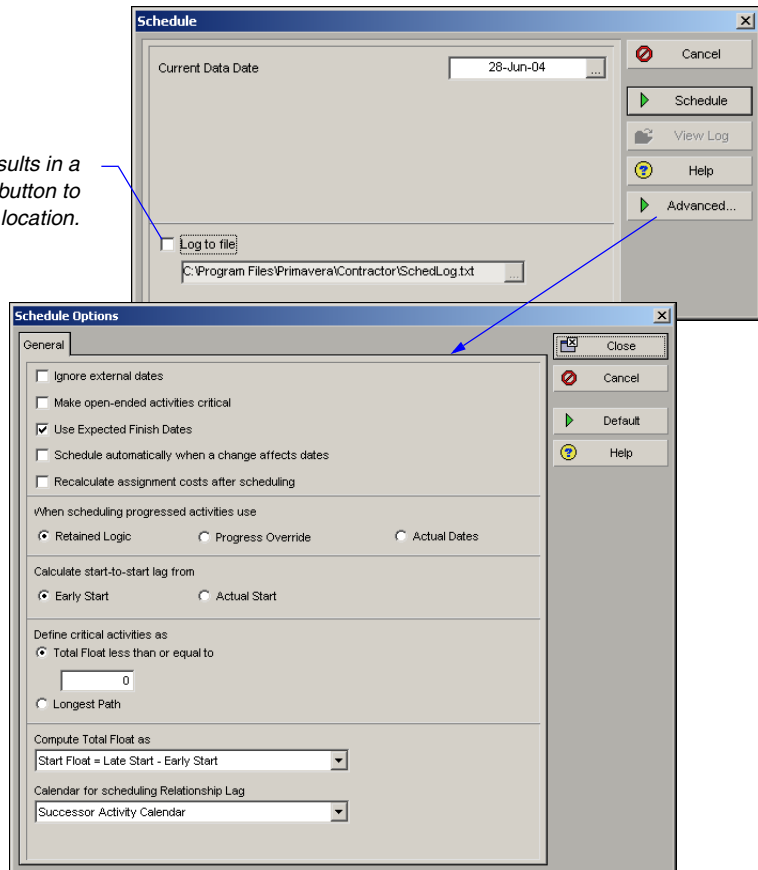
The second pass or “backward pass” calculates the late start and late finish dates for each activity, based on the start or finish dates of successor activities as well as the duration of the activity itself. The free float and total float for each activity are recalculated.

To display and/or use the default scheduling settings, click Default in the Advanced Schedule Options dialog box.

Schedule a project Open the project you want to schedule. Choose Tools, Schedule. You can change the data date for a project when you update progress (choose Tools, Update Progress).

Mark to record your scheduling results in a log file, then click the Browse button to specify a filename and location.

For detailed information regarding the options in the Schedule Options dialog box, refer to the Help.



Automatic scheduling You can also choose to calculate the schedule each time activity data change, rescheduling activities that have changed significantly and rescheduling any activities affected by the change to the first activity. Mark the Schedule Automatically When a Change Affects Dates checkbox in the Advanced Schedule Options dialog box to recalculate the schedule each time a significant change is made to an activity, relationship, or resource. If you turn off automatic scheduling, changes to activities will not be reflected in the schedule until you calculate the schedule again.



After the forward pass, if a Must Finish by Date is specified in the Dates tab of the Project Properties dialog box, the backward pass is calculated using the must finish by date rather than the schedule end date.

Calculating Assignment Costs Using Time-Varying Resource Rates

When changes are made to resource cost information, you are prompted to recalculate costs, so that the correct values display for activity costs. The Recalculate Assignment Costs command ensures that project costs reflect any updated price per time values on activities.

For example, you should recalculate assignment costs if you change a resource's price/time and the resource is assigned to activities, or if a resource has multiple prices and the activity dates change, because the activity cost calculation is based upon the activity start date.

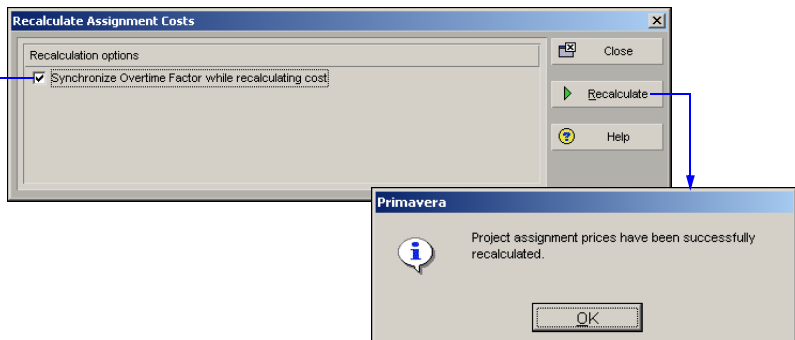
In some cases, you will be prompted to recalculate costs. You can also run this command from the Tools menu.

Recalculate resource assignment costs To update resource costs for activities in the open project, choose Tools, Recalculate Assignment Costs. Click Recalculate.



Choosing this command recalculates activity costs in the open project.

Mark this to synchronize overtime factors.



The recalculate utility ignores any assignment with a Rate Source set to Override. The customized, manually entered price is not overwritten when you synchronize resource prices.

In the Resources window, Details tab, you must mark the setting to Calculate Costs from Units to recalculate resource assignment costs. In the Resources window, choose View, Details, then click the Details tab.

The screenshot shows a dialog box with two main sections: 'Resource Type' and 'Profile'.
In the 'Resource Type' section, there are three radio buttons: 'Labor' (selected), 'Nonlabor', and 'Material'. Below them is a 'Unit of Measure' field with a dropdown arrow. Underneath is a 'Currency and Overtime' section containing a 'Currency' dropdown set to 'Dollar', and checkboxes for 'Overtime Allowed' (unchecked) and 'Overtime Factor' (with an empty input field).
In the 'Profile' section, there is a 'Calendar' dropdown set to '1. Standard 5 Day Workweek'. Below it is a 'Default Units / Time' field set to '100%'. At the bottom are two checkboxes: 'Auto Compute Actuals' (unchecked) and 'Calculate costs from units' (checked).

Calculate cost when using multiple resource rates The total cost for a resource assignment considers any changes in the price/unit over the course of the activity. Enter a price/unit for each rate type (defined in the Options dialog box, Rate Types tab) in the Units & Prices tab in the Resources window. Select the rate type you want this assignment to use in the Resources tab in Activity Details. The cost of the resource assignment is based on the rate type assigned to the resource assignment.

For more information on using multiple resource rates and rate types, see the Help.

For example, a three-day activity has a resource that works 8 hours a day. The price/unit for the resource for the first two days is \$10/hour, and the price/unit for the third day is \$30/hour. The cost of the first 16 hours of the resource assignment is \$160 (16 hours x \$10.00/hour). The cost for the last 8 hours of the resource assignment is \$240 (8 hours x \$30.00/hour). The total cost for the resource is \$400.00 (\$160.00 + \$240.00).

Managing Resource Assignments

Use the Resource Assignments window to add and view all resource assignments, grouped by resource, for the currently opened project. In the Resource Usage spreadsheet, you can display resource cost and quantity information and manually update future period assignment data.

Display the Resource Usage Spreadsheet Choose Project, Resource Assignments, or from the Activities view, click the Options display bar, select Show on Bottom, then choose Resource Usage Spreadsheet. This following image is from the Resource Assignments view:

When grouped by Resource, click to assign an activity to the resource.

Use the details tabs to view or assign resource assignment properties such as cost account, rate type, and planning information.

The screenshot shows the 'Resource Assignments' window with the following data:

Activity ID	Activity Name	Start	Finish	Units	2006						
					Sun M Tue W Thu Fri Sat Sun M Tue W						
Design Engineering Depart...	May-02-05 A	Jul-03-0	Budgeted	8h	8h	8h	8h	8h	8h	8h	8h
Paul Kim	May-02-05 A	Jul-03-0	Budgeted	8h	8h	8h	8h	8h	8h	8h	8h
BA4 Review and Approve Designs	Jun-02-06	Jun-14	Budgeted	8h	8h	8h	8h	8h	8h	8h	8h
BA4 Design Building Addition	May-02-05 A	Jun-01	Remaining	8h	8h	8h	8h	8h	8h	8h	8h
BA4 Assemble Technical Data for H...	Jun-15-06	Jun-19	Budgeted	8h	8h	8h	8h	8h	8h	8h	8h
BA4 Review Technical Data on Hea...	Jun-20-06	Jul-03-0	Budgeted	8h	8h	8h	8h	8h	8h	8h	8h

The details panel at the bottom shows the following information:

- Activity Name: Review and Approve Designs
- Resource: PK: Paul Kim
- Cost Account: Con-13.1.06: Building Addition Design
- Price / Unit: \$30/h
- Rate Type: Price / Unit
- Primary Resource: ☒

Group and sort resource assignments Click the Display Options bar and choose Group and Sort. Choose one of the predefined group and sort options, or choose Customize.

You can manually plan future period resource allocation for an assignment before or after progress has started on the assignment. For detailed instructions on manually planning/updating future period assignment buckets, refer to “Manually Planning Future Period Assignments” on page 158, then refer to the Help for detailed guidelines to consider.

Manually update assignment data In the Resource Usage Spreadsheet (in both the Activities and Resource Assignments windows), you can manually update values for an assignment’s Budgeted Units and Remaining (Early) Units. For example, if work on an activity is not proceeding according to plan, and the future work planned to be performed on an activity cannot be accurately captured by using linearly spread units, you can manually update the assignment’s Budgeted Units and/or Remaining (Early) Units to reflect the new plan.

Comparing projects with Claim Digger

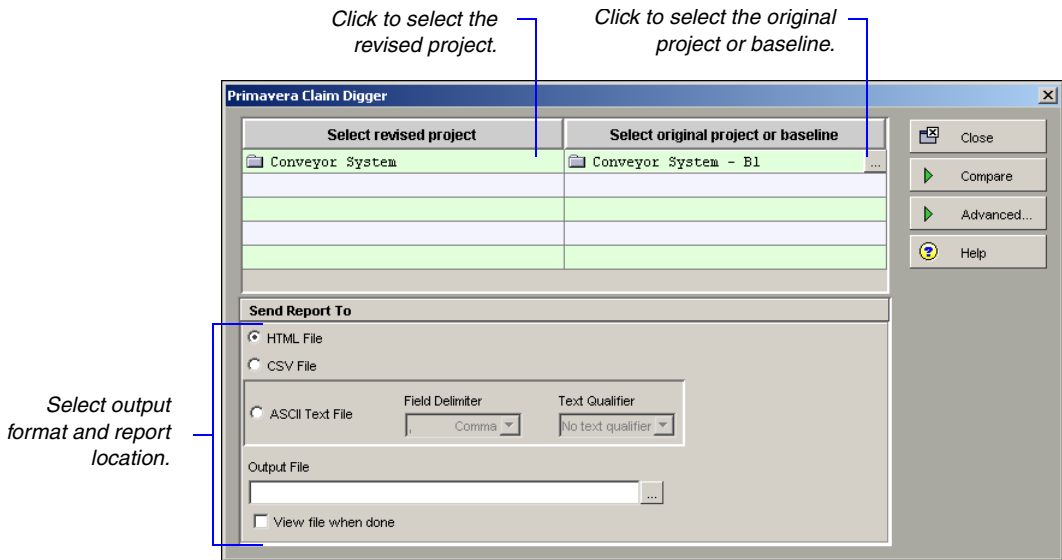
In this chapter

[Comparing Projects/Baselines Comparison Data](#)

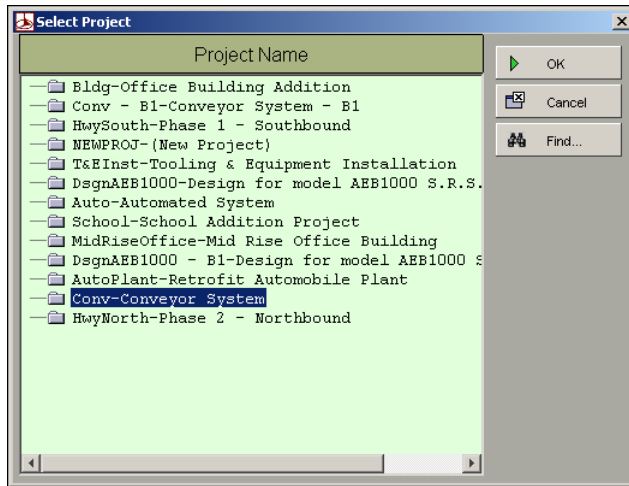
Claim Digger enables you to compare two projects, or a project and its baseline, to determine what data has been added, deleted or modified from the schedules. In addition to the Project Baseline feature, a project plan comparison report is provided to show even more differences between projects.

Comparing Projects/Baselines

Use Primavera's project comparison tool to compare projects and/or baselines. To launch Claim Digger, select Tools, Claim Digger. To compare a project to its baseline or to another project, select the desired projects/baselines and choose an output format and report destination. The figure below illustrates the Claim Digger main window.



Selecting a revised project To select a revised project, click the desired field, then click the Browse button that appears. The Select Project dialog is displayed.



The Select Project dialog displays all of your projects.

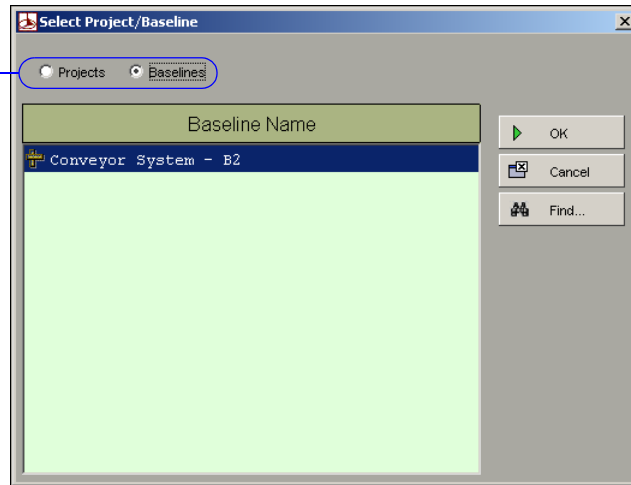


Click Find to search for a project by name.

- After locating the desired project, highlight it and click OK.
- To close the Select Project dialog without selecting a project, click Cancel.
- To remove a project from the list, click inside the field of the desired project to select it, then press Delete.

Selecting an original project or baseline To select an original project or baseline, click the desired project or baseline, then click the Browse button that appears. The Select Project/Baseline dialog is displayed.

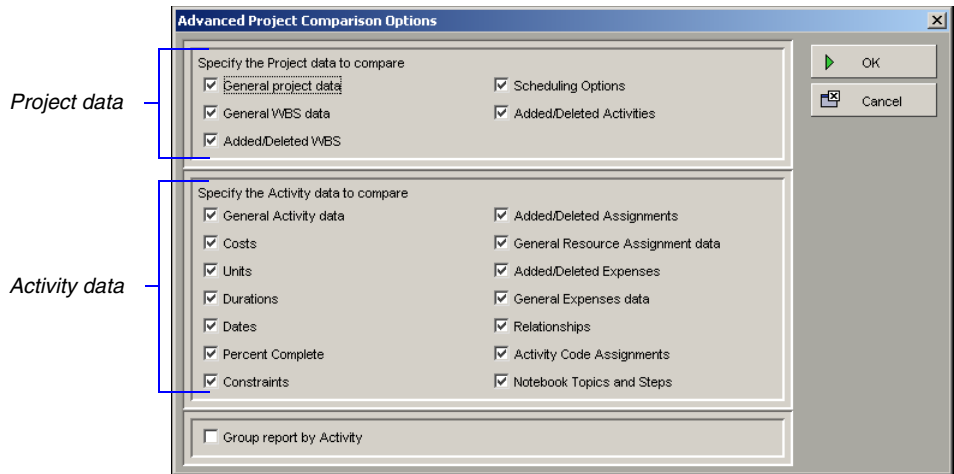
Select whether to display projects or baselines.



Click the Find button to search for a project by name.

- After locating the desired project or baseline, highlight it and click OK.
- To close the Select Project or Select Project/Baseline dialog without selecting a project or baseline, click Cancel.
- To remove a project/baseline from the list, click inside the field of the desired project/baseline to select it, then press Delete.

Setting advanced options Click the Advanced... button to select specific project details to be included/excluded from the report.



All project and activity options are selected by default. To include an option in the comparison report, mark the checkbox next to the item name. To exclude an option, unmark the appropriate checkbox. The selected options are saved after clicking OK.

The “Group report by activity” option is not marked by default. When this option is enabled, selected items under activity data will be grouped by activity. The other project items will be at the top of the report and not grouped by activity.

Setting the output format The format of the comparison report can be set by selecting one of the available options under Send Report To. Reports can be generated in the following formats:

- HTML
- CSV
- ASCII text (default)

When the output format is ASCII text, the field delimiter and text qualifier can be set by the user. Each option can be selected from the drop down menu next to the ASCII output selection.

- Available field delimiters:
 - comma (,)
 - pipe (|)
 - dot (.)

■ Available text qualifiers:

- none
- double quotes (")
- single quote (')
- dollar sign (\$)

Setting the output file location To set the filename and full path to the comparison report, use one of the following options:

- Type the path and filename in the space provided under Output File.



Ensure that you enter the proper file extension, based on the output format selected previously. If the wrong file extension is used, the report will not display properly when opened for viewing.

- Click the Browse button next to the blank field under Output File. Browse to the desired output destination and enter the desired filename in the File name field (no file extension is needed). Click Save when finished.

Viewing reports automatically To view reports automatically after they are generated, mark the check box next to View the file when done. When this option is selected, reports will automatically open in the default application that is associated with the report's output format (e.g., HTML reports are opened by the system's default browser).

Generate the comparison report When all of the report and output options have been set, click the Compare button to generate the report.



If any of the revised projects listed for comparison do not have an associated original project/baseline selected, an error message is displayed. Ensure that an original project/baseline is selected for each revised project that is listed.

If the output file already exists, a warning is displayed. To overwrite the existing file, click Yes. To cancel the comparison and select a different filename, click No.

While Claim Digger is working, a dialog is displayed that shows the progress of the comparison. To stop the comparison before it is completed, click Cancel.

When the comparison is complete, a confirmation dialog listing the location of the report is displayed. Click OK to continue.

Comparison Data

The following table lists the business objects, and the fields within those business objects, that are compared by Claim Digger.

Table 1:

Option	Business Object	Fields
General Project Data	Project	DataDate
		FinishDate
		MustFinishByDate
		PlannedStartDate
		StartDate
		Status
General WBS Data	WBS	AnticipatedFinishDate
		AnticipatedStartDate
		Status
Added/Deleted WBS	WBS	Code
		Name

Table 1:

Option	Business Object	Fields
Scheduling Options	ScheduleOptions	ComputeTotalFloatType
		CriticalActivityFloatThreshold
		CriticalActivityPathType
		MakeOpenEndedActivitiesCritical
		OutOfSequenceScheduleType
		RecalculateAssignmentCosts
		RelationshipLagCalendar
		StartToStartLagCalculationType
		UseExpectedFinishDates
Added/Deleted Activities	Activity	ID
		Name
General Activity Data	Activity	CalendarName
		FreeFloat
		IsCritical
		TotalFloat
		WBSCode
		WBSName
Costs	Activity	ActualExpenseCost
		ActualLaborCost
		ActualNonLaborCost
		AtCompletionExpenseCost
		AtCompletionLaborCost
		AtCompletionNonLaborCost
		BudgetedExpenseCost
		BudgetedLaborCost
		BudgetedNonLaborCost
		Material Resource Cost
		RemainingExpenseCost
		RemainingLaborCost
		RemainingNonLaborCost

Table 1:

Option	Business Object	Fields
Units	Activity	ActualLaborUnits
		ActualNonLaborUnits
		AtCompletionLaborUnits
		AtCompletionNonLaborUnits
		RemainingLaborUnits
		RemainingNonLaborUnits
Durations	Activity	ActualDuration
		AtCompletionDuration
		OriginalDuration
		RemainingDuration
Dates	Activity	ActualFinishDate
		ActualStartDate
		EarlyFinishDate
		EarlyStartDate
		LateFinishDate
		LateStartDate
		PlannedFinishDate
		PlannedStartDate
Percent Complete	Activity	DurationPercentComplete
		PhysicalPercentComplete
		UnitsPercentComplete
Constraints		PrimaryConstraintDate
		PrimaryConstraintType
		SecondaryConstraintDate
		SecondaryConstraintType
Added/Deleted Assignments	ResourceAssignment	ActivityID
		ActivityName
		ResourceID
		ResourceName

Table 1:

Option	Business Object	Fields
General Resource Assignment	ResourceAssignment	ActivityID
		ActivityName
		ActualCost
		ActualUnits
		AtCompletionCost
		AtCompletionUnits
		BudgetedCost
		BudgetedUnits
		CostAccountName
		IsPrimaryResource
		OriginalDuration
		PricePerUnit
		RemainingCost
		RemainingDuration
		RemainingUnits
		RemainingUnitsPerTime
		ResourceID
		ResourceName
Added/Deleted Expenses	ActivityExpense	ActivityID
		ActivityName
		ExpenseItem
General Expenses	ActivityExpense	ActivityID
		ActivityName
		ActualCost
		AtCompletionCost
		BudgetedCost
		CostAccountName
		ExpenseItem
		ExpensePercentComplete
		PricePerUnit
		RemainingCost

Table 1:

Option	Business Object	Fields
Relationships	Relationships	Lag
		PredecessorActivityID
		PredecessorActivityName
		SuccessorActivityID
		SuccessorActivityName
		Type
Activity Codes		CodeValue
		Description
Notebook Topics	ActivityNote	NotebookTopicName
Steps	ActivityStep	ActivityID
		ActivityName
		Name
		PercentComplete
		Weight
		WeightPercent

Customizing Projects

In this part:

Working with Layouts

Grouping, Sorting, and Filtering Data

Customizing Layouts

Customizing Reports

Printing Layouts and Reports

Read this part to learn how to customize your desktop and create layouts that help you see the data you need to manage your projects. “[Working with Layouts](#)” describes the types of layouts you can create and explains how to add, open, and save layouts. It also describes how to import and export layouts to share with other users. Read “[Grouping, Sorting, and Filtering Data](#)” to learn how to display only the data you need to see in a layout. “[Customizing Layouts](#)” shows you how to change the look and content of layouts by modifying columns, formatting Gantt Charts, adjusting the timescale, and editing fonts and colors. “[Customizing Reports](#)” discusses how to create reports and assign them to report groups and batches. “[Printing Layouts and Reports](#)” describes the printing options.

Working with Layouts

In this chapter

Layout Types

**Creating, Opening, and Saving
Layouts**

Exporting and Importing Layouts

**Copying and Pasting Resource
Spreadsheet Data to Microsoft
Excel**

You can create layouts that display the data you need to see, in the format you need to see them. Customize the top and bottom areas of the layout to include tables, graphs, charts, Activity Details, and more. Once you are satisfied with your layout, you can save it so you or other team members can use it again.

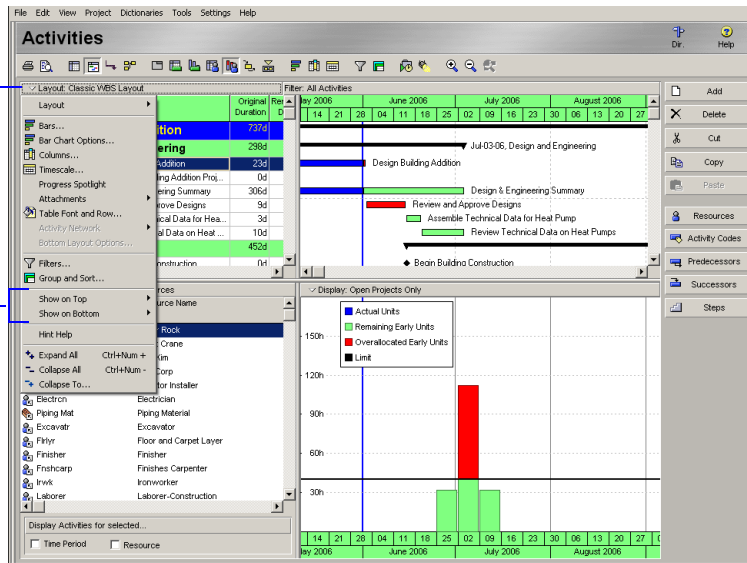
This chapter describes the different layout types and explains how to create, open, save, export, and import layouts. It also describes how to copy and paste spreadsheet data to Microsoft Excel.

Layout Types

Along with the WBS and resource assignment layouts, the application provides the following types of activity layouts: Activity Tables, Activity and Resource Usage Spreadsheets and Profiles, Gantt Charts, Activity Networks, Activity Details, and Trace Logic. Split the Activities window into top and bottom panes to display different types of layouts at the same time. For example, show an Activity Table in the top pane and a Resource Usage Profile in the bottom pane.

Click the Layout Options bar to display a menu of options that you can use to customize the top and bottom panes of the Activities window.

Click Show on Top and Show on Bottom to select the layout type displayed in each area of the Activities window.

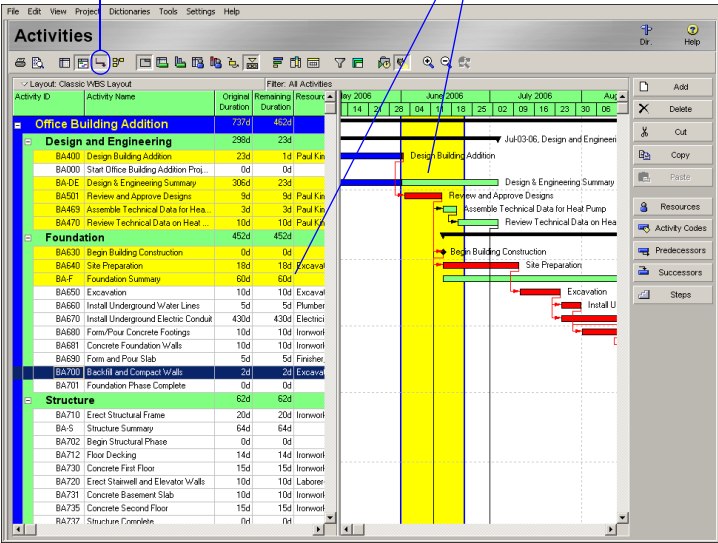


For additional information about layout types and examples of sample layouts, see ["Quick Tour"](#) on page 33.

Refer to the following examples:

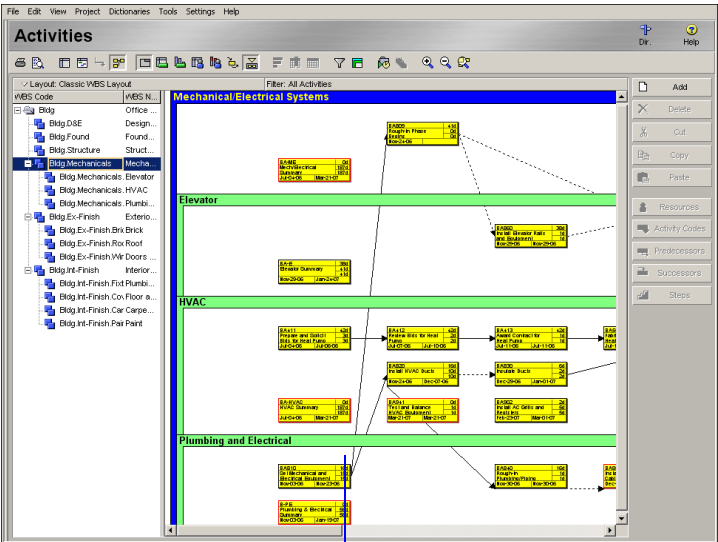
Click the **Relationship Lines** button to view relationships in the Gantt Chart.

Choose **View, Progress Spotlight**, to highlight activities that should have been worked on during a specific timeperiod.



Gantt Chart

Provides a graphical display of activity progress over the course of the project. Use this layout to review or analyze the schedule.



To quickly zoom in on an Activity Network box, hold down the Alt key, then click and drag your mouse in the Activity Network section.

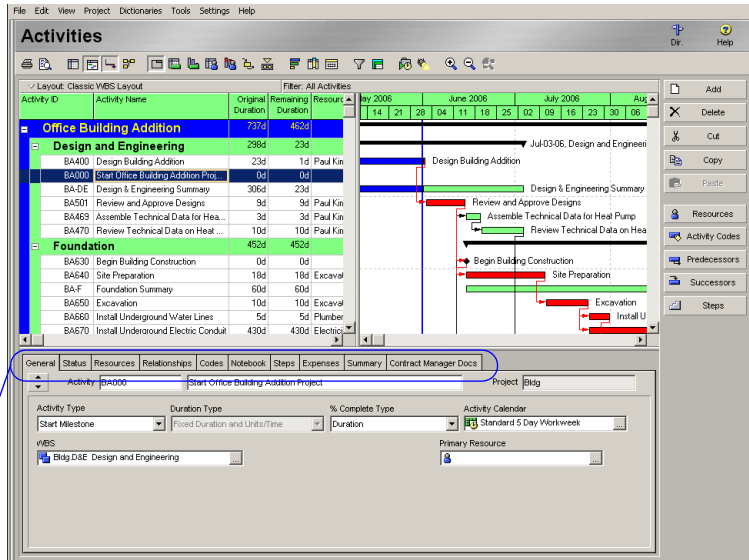
Activity Network

Provides a graphical display of activities, including logical relationships. Activity Network can be displayed in the top layout only. The left side of this example displays the WBS hierarchy, while the right side shows the activity flow in graphical format. Use this layout to change the sequence of activities as your project evolves.

Activity Details

Displays and enables you to modify detailed information for an activity you select in either the Activity Table or Activity Network. This type of layout can be displayed in the bottom layout only. Use this layout type to add and update activities.

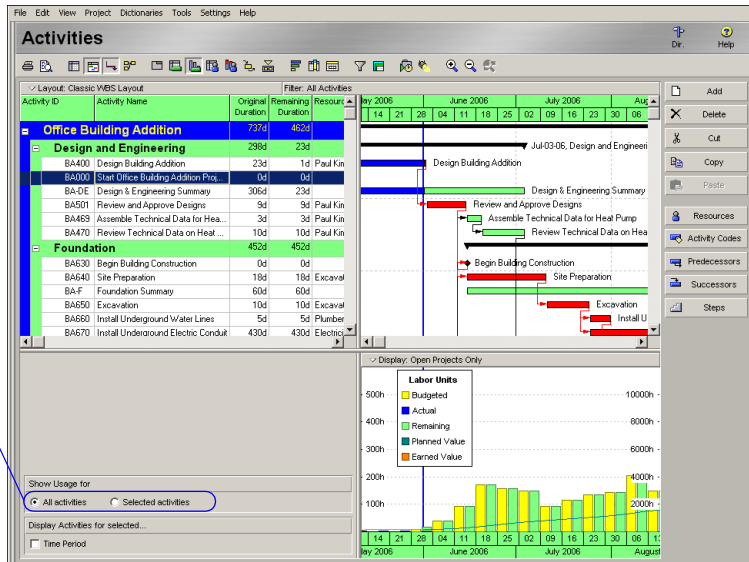
To show or hide any of the Detail tabs, right-click on a tab title and choose *Customize Activity Details*.

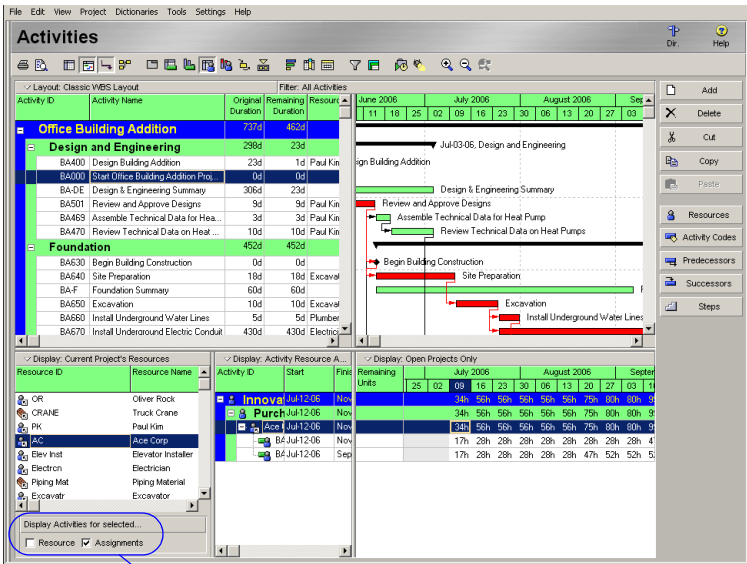


Activity Usage Profile

Displays a time distribution of activity units and costs in a Bar Chart format. This profile can be displayed in the bottom layout only. Use this layout type to review the labor use for activities in a specific timeperiod.

You can display usage for all activities, or choose *Selected Activities* to display usage for only the highlighted activities.

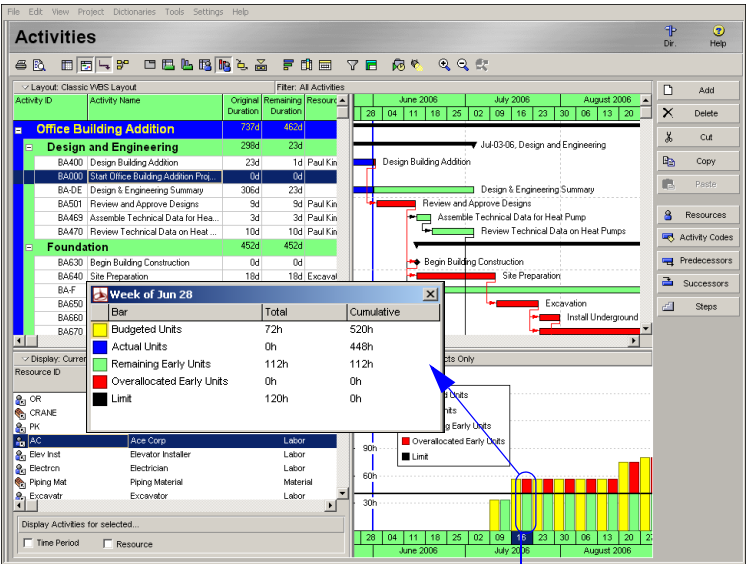




You can display activities by selected resource or assignment.

Resource Usage Spreadsheet

Displays resource data in spreadsheet format. This spreadsheet can be displayed in the bottom layout only. Use this layout type to view resource allocation over time, according to a timescale you specify.



To display a pop-up box containing totals for a specific timeperiod, double-click the appropriate bar in the graph.

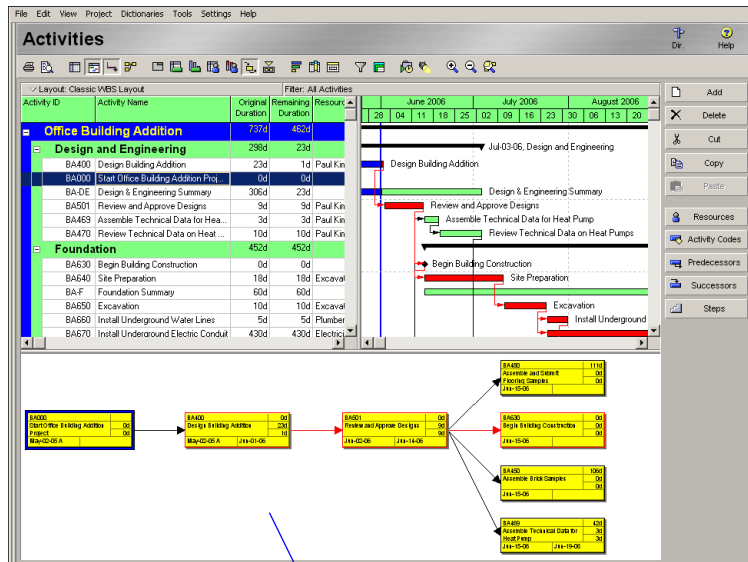
Resource Usage Profile

Displays a time distribution of resource units and costs in relation to activities in a Bar Chart format. This profile can be displayed in the bottom layout only. Use this layout type to analyze resource levels with the schedule.

You can also display the profile as a histogram using different colors and patterns for multiple resources. Click the Display Options Bar and choose Stacked Histogram.

Trace Logic

Provides a graphical display of dependency relationships for an activity you select in either the Activity Table or Activity Network. Trace Logic can be displayed in the bottom layout type only. Use this layout type to easily move forward and backward through the plan to view the critical path.

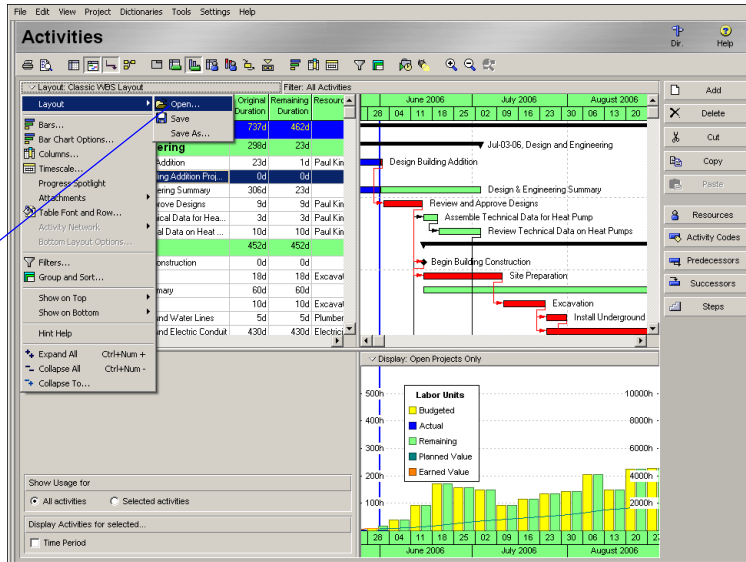


To quickly zoom in on a box, hold down the Alt key, then click and drag your mouse in the Trace Logic layout.

Creating, Opening, and Saving Layouts

Once you create a layout, you can save it and use it again at other stages of the project or with different projects. Make layouts available globally (All Users) or just to certain projects (Project).

Choose Layout, Open, to apply an existing layout to the open project.



For detailed instructions on customizing the top and bottom layouts, see “Customizing Layouts” on page 267.

Add a new layout Customize the top and bottom layouts to create a new layout, then save the layout using a name you specify. Click the Layout Options bar, then choose Layout, Save As. Type the layout name, then select the category to which it will be assigned: All Users (global) or Project. If you select Project, click the Browse button and select the opened project in the Select Project dialog box.

Once you have selected where the layout will be available, click Save.

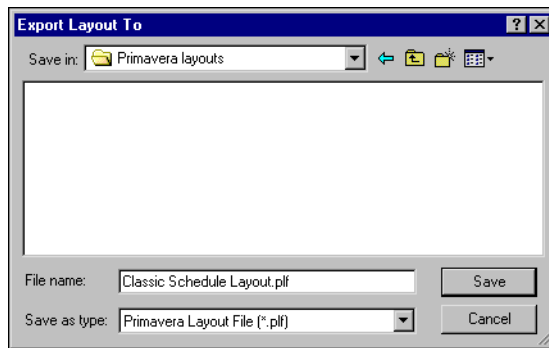
Open a layout Click the Layout Options bar, then choose Layout, Open. Select the layout you want to open, then click Open. To preview the layout without closing the Open Layout dialog box, click Apply.

Save changes to a layout Click the Layout Options bar, then choose Layout, Save. To save a copy of the layout using a different name, choose Layout, Save As. Type a name for the layout copy, then click Save.

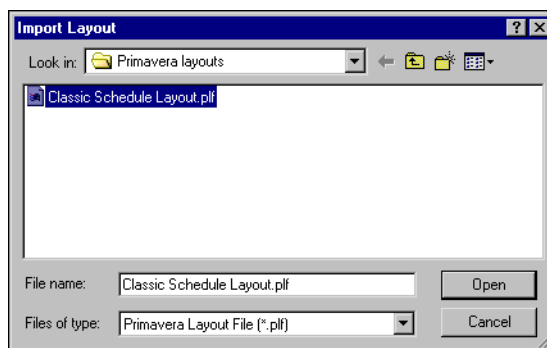
Exporting and Importing Layouts

If you want to share a layout with other users, export it to a central location from which they can then import the layout to use with their own projects.

Export a layout Click the Layout Options bar, then choose Layout, Open. Click the name of the layout you want to export, then click Export. Specify a name and location for the export file, then click Save.




Import a layout Click the Layout Options bar, then choose Layout, Open. Click Import, then select the location of the layout file you want to import. (Primavera layout files have a .PLF extension.) Click Open. If you want to make the layout available to all users, click Yes when prompted.



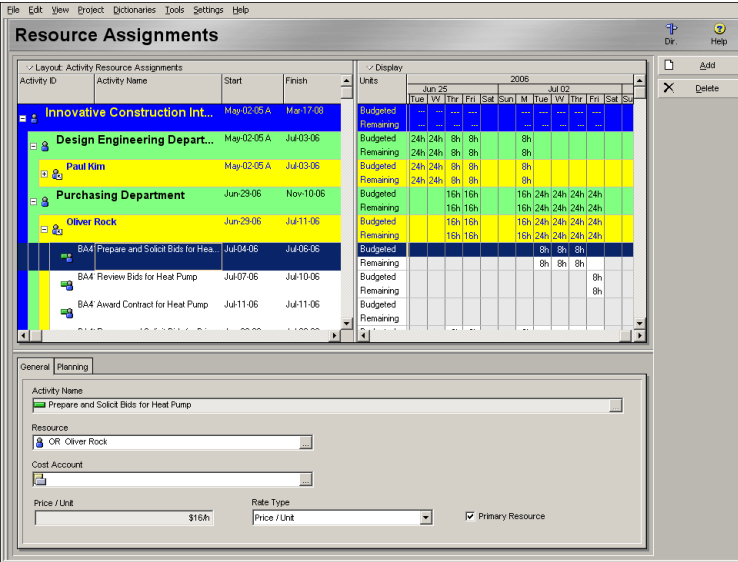
To overwrite the current layout with your changes, click the Layout Options bar and choose Layout, Save.

Copying and Pasting Resource Spreadsheet Data to Microsoft Excel


You can copy resource spreadsheet data from the Contractor application and paste it in Microsoft Excel. Choose Project, Resource Assignments. Select a row, then choose Edit, Copy. You can also select multiple rows. All associated data, as well as row and column headers and values, is copied to the clipboard.



You may need to expand column widths to display all the project information.



In Excel, right-click in the spreadsheet, then choose Paste. Any edits made in Excel cannot be returned to the Contractor application project. Use this feature for reporting only.



Excel may reformat data pasted into a spreadsheet. To prevent this, reformat the cells as text before pasting the data, or paste the data into a different spreadsheet application.

Grouping, Sorting, and Filtering Data

In this chapter

[Grouping Data](#)

[Sorting Data](#)

[Filtering Data](#)

Grouping organizes activities into categories that share a common attribute. For example, focus on activities by resource or date.

Sorting arranges activities or resources in any order you select, such as by start date.

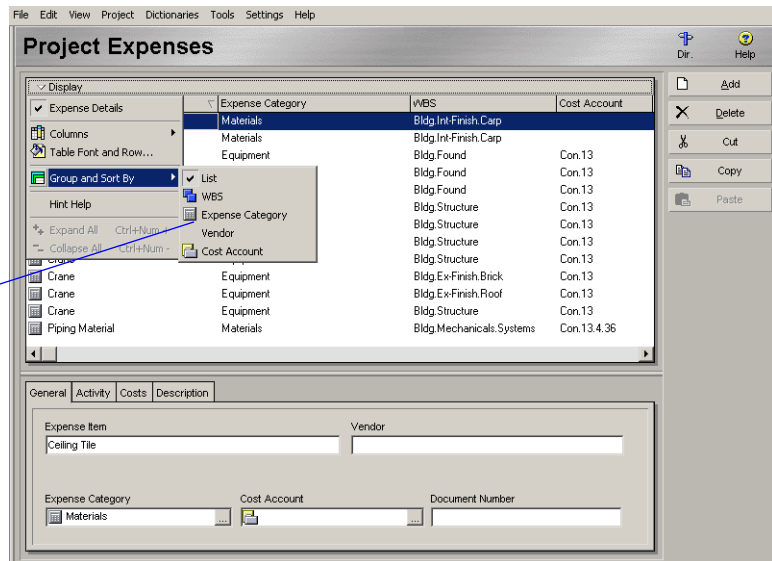
Filters enable you to narrow your selection to a specific data group. Use the standard filters provided or add new filters.

Read this chapter to learn how to group, sort, and filter data in your projects.

Grouping Data

Group to organize information in categories that share a common attribute, such as work breakdown structure (WBS), code value, or resource. Use predefined grouping options; for example, when displaying the Expenses window, group by vendor, WBS, or category.

Use these predefined grouping and sorting options for the WBS and Expenses windows.



You can also customize group criteria when you are working with activities and resources. Group by simple, one-level lists of information, such as dates, durations, costs, and other numeric data. You can also group by multiple data items in the same layout. For example, group by resource, then by start date. Each group band can have a unique color and font.

Group criteria can also be arranged in hierarchies of data at multiple levels (up to 20). These items include WBS and activity codes. Choose whether to indent each level in the hierarchy, and specify up to which level to show. If you limit the number of levels, you can group by additional data items.

This layout is grouped by multiple levels of the WBS.

You can also specify customized grouping and sorting criteria when a Resource Usage Spreadsheet is shown as a bottom layout in the Activities window.

Activities									
Filter: All Activities									
Activity ID	Activity Name	Original Duration	Remaining Duration	Resources	Schedule %	Start	Finish	Total Float	
Office Building Addition									
Design and Engineering									
BA400	Design Building Addition	23d	1d	Paul Kim	100%	May-02-05	Jun-01-06	0d	
BA000	Start Office Building Addition Proj...	0d	0d		100%	May-02-05	Jun-01-06	0d	
BA-DE	Design & Engineering Summary	306d	23d		92.48%	May-02-05	Jul-03-06	42d	
BA501	Review and Approve Designs	9d	9d	Paul Kim	0%	Jun-02-06	Jun-14-06	0d	
BA469	Assemble Technical Data for Hea...	3d	3d	Paul Kim	0%	Jun-15-06	Jun-19-06	42d	
BA470	Review Technical Data on Heat ...	10d	10d	Paul Kim	0%	Jun-20-06	Jul-03-06	42d	
Foundation									
Begin Building Construction									
BA630	Begin Building Construction	0d	0d		0%	Jun-15-06	Jul-10-06	0d	
BA640	Site Preparation	19d	19d	Excavator	0%	Jun-15-06	Jul-10-06	0d	
BA-F	Foundation Summary	60d	60d		0%	Jun-15-06	Sep-06-06	142d	
BA650	Excavation	10d	10d	Excavator	0%	Jul-11-06	Jul-24-06	0d	
BA660	Install Underground Water Lines	5d	5d	Plumber	0%	Jul-25-06	Jul-31-06	0d	
BA670	Install Underground Electric Conduit	430d	430d	Electrician	0%	Jul-25-06	Mar-17-08	0d	
BA680	Form/Pour Concrete Footings	10d	10d	Ironworker, Rough...	0%	Aug-01-06	Aug-14-06	0d	
BA681	Concrete Foundation Walls	10d	10d	Ironworker, Laborer...	0%	Aug-15-06	Aug-28-06	0d	
BA690	Form and Pour Slab	5d	5d	Finisher, Ironworker...	0%	Aug-29-06	Sep-04-06	0d	
BA700	Backfill and Compact Walls	2d	2d	Excavator, Finisher	0%	Sep-05-06	Sep-06-06	0d	
BA701	Foundation Phase Complete	0d	0d		0%		Sep-06-06	142d	
Structure									
BA710	Erect Structural Frame	20d	20d	Ironworker	0%	Sep-07-06	Oct-04-06	0d	
BA-S	Structure Summary	64d	64d		0%	Sep-17-06	Dec-15-06	76d	

Customize grouping In the Activities window, click the Layout Options bar, then choose Group and Sort. You can also click the Display Options bar from the Resources window and then choose Group and Sort By, Customize.

In the Group By field, select the data item by which you want to group data. Mark the Show Group Totals checkbox if you want to display total rolled up values for each item you select in the Group By field. For example, if you choose to group by WBS, each WBS band displays the sum of the values for the activities included in that WBS item.

Mark the Show Group Totals to display totals in the grouping bands. Clear the checkbox to hide any totals in the grouping bands.

When grouping by a hierarchical item, such as WBS, mark the Indent checkbox to indent each level, and specify how many levels to show.

Mark Show Grand Totals to display a grand total band at the top of the window. Mark Show Summaries Only if you only want to display bands for the data items you select in the Group By field (for example, if you want to display the WBS bands and hide the WBS's activities).

Mark to decrease the space taken by indenting levels on the hierarchy and allow for the display of additional data.

To select the data item by which you want to group data, click the Group By field and select a value from the drop-down list.

These settings apply to the Group By field selected above.

When grouping by numbers, dates, or durations, choose an interval for each group. For example, group activities by actual costs in increments of \$3000.

Group By	Indent	To Level	Group Interval	Font & Color
WBS level 1	<input checked="" type="checkbox"/>	All		12 Arial
WBS level 2				11 Arial
WBS level 3				9 Arial
WBS level 4				8 Arial
WBS level 5				8 Arial
WBS level 6				8 Arial

To hide group title bands that do not contain activities within the group, mark the Hide If Empty checkbox. To sort the grouping bands alphabetically rather than their order in their respective hierarchy, mark the Sort Grouping Bandings Alphabetically checkbox.

Mark or clear the checkboxes to choose the text to display on the grouping bands. To display the field name on the grouping band, mark the Show Title checkbox. To display the ID or Code value on the grouping band, mark the Show ID/Code checkbox. To display the Name or Description on the grouping band, mark the Show Name/Description checkbox.



You must select either Show ID/Code or Show Name/Description.

Set as a user preference To display a label on grouping bands for windows/dialog boxes where you cannot access a Group and Sort dialog box, choose Edit, User Preferences. Click the Application tab. In the Group and Sorting section, mark Show ID/Code, Show Name/Description, or both.

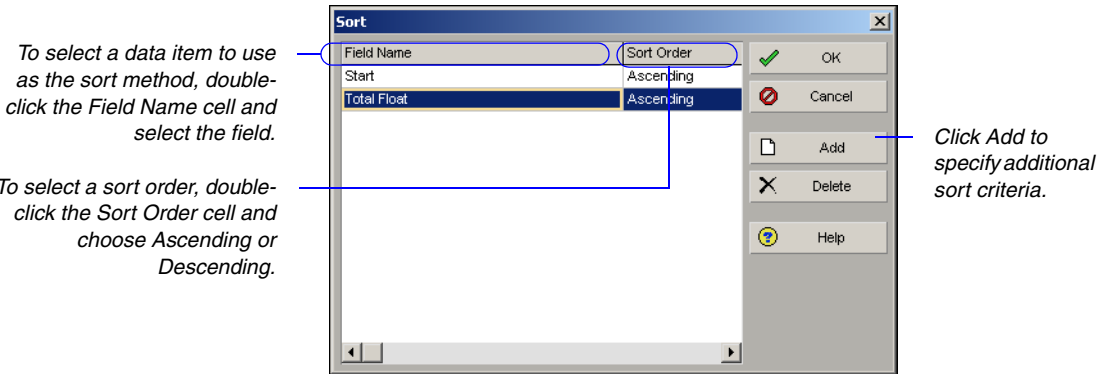
*Mark to immediately
rearrange updated
activity data to reflect
the group and sort
criteria.*

Startup Window
<input type="checkbox"/> Show the Welcome dialog at startup
Application Log File
<input type="checkbox"/> Write trace of internal functions to log file
Group and Sorting
Labels on grouping bands
<input type="checkbox"/> Show ID / Code
<input checked="" type="checkbox"/> Show Name / Description
<input checked="" type="checkbox"/> Reorganize Automatically

Sorting Data

Sorting determines the sequence in which activities or resources are listed in the current window. You can sort alphabetically, numerically, or chronologically based on the data item you choose. For example, sort by total float to see critical activities first, or sort by percent complete in descending order to see completed or in progress activities at the top of the layout.

Specify sort order In the Activities window, click the Layout Options bar, then choose Group and Sort. Click Sort. You can also click the Display Options bar from the Resources window and choose Group and Sort By, Customize, Sort.



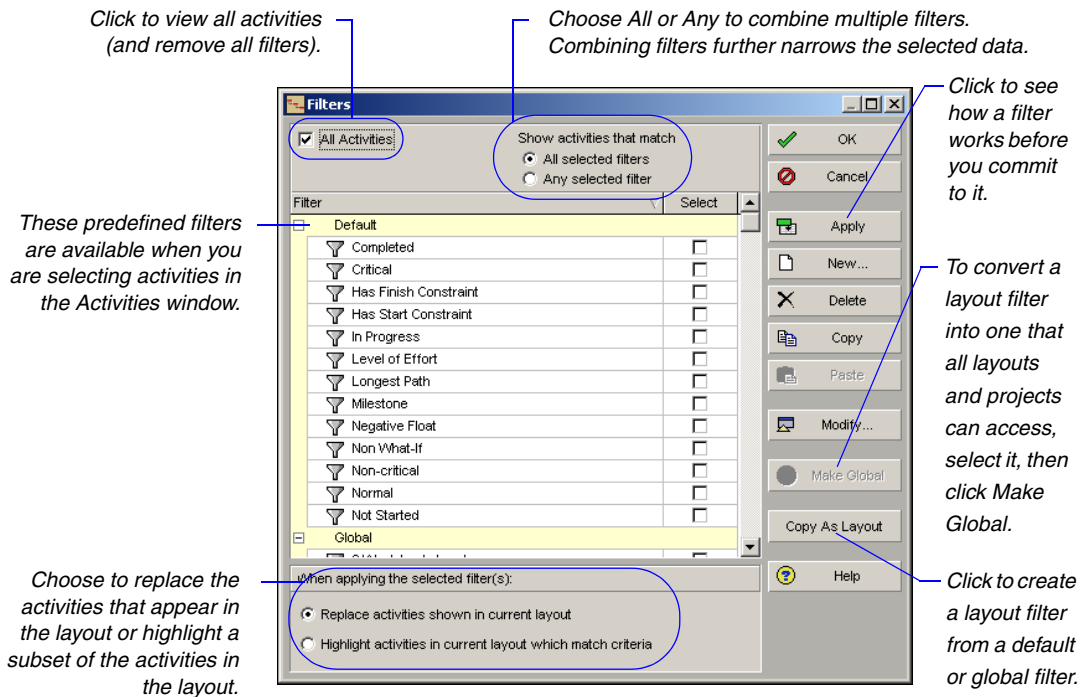
Reorganizing Data

You can mark the Reorganize Automatically checkbox in the Applications tab of User Preferences (Edit, User Preferences) to immediately reorganize the current view or layout each time you add an activity or change activity data. However, if you have many changes to make and you choose not to mark the setting in the User Preferences, you can select Tools, Reorganize Now to organize the project. When you change views, apply a filter, cut, copy, paste, or refresh data, the application reorganizes the data, regardless of whether the Reorganize Automatically checkbox is marked or cleared.

Filtering Data

Use filters to focus on specific data. A filter is a set of instructions that determines which data display in the current window. You can create your own filters, or use predefined filters. New filters can be either global or layout. Global filters are available to all projects and layouts. Layout Filters are only available to the currently open layout.

Select a filter To select activities for the project currently open, in the Activities window click the Layout Options bar, then choose Filters. Mark the checkbox beside each filter you want to apply.



You can also customize individual filters when creating reports using the Report Wizard.

To view a global or layout filter's settings before applying it, select it, then click Modify. To view the criteria for a predefined filter, first copy and paste it. The filter is copied to the global list, which you can then modify.

Create a global filter In the Activities window, click the Layout Options bar, then choose Filters. Click New. Type a filter name. Click the Parameter cell and select a data item. Double-click the Is cell to select a filtering criteria. Specify a value in the Value field. If the values require a specific entry, you can select from a drop-down list. For example, if filtering by activity type, you must select from a list of the available types.

Click Add to define multiple selection criteria. Specify whether all criteria must be met or at least one criteria.

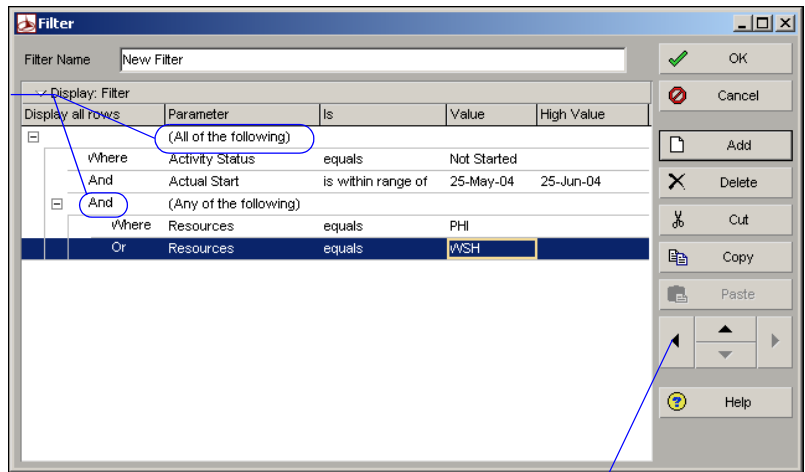
If you specify that all criteria must be met, each statement is joined with an "And." If any criteria can be met, an "Or" is used.

Display all rows	Parameter	Is	Value	High Value
(All of the following)	Where Activity Status	equals	Not Started	
And	Actual Start	is within range of	25-May-04	25-Jun-04

You can “nest” criteria to create multiple levels of selections. If you specify the topmost parameter as All of the Following, each successive level selects from only the activities that meet the criteria of previous levels. If you specify Any of the Following as the highest parameter, each group of criteria is separated by an “Or.”

A second set of criteria is joined by an And because All of the following is specified as the highest parameter.

This filter selects all activities that have not started, are scheduled to start between May 25th and June 25th, and have a PHI or WSH resource assigned.



To "nest" a set of criteria within another set, select the line of criteria, then use the arrow keys to indent it.

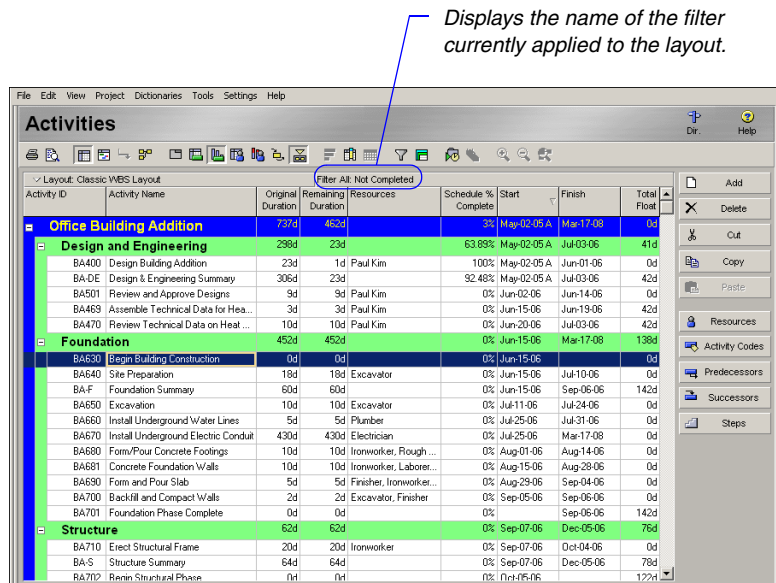
Create a layout filter In the Activities window, click the Layout Options bar, then choose Filters. Select a default or global filter, then click the Copy As Layout button. Modify the copied filter, as needed.

Remove filters Click the Layout Options bar, then choose Filter. To remove a specific filter, clear the Select checkbox for the filter you want to remove. To remove all filters, mark the All Activities checkbox. To preview your changes, click Apply.

Delete user-defined activity filters Click the Layout Options bar, then choose Filter. Select the filter you want to delete, then click Delete. You can delete only global and layout filters.

Combining Filters

To create a filter that selects any activity from one selection criteria *and* any activity from another selection criteria, you must define two separate filters and then combine them when you run the filters. For example, to select any activity belonging to the Corporate IT group that is not complete, you might create one filter that selects any activity that falls under various WBS levels (specific to the Corporate IT group), and another filter that selects any activity with remaining labor units greater than zero. To run the filters, choose All Selected Filters and mark the checkboxes for the two filters on the Filters dialog box.



Customizing Layouts

In this chapter

Modifying Columns

Adjusting the Timescale

Formatting Gantt Charts

**Formatting Activity Network
Layouts**

**Modifying Resource and Activity
Usage Profile Settings**

This chapter describes how to customize layout rows and columns, set the timescale, modify Gantt Chart bars, specify the look of Activity Network boxes, and modify Resource and Activity Usage Profile settings to help you monitor project performance.

Refer to [“Printing Layouts and Reports”](#) on page 301 for instructions on setting page and print options, as well as previewing and printing layouts and reports.

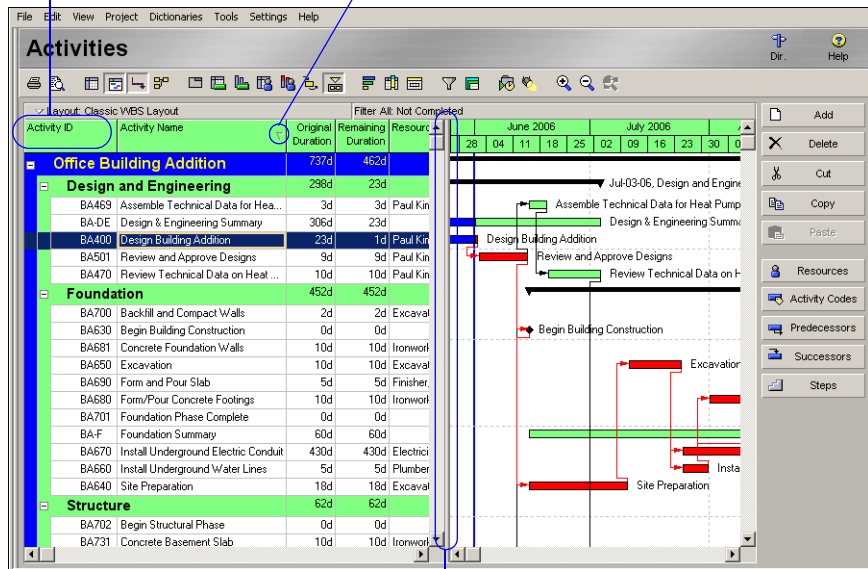
Modifying Columns

You can customize the look and content of the columns included in tables and spreadsheets in the Activities window. Choose which columns you want to include; change the column widths, the order in which columns are displayed, and the row height; specify column fonts and colors; edit column titles; and copy column formats from other layouts.

To move a column, click and drag it to a new location.

Click a column title to toggle the sort order from ascending to descending. The down arrow indicates that the data are sorted in descending order.

You can also customize the columns displayed in most windows, such as Resources and WBS.



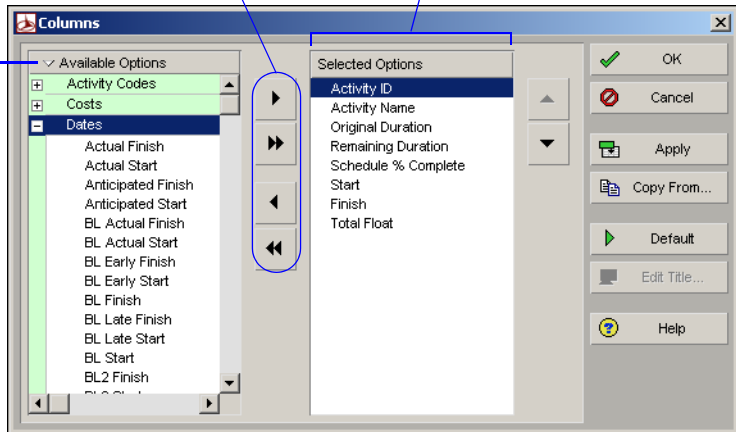
To view more columns, click and drag the divider bar.

Add or remove columns In the Activities window, click the Layout Options bar, then choose Columns.

To include a column in the layout, select it in the Available Options list, then click the right arrow. To remove a column from a layout, select it in the Selected Options list, then click the left arrow. Click the double-arrows to add or remove all columns at once.

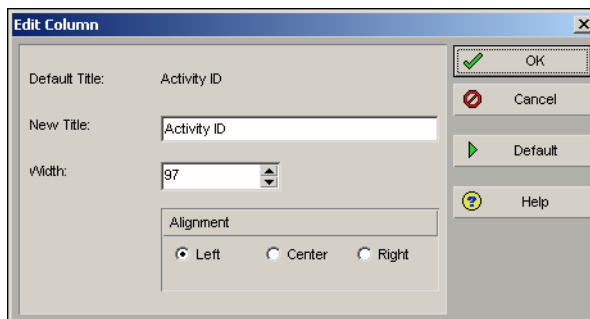
The sequence of columns in the layout will be the same as their order in this list. Click the up and down arrows to move columns higher or lower in the list.

To view an alphabetical list of all available columns, click the Available Options bar, then click Group and Sort By, List.

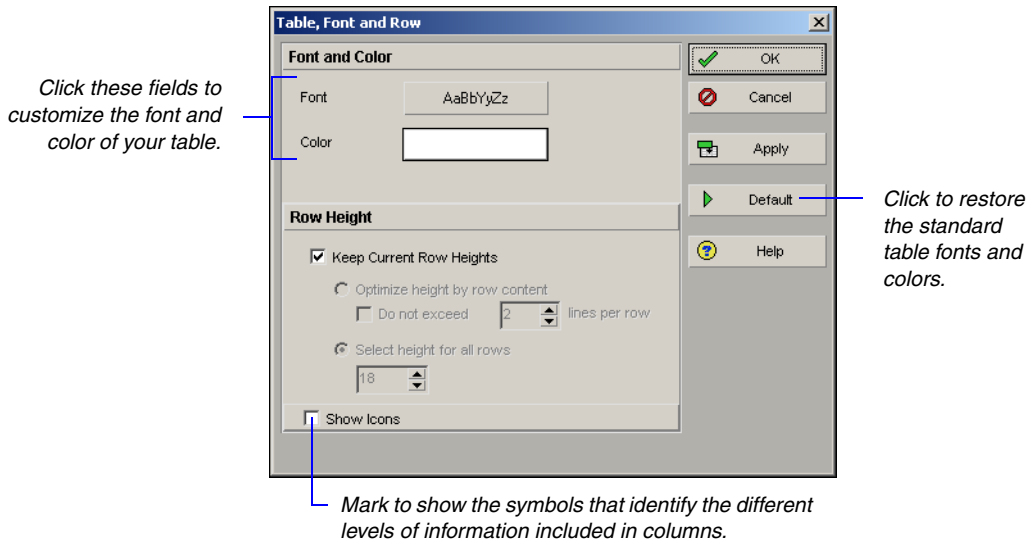


Copy column format from another layout In the Columns dialog box, click the Copy From button. Select the layout and click Open.

Edit column titles In the Available Options or Selected Options area of the Columns dialog box, select the column name you want to change. Click Edit Title. Type the new name, then specify the maximum number of characters for the column width. Choose how the title will be aligned in the column header.



Change column fonts, colors, and row height From the Activities window, click the Layout Options bar, then choose Table Font and Row. To change a font, click the Font button, then select a new font. To change a color, click the Color button, then select a new color.



You can also specify the height for rows:

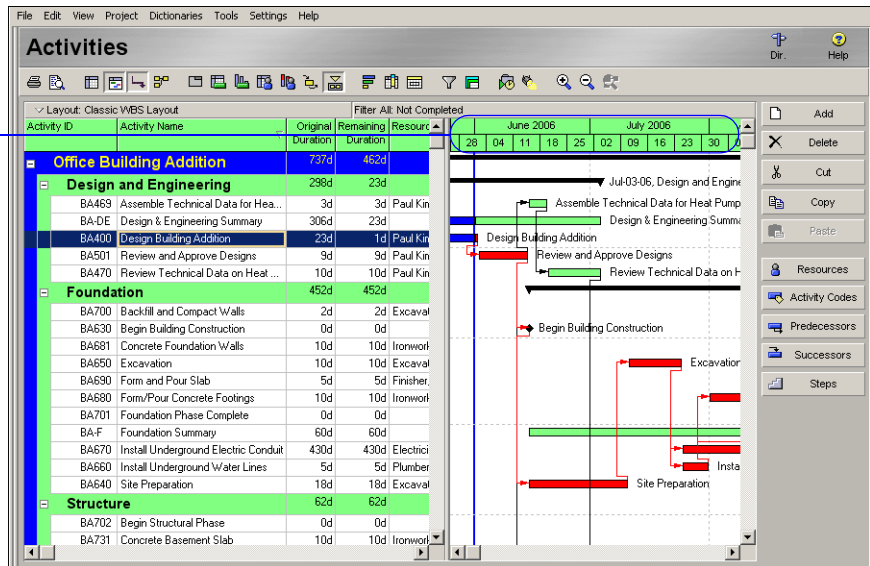
- The Keep Current Row Heights option enables you to retain all custom row heights manually set in the layout during your current user session.
- Clear the Keep Current Row Heights checkbox to automatically size each row based on cell content, font size, and column width or to specify a height for all rows in the layout. If you choose to Optimize Height by Row Content, you can set a value to limit the amount of lines per row that are automatically adjusted during text wrapping.

Adjusting the Timescale

Your timescale settings significantly affect your ability to manually plan future period resource distribution in the Resource Usage Spreadsheet. For details, refer to the "Future Period Bucket Planning FAQ" topic in the Help.

Gantt Charts, Activity and Resource Usage Spreadsheets, and Activity and Resource Usage Profiles display a timescale that starts just before your project begins and extends until your finish date. This timescale can be shown in different time units, such as years, quarters, and days. You can expand or condense the timescale view to control the size of the bars or columns that appear in the layout.

To show data for different months in the layout, click and drag a month's column.



To manually expand or condense the timescale, click and drag the date in a month. You can also right-click in the Bar area and choose Timescale to change the timescale settings.

Change the timescale of a profile, spreadsheet, or Gantt Chart In the Activities window, open a profile, spreadsheet, or Gantt Chart. Click the Layout Options bar and choose Timescale.

To select the date from which the timescale should start for the profile, spreadsheet, or Gantt Chart, in the Timescale Start field click the Browse button. Select the date intervals at which data are displayed. To change the font and color settings, click the font button to specify the font style, size, and color for the timescale and column headings. Click the Default Font button to change the timescale font and color to the default settings. Choose to display Primary or Ordinal Dates. If showing Primary Dates, choose the format in which to display date intervals: Calendar, Fiscal, or Week of Year. Select the start date for ordinal dates.



Timescale settings apply to both the top and bottom layouts.

Choose to show two or three time units on the timescale.

The Timescale dialog box contains the following settings:

- Timescale Format:** ☒ Two Lines, ☐ Three Lines
- Timescale Start:** PS
- Font & Color:** AaBbYyZz (Default Font)
- Date Format:**
 - ☒ Show Primary Dates
 - Type: Calendar
 - Date Interval: Month/Week
 - ☐ Show Ordinal Dates
 - Ordinal Start: PS
 - Ordinal Date Interval: (empty)

Average the timescale for Activity and Resource Spreadsheets You can display the timescale in the Activity and Resource Spreadsheet based on a calculated average. Mark the Base On Hours Per Timeperiod checkbox to To divide the timescale interval totals by automatic increments, based on the date interval selected. When you choose this option, the Divide Interval Totals By field displays the division increment based on the division increment specified in User Preferences for the corresponding date interval: 1h for Hour date interval, 2h for Shift date interval, 8h for Day date interval, 40h for week date interval, and so on.

Mark to specify the values you want to use to divide the timescale interval totals in the Divide Interval Totals By field.

Specify the unit of measure for the timescale intervals.

The Spreadsheet Options dialog box contains the following settings:

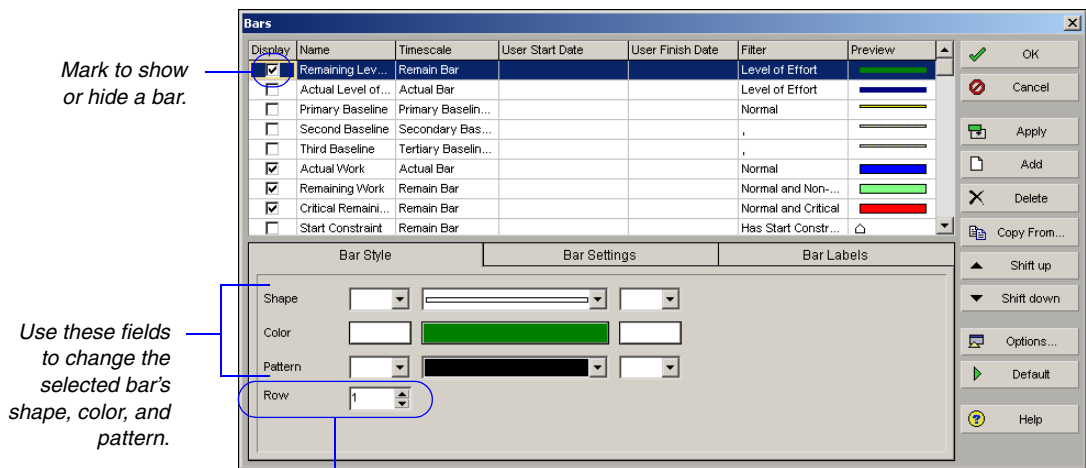
- ☒ Calculate Average
- Divide interval totals by:** 5
- ☐ Base on Hours per Time Period
- Unit of Measure:** pct

Formatting Gantt Charts

A bar in a Gantt Chart can represent many things, such as a milestone or early and late dates for an activity. To visually distinguish the different bars included in a Gantt Chart, specify unique colors, shapes, and patterns. You can display the Gantt Chart in the Activities window when reviewing specific projects.

Add and delete bars Click the Layout Options bar in the Activities window, then choose Bars. Click Add. Type a name for the new bar, then select the timespan the bar represents from the Timescale drop-down list. Double-click the Filter field, then mark each filter you want to apply. Click OK.

To delete a bar, select it in the Bars dialog box, then click Delete.



To combine bars, specify the same row number for each one. For example, to display the Actual Bar and Remaining Bar on the same line, specify Row 1 for each bar.

Change a Gantt Chart bar's timespan Click the Layout Options bar in the Activities window, then choose Bars. Select the Gantt Chart bar for which you want to change the timescale. Double-click the Timescale column, then select the new timescale.

To represent this value:	Select this bar:
Start Date to Finish Date	Current Bar
Percent Complete	% Complete Bar
Performance Percent Complete	Performance % Complete Bar
Planned Start Date to Planned Finish Date	Plan Bar
Actual Start Date to Actual Finish Date	Actual Bar
Remaining Start Date to Remaining Finish Date	Remain Bar
Project Baseline Planned Start Date to Project Baseline Planned Finish Date	Project Baseline Bar
Primary Baseline Planned Start Date to Primary Baseline Planned Finish Date	Primary Baseline Bar
Secondary Baseline Planned Start Date to Secondary Baseline Planned Finish Date	Secondary Baseline Bar
Tertiary Baseline Planned Start Date to Tertiary Baseline Planned Finish Date	Tertiary Baseline Bar
Early Start Date to Early Finish Date	Early Bar
Late Start Date to Late Finish Date	Late Bar
Remaining Finish Date to Late Finish Date	Float Bar
Remaining Finish Date to Late Finish Date with Remaining after the late date	Neg Float Bar
User start and end dates defined in the activity columns	User Dates

Apply Gantt Chart settings from another layout In the Bars dialog box (Activities window), click Copy From. Select the layout with the Gantt Chart settings you want to apply. To apply the selected layout's settings and close the dialog box, click Open.

Change a Gantt bar's style In the Bars dialog box, select the Gantt Chart bar you want to change. Click the Bar Style tab. To specify the shape, color, and pattern of the bar's Start Endpoint (first field), the height and thickness of the bar (second field), and the Finish Endpoint (end field), click each corresponding field and select a shape.

Change a Gantt bar's settings In the Bars dialog box (Activities window), select the Gantt bar you want to change. Click the Bar Settings tab. In the Grouping Band Settings section, mark the Show Bar When Collapsed checkbox to include the selected bar when you display summary level information. Mark Show Bar for Grouping Bands to display the selected bar as a summary bar only.

Select how to show activity nonwork time in the Bar Necking Settings section. Mark the Calendar Nonwork Time checkbox to show the activity calendar's nonwork time as a neck in the selected bar. Mark the Activity Nonwork Intervals checkbox to show the selected bar's nonwork time based on the activity's suspend/resume dates and other gaps of time, such as when using out-of-sequence progress.

Change a Gantt Chart bar's label You can choose to display a bar label, which acts like a title in describing the bar's purpose. In the Bars dialog box, select the Gantt Chart bar you want to change. Click the Bar Labels tab. To add a label, click Add. Double-click the Label field, then select the label value. To remove a label, select it in the Bar Labels tab, then click Delete.

To change the position of a label, select it, then double-click the Position column and select a new position.



You can use the Table, Font and Row dialog box to change the font for text that appears within layout rows, including Gantt Chart bar labels. To access this dialog box, click the Layout Options bar from the Activities window. Then choose Table Font and Row. To change the font, click the Font button, then select a new font.

Display notebook items in the Gantt Chart You can attach notebook items to the bars in a Gantt Chart. Notebook items might include anticipated problems, core requirements, entry criteria, exit criteria, metrics, scope, status, and other information. You can print notebook items with the layout, or publish them with the layout to the project Web site. In the Bars dialog box, click the Bar Labels tab. To add a notebook item, click Add. Select a position for the label, then select a notebook item from the drop-down list.



You can attach notebook items to Gantt Chart bars in the Bar Labels tab. Only one notebook item can be attached to each bar in the Gantt Chart.

Set the default size for notebook items in the Gantt Chart In the Bars dialog box, click Options. Click the General tab. Type or select a new width and height for the notebook items you want to display in the Gantt Chart.



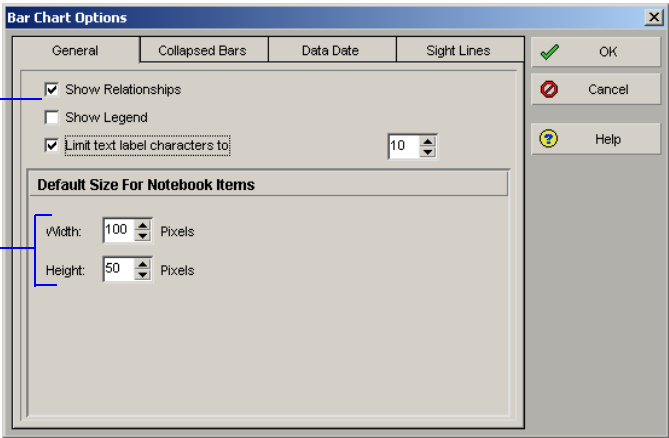
These settings are used only the first time a notebook item is displayed next to the bar. Once you resize the notebook item manually, the default settings are disregarded.

You can also click the Relationship Lines button in the toolbar to show and hide relationship lines.

Show or hide relationship lines in the Gantt Chart In the Bars dialog box, click Options. Click the General tab. Mark the Show Relationships checkbox to display relationship lines in the Gantt Chart, or clear the checkbox to hide relationship lines.

In the Activities view, mark to show relationships between activities.

These settings are used only the first time a notebook item is displayed next to the bar. Once you resize the notebook item manually, the default settings are disregarded.



Show or hide the Gantt Chart legend In the Bars dialog box, click Options. Click the General tab. Mark the Show Legend checkbox to display the Gantt Chart legend, or clear the checkbox to hide the Gantt Chart legend.

Set the text limit for bar labels in the Gantt Chart In the Bars dialog box, click Options. Click the General tab. To limit the amount of text characters that show on the bars, mark the Limit Text Label Characters To checkbox and then type or select the character limit at which you want to allow the text label to be displayed.

Change the background lines in the Gantt Chart In the Bars dialog box, click Options. Click the General tab. To show background horizontal lines before every Summary bar, mark the Show Major Lines checkbox. To show background horizontal lines before every X number of rows, mark the Show Minor Lines Every checkbox and then type or select the row interval at which you want the minor lines to be displayed.

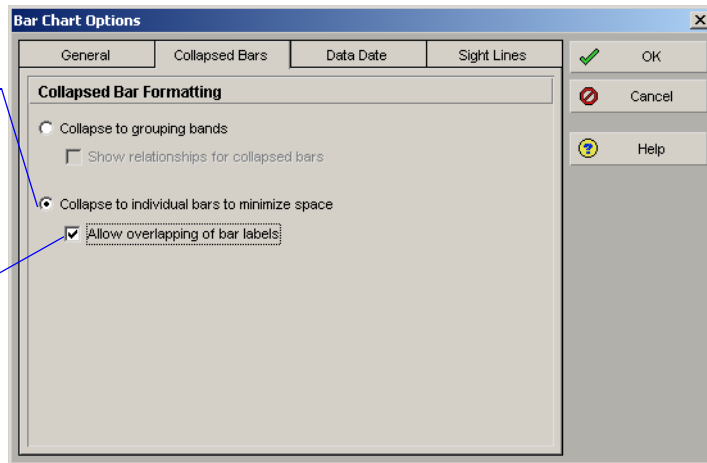
When showing collapsed bars, only Notebook Items that contain all text will display.

Customize collapsed bars in the Gantt Chart You can format collapsed bars to display as a single bar or as individual bars in the Gantt Chart in the Activities window. In the Bars dialog box, click Options. Click the Collapsed Bars tab. Choose the Collapse to Grouping Bands option to display the activity bars as a single bar. If the Show Relationships checkbox in the General tab is marked, you can mark the Show Relationships for Collapsed Bars to show relationship lines from the collapsed bar to other collapsed and individual bars. Click OK to return to the Bars dialog box.

Select the Bar Settings tab. In the Show Bar Necking For section, mark the Calendar Nonwork Time checkbox to show nonwork time from the activity's calendar as a neck, or thin bar, on the collapsed bar. Mark the Activity Nonwork Intervals checkbox to show a neck, or thin bar, for activity and/or calendar nonwork time, including suspend/resume dates.

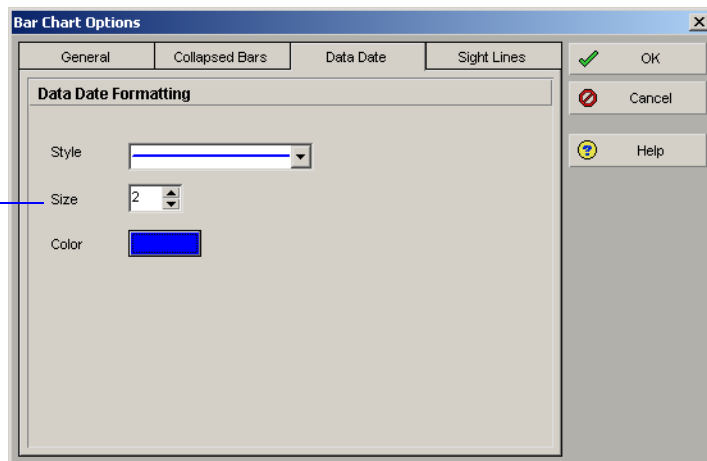
Choose to place each individual bar as close to the grouping band as possible, under its timescale date.

Mark to allow bar labels and bars to overlap when minimizing space in the Gantt Chart.



Customize the data date line You can change the style, size, and color of the data date line to more easily distinguish it on-screen and in printouts. In the Bars dialog box, click Options. Click the Data Date tab. To change the style of the data date line, select a style from the drop down list. The line can be solid, or contain a series of dashes and dots. To change the thickness of your data date line, select a value between 1 and 10 pixels in the Size field. This option only applies to the solid line style. Click in the Color field to select a color from the color palette.

If your line style is something other than the solid line and you increase the size to a number greater than one, the bar style switches to a solid line.



Change the background lines in the Gantt Chart In the Bars dialog box, click Options. Click the Sight Lines tab. To show background horizontal lines before every Summary bar, mark the Show Major Lines checkbox in the Horizontal Lines section and then select a line style from the drop-down list. To show background horizontal lines before every X number of rows, mark the Show Minor Lines Every checkbox and then type or select the row interval at which you want to the minor lines to be displayed. Next, select a line style from the drop-down list.

To show background major vertical lines for every X amount of time, mark the Show Major Lines checkbox in the Vertical Lines section, and then type or select the number of intervals and time unit to display the major vertical lines. Next, select a line style for the vertical lines from the drop down list. To show background minor vertical lines before every X amount of time, mark the Show Minor Lines Every checkbox and then type or select the number of intervals and time unit to display the minor vertical lines. Next, select a line style from the drop-down list.

Bar Chart Options

General Collapsed Bars Data Date **Sight Lines**

Horizontal Lines

☐ Show Major Lines
Style

☒ Show Minor Lines every 5 Rows
Style

Vertical Lines

☒ Show Major Lines every 1 Quarter
Style

☒ Show Minor Lines every 1 Month
Style

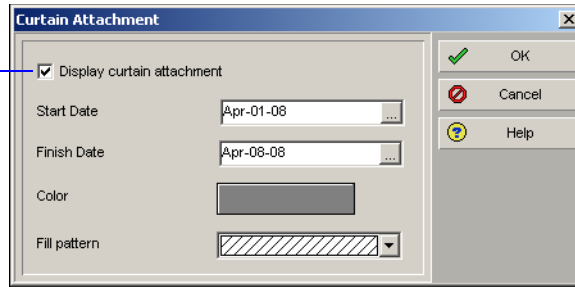
OK Cancel Help

Display the sight lines based on the selected time unit.

Highlight a timeperiod in a Gantt Chart Use the Curtain Attachment dialog box to highlight a specific timeperiod in a Gantt Chart. In the Activities window, choose View, Attachments, Curtain, Add Curtain. Mark the Display Curtain Attachment checkbox. Click the Browse buttons to select the start and finish dates. Click Delete to remove the curtain from the layout. In the layout, to manually shift the curtain, move the mouse cursor over the curtain and click-and-drag it to the new dates. To change the start and finish dates of the display, click-and-drag the sides of the curtain to the new dates.

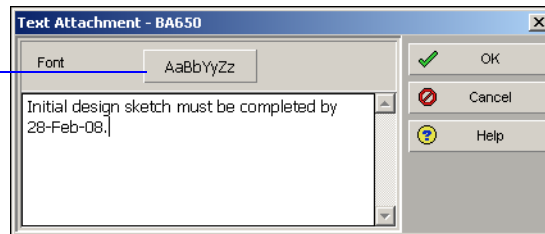
To hide all curtains displayed in the layout, choose View, Attachments, Curtain, Hide All. To display curtains that may be hidden in the layout, choose View, Attachments, Curtain, Show All. Double-click on the curtain to edit the curtain date range, color and fill pattern.

Clear to remove the curtain attachment from the Gantt Chart.



Add text to a Gantt Chart Use the Text Attachment dialog box to create formatted text and insert it in a Gantt Chart. The text displays in the foreground of the Gantt Chart, whenever you click in the layout. In the Activities window, select the activity to which you want to add text. Click the Layout Options bar and choose Attachments, Text.

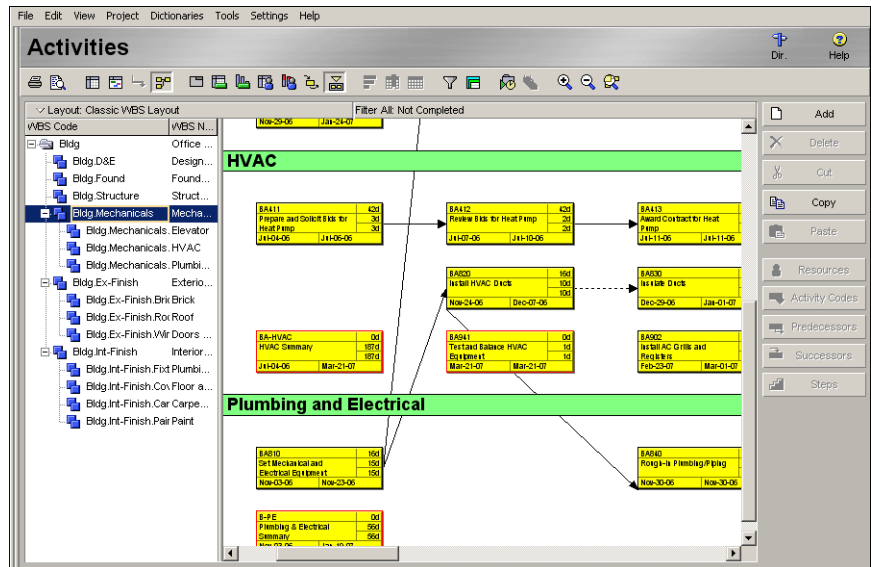
Click to select the text's font and style.



Modify and remove text in a Gantt Chart In the Gantt Chart, double-click the text to select it, then modify it in the Text Attachment dialog box. To manually shift the text attachment, move the mouse cursor over the text, click to select the attachment, and drag it to the new location. To remove a text attachment in the Gantt Chart, click the text attachment you want to remove, then click Delete.

Formatting Activity Network Layouts

The Activity Network layout displays a project as a diagram of activities and relationships, according to the work breakdown structure (WBS). You can control nearly every aspect of the Activity Network, including the appearance of activities, the contents of activity boxes, and the spacing between activities.



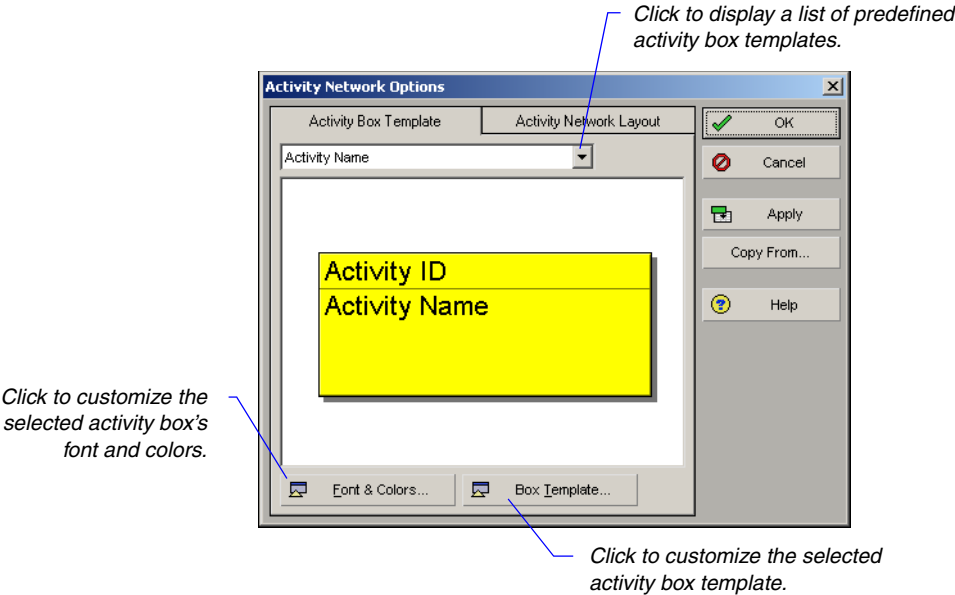
You can use an Activity Network layout to

- easily view relationships among activities and the flow of work through a project.
- examine and edit an activity and its predecessors and successors.
- focus on the driving relationship path.

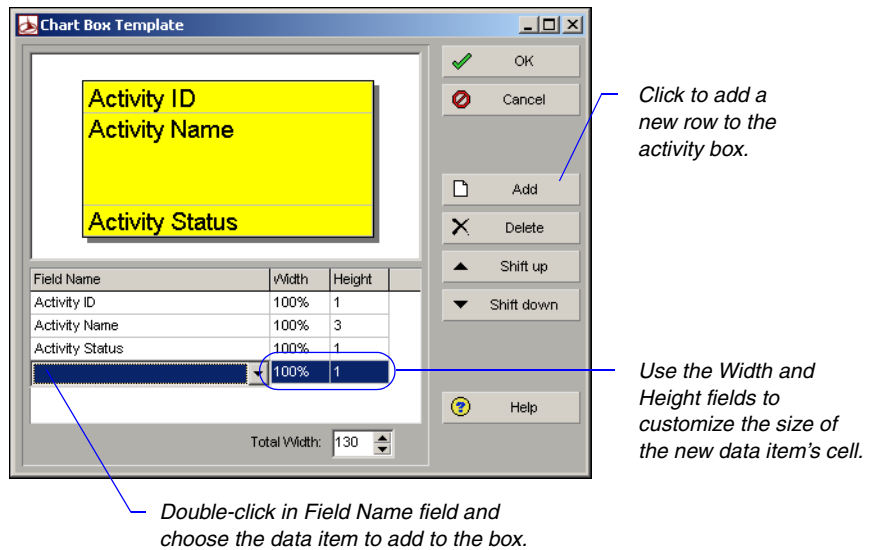
An Activity Network box visually represents a project activity. When customizing boxes, you can specify particular fonts and colors, set spacing and positioning, and copy styles from another layout.

Activity ID		Total Float	
A114390		26.25d	
Activity Name	3-D CAD Modeling	20.00d	Original Duration
		20.00d	Remaining Duration
17-Jul-00		11-Aug-00	
Early Start		Early Finish	

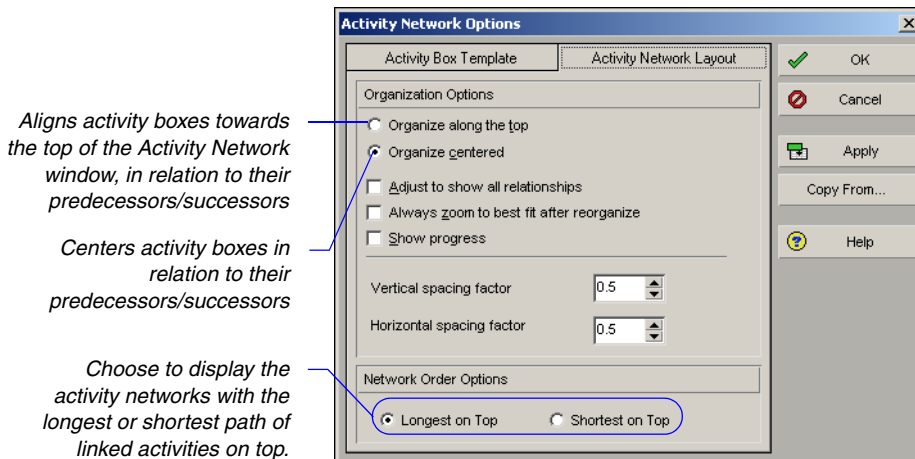
Choose an Activity Network box template With an Activity Network layout displayed in the Activities window, click the Layout Options bar, then choose Activity Network, Activity Network Options. Click the Activity Box Template tab.



Customize an Activity Network box template You can use one of the predefined activity box templates, or customize your own. With an Activity Network layout displayed in the Activities window, click the Layout Options bar, then choose Activity Network, Activity Network Options. Click the Activity Box Template tab. From the drop-down list, select a template that is similar to the one you want to create, then click Box Template. You can add rows for inserting new fields and determine how high and wide the field cells should occupy within the activity box.



Customize the Activity Network layout With an Activity Network layout displayed in the Activities window, click the Layout Options bar, then choose Activity Network, Activity Network Options. Click the Activity Network Layout tab.



When an activity's predecessor/successor is not immediately adjacent to its activity in the Activity Network, the relationship line may not be visible because of other activity boxes. To reposition activity boxes so that all relationship lines are visible, mark the Adjust to Show All Relationships checkbox.

To have the application automatically determine the view that best shows all activity boxes in the layout after you have reorganized it, mark the Always Zoom to Best Fit After Reorganize checkbox.

To have the application indicate progress by drawing an X on a completed activity or a slash on an activity in progress, mark the Show Progress checkbox.

To change the amount of vertical space between activity boxes in the Activity Network, specify a spacing factor that is a percentage of the height of activity boxes in the Activity Network table.

To change the horizontal space between activity boxes in the Activity Network, specify a horizontal spacing factor that is a percentage of the width of activity boxes in the Activity Network table.

Copy from another Activity Network layout With an Activity Network layout displayed in the Activities window, click the Layout Options bar, then choose Activity Network, Activity Network Options. Click Copy From. Select the Activity Network layout whose attributes you want to copy. Click Open.



In the Activity Network, when you select a data item for grouping, the hierarchy on the left side of the window contains the WBS so you can filter activities according to the hierarchy.

Save an Activity Network layout You can save the Activity Network layout as an .ANP file to use later or email to another project user. To save an Activity Network layout, click the Layout Options bar, then choose Activity Network, Save Network Positions.

Open a saved Activity Network layout To open the saved layout, click the Layout Options bar, then choose Activity Network, Open Network Positions. Select the file and click Open.

Format resource data settings Display the Resource Usage Profile in the bottom pane of the Activities window. Click the Layout Options bar, choose Show on Bottom, Resource Usage Profile. Next, click the Display Options bar for the Resource Usage Profile, and choose Resource Usage Profile Options. Click the Data tab, then specify the type of data to display in the profile and the way it will be represented. You can also right-click in the Resource Usage Profile area and choose Resource Usage Profile Options.

Choose the type of information to display in the profile.

Mark the checkbox for each type of cost/unit value to display. Determine whether you want to show these data by date (as a bar) or as a curve representing cumulative value. Select the color for each bar/curve.

Mark to show resource limits, overallocation, and overtime.

	By Date	Cumulative	Color
Budgeted	<input type="checkbox"/>	<input type="checkbox"/>	
Actual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Remaining Early	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Remaining Late	<input type="checkbox"/>	<input type="checkbox"/>	

	Early	Late
Total Remaining		

For detailed instructions on customizing Activity and Resource Usage Profiles, refer to the Help.

Format the resource data settings for the stacked histogram Display the Resource Usage Profile in the bottom pane of the Activities window. Click the Layout Options bar, choose Show on Bottom, Resource Usage Profile. Next, click the Display Options bar and choose Stacked Histogram. Then click the Display Options bar and choose Resource Usage Profile Options. Click the Data tab, then specify the type of data to display in the profile and the way it will be represented. You can also right-click in the Resource Usage Profile area and choose Resource Usage Profile Options.

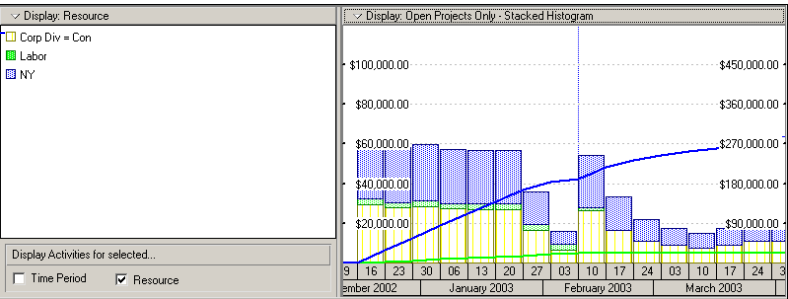
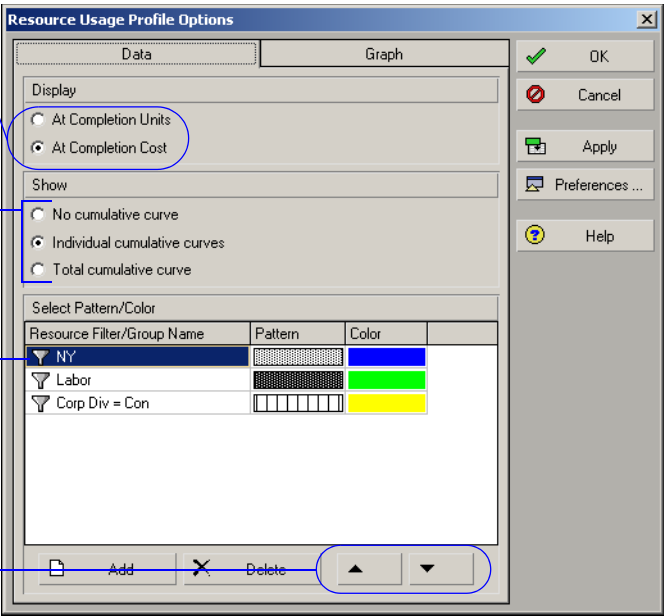
Choose the type of information to display in the profile.

Choose to show one total curve or individual curves representing cumulative value in the color selected for each resource filter.

Add a filter to select the resources to include in the profile. Select a pattern and color for each resource filter.

Use the arrow keys to arrange the order you want to display the resource filters in the stacked histogram.

In the profile, the legend displays the resource filter/group name as specified in the options.



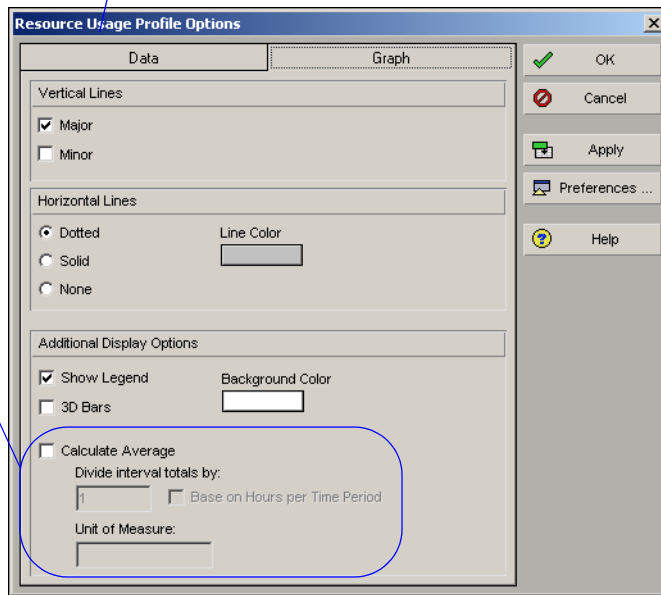
For detailed instructions on customizing Stacked Histograms, refer to



Double-click on the individual bar to display the value for each resource group for the selected time period.

Format resource graph settings Click the Graph tab. Mark the checkbox next to each time unit (major or minor) for which you want to display a vertical line in the background. Choose the type of horizontal line you want to display for each number along the side of the profile, then select the line color. If the option is available, mark the Show Legend checkbox to display a legend for the profile's bars. To display the profile's bars in 3D, mark the 3D Bars checkbox. To change the profile's background color, click Background Color and select a new color. To divide the timescale into increments you specify, mark the Calculate Average checkbox. Specify the Unit of Measure for the timescale increments.

Options when Stacked Histogram is not selected for the Resource Usage Profile.

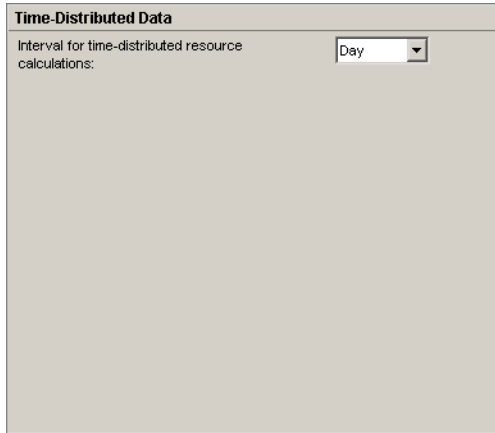


Specify the value the application will use to divide the timescale interval totals.

Or, display the division increment based on the increment specified in the User Preferences for the corresponding date interval.

For more information about setting user preferences, see “Setting User Preferences” on page 51.

Set user preferences for resource analysis You can also specify the interval at which live resource and cost calculations are performed for Resource Usage Profiles and Spreadsheet displays. Choose Settings, User Preferences, then click the Resource Analysis tab.



If you manually plan future period resource allocation in the Resource Usage Spreadsheet, this setting determines the minimum timescale interval in which you can enter a value.

Format activity data settings Display the Activity Usage Profile in the bottom pane of the Activities window. Click the Layout Options bar, Show on Bottom, Activity Usage Profile. Click the Display Options bar for the Activity Usage Profile, choose Activity Usage Profile Options. Click the Data tab. Mark the checkbox next to each type of filter you want to use to select the data included in the profile. Then, select the pattern that will be used to display each data type. Mark the Total checkbox to display the total cost. Select more than one filter to see a combination of values in the Activity Usage Profile.

Choose the type of information to display in the profile.

Mark the checkbox for each type of cost/unit value to display. Determine whether you want to show these data by date (as a bar) or as a curve representing the cumulative value. Select the color for each bar/curve.

Mark the checkbox for each type of cumulative curve to display. Select the color for each curve.

Data		Graph	
Display		Filter for Bars/Curves	
<input type="radio"/> Cost		<input checked="" type="checkbox"/> Labor	
<input checked="" type="radio"/> Units		<input type="checkbox"/> Nonlabor	
		<input type="checkbox"/> Material	
		<input type="checkbox"/> Expenses	
		<input type="checkbox"/> Total	
Show Bars/Curves			
	By Date	Cumulative	Color
Baseline	<input type="checkbox"/>	<input type="checkbox"/>	
Budgeted	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Actual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Remaining	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Show Earned Value Curves			
Planned Value Labor Units	<input type="checkbox"/>		
Earned Value Labor Units	<input type="checkbox"/>		
Estimate at Completion - Labor Units	<input type="checkbox"/>		

Format activity graph settings Click the Graph tab. Mark the checkbox next to each time unit (major or minor) for which you want to display a vertical line in the background. Mark the checkbox next to the type of horizontal line you want to display for each number along the side of the profile. Then select the line color. To display a legend for the profile's bars, mark the Show Legend checkbox. To display the profile's bars in 3D, mark the 3D Bars checkbox. To change the profile's background color, click Background Color and select a new color. To display the timescale in increments you specify, mark the Calculate Average checkbox. Specify the Unit of Measure for the timescale increments.

Specify the value the application will use to divide the timescale interval totals.

Or, display the division increment based on the increment specified in the User Preferences for the corresponding date interval.

Activity Usage Profile Options

Data Graph

Vertical Lines

☒ Major

☐ Minor

Horizontal Lines

☒ Dotted ☐ Solid ☐ None

Line Color

Additional Display Options

☒ Show Legend ☐ 3D Bars

Background Color

☒ Calculate Average

Divide interval totals by:

1 ☐ Base on Hours per Time Period

Unit of Measure:

OK Cancel Apply Help

Customizing Reports

In this chapter

[Reports Overview](#)

[Opening Reports](#)

[Creating and Modifying Reports](#)

[Using Report Groups](#)

[Setting Up Batch Reports](#)

Reporting is a key part of monitoring a project and communicating its progress to team members and executive management. This chapter discusses how to open standard reports, create new reports, and modify existing reports. It also describes how you can organize reports in hierarchical groups.

Refer to [“Printing Layouts and Reports”](#) on page 301 for instructions on setting page and print options, as well as previewing and printing layouts and reports.

Reports Overview

You can create new reports, or modify existing ones, using the Report Wizard. A large library of standard reports is provided for your use.

The Report Wizard enables you to create a wide variety of complex reports very rapidly using a wizard-style interface. You can also use the wizard to modify reports created using the wizard.

After you create a report, you can preview, print, or save it to a text or HTML file. If you save a report to a file, you can import the data to a spreadsheet program, e-mail the report, and/or archive the report.

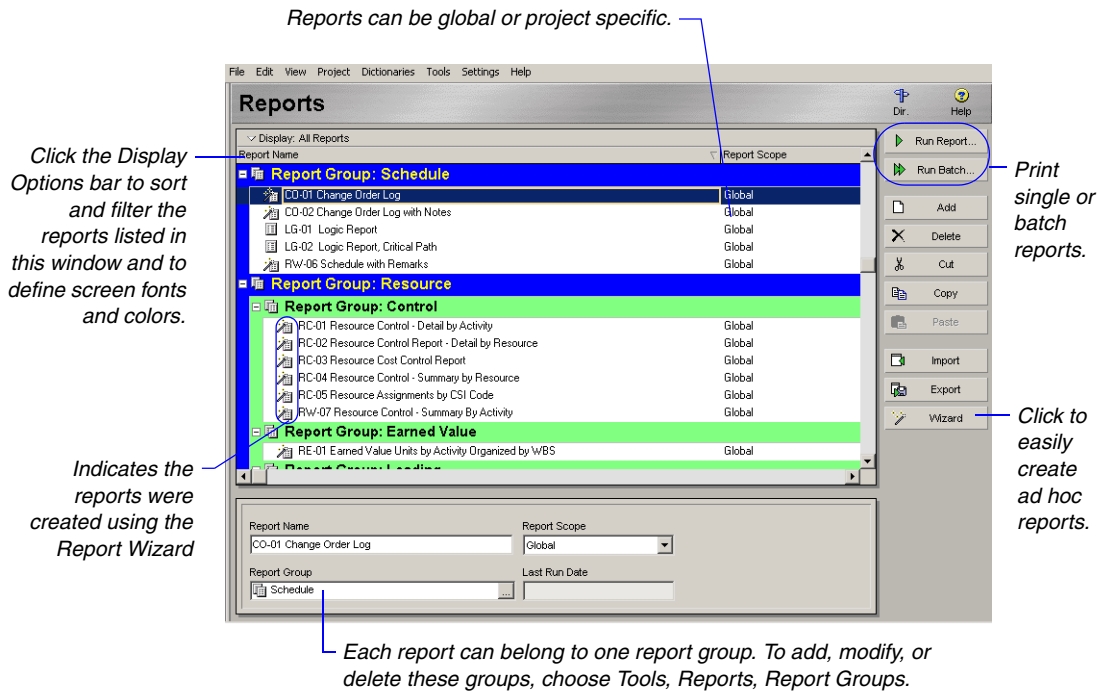


Primavera Contractor does not support the import of reports containing subject areas or fields that are not available in Primavera Contractor. When you attempt to import a report containing unsupported subject areas or fields, you will receive an error message stating that the report contains invalid data and the import is aborted.

Opening Reports

Use the Reports window to create, edit, run, and delete global and project reports. You can also use the Reports window to export and import reports to and from other installations of Primavera Contractor or Primavera's Project Management module.

Open the Reports window Choose Tools, Reports, Reports.



Creating and Modifying Reports

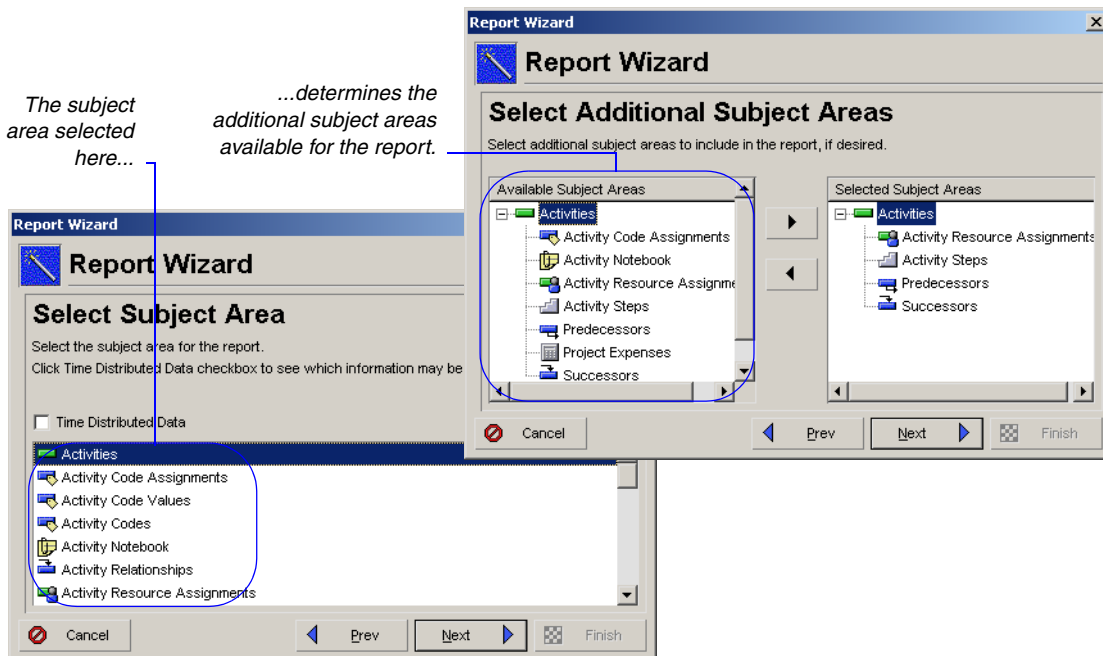
For additional information about creating and modifying reports using the Report Wizard, refer to the Help.

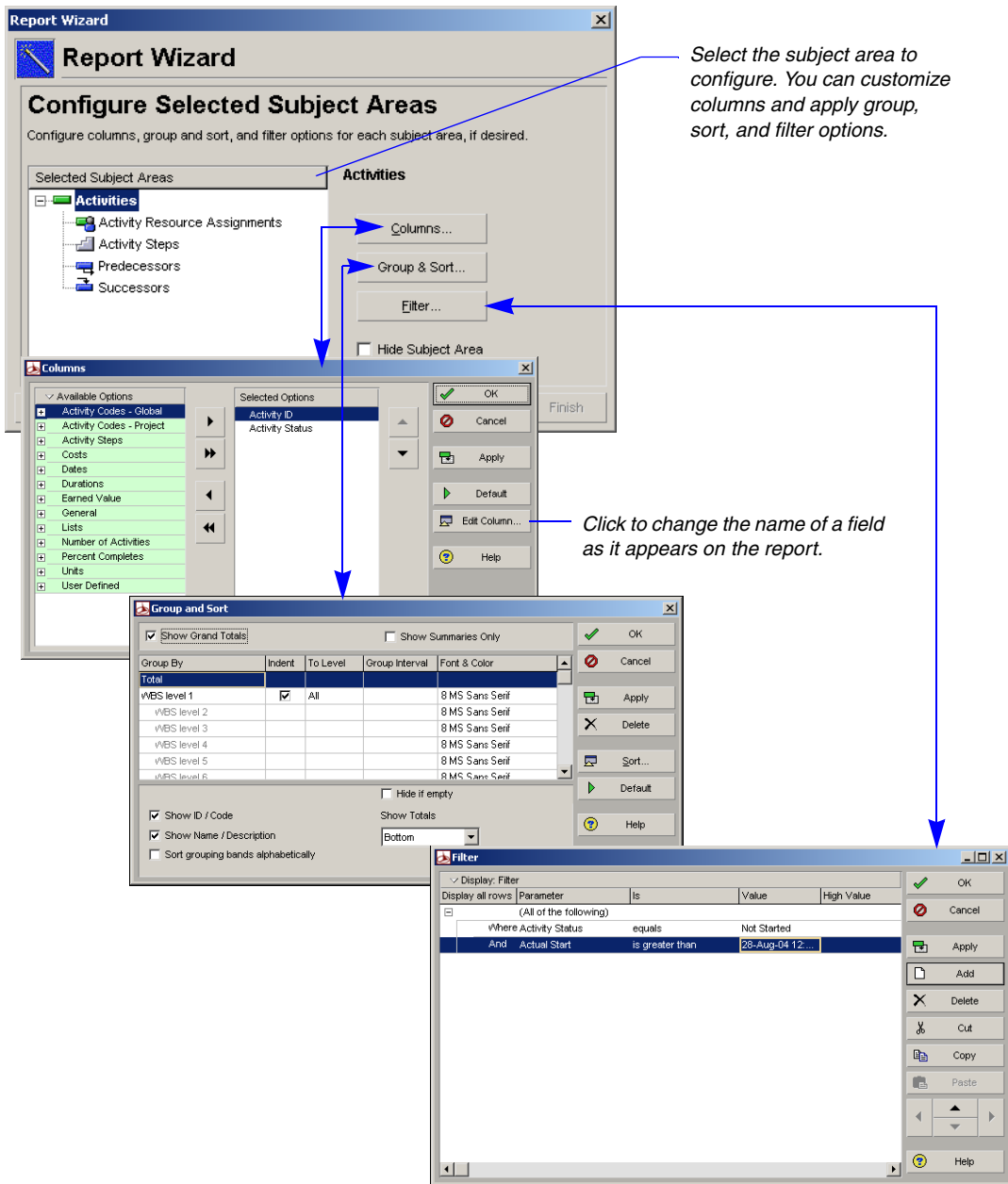
You can create and modify reports using the Report Wizard. The Report Wizard quickly guides you through creating ad hoc reports and enables you to group, sort, and filter the data.



To include a new report in a particular report group, select the report group in the Reports window before you start the wizard. When you finish creating the report, it will be saved in the selected report group.

Create a report with the Report Wizard Choose Tools, Report Wizard, and follow the prompts. Using the Wizard, you can select multiple subject areas for the report. For each selected subject area you can customize columns and apply group, sort, and filter options. When you are finished defining the report parameters, click Finish.





Modify a report You can modify reports using the Report Wizard. In the Reports window, select the name of the report you want to modify. To use the wizard, click the Wizard button.

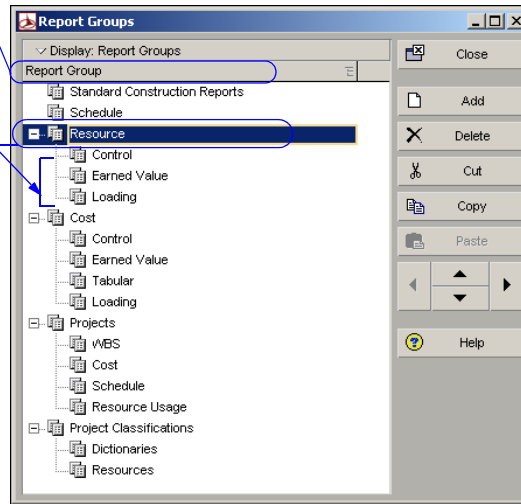
Using Report Groups

Report groups are a hierarchical way to organize global and project reports. Each report can belong to one report group.

Add a report group Choose Tools, Reports, Report Groups. Click Add, then type the name of the new report group.

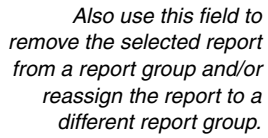
Click to list report groups in ascending or descending order or as a hierarchy.

Report groups can have multiple levels.



Click to move groups up and down, and to indent/outdent to denote hierarchy level.

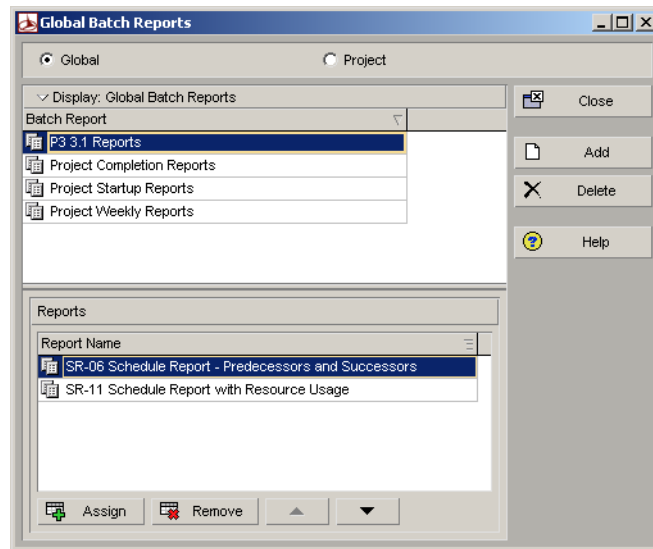
Assign a report to a report group Choose Tools, Reports, Reports. Select the report you want to add to a report group, then click the Browse button in the Report Group field at the bottom of the Reports window. Select the group to which you want to add the report, then click Select.



Setting Up Batch Reports

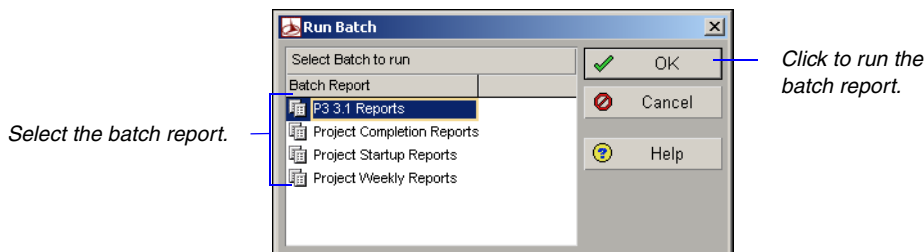
Batch groups allow you to run a series of reports at one time. A report can have only one batch group assignment.

Create a batch report group Choose Tools, Reports, Batch Reports. Choose Global or Project. Click Add, then type the name of the new group. Click Close.



Add reports to a batch report group Choose Tools, Reports, Batch Reports. Select the batch report group, then click Assign. Select the reports you want to assign to this group and click the Assign button. When you are finished assigning reports, click the Close button.

Run a batch report From the Reports window, click Run Batch, select the batch you want to print, then click OK.



Printing Layouts and Reports

In this chapter

Defining Page Settings

Previewing Layouts and Reports

Printing Layouts and Reports

Printing layouts and reports for distribution is an effective way to communicate project data. This chapter discusses how to define page settings (such as page orientation, margins, and header/footer settings), preview layouts/reports, and print them (including how to convert them to Web reports).

Defining Page Settings


You can customize printed layouts and reports in a number of ways. For example, customize header and footer settings and change margins for the printed page.


Define page settings From the Print Preview window, click the Page Setup button. Click the Page tab to set orientation, scaling, and paper size.

Portrait orientation prints vertically on the page; landscape orientation prints horizontally on the page.

To increase or reduce the size of the printed layout/report, specify a percentage in the Adjust To field. To increase or reduce the number of pages to be printed horizontally and vertically, choose Fit to, then specify a value in the Pages Wide field.

Orientation

 Portrait

 Landscape

Scaling

☐ Adjust to:

100

% normal size

☒ Fit to:

0

page(s) wide by

0

tall

☐ Fit timescale to:

1

page(s) wide

Paper Size

Paper size:

Letter

Width:

11

Height:

8.5

Use Print Preview to see the number of pages the layout will span. Choose this option to compress spacing by specifying the number of pages. This option is available for layouts only.

Set page margins Click the Margins tab, then specify the values for each margin.

Add headers and footers You can customize the header and footer. You can also insert a graphic, such as your company logo, in the header or footer. Click the Header or Footer tab.

Type or select the amount of sections to divide the header or footer into.

Select when you want to print the header/footer.

Select the height of the header/footer.

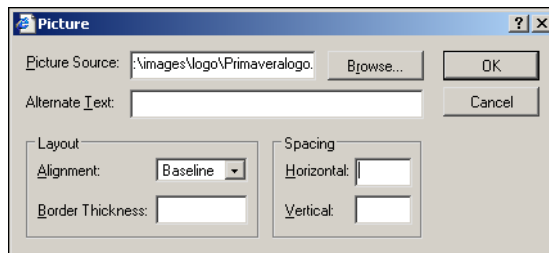
Click to add a logo to the selected section.

Click to change the font, then specify font settings and click OK.

In the Text/Logo section, add text to the header or footer by typing directly in the selected tab. Do not modify any text between square brackets [].

In the Define Header/Footer section, mark the Show Section Divider Lines checkbox to display lines between each section of the header or footer. Define the values you want to insert in the header or footer. Choose Text/Logo to add text variables or a logo, such as your company logo. Choose Revision Box to allow space in the header/footer to be able to enter dates, approvals, and revision information. If displaying the Gantt Chart in your layout, you can choose to display the Gantt Chart Legend in the header or footer.

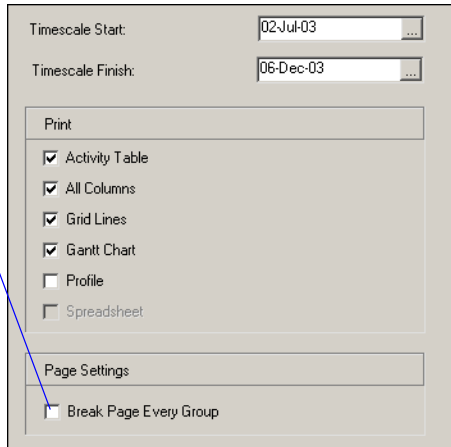
Add a logo to a header or footer Click the Header or Footer tab, in the Define header/footer section, choose Text/Logo for the selected section. In the Add Text section, click the Picture button. Click the Browse button in the Picture dialog box, then select a filename and click Open. Specify the layout and spacing options and click OK. The logo image is displayed in the Header or Footer Sample area.



If you change the report page setup from the Print Preview dialog box, the changes will be applied only to the current printing.

Specify layout options Use the Options tab to select the layout areas and timeframe to include in the printed layout.

Mark this checkbox if you want each group printed on its own page. For example, you may want to group your activities by resource and distribute a printout to each individual.



Timescale Start: 02-Jul-03 ...

Timescale Finish: 06-Dec-03 ...

Print

- ☒ Activity Table
- ☒ All Columns
- ☒ Grid Lines
- ☒ Gantt Chart
- ☐ Profile
- ☐ Spreadsheet

Page Settings

- ☐ Break Page Every Group



The Options tab contains different options when printing reports.

Previewing Layouts and Reports

The Print Preview option enables you to review the layout or report before sending it to a printer.

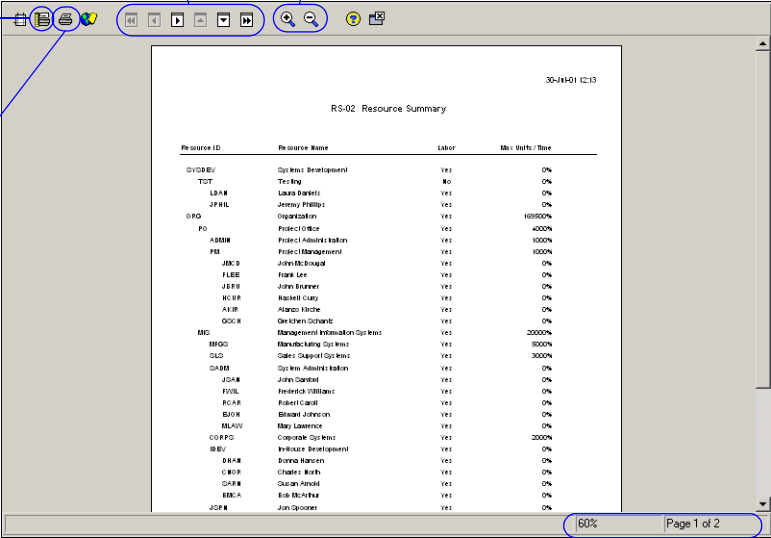
Open Print Preview To preview a layout, display the layout in the Activities window, then choose File, Print Preview. To preview a report, in the Reports window, select the report you want to preview, then click Run Report. Choose Print Preview, then click OK.

Use these buttons to move to the beginning of the layout/report, scroll through it one page at a time, or move to the end of the layout/report.

Click to zoom in and out of the displayed page.

Click to select the default printer, paper size, and orientation.

When you are satisfied with the look of the layout/report, click to print it.



The status bar indicates the size at which the layout/report is currently magnified, the number of the page that is currently displayed, and the total number of pages in the layout/report.

As you move your mouse over the Print Preview window, the pointer changes to a magnifying glass. Click the Zoom In button in the toolbar to zoom in on details and the Zoom Out button to zoom back out.

Printing Layouts and Reports

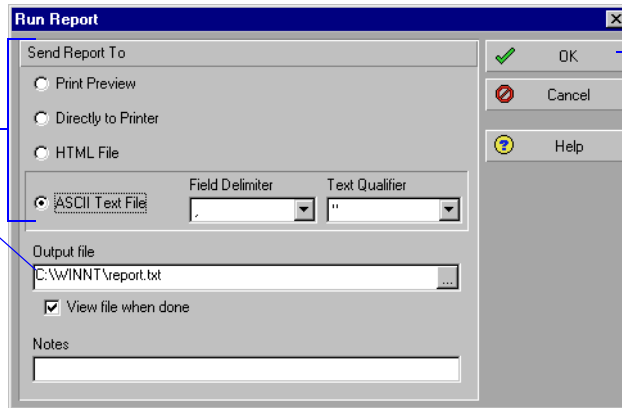
You can print layouts and reports by sending them directly to a printer, publishing them as HTML files, or printing them to ASCII text files (reports only).

Print a layout To send a layout directly to your printer, open the layout you want to print, then choose File, Print. You can also click the Print button from the Print Preview window.

Print a report From the Reports window, select the name of the report you want to print. Click Run Report.

1 Select the destination for the report. For an ASCII text file, you can also specify the character to use to separate fields and text.

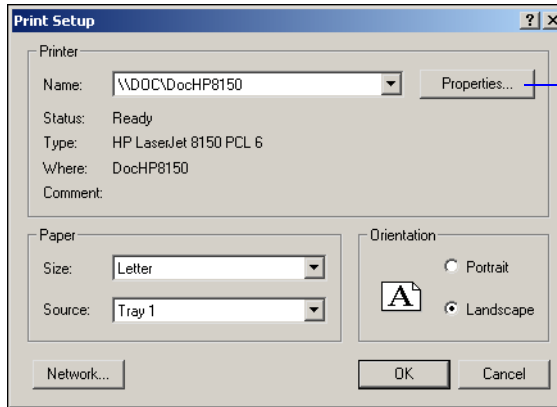
2 For HTML and ASCII files, specify a name and location for the saved file.



3 Click to run the report.

Selecting a Printer

You can select a printer, other than the current default for the operating system, to print your layouts and reports. The printer settings will remain the same until you log out of the application. Choose, File, Print Setup.



Click to adjust the features and settings provided by the selected printer.

Importing, Exporting, and Linking Data

In this part:

Transferring Primavera Data (XER and XML)

Transferring Data using Microsoft Project Files

Transferring Data Between P3 and Primavera Contractor

Linking Primavera Contractor with Primavera Contract Manager

Transferring Data to Primavera Contractor 5.0 Users

Transferring Data using Microsoft Excel (XLS) Files

This part describes the process of exporting Primavera Contractor data to multiple formats for use in other applications. “[Transferring Primavera Data \(XER and XML\)](#)” describes how to use XER, Primavera’s proprietary exchange format, to back up project and resource data or exchange data between Primavera databases. It also explains how to use Primavera XML to backup and exchange projects between Contractor and Project Management databases.

To transfer data between Primavera Contractor and Microsoft Project (or other third-party applications that support the MPX format), read “[Transferring Data using Microsoft Project Files](#).” To convert Primavera Project Planner (P3) 3.x projects to Primavera Contractor format, or vice versa, read “[Transferring Data Between P3 and Primavera Contractor](#).” To link Primavera Contractor projects with Primavera Contract Manager projects and update Contractor projects with Contract Manager data, read “[Linking Primavera Contractor with Primavera Contract Manager](#).” To export data for use with Primavera Contractor 5.0, refer to “[Transferring Data to Primavera Contractor 5.0 Users](#).” To transfer data between Primavera Contractor and Microsoft Excel, read “[Transferring Data using Microsoft Excel \(XLS\) Files](#).”

Transferring Primavera Data (XER and XML)

In this chapter

Exporting Projects

Exporting Resources to XER Files

Importing Projects

Importing Resources from XER Files

Importing and Exporting Projects Using E-mail

Differences Between XER and XML Formats

Data can be transferred from Primavera Contractor to other Primavera Contractor and Project Management module users, and vice versa, by exporting and importing XER files (Primavera proprietary exchange format). Project data can also be exchanged between Contractor and Project Management databases in XML format. This chapter describes how to use the Export and Import wizards to share project and resource information. This chapter also describes how to import and export XER files directly through your e-mail system.

Exporting Projects

For more information about importing XER and XML files, see “[Importing Projects](#)” on page 319.

For information about the tables and fields that are converted in XER format, see the XERPROJECTS.PDF file located on the installation CD.

Project data can be transferred from Primavera Contractor as XER files (Primavera proprietary exchange format) or XML files, and used with any other Primavera Contractor 6.1 or Project Management module installation, regardless of the database type on which it runs. Use the Export wizard to export projects to XER or XML files. You may want to use the wizard to quickly back up a project. The Export wizard guides you through the steps for exporting projects.



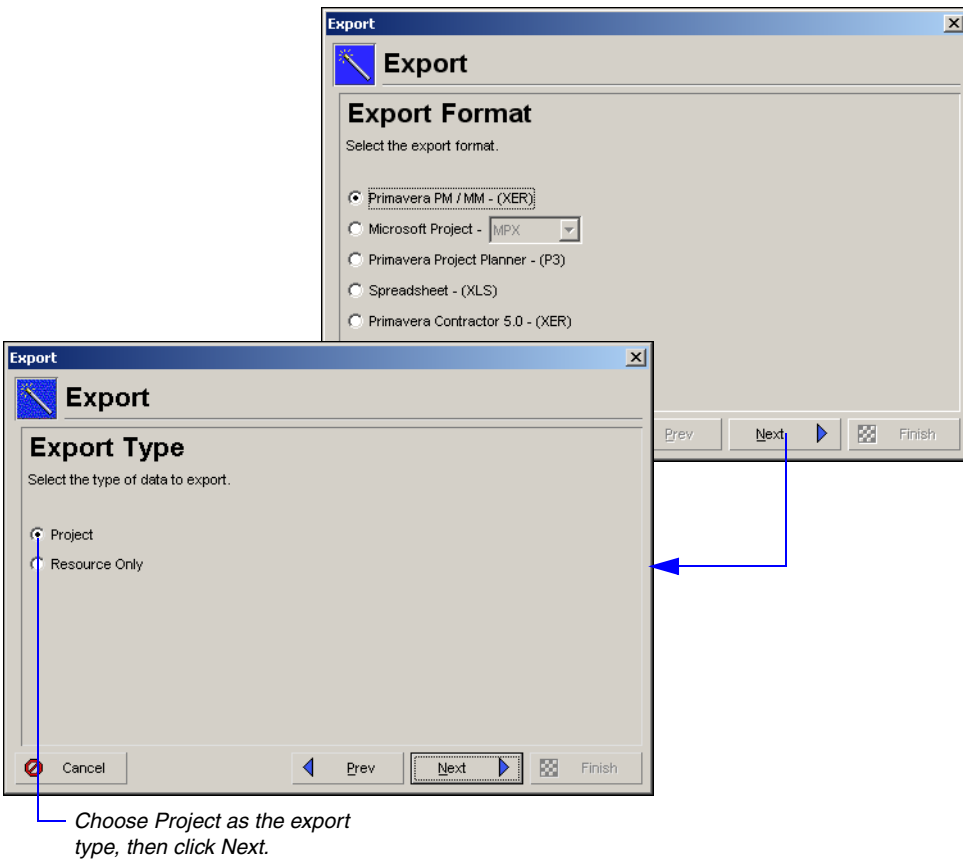
If you want to make backup copies of a project, export the project as an XER file, then store the exported file. The XER format supports all project data, while the XML format does not; for example, XML does not support future buckets data. However, you should not use the Export wizard to back up your entire database.



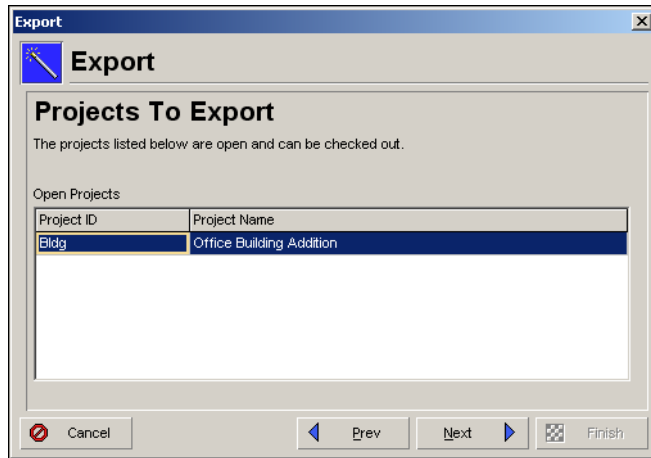
The following export instructions apply only to XER files intended for use with Primavera Contractor 6.1 or the Project Management module. To export projects to an XER format that can be imported to Primavera Contractor 5.0, refer to “[Transferring Data to Primavera Contractor 5.0 Users](#)” on page 399.

Exporting Projects in XER Format

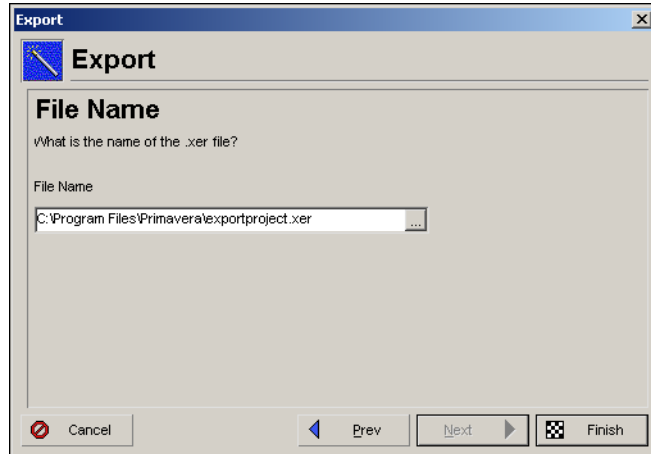
Select export type and project Open the project that you want to export. Choose File, Export. Choose Primavera PM/MM (XER), then click Next.



Confirm that the open project is the project you want to export, then click Next.

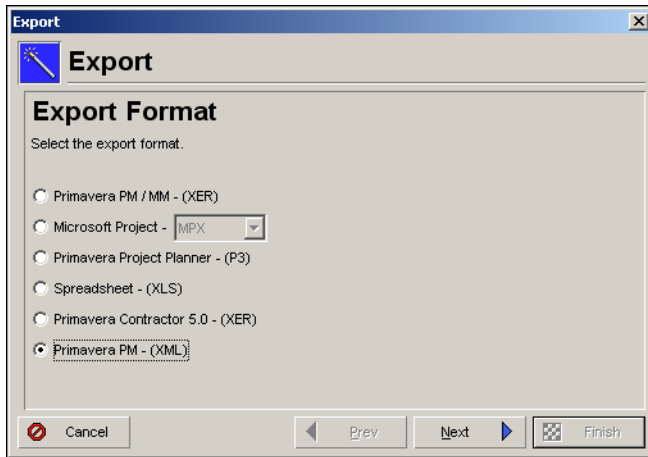


Specify filename and location Type a name for the XER file. Specify the location where the file will be stored, by clicking on the Browse button. Click Finish to export the project to a single file with an XER extension.

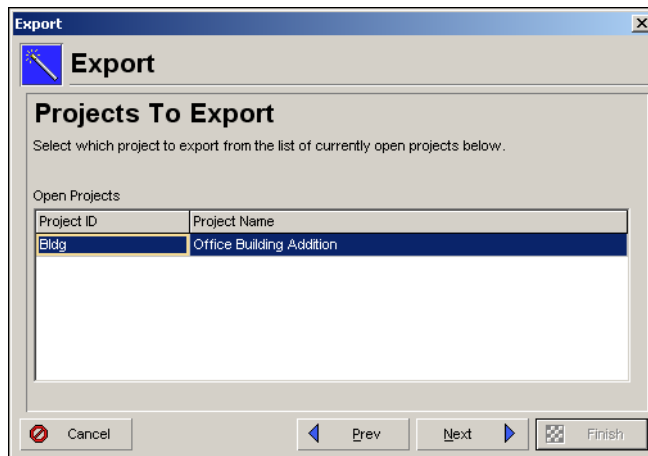


Exporting a Project in XML Format

Select export type and project Open the project that you want to export. Choose File, Export. Choose Primavera PM (XML), then click Next.

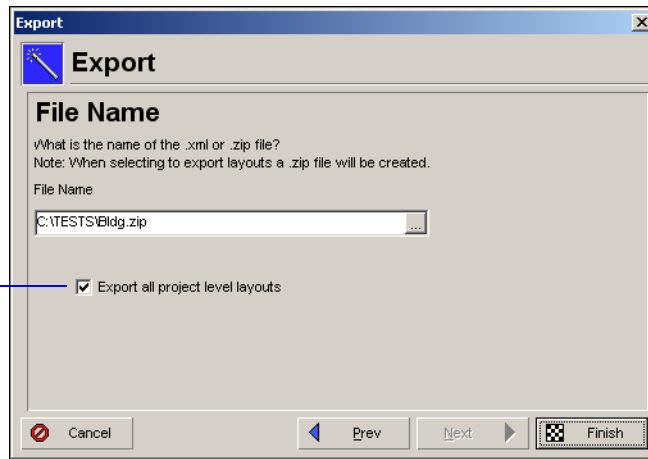


Confirm that the open project is the project you want to export, then click Next.



Specify filename and location Type a name for the XML file. To specify a different location to store the file, click the Browse button. If you do not specify a folder, the file is stored in the My Documents folder. Click Finish to export the project to a single file with an XML extension.

*Clear this option if
you do not need to
include project
level layouts with
the exported
project.*



Exporting Resources to XER Files

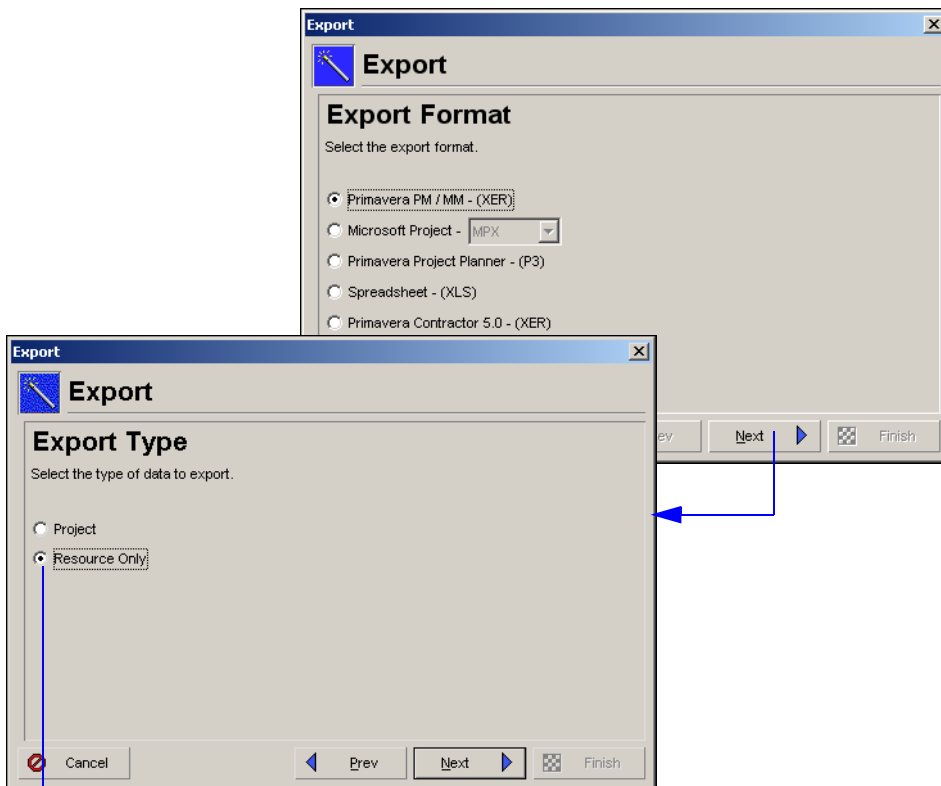
For information about the tables and fields that are converted, see the XERRESOURCES.PDF file located on the installation CD.

The application enables you to export only the resources in your resource hierarchy to XER files. You may want to choose this option to include existing resources in a new database.



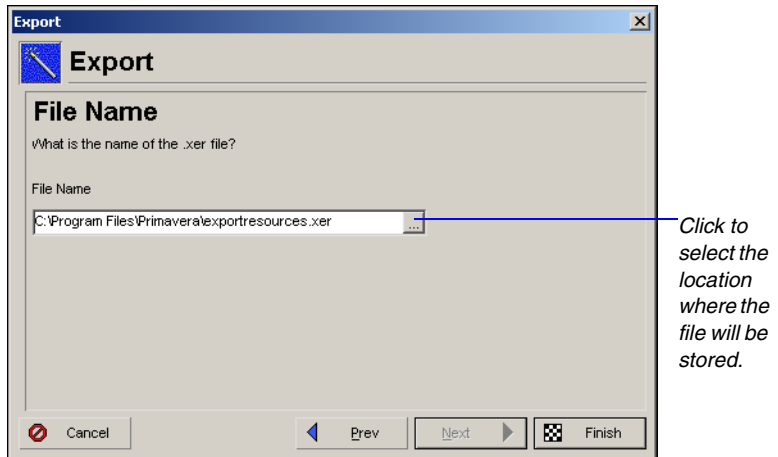
The following export instructions apply only to XER files intended for use with Primavera Contractor 6.1 or the Project Management module. To export resources to an XER format that can be imported to Primavera Contractor 5.0, refer to [“Transferring Data to Primavera Contractor 5.0 Users”](#) on page 399.

Export resource data Choose File, Export. Choose Primavera PM/MM (XER), then click Next.



Choose Resource Only as the export type, then click Next.

Type a name for the XER file. Specify the location where the file will be stored, by clicking on the Browse button. Click Finish to export the resources to a single file with an XER extension.



Importing Projects

For more information on exporting project data, see ["Exporting Projects"](#) on page 312.

For information about the tables and fields that are converted, see the **XERPROJECTS.PDF** file located on the installation CD.

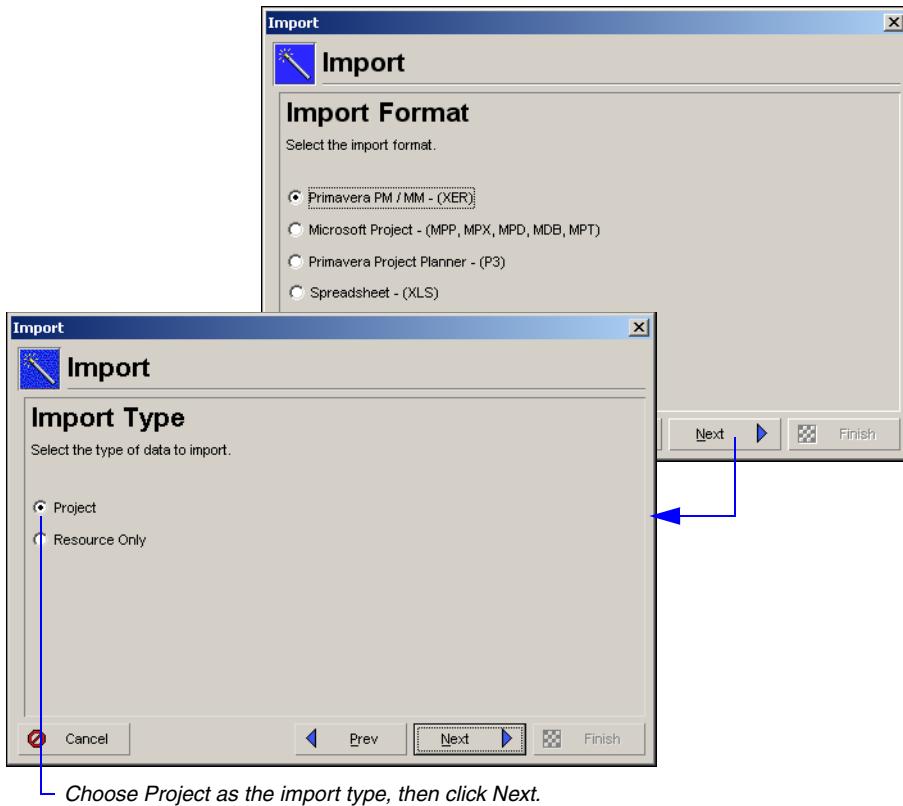
Project data can be transferred from Primavera Contractor and the Project Management module as XER files (Primavera proprietary exchange format) or XML files and can be used with any other Primavera Contractor installation. Use the Import wizard to bring XER or XML files into the application. You may want to use the wizard to quickly restore a project. The Import wizard guides you through the steps for importing a project.



XER files exported from version 4.1 and later of Primavera's Project Management module can be imported into Primavera Contractor version 6.1. XER files exported from Primavera Contractor version 4.1 and later can also be imported into Contractor version 6.1.

Importing Projects in XER Format

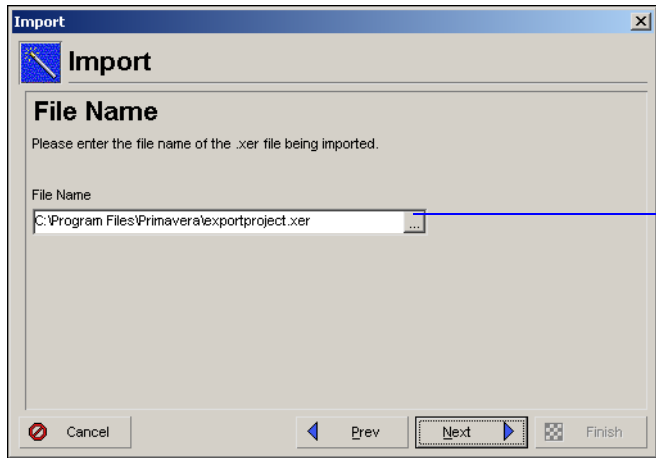
Select import type and file Choose File, Import. Choose Primavera PM/MM (XER), then click Next.



Choose Project as the import type, then click Next.



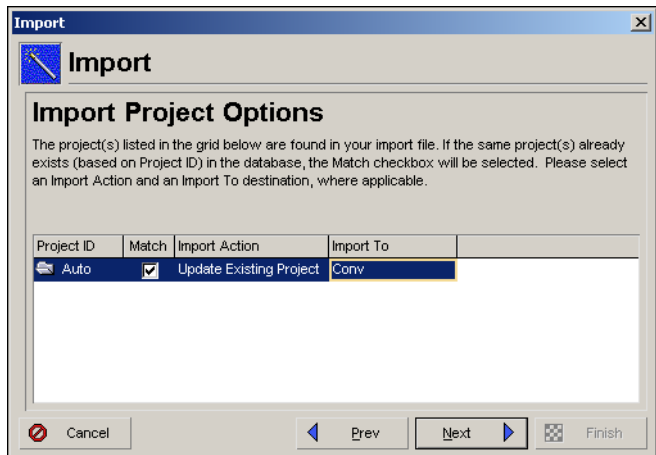
The data in the import file must match the format being imported. For example, you cannot import a project from an XER file that contains only resource data.



Specify import project options An XER file can contain data from several projects, however you can only import XER files that contain a single project. The first column in the Import Project Options dialog box lists the project included in the XER file. If a project with the same name already exists in the current installation of Primavera Contractor, the Match checkbox next to it is marked.



You cannot import XER files that contain more than one project. When you attempt to import an XER file that contains more than one project, you will receive an error message and the import is aborted.



To prevent data in the database from being overwritten when you import the file, double-click the Import Action field next to the project, then select one of the following options:

- **Update Existing Project** The existing project is updated with any new/modified data in the XER file; adds new data if the record does not exist. You can further define how data should be updated when matches occur. See the next section, “[Choose update project options.](#)”
- **Create New Project** The existing project’s data remains the same. A new project is created. A number is appended to the end of the project name. When the import is complete, you can rename the project. For example, if you are creating a new project from the existing project, AUTO, the new project is named AUTO-1.
- **Replace Existing Project** The existing project is deleted and replaced with the project imported from the XER file.



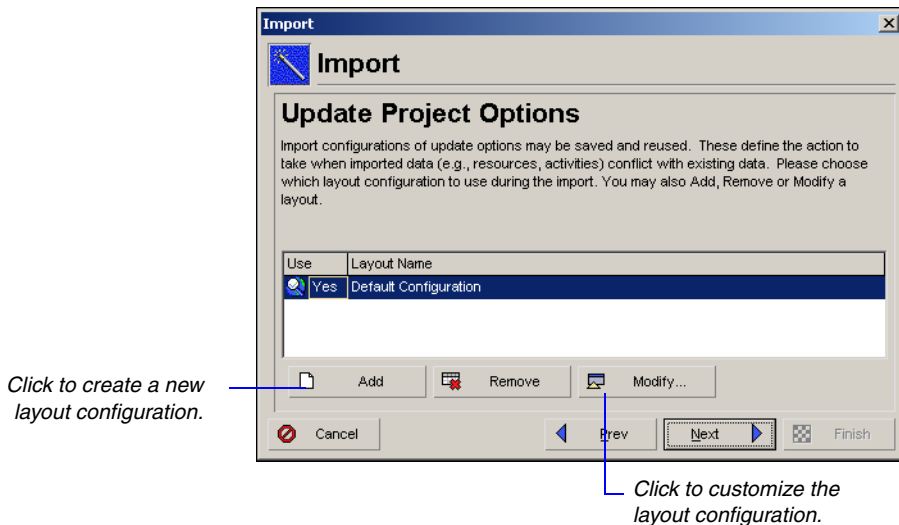
Baselines are deleted when you select the Replace Existing Project import option.

- **Add Into Existing Project** You can merge the project you are importing within the open project. Click the Import To field, then select a specific WBS level within the open project. The imported project is appended to the selected WBS.

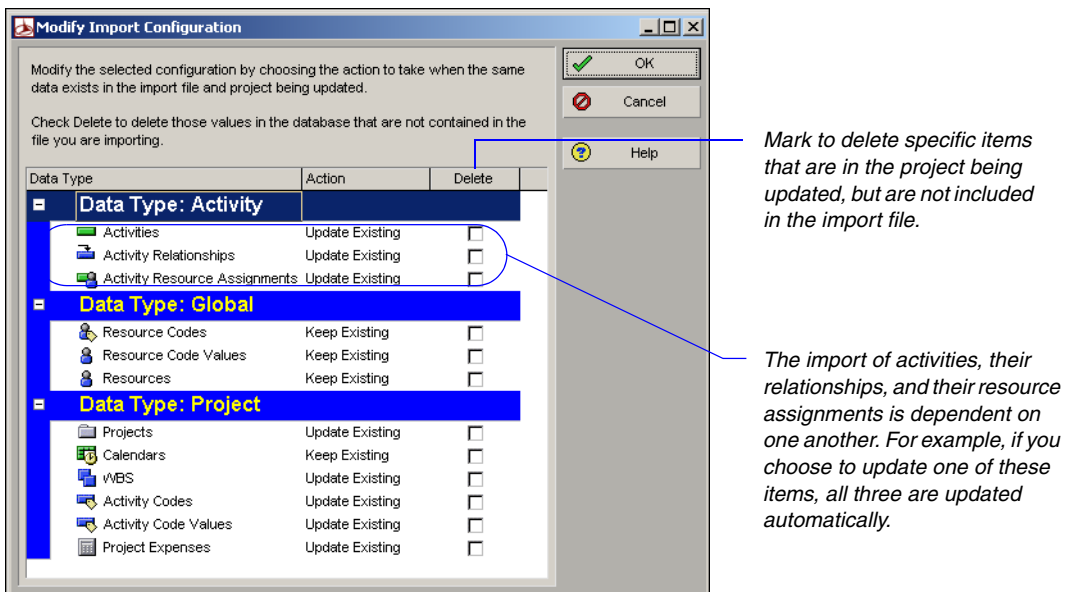
Choose update project options Click Next to select a layout configuration to use when importing project data. The options specified in the layout determine how the application handles data in the import file that matches data in the database. You can create and save several different configurations; however, you can only use one configuration to import the file. Select Yes in the Use field next to the configuration you want to use.



The Update Project Options dialog box appears regardless of the import option you select. For example, if you choose to create a new project, you still must select a configuration for importing global data.



Modify a layout configuration The options specified in a layout configuration determine how data is updated when a project is imported. To modify these options, select the layout in the Update Project Options dialog box, then click Modify.



The Modify Import Configuration dialog box lists the data types for which you can set options. Mark the Delete checkbox next to a data item to remove data that exists in the project you are updating, but is not included in the file you are importing. For example, if several activities are defined in the project you are updating, but they are not included in the file to be imported, mark the checkbox in the Delete column to remove the activities from the project being updated.



The Delete field applies only to activities, activity relationships, and activity resource assignments. Global data types are not affected by this setting.

Select one of the following in the Action field to indicate how the data type is updated:

- **Keep Existing** Retains data in the existing project and does not overwrite it with the updated data; adds new data if the record does not exist.
- **Update Existing** Overwrites data in the existing project with updated data; adds new data if the record does not exist.
- **Insert New** Retains data in the existing project and adds any new data items. For example, if a new resource was added in the XER file, but you don't want to change the existing resources, choose Insert New to add the new resource to the existing project.



Choosing the Insert New option will result in duplicate records after import when the same record exists in both the existing project and the import file. For example, if the same calendar is present in the import file and the existing project, choosing this option adds the calendar to the project you are updating while preserving the original calendar in the updated project.

- **Do Not Import** Retains data in the existing project and does not import the updated data.



If you manually plan future period assignments to activities, be sure to select the appropriate import action when importing data; otherwise, manually-planned future period assignment values may be lost. For example, if you are updating an existing project with imported data and you choose to import activity resource assignments, future period assignment values that exist in the project you are importing will overwrite future period assignment values in the project you are updating. Therefore, if the project you are importing does not contain manually-planned future period assignment values and the project you are updating does contain manually-planned future period assignment values, the manually-planned future period values will be lost when the same assignment exists in both projects.

The action you choose for importing the items in the Activity Data Type group are dependent on each other. For example, if you choose to update existing relationships, you must also update existing resource assignments and activities associated with the relationships.

The action for activity data types are dependent on one another.

The Delete field for these items can be independent.



If a relationship type was updated when the project was exported, to import the modified relationship type, you must choose to Update Existing and mark the Delete field for activity relationships; otherwise, a new relationship will be added. For example, suppose you have Activity 100 with a finish to start relationship type. If you import a project that has Activity 100, but the relationship type has been changed to a start to start type, the import process results in Activity 100 with both the finish to start relationship and the start to start relationship when you do not mark the Delete field. You must mark the Delete field to remove the original relationship type of finish to start.

Click OK to save changes to the modified layout configuration. Click Next.

Select a currency If the import file does not specify a currency, or if the currency does not match a defined currency, the Currency Type dialog box appears. Click the Browse button to select a currency that matches the one found in the import file. If your currency is not listed, cancel the Import wizard and add the currency in the Currencies dialog box (Settings, Currencies).

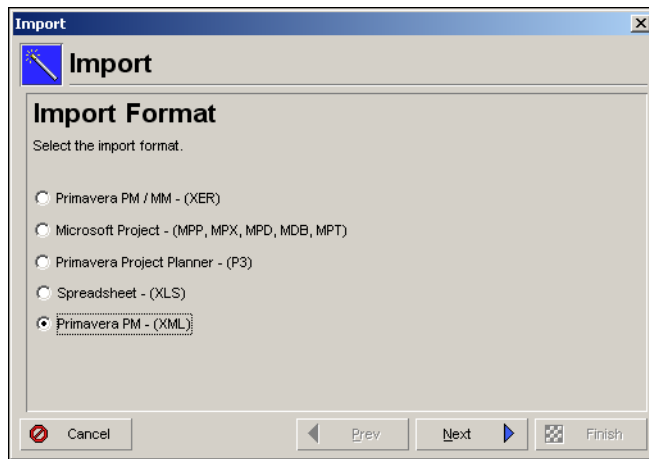


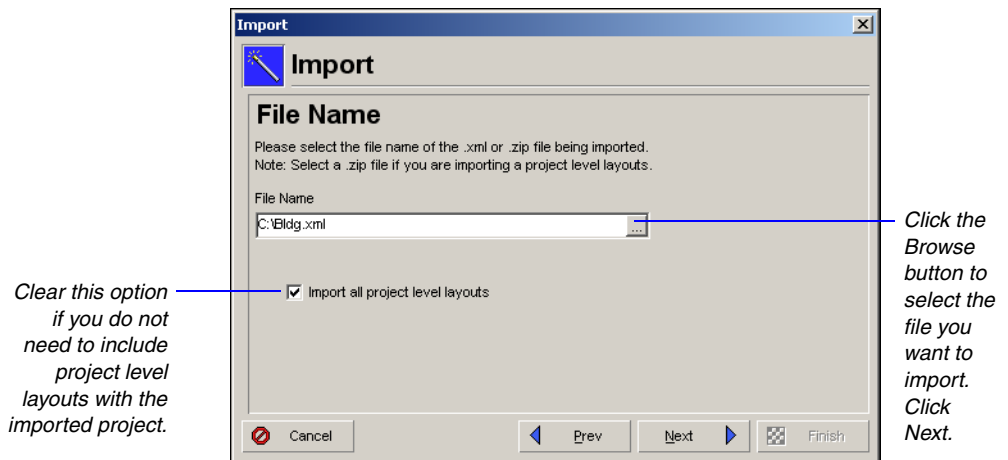
You will not see this dialog box if the import currency is the same as the base currency.

Click Next, then click Finish to import the project.

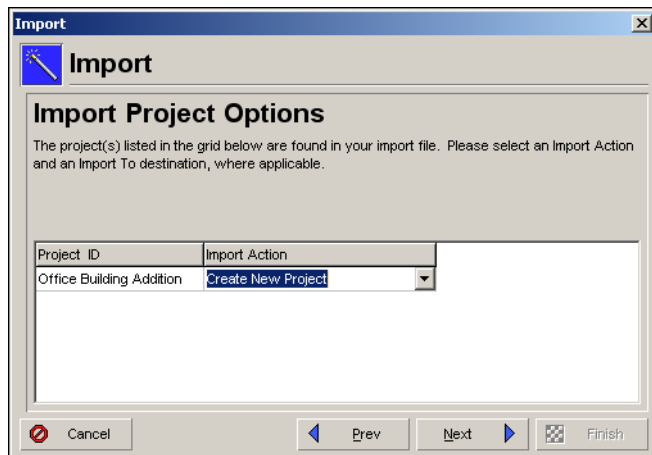
Importing Projects in XML Format

Select import type and file In the Contractor application, choose File, Import. Choose Primavera PM (XML), then click Next.





Specify import project options An XML file can contain data from only one project. Select the appropriate import action and click Next.

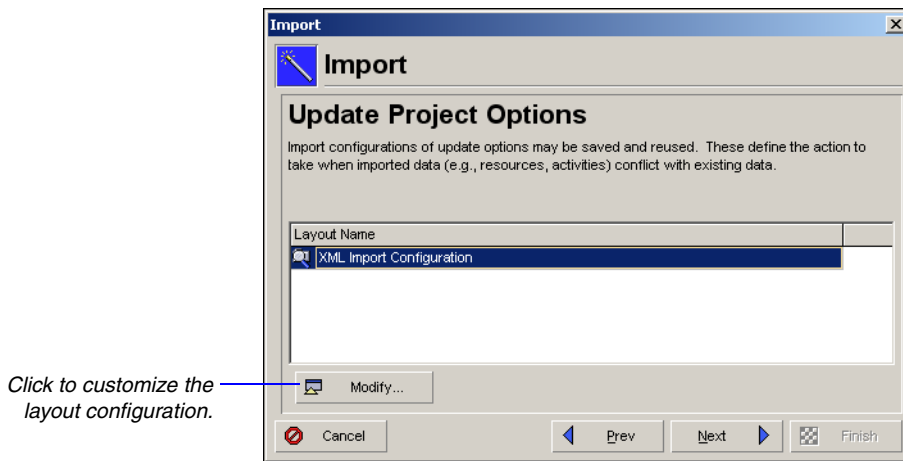


To prevent data in the project management database from being overwritten when you import the file, double-click the Import Action field, then select one of the following options:

- **Update Existing Project** The existing project is updated with any new/modified data in the XML file; adds new data if the record does not exist. You can further define how data should be updated when matches occur. See the next section, “[Choose update project options.](#)”

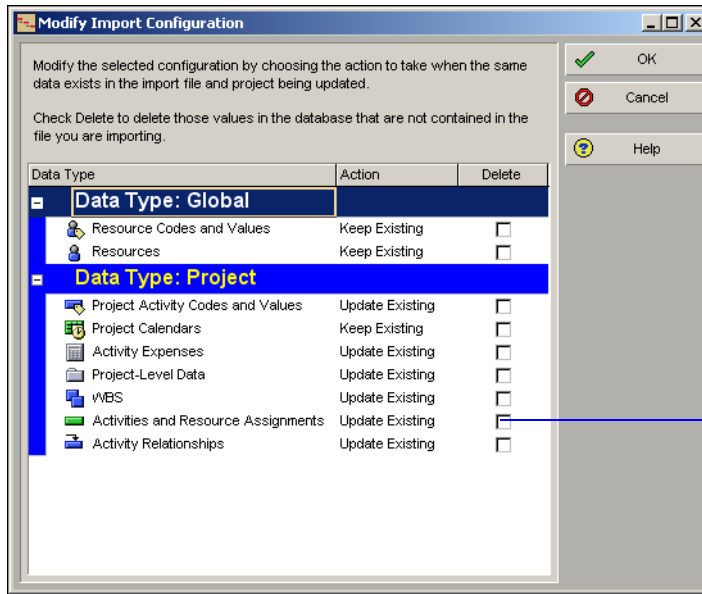
- **Create New Project** The existing project's data remains the same. A new project is created. A number is appended to the end of the project name. When the import is complete, you can rename the project. For example, if you are creating a new project from the existing project, AUTO, the new project is named AUTO-1.

Choose update project options Click Next to modify the layout configuration used when importing project data. The options specified in the layout determine how the Contractor application handles data in the import file that matches data in the database.



The Update Project Options dialog box appears regardless of the import option you select. For example, if you choose to create a new project, you still must select a configuration for importing global data.

Modify a layout configuration The options specified in a layout configuration determine how data is updated when projects are imported. To modify these options, select the layout in the Update Project Options dialog box, then click Modify.



Mark to delete specific items that are in the project being updated, but are not included in the import file.

The Modify Import Configuration dialog box lists the data types for which you can set options. Mark the Delete checkbox next to a data item to remove data that exists in the project you are updating, but is not included in the file you are importing. For example, if several activities are defined in the project you are updating, but they are not included in the file to be imported, mark the checkbox in the Delete column to remove the activities from the project being updated.



The Delete field applies only to activities, activity relationships, and activity resource assignments. Global data types are not affected by this setting. External relationships are not treated as a separate data type in XML import; they are in XER import.

Select one of the following in the Action field to indicate how the data type is updated:

- **Keep Existing** Retains data in the existing project and does not overwrite it with the updated data; adds new data if the record does not exist.
- **Update Existing** Overwrites data in the existing project with updated data; adds new data if the record does not exist.
- **Insert New** Retains data in the existing project and adds any new data items. For example, if a new resource was added in the XML file, but you don't want to change the existing resources, choose Insert New to add the new resource to the existing project.



Choosing the Insert New option will result in duplicate records after import when the same record exists in both the existing project and the import file. For example, if the same calendar is present in the import file and the existing project, choosing this option adds the calendar to the project you are updating while preserving the original calendar in the updated project.

- **Do Not Import** Retains data in the existing project and does not import the updated data.



If a relationship type was updated when the project was exported, to import the modified relationship type, you must choose to Update Existing and mark the Delete field for activity relationships; otherwise, a new relationship will be added. For example, suppose you have Activity 100 with a finish to start relationship type. If you import a project that has Activity 100, but the relationship type has been changed to a start to start type, the import process results in Activity 100 with both the finish to start relationship and the start to start relationship when you do not mark the Delete field. You must mark the Delete field to remove the original relationship type of finish to start.

Click OK to save changes to the modified layout configuration. Click Next.

Importing Resources from XER Files

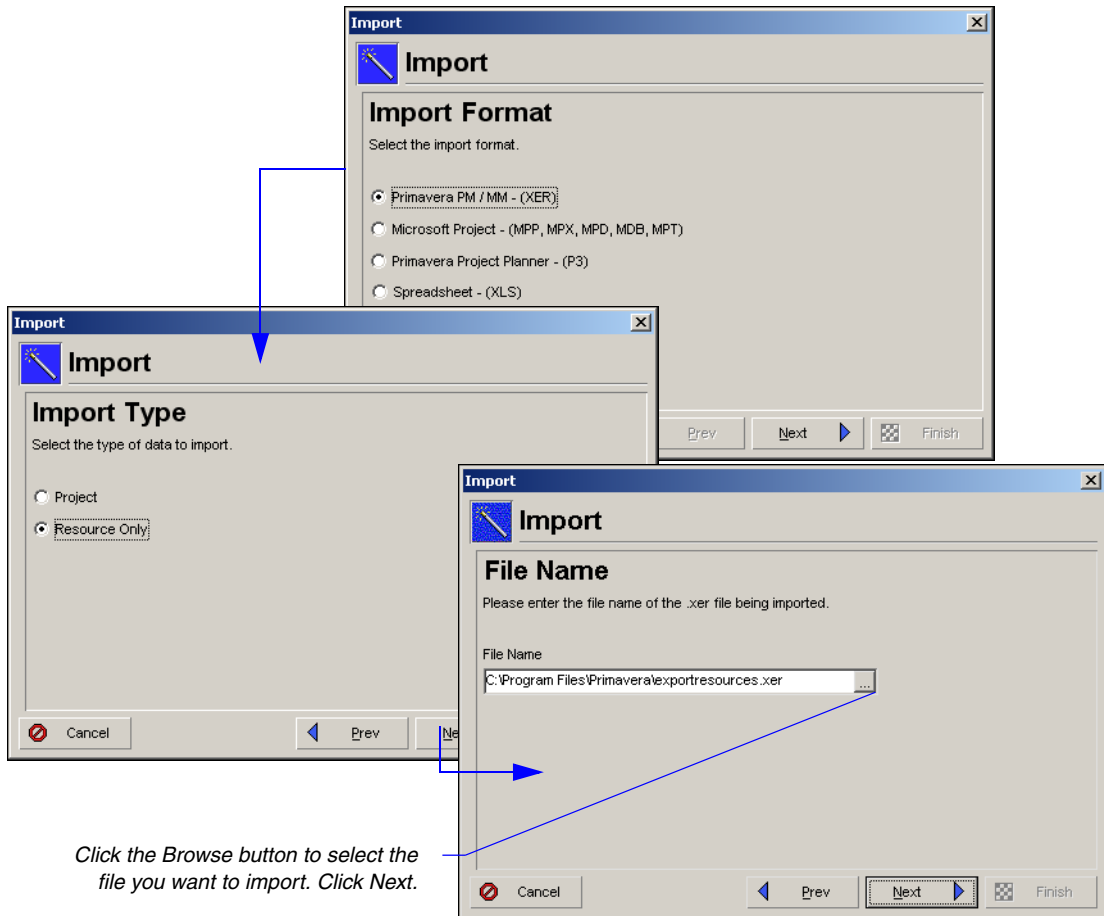
For information about the tables and fields that are converted, see the XERRESOURCES.PDF file located on the installation CD.

Primavera Contractor enables you to import XER files that contain only resources. You may want to choose this option to add new resources to the resource hierarchy or overwrite the existing resource hierarchy. Resources are defined at the global level.



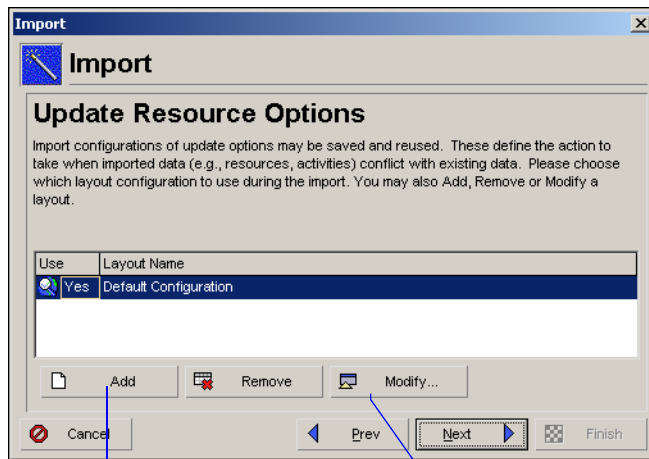
XER files exported from version 4.1 and later of Primavera's Project Management module can be imported in Primavera Contractor version 6.1. XER files exported from version 4.1 and later of Primavera Contractor can also be imported into Contractor version 6.1.

Select import type and file Choose File, Import. Choose Primavera PM/MM (XER), then click Next. Choose to import Resource Only data. Click Next.



The data in the import file must match the format being imported. For example, you cannot import resource data from an XER file that contains project data.

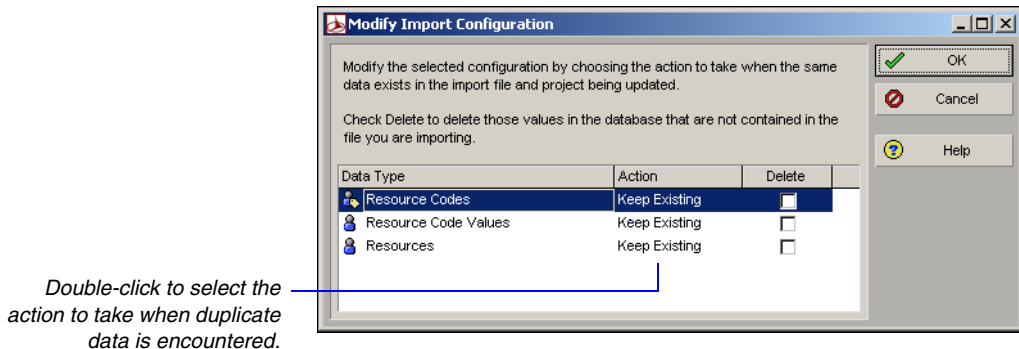
Choose update resource options Click Next to select a layout configuration to use when importing resource data. The options specified in the layout determine how the application handles resource data in the import file that matches data in the database. You can create and save several different configurations; however, only one configuration can be used to import the file. Select Yes in the Use field next to the configuration you want to use.



Click to create a new layout configuration.

Click to customize the layout configuration.

Modify a layout configuration The options specified in a layout configuration determine how data is updated when resources are imported. To modify these options, select the layout in the Update Resource Options dialog box, then click Modify. The Modify Import Configuration dialog box lists the data types for which you can set options. The Delete field does not affect the import of resources. This field applies only to activities.



Double-click to select the action to take when duplicate data is encountered.

Select one of the following in the Action field to indicate how the resources are updated:

- **Keep Existing** Retains resources in the global dictionary and does not overwrite them with the updated data; adds new data if the record does not exist.

- **Update Existing** Overwrites resources in the global dictionary with updated data; adds new data if the record does not exist.
- **Insert New** Retains resources in the global dictionary and adds any new resources.
- **Do Not Import** Retains existing resources in the global dictionary and does not import the updated resources.

Click OK to save changes to the modified layout configuration. Click Next.

Select a currency If the import file does not specify a currency, or if the currency does not match a defined currency, the Currency Type dialog box appears. Click the Browse button to select a currency that matches the one found in the import file. If your currency is not listed, cancel the Import wizard and add the currency in the Currencies dialog box (Settings, Currencies).



You will not see this dialog box if the import currency is the same as the base currency.

Click Next, then click Finish to import the resources.

Importing and Exporting Projects Using E-mail

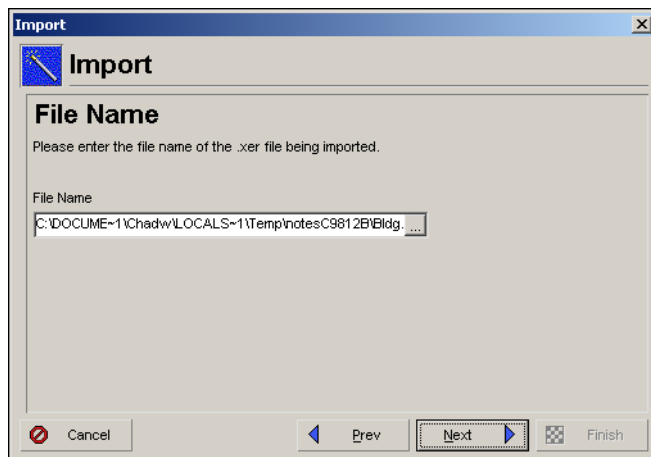
Primavera Contractor provides an automated mechanism to export a project and e-mail it to other Primavera users. This feature is only applicable to XER files.

Export and e-mail a project Open the project you want to export and e-mail. Choose File, Send Project. The application creates an XER export file, automatically opens your e-mail system, and attaches the XER file to the e-mail message. The subject line of the e-mail is automatically populated with the name of the project.



If an e-mail system is not present on your computer, Primavera Contractor will launch the Create a Mail Profile wizard. You can choose to create a mail profile, or click Cancel to exit. If you click Cancel, you cannot e-mail the XER file; the file will remain in your local Temp directory.

Import an e-mailed project When you receive an e-mail containing an XER file, double-click on the attached XER file. Primavera Contractor will open automatically and launch the Import wizard. The file name is automatically populated in the wizard. Click Next.



Enter data and/or select options on each wizard screen. Click Next on each screen to proceed. Click Finish to import the project.

For detailed instructions on importing projects using the Import wizard, refer to [“Importing Projects”](#) on page 319.

Differences Between XER and XML Formats

The format that you choose for exporting and importing, either XER or XML, depends on your needs for each project and standards for the transfer of project data between Contractor applications and the Project Management module. The following table compares the features and benefits of both formats. A checkbox represents that a particular format is better suited for that functionality.

Functionality	XML	XER
Data Formats XML is an industry-standard format, while XER is proprietary.	✓	
Export Options XER is the format used when selecting Send Project from the File menu. This allows for a quick export directly to email. XML requires the use of the export wizard.		✓
Committing Data XML will not commit partial data. If an import action for a specific transaction fails before all data is committed, XML rolls back the data; global and project-specific imports are treated as separate transactions. XER can end up with partial commits of data.	✓	
Import Options XER supports the full range of import actions, including Update Existing Project, Create New Project, Replace Existing Project, Ignore this Project, and Add into Existing Project. XML supports only Update Existing Project and Create New Project.		✓
Resources XER supports importing resources. XML does not.		✓
Version Checking XER checks project versions while importing, and ensures you cannot import projects older than 2 prior releases. XML does not; instead, if there is a version incompatibility, bad data is ignored.		✓

Transferring Data using Microsoft Project Files

In this chapter

[Exporting Projects](#)

[Exporting Resources](#)

[Importing Projects](#)

[Importing Resources](#)

Use the Microsoft Project import/export option to transfer project and resource information between Primavera Contractor and Microsoft Project 98 or later (excluding Microsoft Project 2007, which is not supported).

You can also use the Microsoft Project option to import/export MPX files. MPX files enable you to integrate with third-party applications that support MPX versions 4.0 and 4.1.

This chapter describes how to use the Export and Import wizards to share information using the Microsoft Project format.

Exporting Projects

For information about the fields that are converted, see the **MSPMAPPINGS.PDF** or **MPXMAPPINGS.PDF** file located on the installation CD.

For additional export considerations regarding future period bucket planning, refer to the Contractor application Help.

When you export project data to MPX, MPP, or XML format, you can then import the file into Microsoft Project. MPX files can also be imported into other software applications that support the MPX format. The Export wizard guides you through the steps for exporting a project.



The Contractor application does not support exporting future period resource assignments (manual curves) to Microsoft Project 98. To export manually entered future period assignment values, you must have Microsoft Project 2000 or later; however, Microsoft Project 2007 is not supported. Microsoft provides a conversion utility to upgrade your Microsoft Project 98 databases to Microsoft Project 2002. For more information, refer to <http://www.microsoft.com/downloads>. If you plan to exchange project data containing manual assignment values with Microsoft Project, you will achieve the most accurate conversion results using Microsoft Project 2003. For more information on future period bucket planning, refer to “[Manually Planning Future Period Assignments](#)” on page 158 or the Contractor application Help.

Select export type and project Open the project you want to export. Choose File, Export. Choose Microsoft Project and select the type of file to which you want to export, then click Next.

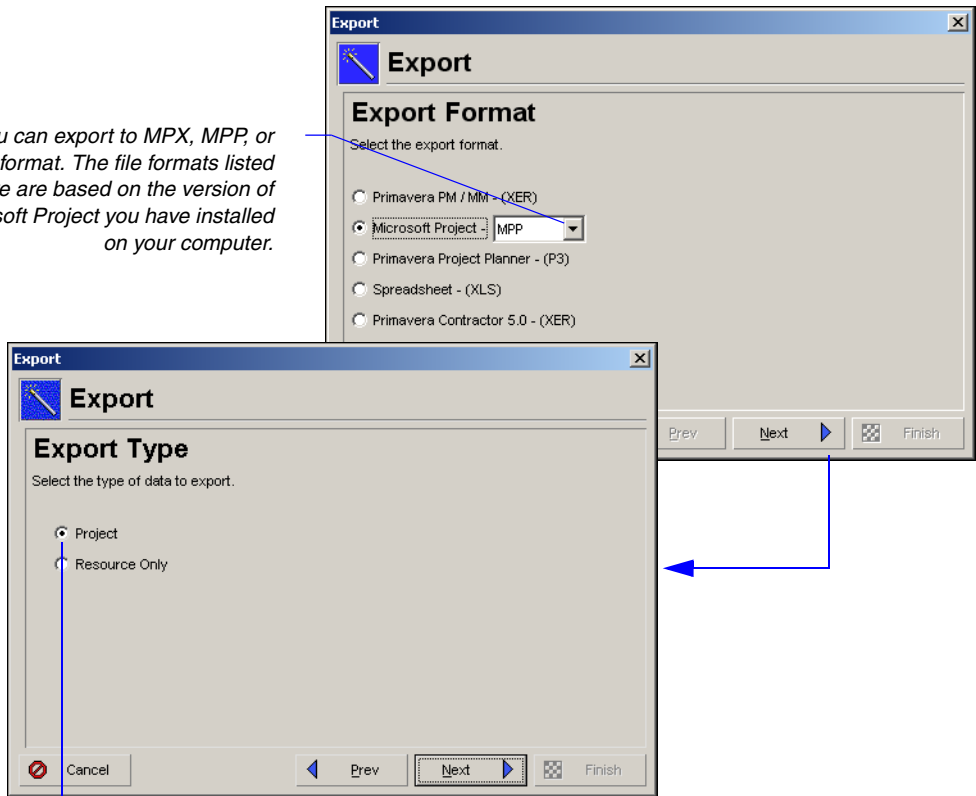


You must have Microsoft Project 98 or later on your machine to export to MPP format. You must have Microsoft Project 2002 or later on your machine to export to XML format. However, Microsoft Project 2007 is not supported.



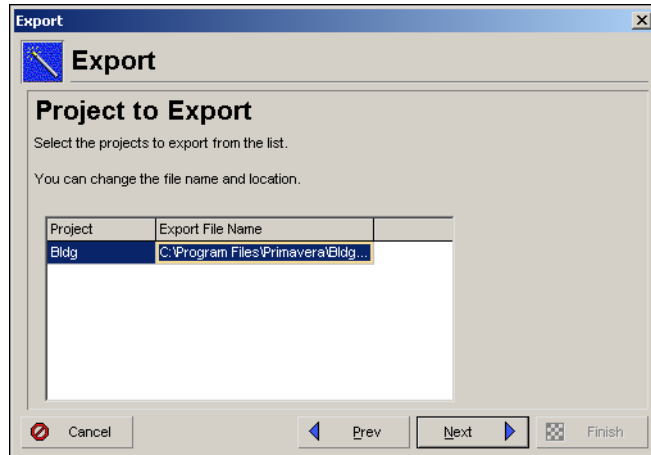
Suspend and resume dates can only be exported to MPP format.

You can export to MPX, MPP, or XML format. The file formats listed here are based on the version of Microsoft Project you have installed on your computer.

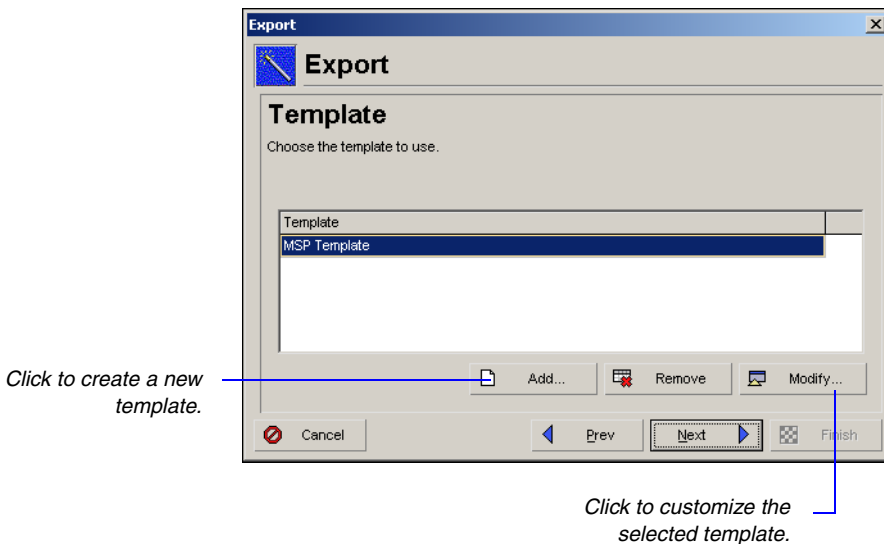


Choose Project as the export type, then click Next.

Double click in the Export File Name field if you want to change the name and location of the Microsoft Project file. By default, the export file is stored in the My Documents folder. Click Next.



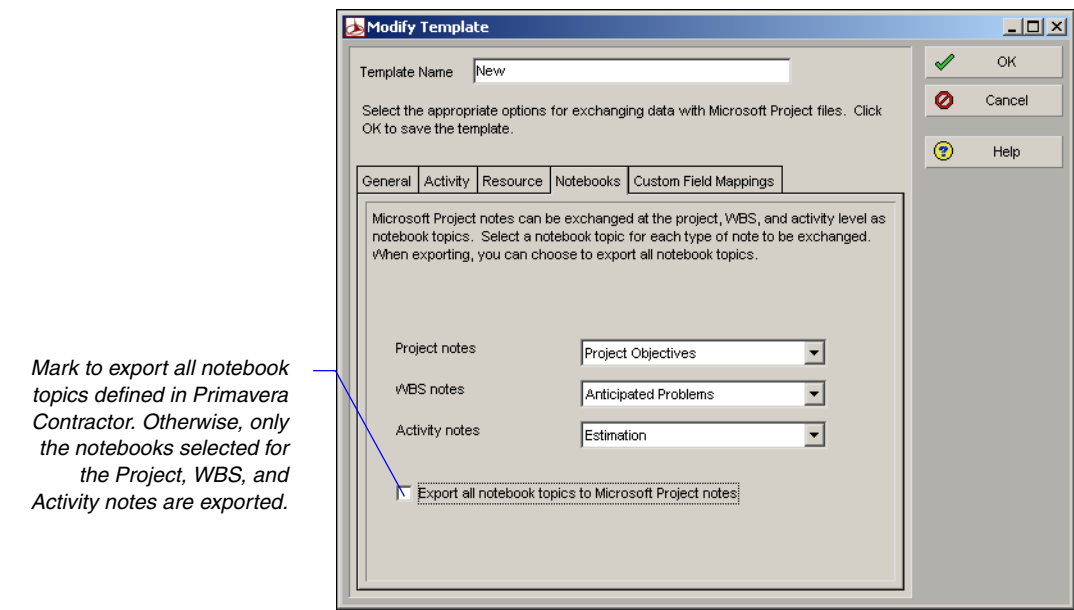
Modify template options Add a new template or modify the existing template (if necessary). The template contains options for exchanging data with Microsoft Project.



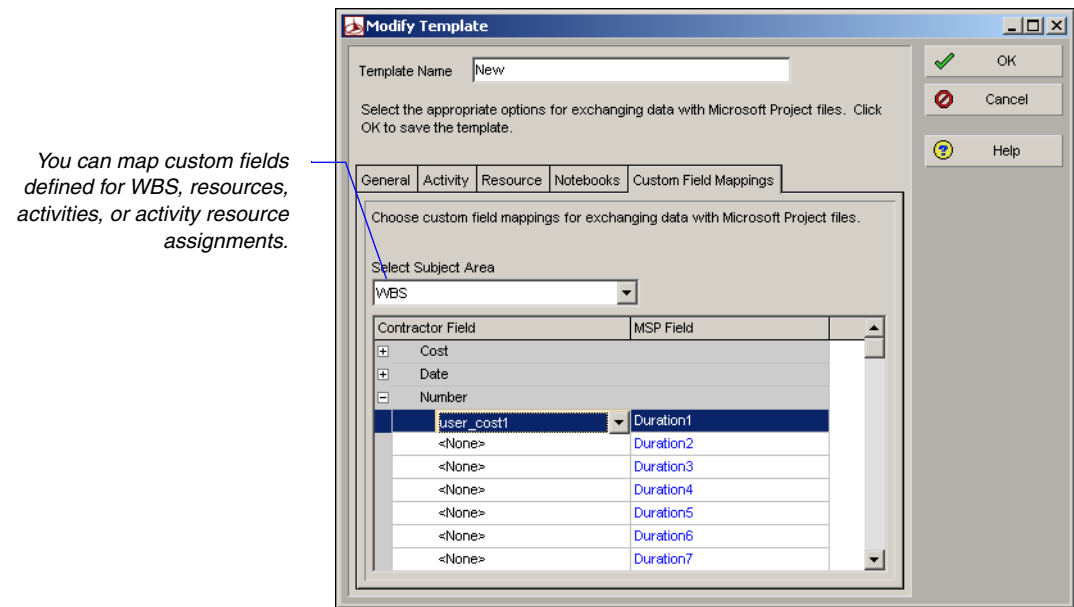
Click the Activity tab in the Modify Template dialog box. In the Export section, choose the text field to which to export the Activity ID from Primavera Contractor. If you choose not to export the Activity ID to a text field in Microsoft Project (the checkbox is not marked), the Primavera Contractor Activity ID is not exported to Microsoft Project.

The screenshot shows the 'Modify Template' dialog box with the 'Activity' tab selected. The 'Template Name' field contains 'New'. Below the tabs, the 'Import' section has three options: 'Import milestones with resource assignments as' (with radio buttons for 'Start milestones with expenses' and 'Activities with resource assignments'), 'Import Microsoft Project's Task ID field to' (with radio buttons for 'Activity ID' and 'User defined text field' and a dropdown menu), and 'Import Microsoft Project's fixed costs as expenses' (checked). The 'Export' section has a checked option 'Export Activity ID to Microsoft Project's task field' with a dropdown menu showing 'Text1'. On the right, there are 'OK', 'Cancel', and 'Help' buttons.

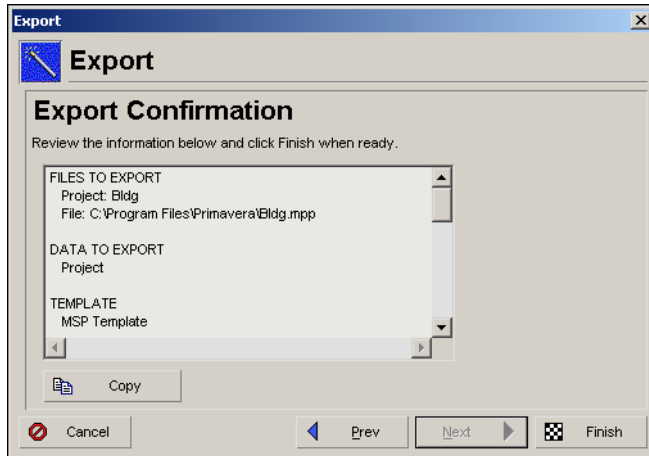
Click the Notebooks tab in the Modify Template dialog box. Notebook fields are defined in the Categories dialog (choose Settings, Categories, then click the Notebook Topics tab). These notebook fields can be exported to project, WBS, and activity notes fields in Microsoft Project.



Click the Custom Field Mappings tab in the Modify Template dialog box. To export your user-defined fields to a particular Microsoft Project field, select the user-defined field in the Primavera Contractor Field column.



Click OK to save your modifications to the template. Click Next to review the settings for your export, then click Finish to export the project to an MPX/MPP/XML file.



WBS Summary activities in the Contractor application convert to Summary Tasks in Microsoft Project.

Exporting Resources

For information about the fields that are converted, see the MSPMAPPINGS.PDF or MPXMAPPINGS.PDF file located on the installation CD.

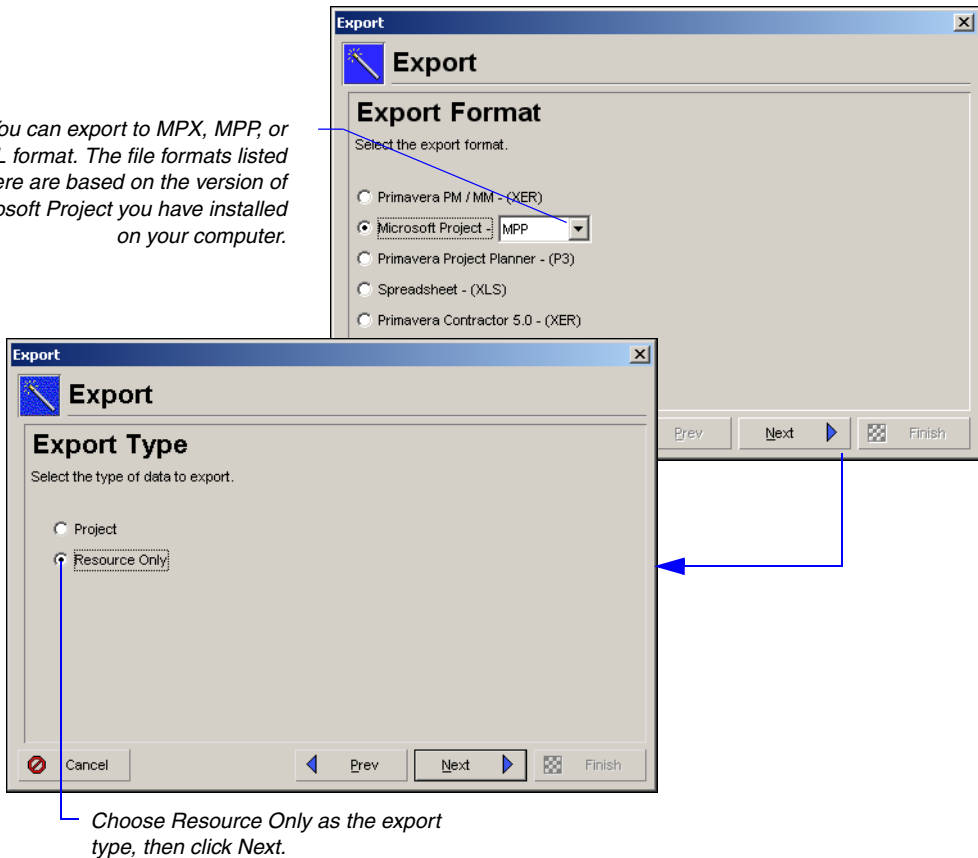
Primavera Contractor enables you to export only the resources in your resource hierarchy. When you export resource data to MPX, MPP, or XML format, you can then import the file into Microsoft Project. MPX files can also be imported into other software applications that support the MPX format. The Export wizard guides you through the steps for exporting resources.

Export resource data Choose File, Export. Choose Microsoft Project and select the type of file to which you want to export, then click Next.

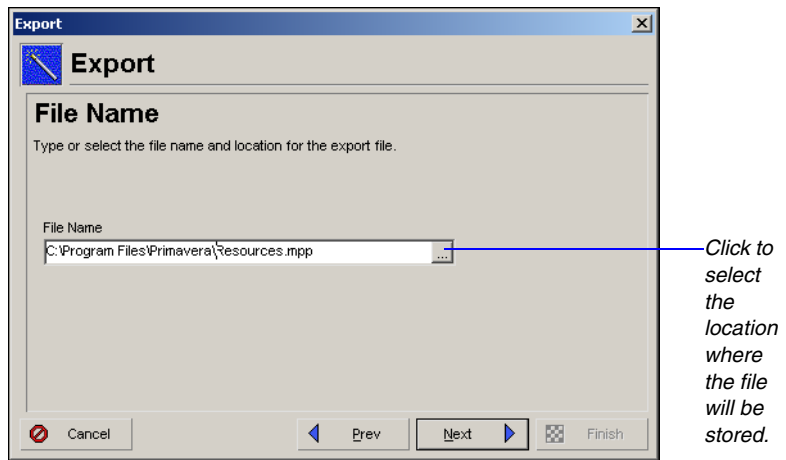


You must have Microsoft Project 98 or later on your machine to export to MPP format. You must have Microsoft Project 2002 or later on your machine to export to XML format. However, Microsoft Project 2007 is not supported.

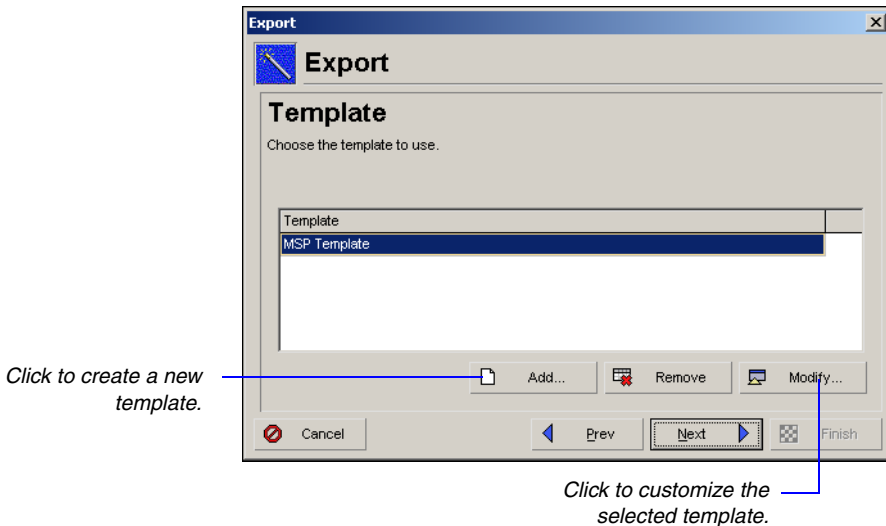
You can export to MPX, MPP, or XML format. The file formats listed here are based on the version of Microsoft Project you have installed on your computer.



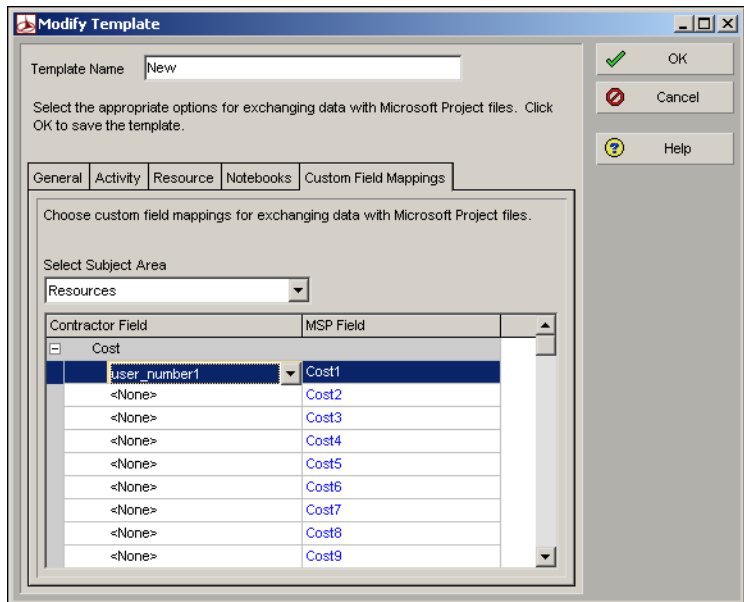
Type a name for the MPX/MPP/XML file. To specify the location where the file will be stored, click the Browse button. If you do not specify a location, the export file is stored in the My Documents folder.



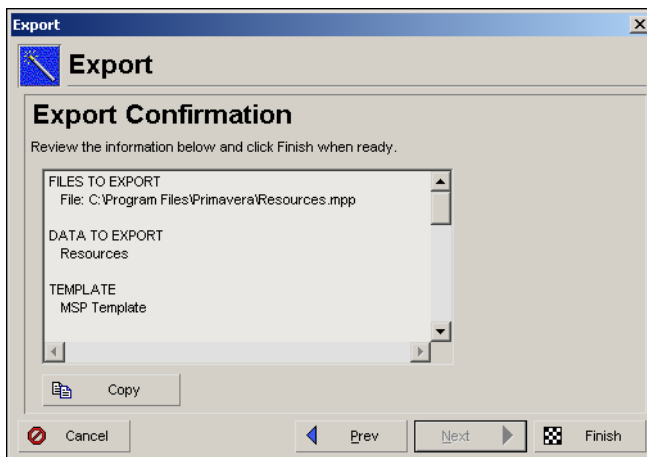
Modify template options Add a new template or modify the existing template (if necessary). The template contains options for exchanging data with Microsoft Project.



Click the Custom Field Mappings tab in the Modify Template dialog box. Choose Resources from the drop down list. To export your user-defined fields to a particular Microsoft Project field, select the user-defined field in the Primavera Contractor Field column.



Click OK to save your modifications to the template. Click Next to review the settings for your export, then click Finish to export the resources to a single file with an MPX, MPP, or XML extension.



Importing Projects

For information about the fields that are converted, see the MSPMAPPINGS.PDF or MPXMAPPINGS.PDF file located on the installation CD.

You may want to transfer data from Microsoft Project to Primavera Contractor. You can import several different types of Microsoft Project files. The files you can import are determined by the version of Microsoft Project you have installed on your computer. If Microsoft Project 98 or later resides on your computer, you can import MPP, MPX, MPD, MDB, and MPT files; however, Microsoft Project 2007 is not supported. If Microsoft Project does not reside on your computer, you can import MPX files. MPX files may have been created in other third-party applications. The Import wizard guides you through the steps for importing projects.

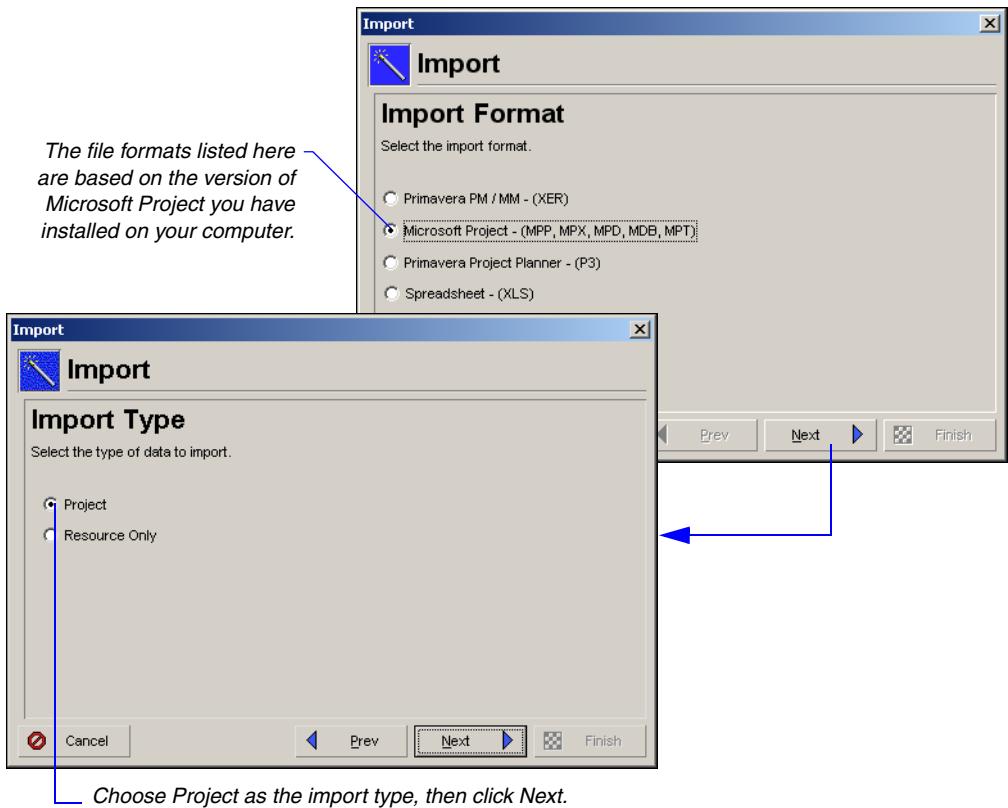


For users importing MPX files, review the export table in Microsoft Project before you generate the MPX file. The default export table settings in Microsoft Project do not contain some data fields supported by the MPX format. For example, assume you have a custom field mapped to the task field Start1; by default, Start1 is not included in the Microsoft Project export table. In this case, you must add the Start1 field to the export table to accurately generate and import the MPX file. For third-party MPX tools, refer to the vendors' documentation for information on how to export additional data fields. Refer to the Microsoft Project online help to learn how to edit the export table.



If your





Click Select to choose the files you want to import. If there is a password on the Microsoft Project file, type the password. If you do not enter a password on a protected file, the project will not import.



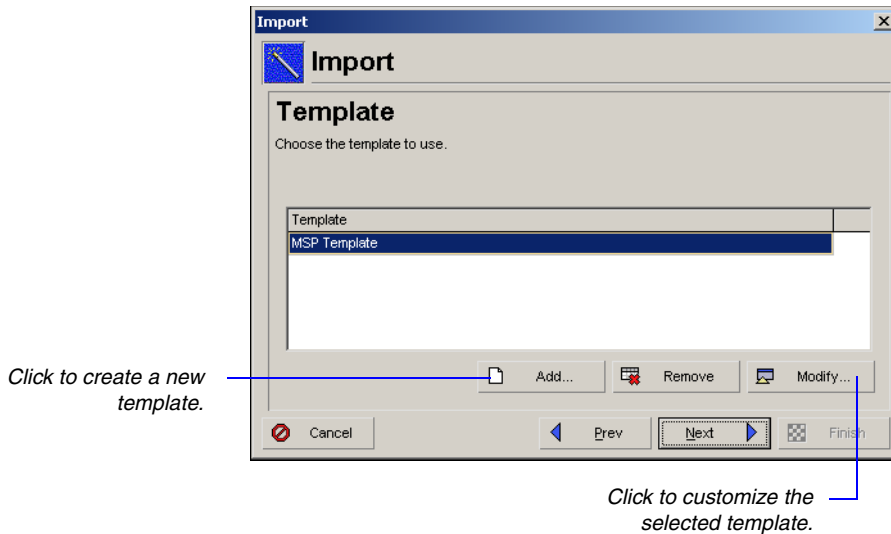
Suspend and resume dates can only be imported from MPP files (not MPX files). When an activity contains multiple suspend and resume dates in Microsoft Project, the first suspend and resume dates (split task dates in Microsoft Project) are imported into Contractor. Any remaining suspend and resume dates are ignored.

Double click the Import Action field to select how the Microsoft Project file should be imported:

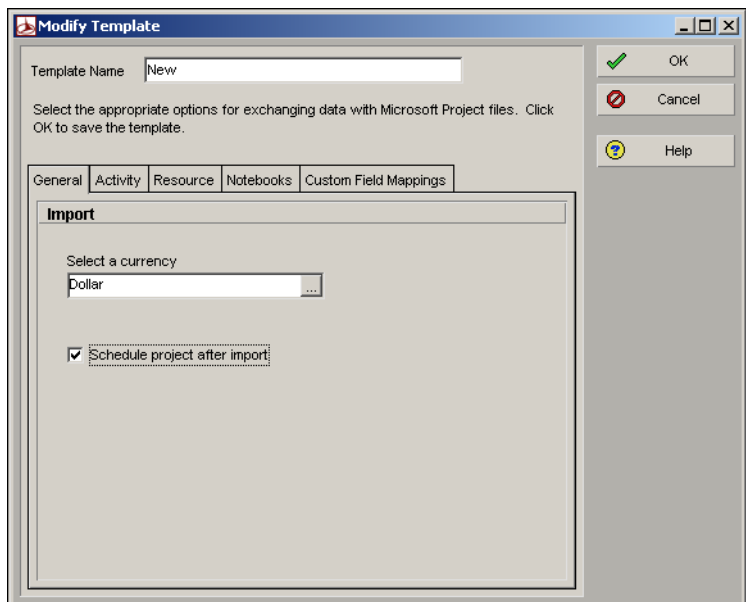
- **Create New Project** The existing project's data remains the same. A new project is created.

- **Add into Existing Project** Click the Browse button in the Import To field to select a specific WBS level within an existing project. The imported project is appended to the selected WBS. The existing project must be open in Primavera Contractor.
- **Replace Existing Project** The existing project is deleted (without preserving any information) and replaced with the project imported from the Microsoft Project file. Click the Browse button in the Import To field to select the project to replace. The existing project must be open in Primavera Contractor.





Click the General tab in the Modify Template dialog box. Primavera Contractor cannot read the currency defined in Microsoft Project. Click the Browse button in the Select a Currency field to select a currency to use for values in cost fields. If your currency is not listed, cancel the Import wizard and add the currency in the Currencies dialog box (Settings, Currencies). You can also choose to schedule and/or summarize the project once it is imported.

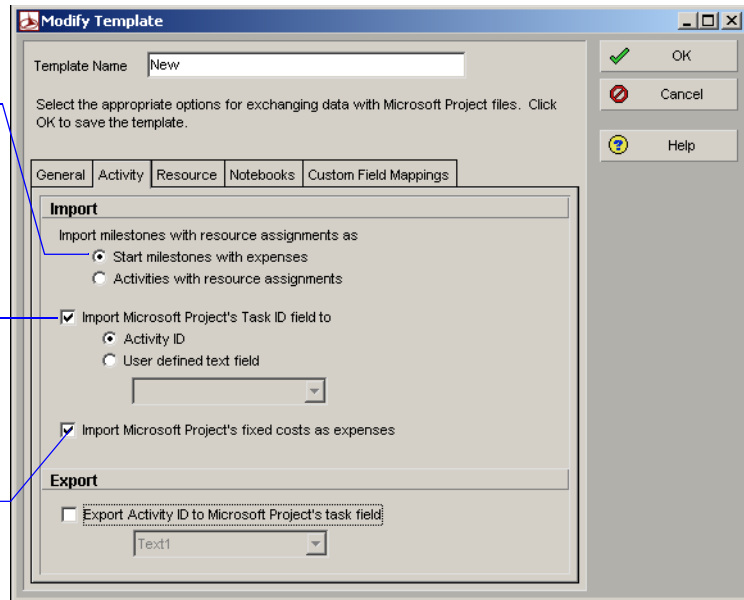


Click the Activity tab in the Modify Template dialog box. In the Import section, choose how you want to import milestone activities that have resource assignments. You can import them into Primavera Contractor as Start Milestone activities with associated expenses, or as Task Dependent activities with associated resource assignments. Then, choose to import the Task ID from Microsoft Project to the Activity ID field in Primavera Contractor or to a selected user-defined text field. Finally, choose if you want to import MSP's fixed costs as project expenses; if you do not choose this option, fixed costs are not imported.

If you choose this option but DO NOT select the 'Import Microsoft Project's fixed costs as expenses' option, the milestones are imported but expenses associated with the start milestones are not.

If you choose not to import the Task IDs from Microsoft Project, Primavera Contractor creates Activity IDs for each activity.

Unmark this checkbox if you do not want to import expenses.



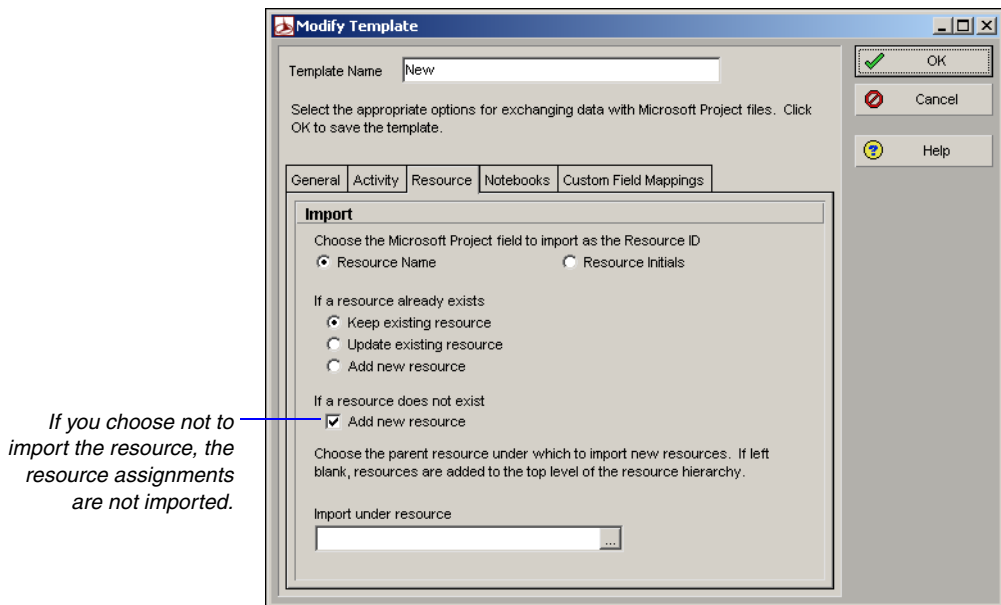
Click the Resource tab in the Modify Template dialog box. Choose whether you want to import the Resource Initials or the Resource Name from Microsoft Project to the Resource ID field in Primavera Contractor.

- If you select Resource Initials, only one resource is imported if multiple resources in Microsoft Project use the same initials.
- If you select Resource Name, the first 20 characters of the name are imported. If multiple resources in Microsoft Project use the same characters up to the first 20 characters, only one resource is imported.

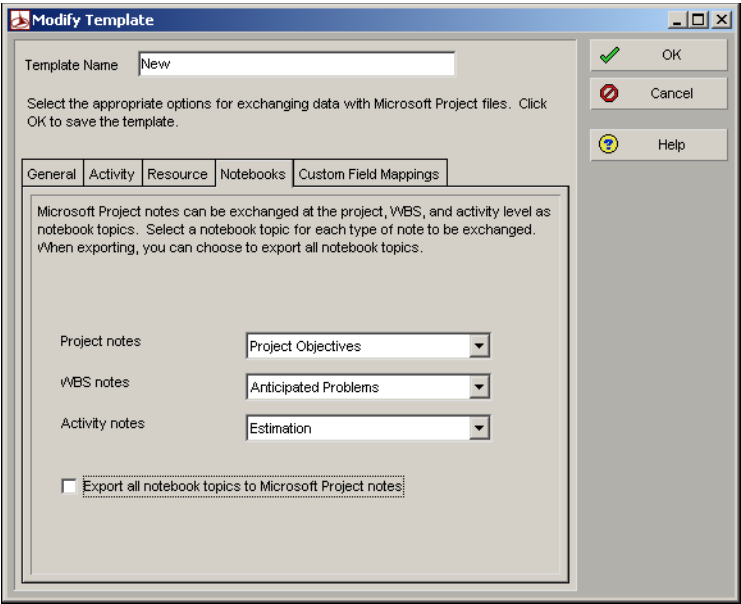
Choose how to handle resources that already exist in the database but are also contained in the Microsoft Project import file.

- **Keep existing resource** Retains the resource in the database and does not overwrite it with the resource from the Microsoft Project file.
- **Update existing resource** Overwrites the resource in the database with the resource from the Microsoft Project file.
- **Add new resource** Retains the resource in the database but also adds the resource from the Microsoft Project file.

Choose whether you want to add a new resource if the resource does not already exist in the database but is contained in the Microsoft Project import file. Then, select the level of the hierarchy at which resources should be imported. Click the Browse button, then select the resource under which to place all resources from the Microsoft Project file.

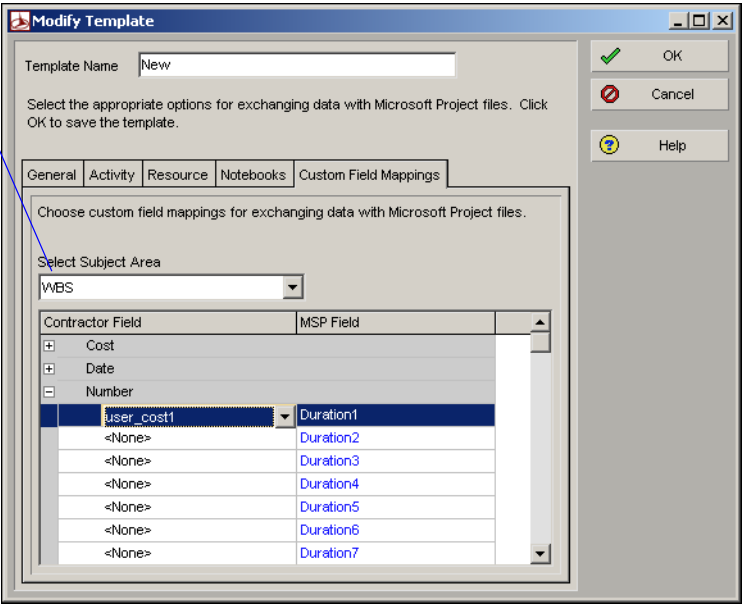


Click the Notebooks tab in the Modify Template dialog box. Project, WBS, and activity notes from Microsoft Project are imported into Notebook fields in Primavera Contractor. Notebook fields are defined in Primavera Contractor in the Categories dialog (choose Settings, Categories, then click the Notebook Topics tab). Select the Notebook fields into which you want to import the Microsoft Project notes.

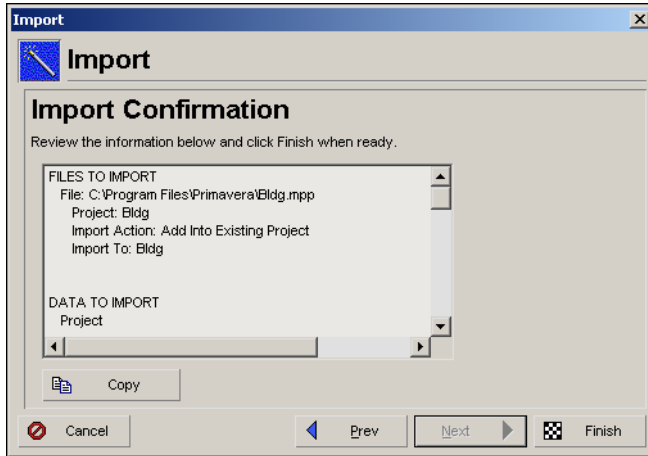


Click the Custom Field Mappings tab in the Modify Template dialog box. You can import information from Microsoft Project into user-defined fields in Primavera Contractor. For each Microsoft Project field you want to import, select a user-defined field in the Primavera Contractor Field column.

You can map Microsoft Project fields to user-defined fields related to WBS, resources, activities, or activity resource assignments.



Click OK to save your modifications to the template. Click Next to review the settings for your import, then click Finish to import the Microsoft Project files.



*Summary Tasks in Microsoft Project import as WBS
Summary activities in the Contractor application.*

Importing Resources

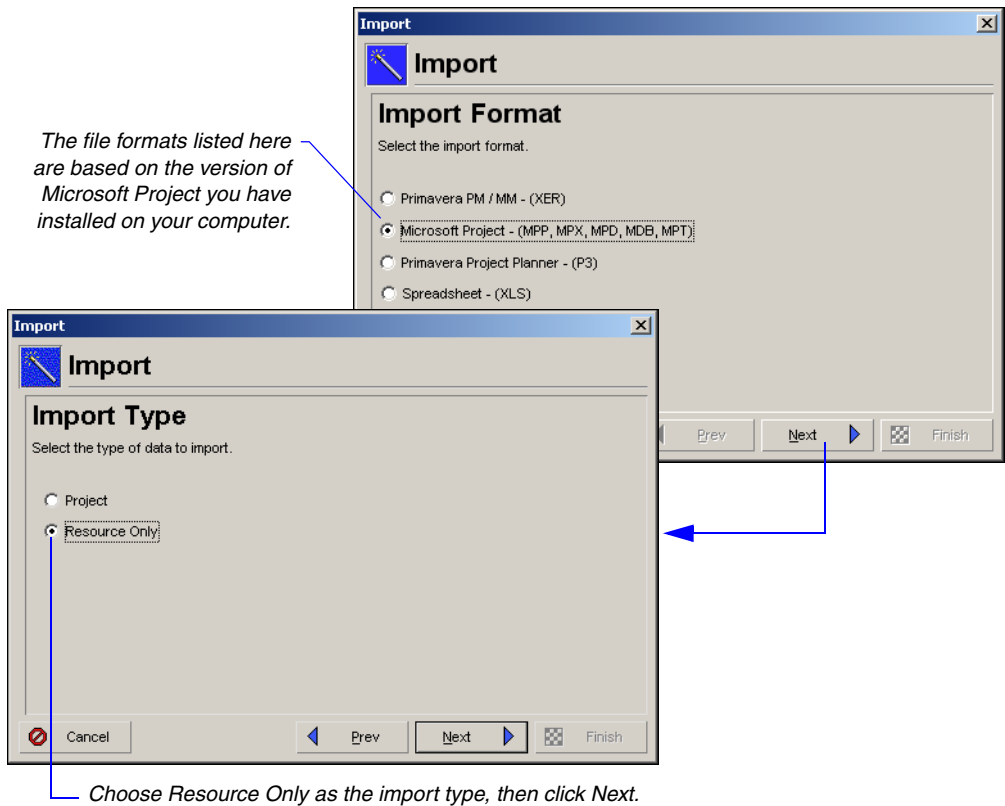
For information about the fields that are converted, see the MSPMAPPINGS.PDF or MPXMAPPINGS.PDF file located on the installation CD.

You may want to transfer resources from Microsoft Project to Primavera Contractor. You can import several different types of Microsoft Project files. The files you can import are determined by the version of Microsoft Project you have installed on your computer. If Microsoft Project 98 or later resides on your computer, you can import MPP, MPX, MPD, MDB, and MPT files; however, Microsoft Project 2007 is not supported. If Microsoft Project does not reside on your computer, you can import MPX files. MPX files may have been created in other third-party applications. The Import wizard guides you through the steps for importing resources.




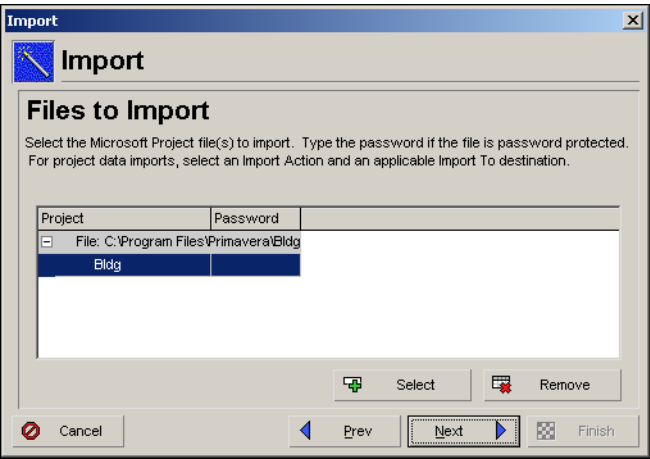
Microsoft Jet 4.0 users should install Service Pack 6. Import errors may occur on computers running Microsoft Jet 4.0 Service Pack 5 or earlier.

Select import type and file Choose File, Import. Choose Microsoft Project, then click Next.

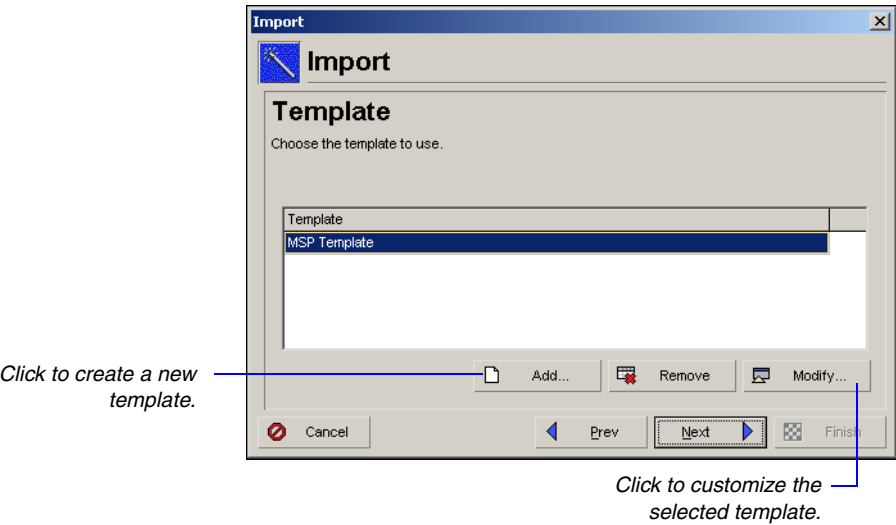


Click Select to choose the file you want to import. If there is a password on the Microsoft Project file, type the password. If you do not enter a password on a protected file, the resources will not import.

 You can only import one file at a time. When you select more than one file to import, the last file you selected is the file that will be imported.



Modify template options Add a new template or modify the existing template (if necessary). The template contains options for exchanging data with Microsoft Project.



Click the Resource tab in the Modify Template dialog box. Choose whether you want to import the Resource Initials or the Resource Name from Microsoft Project to the Resource ID field in Primavera Contractor.

- If you select Resource Initials, only one resource is imported if multiple resources in Microsoft Project use the same initials.
- If you select Resource Name, the first 20 characters of the name import.

Choose how to handle resources that already exist in the database but are also contained in the Microsoft Project import file.

- **Keep existing resource** Retains the resource in the database and does not overwrite it with the resource from the Microsoft Project file.
- **Update existing resource** Overwrites the resource in the database with the resource from the Microsoft Project file.
- **Add new resource** Retains the resource in the database but also adds the resource from the Microsoft Project file.

Choose whether you want to add a new resource if the resource does not already exist in the database but is contained in the Microsoft Project import file. Then, select the level of the hierarchy at which resources should be imported. Click the Browse button, then select the resource under which to place all resources from the Microsoft Project file.

If you choose not to import the resource, the resource assignments are not imported.

Modify Template

Template Name:

Select the appropriate options for exchanging data with Microsoft Project files. Click OK to save the template.

General | **Activity** | **Resource** | Notebooks | Custom Field Mappings

Import

Choose the Microsoft Project field to import as the Resource ID

☒ Resource Name ☐ Resource Initials

If a resource already exists

☒ Keep existing resource
☐ Update existing resource
☐ Add new resource

If a resource does not exist

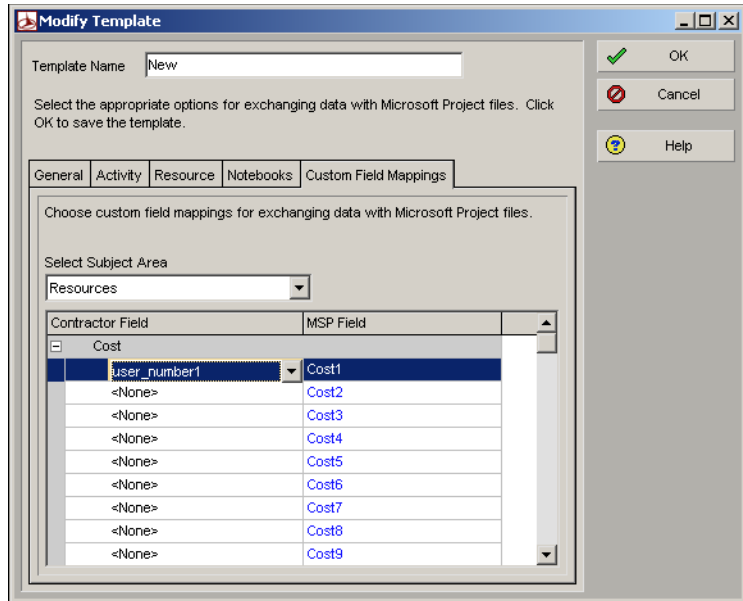
☒ Add new resource

Choose the parent resource under which to import new resources. If left blank, resources are added to the top level of the resource hierarchy.

Import under resource:

OK Cancel Help

Click the Custom Field Mappings tab in the Modify Template dialog box. You can import information from Microsoft Project into user-defined fields in Primavera Contractor. Choose Resources from the drop-down list. For each Microsoft Project field you want to import, select a user-defined field in the Primavera Contractor Field column. The Field column is sorted by field type.



Click OK to save your modifications to the template. Click Next to review the settings for your import, then click Finish to import the Microsoft Project resources.

Transferring Data Between P3 and Primavera Contractor

In this chapter

Exporting Projects to P3 3.x

Importing P3 3.x Projects

Project data from Primavera Project Planner (P3) version 3.x can be converted and opened in Primavera Contractor, and Primavera Contractor projects can be converted and opened in P3 3.x.

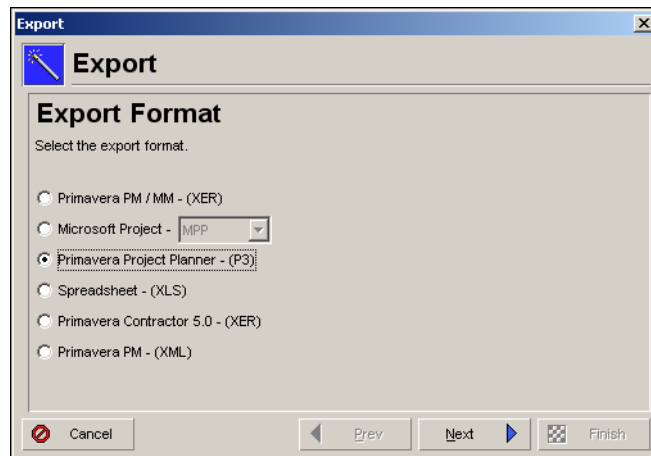
This chapter describes how to use the Export and Import wizards to share project information between P3 and Primavera Contractor.

Exporting Projects to P3 3.x

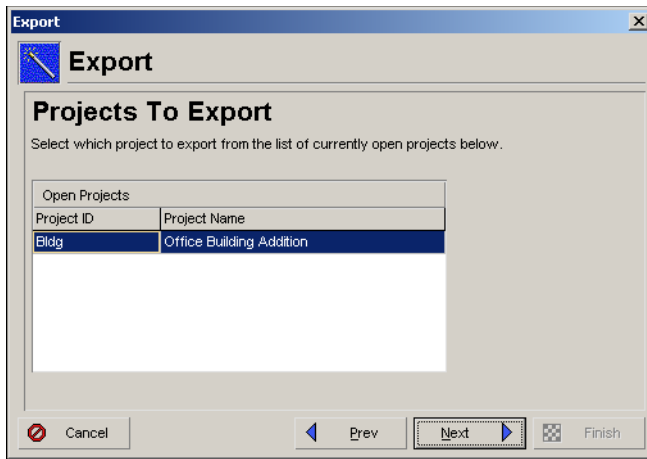
For more information about data that is transferred from Primavera Contractor to P3 3.x, see “Special considerations” on page 368.

You can convert an existing Primavera Contractor project to Primavera Project Planner (P3) 3.x format, for example, when you need to share data with a subcontractor who does not use Primavera Contractor. Because Primavera Contractor uses many structures and features that P3 3.x does not support, some data is not converted. The Export wizard guides you through the steps for exporting projects. You can convert only one project at a time to P3 3.x format.

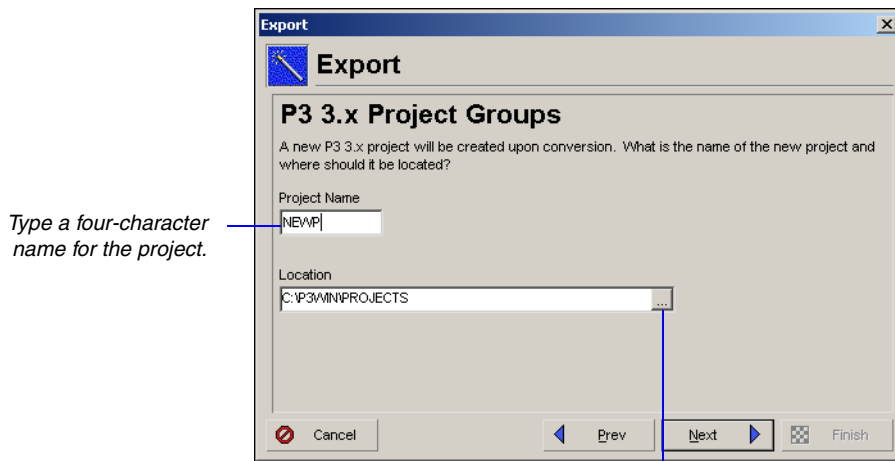
Select export type and project Open the project you want to export. Choose File, Export. Choose Primavera Project Planner, then click Next.



Confirm that the open project is the project you want to export, then click Next.



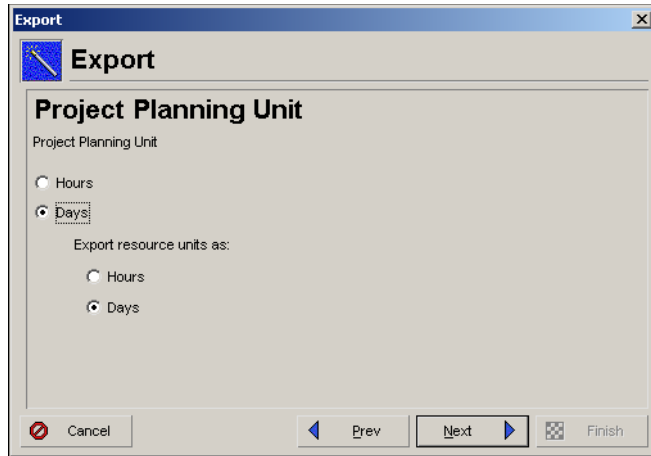
Type a name for the P3 3.x file.



Type a four-character name for the project.

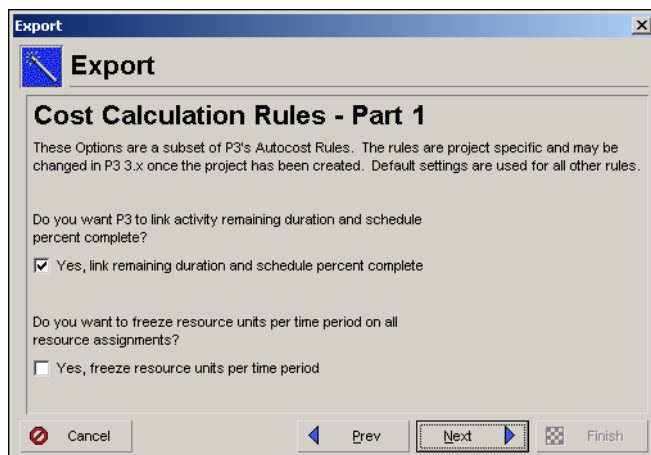
Click the Browse button to select the location where the P3 3.x file will be stored.

Select planning unit Choose the planning unit (hours or days) that you want P3 3.x to use to schedule project data. Primavera Contractor uses only hourly planning units. If you choose Days, you can select to export the resource units as hours or days. Click Next.



See *[“Advanced conversion options”](#)* on page 389 to change the number used to calculate days.

Choose cost calculation rules You can set several Autocost rules for the exported project. Default settings are used for all other Autocost rules. These calculations apply only when the project is scheduled in P3 3.x. You can change these settings when you open the project in P3 3.x.



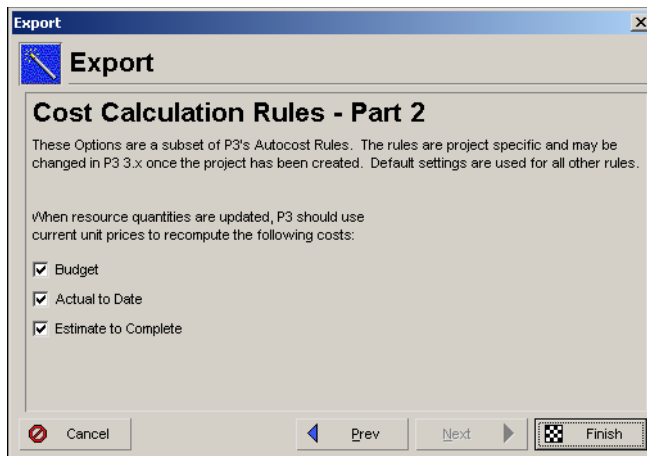
- **Yes, link remaining duration and schedule percent complete:** This rule automatically links each activity's schedule percent complete (PCT) with its remaining duration (RD). When you update either value, P3 3.x calculates the other. Clear this checkbox if the schedule percent complete for your activities does not typically indicate their remaining duration.
- **Yes, freeze resource units per timeperiod:** Mark this checkbox to freeze the units per timeperiod and calculate a new estimate to complete when the remaining duration changes:

Estimate to Complete = Units per Timeperiod x Remaining Duration

Estimate at Completion = New Estimate to Complete + Actual to Date

When this checkbox is cleared, P3 3.x can adjust the units per time-period when the estimate to complete or the remaining duration changes:

Units per Timeperiod = Estimate to Complete / Remaining Duration



- **When resources quantities are updated, P3 should use current unit prices to recompute the following costs: Budget, Actual to Date, Estimate to Complete:** Mark any checkbox for this rule if you want P3 3.x to calculate the cost of the resource's budget, actual to date, or estimate to complete as the product of its unit price (from the Resource dictionary) and the quantity. P3 3.x uses the following formulas:

Budgeted Cost = Budgeted Quantity x Price per Unit

Actual Cost = Actual Quantity to Date x Price per Unit

Cost to Complete = Quantity to Complete x Price per Unit

Because the cost at completion depends on the newly calculated costs, P3 3.x recalculates the cost at completion as

$$\text{Cost at Completion} = \text{Cost to Complete} + \text{Actual Cost}$$

After selecting the cost calculation rules, click Finish to export the project. P3 3.x files are created in the folder specified. These files can be opened directly through P3 3.x.

Special considerations The following list describes the data items that are transferred from Primavera Contractor to P3 3.x.

- **Duration types** Primavera Contractor's duration types control the way resource and activity dates are scheduled. Duration types are similar to Autocost rules in P3 3.x. When the duration type in Primavera Contractor is Fixed Units or Fixed Units/Time, the resource assignment becomes driving in P3 3.x. When the duration type in Primavera Contractor is Fixed Duration & Units/Time or Fixed Duration & Units, the resource assignment becomes nondriving in P3 3.x. Using Fixed Duration & Units/Time is comparable to marking the Freeze Resource Units per Timeperiod checkbox in P3 3.x.
- **Resources** Primavera Contractor contains a global dictionary of resources that are used for all projects. P3 3.x stores resources at the project level. Only resources assigned to activities in the project being exported are imported into P3 3.x. The resource ID in Primavera Contractor can contain 15 characters; resource IDs in P3 3.x can contain eight characters. P3 3.x truncates resource IDs to 8 characters. If duplicate IDs exist, P3 3.x automatically increments the last two characters of the ID.
- **Notebooks** In Primavera Contractor, each activity is assigned a Notebook field, which can contain up to 32,000 characters. P3 3.x contains 99 log records. Each log can contain 48 characters. Notebooks are converted to logs in P3 3.x, but the information is truncated if it does not fit in the 99 log records.
- **Units and costs** To calculate quantities in P3 3.x, labor and nonlabor units from Primavera Contractor are added. To calculate costs in P3 3.x, labor, nonlabor, and material costs, expenses, and overtime costs from Primavera Contractor are added.

- **Activity IDs** In Primavera Contractor, activity IDs can contain 20 characters, while in P3 3.x, they are limited to 10 characters. P3 3.x truncates Primavera Contractor's activity IDs to 10 characters. When duplicate IDs exist, the first eight characters of the activity ID are converted and P3 3.x increments the last two characters starting with 00. For example, Primavera Contractor's activity IDs ABCDEFGHIJKLMNOPQRST and ABCDEFGHIJKLMNOPPP are converted to ABCDEFGHIJ and ABCDEFGH00 in P3 3.x.
- **Cost accounts** The Cost Accounts Dictionary in both P3 3.x and Primavera Contractor can contain an unlimited number of cost accounts; however, in Primavera Contractor the dictionary is global, while in P3 3.x it is project-specific. Only the cost accounts assigned in the Primavera Contractor project are converted to P3 3.x. In Primavera Contractor, cost accounts can contain 15 characters; in P3 3.x they can contain 12 characters. P3 3.x truncates cost accounts to 12 characters. When duplicate accounts exist, P3 3.x automatically increments the last two characters of the account.
- **Calendars** In Primavera Contractor you can create an unlimited number of global, project, and resource calendars. Global and project calendars can be assigned to activities; global and resource calendars can be assigned at the resource level. In P3 3.x, you can create one global calendar, 31 project calendars, and an unlimited number of resource calendars. When you import a Primavera Contractor project to P3 3.x, the global calendar in P3 3.x is not changed. All resource calendars are imported to P3 3.x.



Resource holidays and exceptions are not converted to P3 3.x. Only the standard worktime is converted. For example, if a resource calendar's standard worktime is three days per week, then the resource calendar is imported with a standard worktime of three days per week. No other nonworktime is imported.

If Primavera Contractor contains less than 31 calendars (global plus project), the calendars are imported directly to the project calendars in P3 3.x. However, if Primavera Contractor contains more than 31 calendars, only the first 30 calendars assigned are exported. These calendars are assigned numbers 2 to 31 in P3 3.x. Any activity in Primavera Contractor assigned to a calendar that is not exported is assigned to Calendar 1, the standard five-day, eight-hour calendar in P3 3.x.

You can define work hours in Primavera Contractor in half hour increments. The smallest unit in P3 3.x is hour. If one half of an hour is work time and the other half is nonworktime in Primavera Contractor, the entire hour will be nonworktime in P3 3.x.

- **Activity codes** P3 3.x supports up to 10 characters for the activity code value length; Primavera Contractor allows a maximum of 20 characters. P3 3.x truncates Primavera Contractor code values to 10 characters. The maximum number of activity codes in P3 3.x is 20, and the total of the lengths assigned to the codes cannot exceed 64. You can create an unlimited number of codes in Primavera Contractor. When you export a project to P3 3.x, only the first 64 characters of activity codes are converted to P3 3.x.
- **WBS** Primavera Contractor supports a maximum of 25 levels with an unlimited number of characters. P3 3.x supports 20 WBS levels with a limit of 48 characters. Primavera Contractor will export as many levels as possible until the limit of 48 characters or 20 levels is reached.



WBS descriptions are converted only if the WBS node is assigned to activities.

- **Custom data items** The first eight custom data items in Primavera Contractor are converted to P3 3.x.
- **Suspend and resume dates** In P3 3.x, a suspend date indicates that an activity is suspended at the end of the specified day. In the Contractor application, a suspend date indicates that an activity is suspended at the beginning of the specified day. Due to this discrepancy, actual and remaining durations are affected for daily projects. Hourly projects are not affected.

For example, an activity suspend date of 05OCT04 (beginning of the day) in the Contractor application will export to P3 as 05OCT04 (the end of the day). In P3, the actual duration for the activity will be one day greater than it was in the Contractor application because P3 progresses the work through the suspend date.

- **Scheduling options** The following advanced scheduling options convert to P3 3.x:

Primavera Contractor	P3 3.x
Make open-ended activities critical	Show open ends as (Critical or Noncritical)
For activities started out of sequence use (Retained logic or Progress override)	When scheduling activities apply (Retained logic or Progress override)
Calculate start-to-start lag from (Early Start or Actual Start)	Calculate start-to-start lag from (Actual start or Early start)
Compute Total Float as (Start float, Finish float, or Smallest of start float and finish float)	Calculate total float as (Most critical, Start float, or Finish float)

In Primavera Contractor, you can choose the calendar to use for scheduling relationship lag. Regardless of your setting in Primavera Contractor, P3 3.x always uses the predecessor calendar.

- **Project level calculations** In Primavera Contractor, you can choose how you want to update resource assignments. Choose to Add Actual to Remaining or Subtract Actual from At Completion when updating Actual Units or Costs. In P3 3.x this setting is the same as the autocost rule, Add actual to ETC or Subtract actual from EAC.

The Recalculate Actual Units and Cost when duration % complete changes setting determines if the actual units and cost are updated when the % complete is updated. If the setting is marked, both the Actual quantity to date and Actual cost to date fields are marked in the autocost settings in P3 3.x. If it is not marked in Primavera Contractor, neither field is marked in P3 3.x.

The Link Actual and Actual this Period Units and Cost field converts to the Link actual to date and actual this period autocost rule in P3 3.x.

- **Expenses** All expenses become resource assignments in P3 3.x. An “expense” cost account is assigned to the resource assignment if a cost account is not already assigned.

For additional export considerations regarding future period bucket planning, refer to the Contractor application Help.

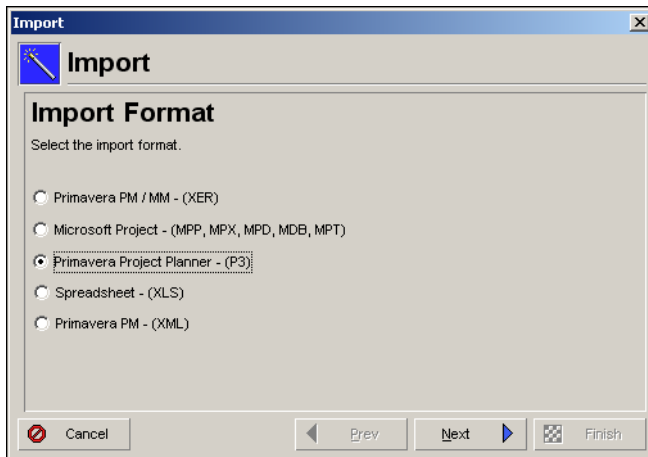
Data not converted The following data is not converted to P3 3.x:

- Constraints on Level of Effort activities
- Steps
- Manually entered future period resource assignments

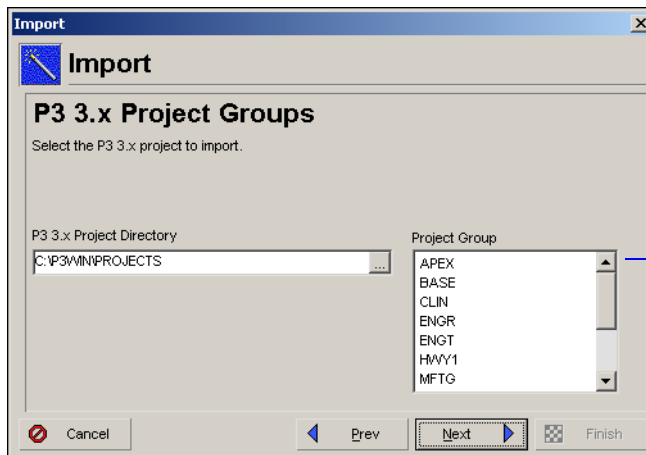
Importing P3 3.x Projects

You can import an existing P3 3.x project to Primavera Contractor. The Import wizard guides you through the steps for importing P3 3.x projects to Primavera Contractor.

Select import type and file In Primavera Contractor, choose File, Import. Choose Primavera Project Planner, then click Next.

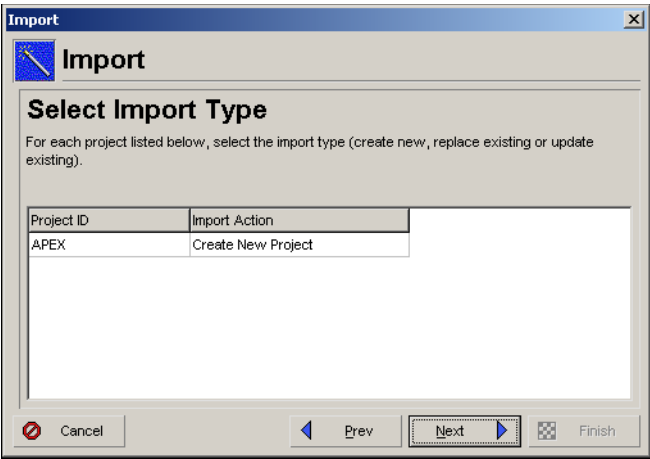


Click the Browse button to select the location of the project you want to import, then select the project name. The project cannot be open in P3. The existing P3 project remains intact. Click Next.




The Project Group field lists all project groups included in the folder specified in the P3 3.x Project Directory field. You can only select one project group.

Specify import project options Choose how the P3 3.x project should be imported. Beside the project name, click the Import Action field, then click the down arrow to select the type of import. Choose the Create New Projects option when moving your P3 projects to Primavera Contractor.

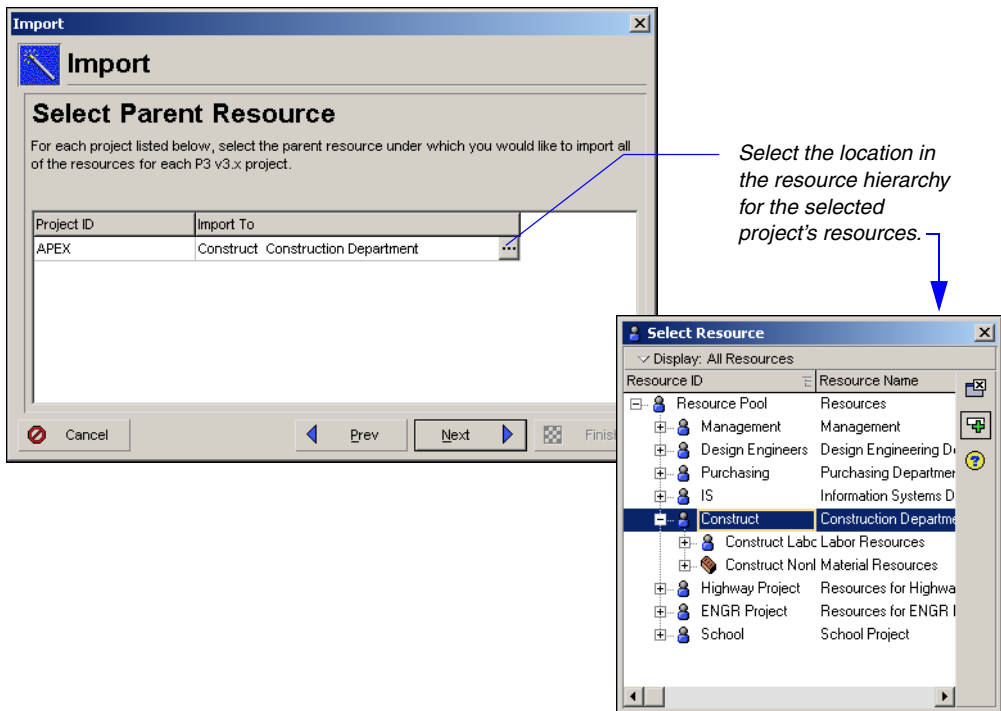


- **Create new project** The existing project’s data remains the same. A new project is created.
- **Replace existing project** The existing project in Primavera Contractor is deleted (without preserving any information) and replaced with the project imported from P3 3.x. Click the Browse button in the Import To field to select the project to replace. The project must be open in Primavera Contractor to use this option.
- **Update existing project** The existing project is updated with any new/modified data in the P3 3.x file. Click the Browse button in the Import To field to select the project to update. The project must be open in Primavera Contractor to use this option.

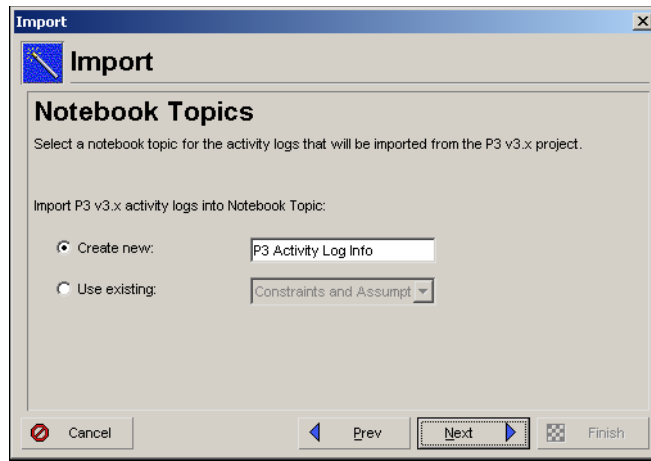
For additional import considerations regarding future period bucket planning, refer to the Contractor application Help.

 *When you import a P3 project to a Contractor project that contains manual future period assignment buckets, the manual values are deleted if you choose the Replace Existing or Update Existing import option.*

Select location for resources Select the level of the hierarchy at which resources should be imported. Click in the Import To field, then click the Browse button. Select the resource under which to place all resources from the P3 3.x project. To better organize your resources, it is best to set up a basic resource hierarchy before you import projects. If you leave the field blank, Primavera Contractor creates a root node with the same name as the P3 project. The resource field is disabled for the Replace Existing Project and Update Existing Project import types.



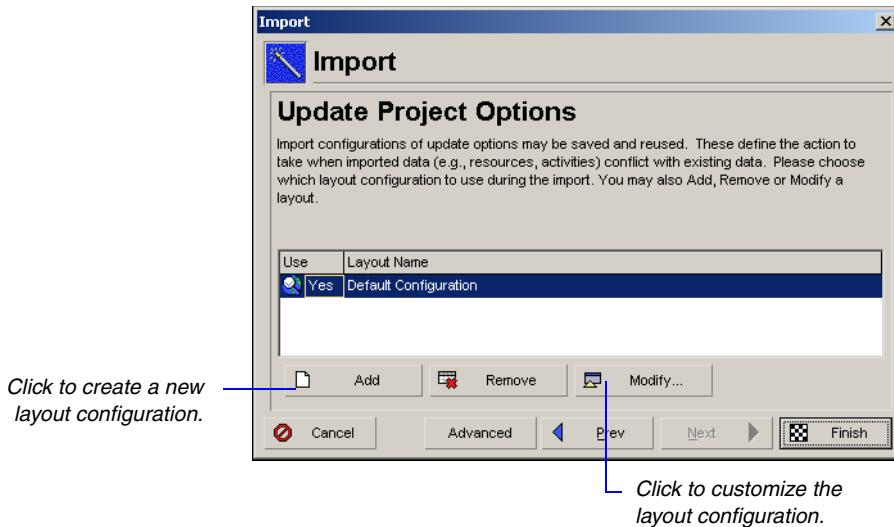
Select location for activity logs P3 3.x activity logs are converted to notes in Primavera Contractor. Notebook topics are predefined categories in Primavera Contractor that help to organize your project notes. Choose to create a new notebook topic for the notes, or select from the existing list of notebook topics. To display notes in Primavera Contractor, in the Activities window click the Layout Options bar, then choose Show on Bottom, Activity Details. Click the Notebook tab.



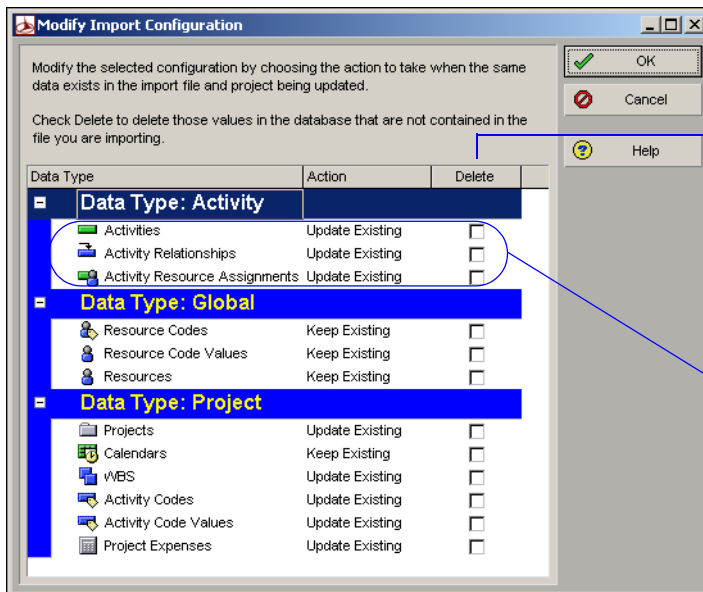
Choose update project options Click Next to select a layout configuration to use when importing project data. The options specified in the layout determine how Primavera Contractor handles data in the import file that matches data in the database. You can create and save several different configurations; however, only one configuration can be used to import the file. Select Yes in the Use field next to the configuration you want to use.



The Update Project Options dialog box appears regardless of the import option you select. For example, if you choose to create a new project, you still must set update options for global data.



Modify a layout configuration The options specified in a layout configuration determine how data is updated when a project is imported that contains duplicate data. To modify these options, select the layout in the Update Project Options dialog box, then click Modify.



The Modify Import Configuration dialog box lists the data types for which you can set options. Mark the Delete checkbox next to a data item to remove data that exists in the project you are updating but is not included in the file you are importing. For example, if several activities are defined in the project you are updating, but are not included in the file to be imported, mark the checkbox in the Delete column to remove the activities from the project being updated.

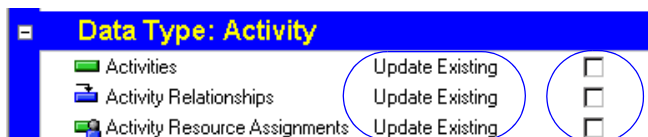


The Delete field applies only to activities, activity relationships, and activity resource assignments. Global data types are not affected by this setting.

Select one of the following in the Action field to indicate how the data type is updated:

- **Keep Existing** Retains data in the existing project and does not overwrite it with the updated data; adds new data if the record does not exist.
- **Update Existing** Overwrites data in the existing project with updated data; adds new data if the record does not exist.
- **Insert New** Retains data in the existing project and adds any new data items. For example, if a new calendar was added in the P3 3.x file, but you don't want to change the existing calendars, choose Insert New to add the new calendar to the existing project.
- **Do Not Import** Retains data in the existing project and does not import the updated data.

The actions you choose for importing the items in the Activity Data Type group are dependent on each other. For example, if you choose to update existing relationships, you must also update existing resource assignments and activities associated with the relationships.

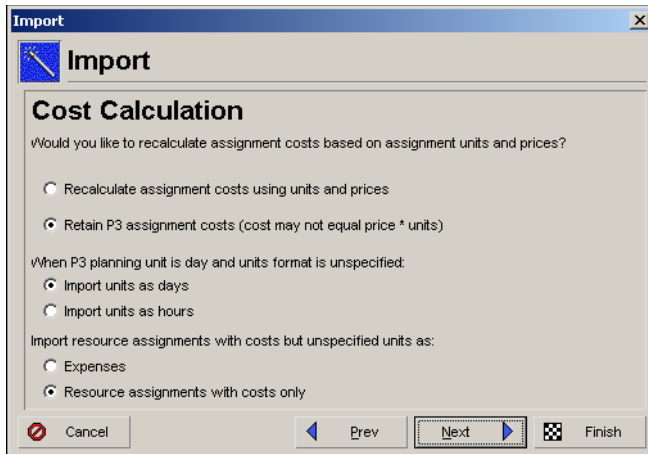


The action for activity data types are dependent on one another.

The Delete field for these items can be independent.

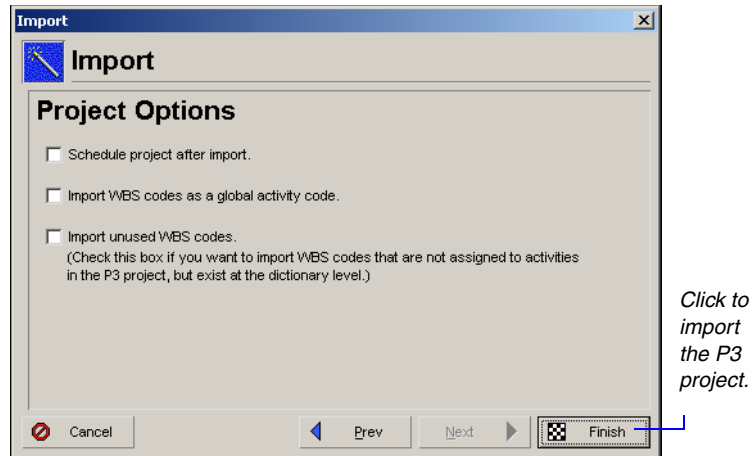
If a relationship type was updated when the project was exported, to import the modified relationship type you must choose to Update Existing *and* mark the Delete field for activity relationships; otherwise, a new relationship will be added. For example, suppose you have Activity 100 with a finish to start relationship type. If you import a project that has Activity 100, but the relationship type has been changed to a start to start type, the import process results in Activity 100 with both the finish to start relationship and the start to start relationship when you do not mark the Delete field. You must mark the Delete field to remove the original relationship type of finish to start.

Calculate cost values Click Advanced in the Update Project Options dialog box to display options specific to existing P3 3.x projects regarding how you want costs handled in Primavera Contractor.



- Indicate whether you want Primavera Contractor to recalculate the cost values from the unit prices and assigned resource quantities.
- When importing a daily project that has resources with a blank unit of measure in P3 3.x, choose to convert the resource assignments in days or hours. If you choose hours, Primavera Contractor retains the resource values as-is. If you choose days, Primavera Contractor multiplies all resource values by a factor of eight (assuming 8 hr/day). You can change the multiplier in the PRMCONVERT.INI file. Refer to [“Advanced conversion options”](#) on page 389.
- Choose whether to import resource assignments that only have cost information (no quantity information) associated with them as expenses or as resource assignments with a budgeted cost.

Choose additional project options Use the Project Options dialog box to specify the following additional options. Click Finish to begin the import process.



- **Schedule project after import** Mark this setting to automatically schedule the project in Primavera Contractor after the import.
- **Import WBS codes as a global activity code** Mark this setting to import the WBS codes from P3 into Primavera Contractor as global activity codes assigned to the activities. The global activity code name created, P3 WBS - Proj, where Proj is the name of the project group in P3, will store the WBS values.
- **Import unused WBS codes** Mark this setting to keep all the WBS codes within each project, even if they are not assigned to any activities.

Special considerations Most data is converted directly from P3 3.x to Primavera Contractor. This section explains how data is handled after it is imported into Primavera Contractor and a direct match does not exist; it also identifies data that is not converted. See [“Data not converted”](#) on page 389 for additional cases.

- **Planning unit** You can only convert projects with an hourly or daily planning unit. Weekly and monthly planning units are not supported. To display duration units in hours, choose Edit, User Preferences, Time Units. Choose Durations as the time unit and Hour as the unit.

- **Activity codes** Primavera Contractor contains global and project activity codes. Global activity codes are provided with the sample data delivered with Primavera Contractor. All activity codes from P3 3.x import as global activity codes in Primavera Contractor, so they are available to all projects. Activity ID codes are not imported.



Activity code values assigned to activities in P3 3.x that do not exist in the Activity Codes Dictionary are not converted to Primavera Contractor.

- **Activity type** Primavera Contractor supports the following activity types that correspond to activity types in P3 3.x:

P3 3.x Activity Type	Primavera Contractor Activity Type
Task	Task Dependent
Independent	Resource Dependent
Start Milestone	Start Milestone
Finish Milestone	Finish Milestone
Meeting	Resource Dependent
Start Flag	Start Milestone
Finish Flag	Finish Milestone
Hammock	Level of Effort
WBS	WBS Summary

- **Activity IDs** In P3, numeric Activity IDs are right-justified. In Primavera Contractor, all activity IDs are left-justified. When you import a P3 project that uses numeric activity IDs into Primavera Contractor, they are left-justified. However, leading blanks are not removed.

- **Duration types** Primavera Contractor allows you to specify each activity's duration type as Fixed Units/Time, Fixed Duration and Units/Time, Fixed Units, or Fixed Duration and Units. When all resource assignments on the P3 3.x task are non-driving, the duration type becomes Fixed Duration & Units/Time, which indicates that an activity's duration will not change, regardless of the number of resources assigned to the activity or the amount of work required to finish the activity.

When any resource assignment on the P3 3.x task is driving and Freeze Resource Units per Timeperiod is marked in the autocost rules, the duration type becomes Fixed Units/Time.

When any resource assignment on the P3 3.x task is driving and Freeze Resource Units per Timeperiod is not marked in the autocost rules, the duration type becomes Fixed Units.

- **Percent complete type** Each activity in Primavera Contractor must be assigned one of the following percent complete types: physical, duration, or units. When you import P3 3.x activities to Primavera Contractor, they are assigned the percent complete type of Duration, which specifies that the activity's percent complete is calculated from the actual and remaining durations.
- **Suspend and resume dates** In P3 3.x, a suspend date indicates that an activity is suspended at the end of the specified day. In the Contractor application, a suspend date indicates that an activity is suspended at the beginning of the specified day. Due to this discrepancy, actual and remaining durations are affected for daily projects. Hourly projects are not affected.

For example, an activity suspend date of 05OCT04 (end of the day) in P3 will import to the Contractor application as 05OCT04 (the beginning of the day). In the Contractor application, the actual duration for the activity will be one day shorter than it was in P3 because P3 progresses the work through the suspend date (while the Contractor application progress at the beginning of the day).

- **Custom data items** P3 3.x custom data items are converted to the following user-defined data items in Primavera Contractor.

P3 3.x Custom Data Item Type	Primavera Contractor Activity User Field	Primavera Contractor Resource User Field
Character (C)	User Text	User Text
Start (S)	User Start Date	User Start Date
Finish (F)	User End Date	User End Date
Numeric (N)	User Integer	User Integer
Precision (P)	User Number	User Number

You can display converted activity custom data items as columns in the Primavera Contractor's Activity Table. In the Activities window (with an Activity Table or Gantt Chart displayed on top), click the Layout options bar, then choose Columns. Select the appropriate user-defined fields from the list of Available Options and add them to the layout.

You can also display your converted resource custom data items as columns in Primavera Contractor. In the Activities window, click the Layout options bar, then choose Show on Bottom, Activity Details. Click the Resources tab to display resource information. Right-click in the column area, and choose Customize Resource Columns. Select the appropriate user-defined fields from the list of Available Options and add them to the table.

- **WBS codes** In Primavera Contractor, a WBS must exist and all activities must be assigned to a WBS code. If the imported P3 3.x project uses a WBS, it is converted to Primavera Contractor. If no WBS exists, Primavera Contractor creates a WBS root node and names it PROJ, where PROJ is the P3 3.x project name. All activities are assigned to this WBS code.



If Import Unused WBS Codes is marked in the Import wizard, Primavera Contractor creates a WBS root node with one level beneath it and names it PROJ.UNASSIGNED, where PROJ is the P3 3.x project name.

Because Primavera Contractor uses the WBS to define a project structure, you should not assign the same WBS code to different activities across projects within a project group in P3 3.x. For example, if activity CS300 is part of the Conveyor System project, it should not be assigned a WBS code that belongs to the Automation System project. If the conversion program encounters this situation, it duplicates the code's entire branch in both projects. To distinguish the projects, the program and project names are added as a prefix to the WBS code structure. For example, for the APEX project, APEX.CONV.AM.01 and APEX.AUTO.AM.01 would be included as branches in the WBS.

- **Resources** Primavera Contractor contains one master resource pool across all projects. A sample resource hierarchy is provided when you install Primavera Contractor. When you import a project, the resources are imported to the location in the hierarchy you specify in the Import wizard. If duplicate resource IDs are encountered during the import process, you can choose how to resolve each conflict by modifying the import configurations in the Import wizard.

In Primavera Contractor, resources are classified as labor, nonlabor, or material. Any resource in P3 3.x with a unit of measure equal to most variations of a time unit, such as h, hr, or hour, is converted as a labor resource. Any resource in P3 3.x with a unit of measure equal to those defined in the Categories dialog box, Units of Measure tab in Primavera Contractor is converted as a material resource. All other resources are classified as nonlabor. Labor units are displayed as hrs/day. You can change the display unit by choosing Edit, User Preferences, and then clicking the Time Units tab.



You can customize how the import program classifies resources. See [“Advanced conversion options”](#) on page 389 for more information.

All time-based calculations in Primavera Contractor are based on hourly units. If your project in P3 3.x is planned in days, Primavera Contractor refers to each resource's unit of measure to determine how to convert resource assignments. If the resource unit of measure is equal to most variations of an hourly time unit such as, hr or mh, then Primavera Contractor assumes the resource assignment is based on hours and converts it as-is. If the resource unit of measure is something other than hours such as, day or d, then Primavera Contractor assumes the resource assignment is in days and multiplies all resource values by a factor of eight (assuming 8 hr/day). In this case, decide if eight is the correct multiplier. If the resource is classified as a material resource, the resource units are not multiplied; they convert as-is.

You can change the multiplier in the PRMCONVERT.INI file. You can also modify the list of unit of measure abbreviations that Primavera Contractor refers to during the conversion. For more information, refer to [“Advanced conversion options”](#) on page 389.

For resources that have a blank unit of measure, use the Import wizard to decide how to handle the assignments, as described earlier in this chapter.



The conversion process creates additional levels in the resource structure for P3 3.x hierarchical resources. Primavera Contractor supports only maximum limits for resources. Normal resource limits are not converted.

Resources assigned to milestone activities in P3 3.x become expenses in Primavera Contractor. The resource name is used for the expense name, and the resource's budgeted cost is the expense's budgeted cost. The first resource found on the milestone becomes the primary resource in Primavera Contractor.

- **Resource curves** In Primavera Contractor, you can view (but not edit) the allocation of resources and costs over the duration of an activity using resource curves. All resource curve definitions assigned to the projects being exported from P3 3.x, are imported into Primavera Contractor. The curve name is prefaced by the P3 3.x project name in Primavera Contractor (e.g., APEX - Triangular). The resource curve assignments are also imported.

P3 3.x divides the activity's duration into 11 increments (points) from 0 through 100 percent. Each increment indicates resource use. The value for 0% represents the amount of resource already used when the activity begins; the value for 10% represents the usage between the start and 10% completion. Curves in Primavera Contractor are defined using 21 points. The first point from P3 3.x imports directly into Primavera Contractor. The other 10 curve values are split in half and rounded to the nearest 10th.

For example:

P3 3.x Bell Shape 0 1 3 8 15 23 23 15 8 3 1

Primavera Contractor Bell Shape: 0 .5 .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 .5 .5

- **Costs** In P3 3.x, the estimate to complete can be a negative value to account for cost overruns on an activity. All negative cost values import to Primavera Contractor as expenses, so the cost overruns can be tracked. Lump sum costs can be converted as expenses or resource assignments with a budgeted cost in Primavera Contractor. From the Import Wizard, click on the Advanced button in the Update Project Options dialog box to select your preference.
- **Cost accounts** Cost accounts are converted from P3 3.x to Primavera Contractor. Cost accounts are global across all projects in Primavera Contractor. A sample cost account hierarchy is provided when you install Primavera Contractor. When you import a project, Primavera Contractor creates a branch for the project cost accounts, and the project name is added to the beginning of each cost account. The cost category in P3 3.x becomes part of the cost account in Primavera Contractor. For example, cost account 11101 from project APEX creates the following branch in Primavera Contractor:
 - APEX
 - APEX.11101
 - APEX.11101.L

If duplicate cost accounts are encountered when you import a P3 3.x project, you can choose how to resolve each conflict by modifying the import configurations in the Import wizard.

- **Calendars** Primavera Contractor supports global, resource, and project calendars. Global calendars in Primavera Contractor apply to all projects. Sample global calendars are provided with Primavera Contractor. When you import a project, all base calendars are added to the list of existing global calendars. Resource calendars from P3 3.x are converted to resource calendars in Primavera Contractor.

Primavera Contractor does not support the ability to designate repeating holidays. If you convert a daily P3 3.x project, the repeating holidays from the P3 3.x project are applied directly to the global calendars in Primavera Contractor. For example, if July 4 is a repeating holiday in P3 3.x, it is designated as a nonworkday in the global calendars for each applicable date from the project start date to the project finish date in Primavera Contractor.

- **Constraints** Primavera Contractor supports two constraints per activity. Review the following conversion table:

P3 3.x Constraint Type	Primavera Contractor Constraint Type
Early Start (start no earlier than)	Start On or After
Late Start (start no later than)	Start On or Before
Early Finish (finish no earlier than)	Finish On or After
Late Finish (finish no later than)	Finish On or Before
Start On	Start On
Expected Finish	Expected Finish Date
Mandatory Start	Mandatory Start
Mandatory Finish	Mandatory Finish
Zero Total Float	Not Converted
Zero Free Float	As Late As Possible

- **Target projects** You can convert target projects just as you would any other project; however, the target designators are not converted. To designate a target project in Primavera Contractor, choose Projects, Baselines. Click Add and choose Convert Another Project to a New Baseline of the Current Project. Select the converted target project as the baseline for the current project.

- **Scheduling options** The following scheduling options convert to Primavera Contractor:

P3 3.x	Primavera Contractor
Show open ends as (Critical or Noncritical)	Make open-ended activities critical
When scheduling activities apply (Retained logic or Progress override)	For activities started out of sequence use (Retained logic or Progress override)
Calculate start-to-start lag from (Actual start or Early start)	Calculate start-to-start lag from (Early Start or Actual Start)
Calculate total float as (Most critical, Start float, or Finish float)	Compute Total Float as (Start float, Finish float, or Smallest of start float and finish float)

In P3 3.x, relationship lag is always calculated using the predecessor calendar. An advanced scheduling option in Primavera Contractor enables you to choose the calendar you want to use. This setting will default to predecessor calendar for imported P3 3.x projects.

In Primavera Contractor, float calculations for subprojects converted as individual projects are always based on the finish date of each individual project.

Primavera Contractor always rolls up resources assigned to an activity, which then determine the activity’s durations and schedule dates.

- **Autocost rules** P3 3.x provides automatic resource/cost calculation rules by which P3 3.x calculates costs and estimates resource use when you update activities. These rules convert to Primavera Contractor.

The autocost rule, Add actual to ETC or Subtract actual from EAC converts to the Add Actual to Remaining or Subtract Actual from At Completion when updating Actual Units or Costs field in the Calculations tab of the Project Properties dialog.

P3 3.x provides an autocost rule to choose whether you want to use the updated percent complete to calculate actual quantity to date, actual cost to date, both (mark both checkboxes), or neither (clear both checkboxes). If both checkboxes are marked in P3 3.x, the setting in Primavera Contractor, Recalculate Actual Units and Cost when duration % complete changes, is marked. If neither checkbox is marked in P3 3.x, the setting is not marked in Primavera Contractor. If one checkbox is marked and the other is not, the setting in Primavera Contractor is not marked.

The Link actual to date and actual this period autocost rule in P3 3.x converts to the Link Actual and Actual this Period Units and Cost field in the Calculations tab of the Project Properties dialog in Primavera Contractor.

Data not converted This section lists the data items that are not converted from P3 3.x to Primavera Contractor. Refer to [“Special considerations”](#) on page 380 for additional cases.

- **Layouts, filters, Global Change specifications, and report and graphic specifications** Layouts, filters, Global Change specifications, and report and graphic specifications are not converted with the project; however, sample data is provided for these items in Primavera Contractor (except for Global Change, which is not supported in Primavera Contractor).
- **Access rights** Access rights are not converted in Primavera Contractor.
- **Leveling options and leveling priorities** Leveling is not supported in Primavera Contractor.

Advanced conversion options The Conversion utility provides additional options that you can set in an INI file.

The PRMCONVERT.INI file is created in your Windows or Winnt folder the first time an import is run. Add any of the following options to the file:

[WBS]

WbsAsActCode=[0,1] Choose 1 to enable the import process to import all WBS codes as a global activity code. The global activity code name created, P3 WBS - Proj, where Proj is the name of the project group in P3, will store the WBS values. If this option is set to 0, the WBS will import to the WBS structure in Primavera Contractor. The default setting is 0.

AutoSelect=[0,1] Choose 1 to enable the conversion process to attempt to match the WBS with the project hierarchy structure. A unique WBS branch will be created for each project within the project group. The default setting is 1.

[Settings]

NoUI=[0,1] Choose 1 to remove the GUI screens when using command line conversions. For example, if you are using a batch file to perform many conversions, and you do not want any GUI to show, select 1. The default setting is 0.

DailyMultiplier=[#] Select an integer to use as a multiplier when exporting/importing daily P3 3.x projects. The default multiplier is 8.

For example: *P3 3.x to Primavera Contractor*: If a duration is one day in P3 3.x and the daily multiplier is set to 12, the duration in Primavera Contractor will be 12 hours.

Primavera Contractor to P3 3.x: If a duration is 40 hours in Primavera Contractor and the daily multiplier is set to 10, the duration in P3 3.x will be four days.

[Resource Units]

The conversion process uses the unit of measure for resources in P3 3.x to determine whether to categorize a resource in Primavera Contractor as labor, nonlabor, or material. If a resource in P3 3.x contains one of the following units of measure, it is converted as a labor resource in Primavera Contractor: h, h., hr, hr., hrs, hrs., hour, d, d., day, days, w, w., wk, wk., wks, wks., week, m, m., mnth, y, y., yr, yr., yrs, yrs., year, md, md., mds, mds., mh, mh., mhs, mhs.

If a resource in P3 3.x contains one of the following units of measure, it is converted as a material resource in Primavera Contractor: feet, ft, ft., sqft, cyds, cyd, cyd., yard, yrd, yrd., yrds, yd, yd., yds, yds., inch, ton, tons, in, in., lf, lft, lft, ea, each, unit, u.

All other resources are converted as nonlabor. The unit of measure conversion is not case-sensitive.

Labor=[unit of measure] Specify unit of measure strings to add to the default labor list; use commas to separate each string.

NonLabor=[unit of measure] Specify unit of measure strings to add to the default nonlabor list; use commas to separate each string.

Material=[unit of measure] Specify unit of measure strings to add to the default material list; use commas to separate each string.

In the following example, a1, test, and bbb will be added to the default list above, hrs and hr. will be removed from it and added to the nonlabor list, and lb, lbs will be added to the default material list:

[Resource Units]

Labor=a1,test,bbb

NonLabor=hrs,hr.

Material=lb,lbs

BlankIsLabor=[0,1,2]

Set to 0 to convert blank resource unit of measure fields to nonlabor resources in Primavera Contractor; set to 1 to convert blank resource unit of measure fields to labor resources; set to 2 to convert blank resource unit of measure fields to material resources. The default setting is 1.

HourlyAdd=[comma-delimited string] Specify resource unit strings to be added to the default list of units treated as hourly.

HourlyRemove=[comma-delimited string] Specify resource unit strings to be removed from the default list of units treated as hourly.

DailyAdd=[comma-delimited string] Specify resource unit strings to be added to the default list of units treated as daily.

DailyRemove=[comma-delimited string] Specify resource unit strings to be removed from the default list of units treated as daily.

In the following example, the unit strings a1, test, and bbb are treated as hourly units:

[Resource Units]

HourlyAdd=a1,test,bbb

The default string for Hourly =

h,h.,hr,hr.,hrs,hrs.,hour,mh,mh.,mhs,mhs., rh,rh.,rhs,rhs.,ph,ph.,phs,phs.

The default string for Daily = d,d.,day,days,md,md.,mds,mds.,rd,rd.,rds,rds.,pd,pd.,pds,pds.

[UOM Mapping]

UOM1=unit of measure=unit of measure string

Specify the units of measure used in P3 that are equivalent to the unit of measure specified in the Categories dialog box, Units of Measure tab in Primavera Contractor.

In the following example, all abbreviations of cubic yard listed in the unit of measure string will convert to the standard cubic yard (cu. yard) unit of measure defined in Primavera Contractor:

[UOM Mapping]

UOM1 =cu. yard=cy, cuyd, cuy, kf

Linking Primavera Contractor with Primavera Contract Manager

In this chapter

Linking Primavera Contractor to Primavera Contract Manager

Linking a Primavera Contractor Project with a Contract Manager Project

Importing Contract Manager Data to a Primavera Contractor Project

Primavera Contract Manager (formerly known as Expedition) is a contract management and project administration tool. From Primavera Contractor, you can set up access to Contract Manager and create a link to import Contract Manager data (version 9.x or later) to update schedule dates, cost information, the Activity Codes dictionary, and the Cost Accounts dictionary. You can also view Contract Manager documents associated with your project's activities.

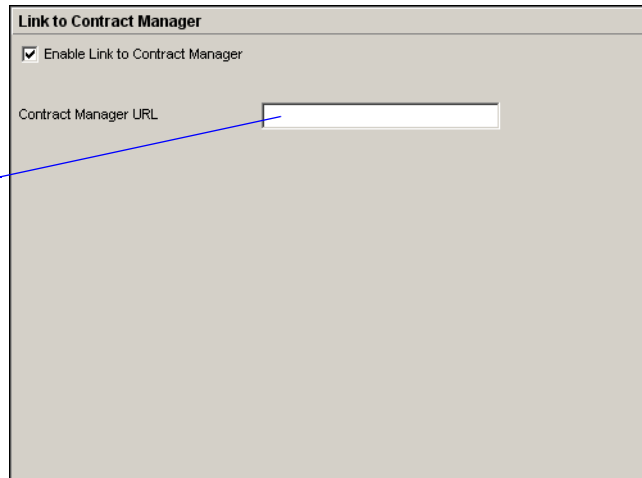
This chapter explains how to link Primavera Contractor to Primavera Contract Manager, link a Contractor project to a Contract Manager project, and import Contract Manager data.

Linking Primavera Contractor to Primavera Contract Manager

To set up access to Contract Manager (formerly known as Expedition), you must first create a link between Contractor and Contract Manager.

Link to Contract Manager Use the Options dialog box to set up a link with Contract Manager. Choose Settings, Options, then click the Contract Manager tab. Mark the Enable Link to Contract Manager checkbox, then enter the URL and port number of the Contract Manager Web server to which you are connecting. Click Close.

Type the URL and port number to the Contract Manager Web server.



To connect the Contractor module to a Contract Manager HTTPS:// URL, the SSL library must be loaded. For more information, refer to the Contractor application Help.

For http, the default port number is 80, but you do not have to enter it. If you are not going to use port 80, you must enter the port number, in addition to the server name or IP address.

For example: http://10.12.14.168:110.

For https, the default port number is 443. You must always enter the port number, including the default port number, at the end of the URL.

For example: https://10.12.14.189:443.

Linking a Primavera Contractor Project with a Contract Manager Project

After establishing a link between Primavera Contractor and Contract Manager, you can link specific projects in Contractor with specific projects in Contract Manager.

Link to a project in Contract Manager Open the Contractor project you want to link to a Contract Manager project. Choose Project, Project Properties, then select the Contract Manager tab.

Choose if you want to be prompted for a user login and password when retrieving Contract Manager data. If you choose to log in without being prompted, type your Contract Manager login name and password.

☒ Allow this project to link with Contract Manager

Group Name : Project Name

<Group Name>:<Project Name> ...

☐ Prompt for login name and password when logging in

☒ Login with the following login name and password

Login Name Password

On the Contract Manager tab, mark the 'Allow this project to link with Contract Manager' checkbox. Click the Browse button to choose the Contract Manager project you want to link to your Contractor project.



From Contract Manager, you can additionally create a link from a Contract Manager project to a Contractor project schedule. A link from within Contract Manager enables you to review dates from the project schedule to see how schedule delays or other factors affect the project. For more information on creating a link from Contract Manager, please refer to the Contract Manager User's Guide.

Importing Contract Manager Data to a Primavera Contractor Project

After linking Primavera Contractor to the Contract Manager and linking a Contractor project to a Contract Manager project, you can import specific types of Contract Manager data to Contractor.

Importing Contract Manager data To import Contract Manager project data, open the Contractor project to which you want to import data. Choose File, Import from Contract Manager. Select the types of schedule, cost, and dictionary data you want to import. Click Import.

Import Contract Management Data

<p>Schedule Information</p> <p>Choose which items to import to update activity information such as dates and progress.</p> <p><input type="checkbox"/> Drawing Sets <input type="checkbox"/> Submittals</p> <p><input type="checkbox"/> Daily Reports</p> <p><input type="checkbox"/> Materials</p> <p><input type="checkbox"/> Punch Lists</p>	<p>Update Cost Information</p> <p>Choose which items to import to update budget and expense information.</p> <p><input type="checkbox"/> Budgeted Contracts/Purchase Orders</p> <p><input type="checkbox"/> Committed Contracts/Purchase Orders</p> <p><input type="checkbox"/> Schedule of Values</p> <p><input type="checkbox"/> Change Orders</p>	<p>Close</p> <p>Import</p> <p>Help</p>
<p>Dictionary Information</p> <p><input type="checkbox"/> Vendor and company information in project code Responsibility</p> <p><input type="checkbox"/> Contract number and title in project code Contracts</p> <p><input type="checkbox"/> Specification section and title in global code Spec Section</p> <p><input type="checkbox"/> Bid package and description in project code Bid Package</p> <p><input type="checkbox"/> Submittal activities in project code Submittal Activity</p>		
<p><input type="checkbox"/> Update cost account information</p>		

Before data is imported, the Contract Manager Import Report is displayed, listing all the information that will be imported to your project. Click Commit Changes to import the data. To save the report to a log file, click Yes and specify a filename and location. Click Close. Click Yes to save any changes you made to the import settings or No to discard changes.

Import considerations This section details how Primavera Contractor imports data from Contract Manager.

- **Global activity codes** The Spec Section code is available to all projects in Contractor.

- **Project activity codes** The Responsibility, Contracts, Bid Package, and Submittal activity codes are imported as project activity codes.

The Responsibility code is imported from the Contacts subsection of the Project Information section. The Abbreviation and Company Name columns are used as the code value and description, respectively.

The Contracts code is imported from the Contracts and Purchase Orders subsections of the Contract Information section. The No. and Description columns are used as the code value and description, respectively.

When you import the Submittal Activity code, the activity is assigned the code value Yes to indicate that the item is a submittal.

- **How activity codes are imported** If the code or value does not exist, the imported code or value is added to the dictionary.

If the code exists but the value does not, the value is added to the dictionary.

If the code and value exist, but the value assigned to the activity does not match the imported value, the value on the activity is overwritten.

If the activity does not exist, it is created.

- **Cost accounts** Cost codes in Contract Manager are imported to the Cost Accounts dictionary. The Cost Accounts dictionary is available to all projects in Contractor. All items in the Cost Worksheet are imported as cost accounts and placed under a root node having the same name as the imported Contract Manager project. The Cost Code and Title columns are imported as the Cost Account ID and Cost Account Name, respectively.

- **Cost information** Cost information from Contract Manager is imported as Expenses for activities.

Transferring Data to Primavera Contractor 5.0 Users

In this chapter

Exporting Projects to Primavera Contractor 5.0 XER Files

Exporting Resources to Primavera Contractor 5.0 XER Files

Data can be transferred from a Primavera Contractor 6.1 user to a Primavera Contractor 5.0 user by exporting XER files (Primavera proprietary exchange format) compatible with Contractor 5.0. This section describes how to use the Primavera Contractor 5.0 export option to transfer project and resource information from Primavera Contractor 6.1 for use with Primavera Contractor 5.0.

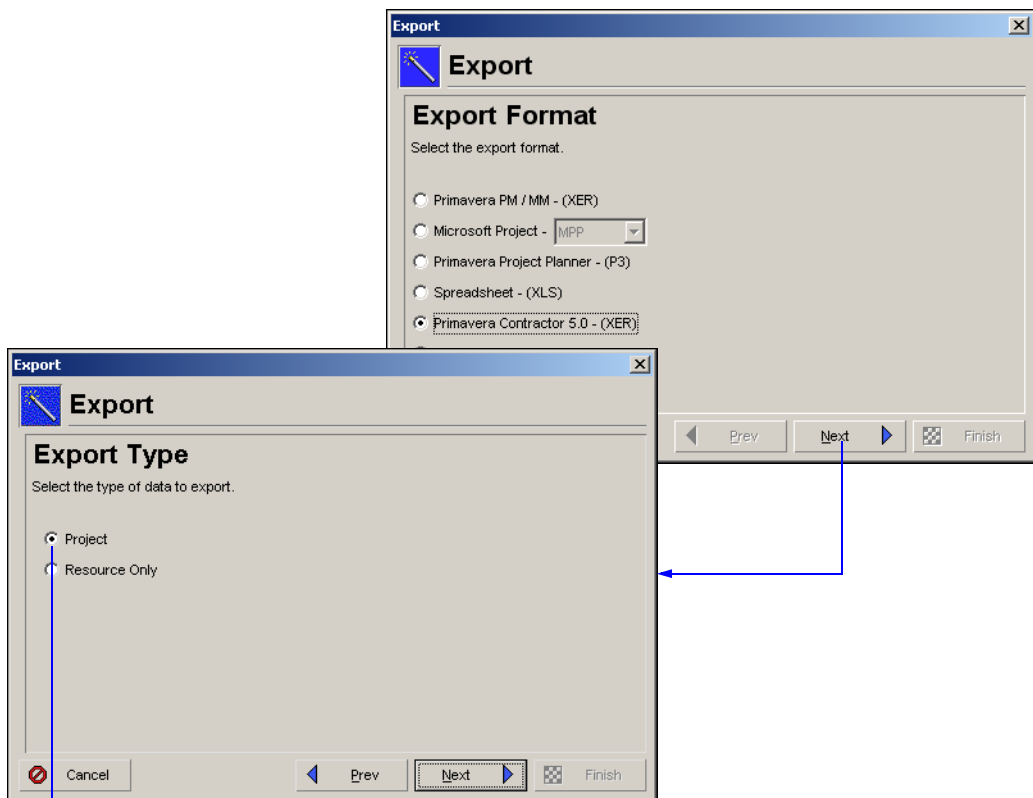
For information on transferring data between Primavera Contractor 6.1 users, as well as Project Management module users, refer to [“Transferring Primavera Data \(XER and XML\)”](#) on page 311.

Exporting Projects to Primavera Contractor 5.0 XER Files

In Contractor 6.1, you can import an XER file created in Contractor 4.1 and later. For more information, see [“Importing Projects”](#) on page 319.

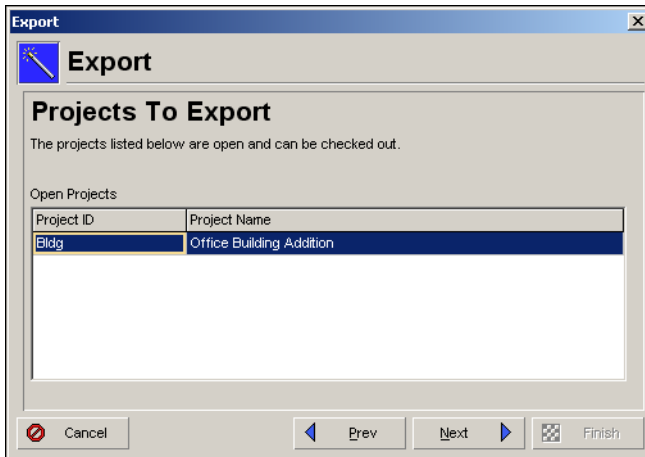
Project data can be transferred from Primavera Contractor 6.1 as XER files (Primavera proprietary exchange format) and used with Primavera Contractor 5.0. Use the Export wizard to export Primavera Contractor 6.1 projects to Primavera Contractor 5.0 XER files. The Export wizard guides you through the steps for exporting projects.

Select export type and project Open the project you want to export. Choose File, Export. Choose Primavera Contractor 5.0, then click Next. Choose Project as the export type, then click Next.

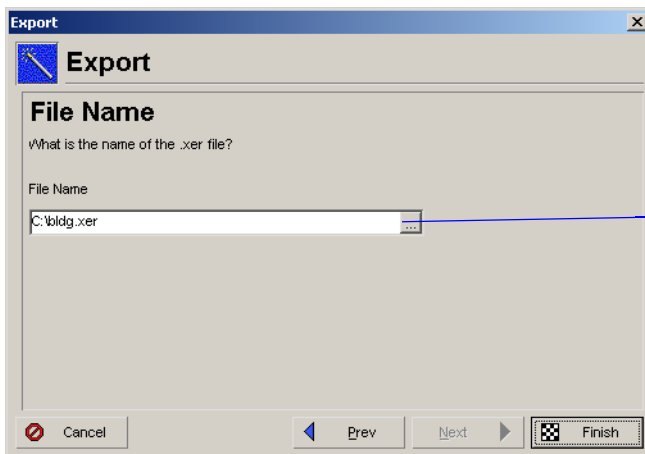


Choose Project as the export type, then click Next.

Verify that the open project is the project you want to export, then click Next.



Specify filename and location Type a name for the XER file. To specify the location where the file will be stored, click the Browse button. If you do not specify a location, the export file is stored in the My Documents folder. Click Finish to export the project to a single file with an XER extension.



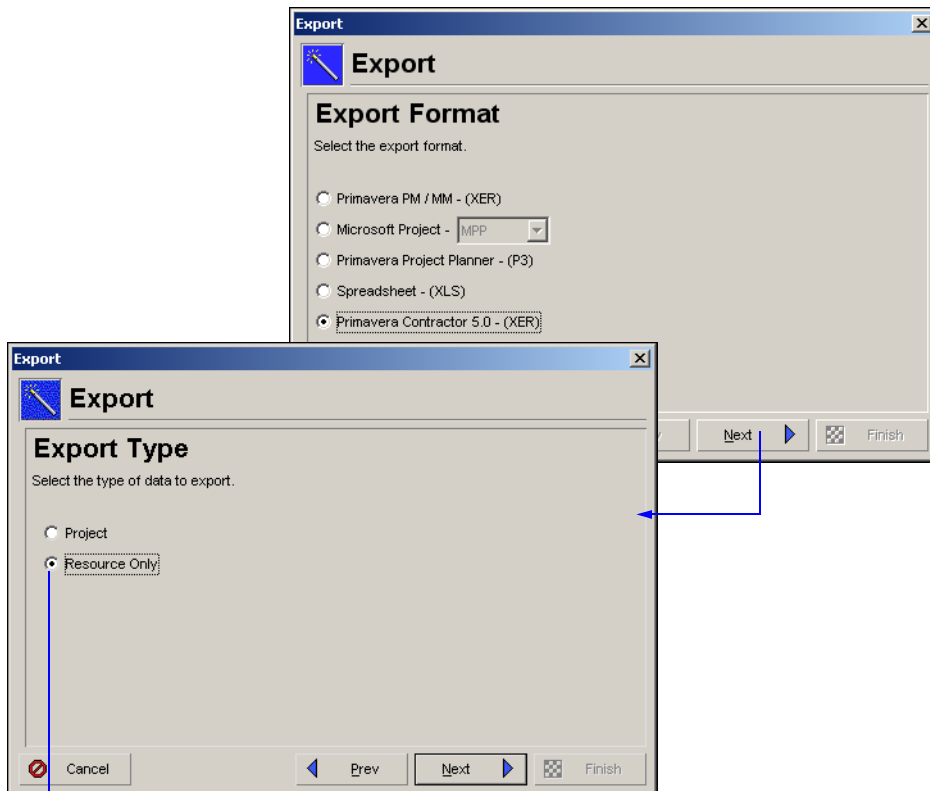
Click to select the location where the file will be stored.

Exporting Resources to Primavera Contractor 5.0 XER Files

In Contractor 6.1, you can import XER files created in Contractor 4.1 and later. For more information, see [“Importing Resources from XER Files”](#) on page 331.

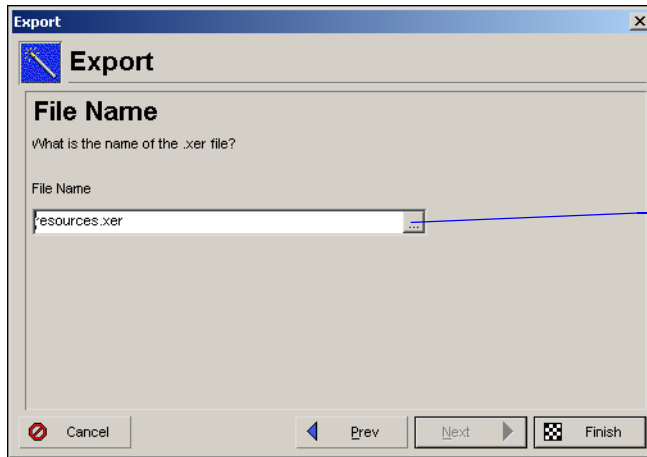
Primavera Contractor enables you to export only the resources in your resource hierarchy to Primavera Contractor 5.0 XER files. Use the Export wizard to export Primavera Contractor 6.1 resources to Primavera Contractor 5.0 XER files. The Export wizard guides you through the steps for exporting resources.

Export resource data Choose File, Export. Choose Primavera Contractor 4.1, then click Next. Choose Resource Only as the export type and click Next.



Choose Resource Only as the export type, then click Next.

Type a name for the XER file. To specify the location where the file will be stored, click the Browse button. If you do not specify a location, the export file is stored in the My Documents folder. Click Finish to export the resources to a single file with an XER extension.



Click to select the location where the file will be stored.

Transferring Data using Microsoft Excel (XLS) Files

In this chapter

**Exporting Project Data to
Microsoft Excel**

**Updating Project Data in
Microsoft Excel**

**Importing Project Data from
Microsoft Excel**

Use the Spreadsheet import/export option to transfer project and resource information between the Primavera Contractor and Microsoft Excel.

This chapter describes how to use the Export and Import wizards to share information using the Spreadsheet (XLS) format.

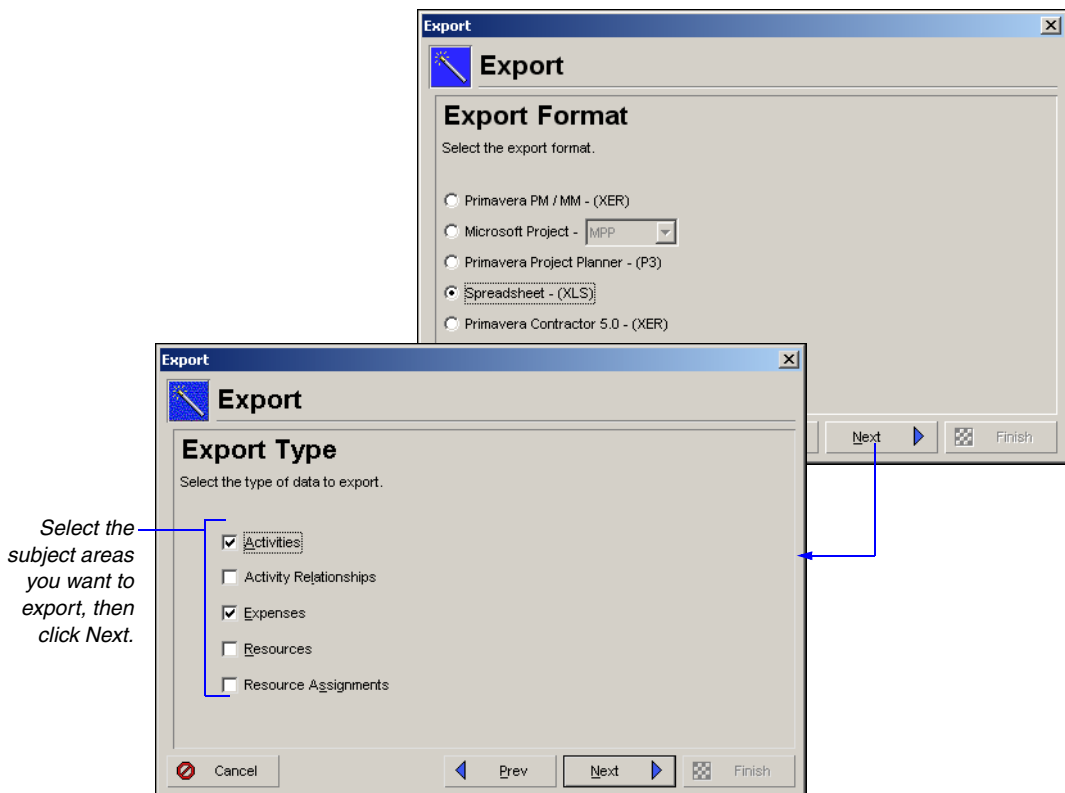
Exporting Project Data to Microsoft Excel

When you export project data to XLS file format, you can then open the file in Microsoft Excel. You can also import the file into other software applications that support the XLS file format. The Export wizard guides you through the steps for exporting a project.



Export does not support the sub-unit time format. Make sure the Sub-unit checkboxes are clear in the Edit, User Preferences, Time Units tab.

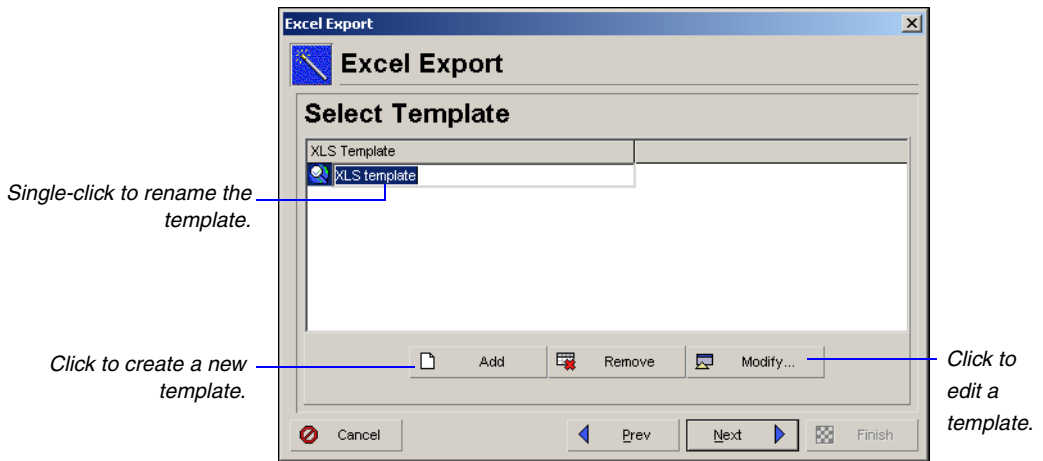
Select export format and subject area Open the project in the you want to export. Choose File, Export to start the Export wizard. Choose Spreadsheet, then click Next.





If you choose multiple subject areas, Export will create an individual worksheet for each subject area in the spreadsheet file.

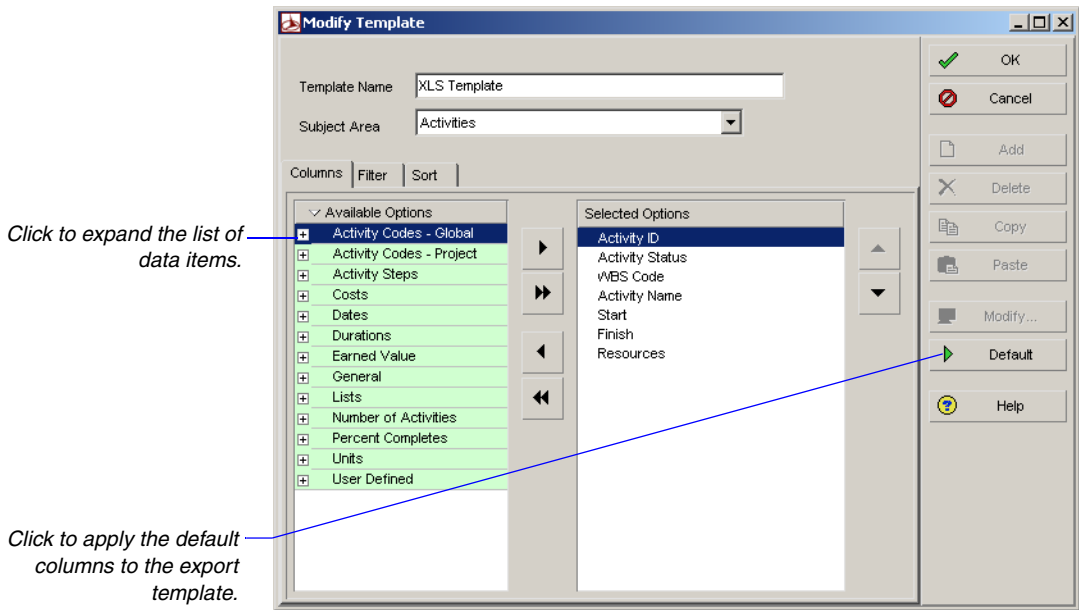
Modify template options Add a new template or modify the existing template. The template contains options for exchanging data with Microsoft Excel or other spreadsheet applications. Click Modify to customize the selected template.



Select a Subject Area in the Modify Template dialog box to modify its options. In the Columns tab, select the fields to export. The available options are based on the selected subject area.

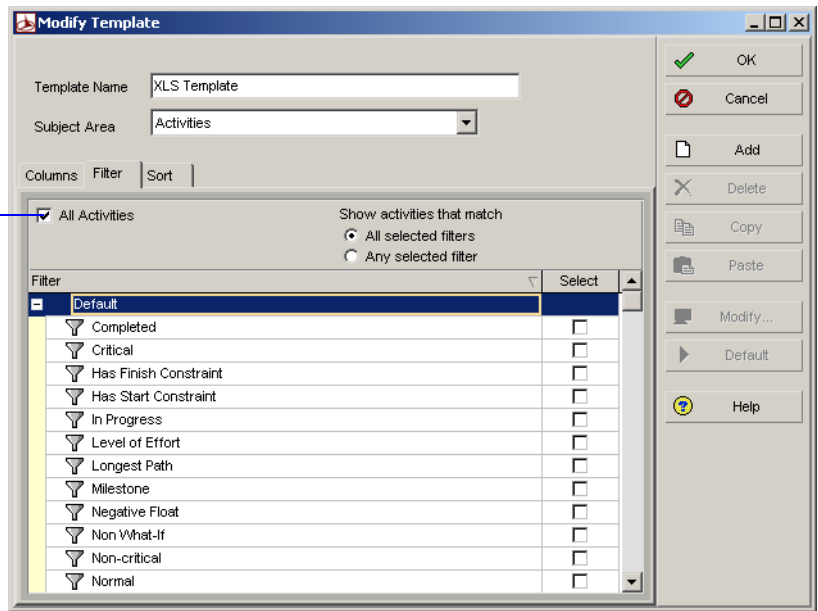


You cannot remove a subject area's required columns from the Selected Options section.



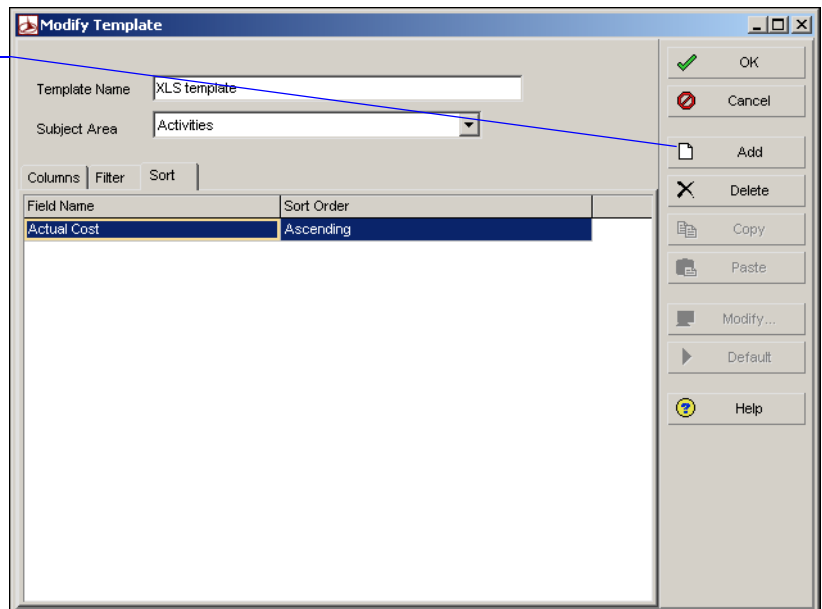
In the Modify Template dialog box, click the Filter tab to select the activities you want to export for the selected subject area. If using more than one filter, choose to show activities that meet all selection criteria in each filter, or to show activities that must meet only one selection criteria in each filter. Select the filter(s) to use for the export file. If necessary, click Modify to edit the selected user-defined filter. The fields available for filtering are based on the selected subject area.

Mark to include all the data items that export with the selected subject area.

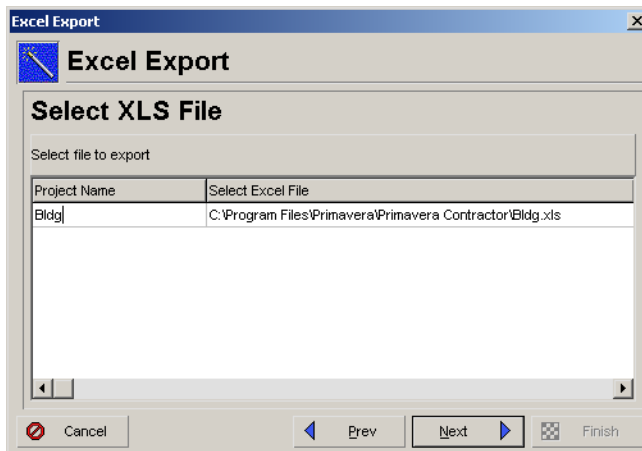


Click the Sort tab in the Modify Template dialog box to apply order to the columns during export. Select the sort order for each field name. Click OK to save your modifications to the template.

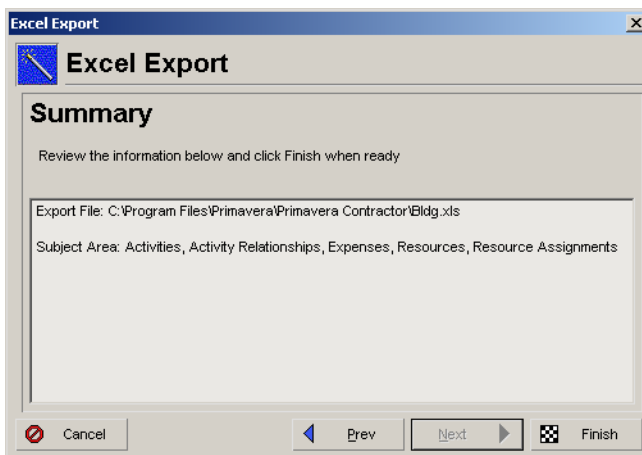
Click to define a sort order for the selected subject area.



Click Next to define the location to save the export file. Double click in the File Name field and click the Browse button if you want to change the name and location of the export file.



Click Next to view the summary information for the export file. Click Finish to export the project data to an XLS file.



Updating Project Data in Microsoft Excel

Primavera Contractor exports subject areas as individual sheets within the XLS file. In the export file, each field within a subject area displays as a column in the Excel sheet. You can update each subject area in its own sheet.



To successfully import data, do not delete the USERDATA sheet. This sheet contains the user preference settings for Primavera Contractor.

For information about sheet names for subject areas, refer to the Primavera Contractor Help.

Update unit, cost, duration, percent complete, and date fields When updating unit, cost, duration, and percent complete fields, you may want to import one updated field at a time into the Primavera Contractor. For example, you can export the Activities subject area and update the activity percent complete and the remaining duration in the export file. When you import the Excel file, Contractor updates the activity data. However, to update other activity values related to the remaining duration and percent complete, Contractor needs to know which field was updated first. In Contractor, you cannot update these fields simultaneously.

To update unit, cost, duration, and percent complete fields, make a copy of the export file you want to update.

The activity expenses have been exported to Excel.

	A	B	C	D	E	F	G
1	task_id	cost_name	TASK_status	target_cost	act_cost	remain_cost	total_cost
2	Activity ID	Expense Item (*)	Activity Status	Budgeted Cost (\$)	Actual Cost (\$)	Remaining Cost (\$)	At Completion Cost (\$)
3	A1000	(New Expense)	Not Started	0	0	0	0
4							

In the copied file, update the necessary field for an activity. In that activity row, blank out the remaining fields that are not marked (*) to give it a null value. As a result, during import, Contractor will not update the fields with null values in the project; Contractor will calculate the other fields as necessary.

	A	B	C	D	E	F	G
1	task_id	cost_name	TASK_status_c	target_cost	act_cost	remain_cost	total_cost
2	Activity ID	Expense Item (*)	Activity Status	Budgeted Cost (\$)	Actual Cost (\$)	Remaining Cost (\$)	At Completion Cost (\$)
3	A1000	(New Expense)	Not Started	50			

Updated field

The other cost fields are blank in the export file. Import will only update the Budgeted Cost field for activity A1000.



Do not remove or null the value of unique fields. Refer to Table 1 to view the list of unique fields.

In Primavera Contractor, choose File, Import to import the Excel file into the open project. Repeat these steps for each unit, cost, duration, percent complete, and date field.

Delete a row To delete a row in the exported file, place a “D” or “d” in the Delete This Row column in the export file. This is placed as the last column in the export file. When you import, the deleted row is moved from the project database.

Update unique fields If you modify unique columns, such as Activity ID, Relationship type, and Resource ID, import adds new data instead of updating the existing information. For example, if you modify the Activity ID and import the file, import adds a new activity to the project. To successfully update the existing activity ID, or other unique fields, copy and paste the existing row, update it, then delete the original row.


For example, to change the relationship between two activities, select the row of the relationship you want to modify in the TASKPRED sheet in Excel. Choose Edit, Copy, and then choose Edit, Paste to place a copy of the activity row in the same sheet. Change the value in the Relationship Type field of one of the rows. Type a “D” or “d” in the other row to delete it. As a result, Contractor adds a new relationship and deletes the old relationship.

Table 1 lists the unique fields for each subject area.

Subject Area	Column(s)
Activities	Activity ID
Activity Relationships	Successor, Predecessor, Relationship Type
Expenses	Activity ID, Expense Item
Resource Assignments	Activity ID, Resource ID, Cost Account ID

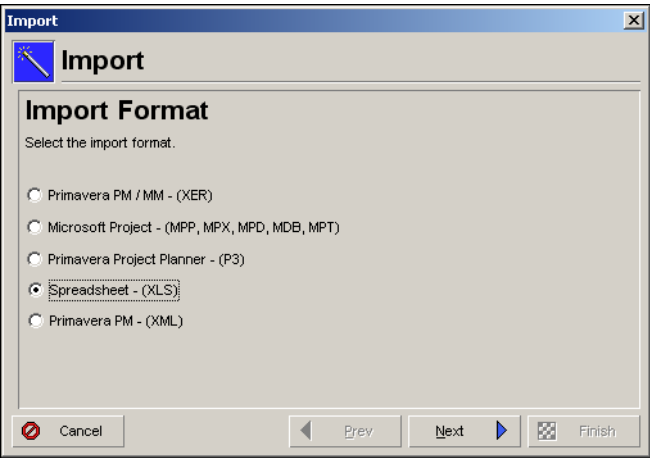
Importing Project Data from Microsoft Excel

You can import data that has been exported and updated in Microsoft Excel into Primavera Contractor. However, you cannot import any global data that does not currently exist in the database, such as resources, codes, and cost accounts. If Excel does not reside on your computer, you can still import XLS files that may have been created in other third-party applications. The Import wizard guides you through the steps for importing projects.

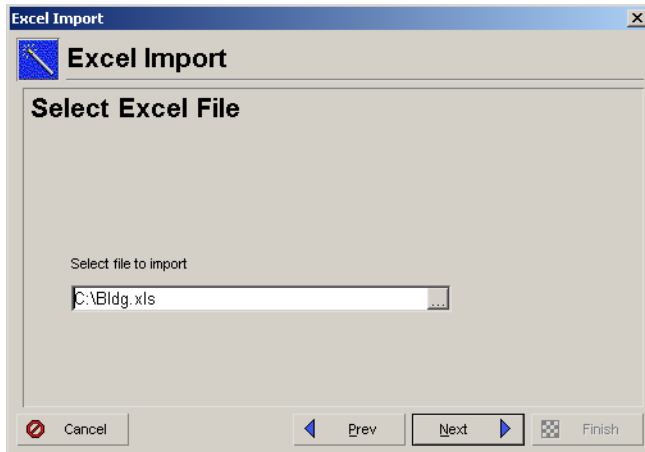
 *The User Preference settings are stored in the USERDATA sheet of the exported file. If this sheet is deleted, information will not be imported based on the user preference settings that were used while exporting data.*

For more information on importing, refer to the Primavera Contractor Help.

Select import format and file In Primavera Contractor, open the project to which you want to import data. Choose File, Import. Choose Spreadsheet, then click Next.



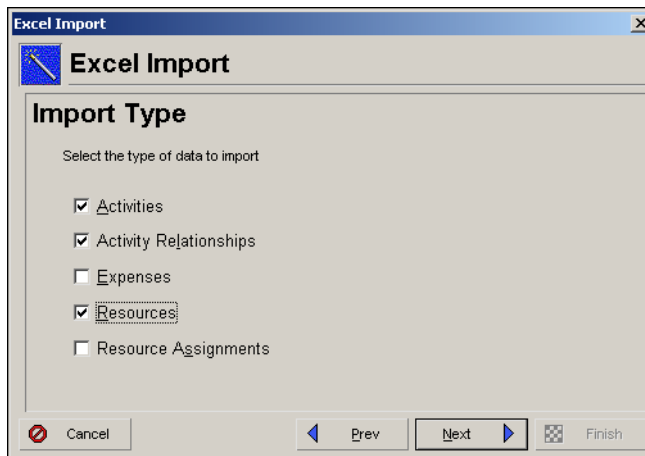
Type the location of the XLS file or click the Browse button to select the file you want to import. Click Next.



Select import type and options Choose the subject areas to import into the project. Click Next.



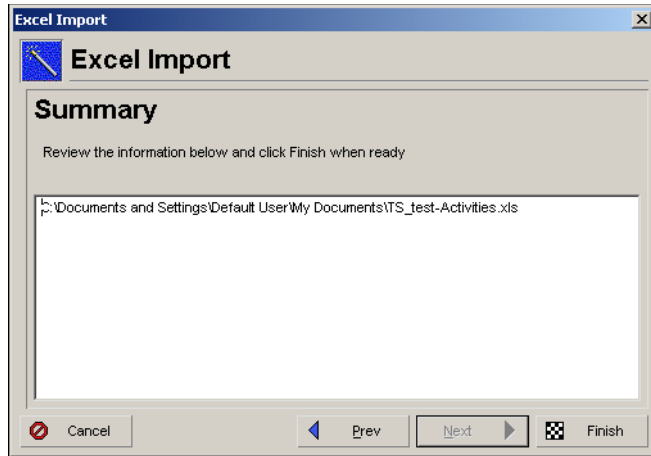
Each subject area is exported to a separate worksheet in the XLS file. The Import wizard will not import a subject area if its title has been changed in the worksheet within the XLS file. If the title has been changed, the subject area will be grayed out on the Import Type window.





In the Contractor application, you cannot import any global data that does not currently exist in the Contractor database, such as resources, codes, and cost accounts.

Click Next to display information about the import file. Click Finish to complete the import.



Import errors are recorded in the import log file PRM_XLSIMPORT.LOG. If errors occur, Import will prompt you to view this file in your temp directory.

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