



# PeopleTools 8.12 Application Designer PeopleBook



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## ABOUT THIS PEOPLEBOOK

This PeopleBook covers the PeopleSoft Application Designer. This innovative product allows application developers to create PeopleSoft Pages that are launched from a browser and available over the internet. Chapters included in this book describe the fundamental elements of PeopleSoft Internet Architecture application development using Application Designer, adding specific Page controls to Pages, combining pages into components, applying style sheets, creating menus, building SQL tables and views, upgrading application versions, and so on.

### Audience

This book is written for technical users, project leaders, and programmers who will be customizing or developing Web-based applications using PeopleTools. To take full advantage of the information covered in this book, we recommend that you have a basic understanding of how to use PeopleSoft applications. In other words, you should be familiar with how to navigate your way around the system and how to add, update, and delete information using PeopleSoft tables and pages. You should be familiar with basic Internet browser concepts.

This book describes how to use the Application Designer to build PeopleSoft Internet Architecture applications. In this book, you'll find detailed reference information on how to create Web-based Pages in Application Designer. For information specific to your application, please refer to your PeopleSoft application documentation.

The Application Designer book contains the following chapters.

Using Application Designer explains how the Application Designer is organized and how to navigate through the interface.

Using Application Designer Projects shows the different parts to the project and how to work effectively with them.

Creating Field Definitions describes how to use the Application Designer to define or change the various types of fields, which are the building blocks of your database.

Creating Record Definitions provide detailed descriptions and examples of how you create records, views, and derived/work records, as well as adding fields to records.

Building SQL Tables and Views describes how to create or execute the SQL necessary to synchronize the underlying database structure with the PeopleTools record and index definitions.

Creating Page Definitions is a functional reference to creating and editing page definitions. It provides detailed descriptions and examples of how you add controls and aesthetic elements to page definitions, associate page controls with record fields, change the use of page controls, and add scroll areas and grids to control multiple occurrences of data. This chapter describes each page control with step by step instructions on inserting them into pages.

Creating Component Definitions details what you need to do when creating components. This shows you how to create new components, add pages, specify component properties and so on.



Creating Style Sheet Definitions describes the new PeopleTools object, style sheets, and how to use them.

Creating Menu Definitions shows you how to create new menus, add components to menus, define search records, and more.

Creating Image Definitions describes how to create and store images in a PeopleSoft database. It also contains tables that show the images stored in your system and describes their use.

Creating HTML Definitions describes how to create an HTML definition and reference it within an HTML Area control using PeopleCode.

Upgrading with Application Designer explains how to use Application Designer's upgrade functionality to perform comparisons, change upgrade settings, and copy projects into a target database.

Using Change Control describes change control functionality, explains how to use it, and offers some advice on choosing the best change control configuration for your development environment.

PeopleTools Cross Reference Reports identifies the PeopleTools cross reference reports that you use to aid development when you are customizing PeopleSoft applications.

## Before You Begin

To benefit fully from the information covered in this book, you need to have a basic understanding of how to use PeopleSoft applications. We recommend that you complete at least one PeopleSoft introductory training course.

You should be familiar with navigating around the system and adding, updating, and deleting information using PeopleSoft windows, menus, and pages. You should also be comfortable using the World Wide Web and the Microsoft® Windows or Windows NT graphical user interface.

## Related Documentation

To add to your knowledge of PeopleSoft applications and tools, you may want to refer to the documentation of the specific PeopleSoft applications your company uses. You can access additional documentation for this release from PeopleSoft Customer Connection ([www.peoplesoft.com](http://www.peoplesoft.com)). We post updates and other items on Customer Connection, as well. In addition, documentation for this release is available on CD-ROM and in hard copy.



**Important!** Before upgrading, it is *imperative* that you check PeopleSoft Customer Connection for updates to the upgrade instructions. We continually post updates as we refine the upgrade process.

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## Documentation on the Internet

You can order printed, bound versions of the complete PeopleSoft documentation delivered on your PeopleBooks CD-ROM. You can order additional copies of the PeopleBooks CDs through the Documentation section of the PeopleSoft Customer Connection Web site:  
<http://www.peoplesoft.com/>

You'll also find updates to the documentation for this and previous releases on Customer Connection. Through the Documentation section of Customer Connection, you can download files to add to your PeopleBook library. You'll find a variety of useful and timely materials, including updates to the full PeopleSoft documentation delivered on your PeopleBooks CD.

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## Documentation on CD-ROM

Complete documentation for this PeopleTools release is provided in HTML format on the PeopleTools PeopleBooks CD-ROM. The documentation for the PeopleSoft applications you have purchased appears on a separate PeopleBooks CD for the product line.

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## Hardcopy Documentation

To order printed, bound volumes of the complete PeopleSoft documentation delivered on your PeopleBooks CD-ROM, visit the PeopleSoft Press Web site from the Documentation section of PeopleSoft Customer Connection. The PeopleSoft Press Web site is a joint venture between PeopleSoft and Consolidated Publications Incorporated (CPI), our book print vendor.

We make printed documentation for each major release available shortly after the software is first shipped. Customers and partners can order printed PeopleSoft documentation using any of the following methods:

### Internet

From the main PeopleSoft Internet site, go to the Documentation section of Customer Connection. You can find order information under the Ordering PeopleBooks topic. Use a Customer Connection ID, credit card, or purchase order to place your order.

PeopleSoft Internet site: <http://www.peoplesoft.com/>.

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Contact Consolidated Publishing Incorporated (CPI) at  
**800 888 3559**.

### Email


Email CPI at [callcenter@conpub.com](mailto:callcenter@conpub.com).

## Typographical Conventions and Visual Cues

To help you locate and interpret information, we use a number of standard conventions in our online documentation.

Please take a moment to review the following typographical cues:



<code>monospace font</code>	Indicates PeopleCode.
<b>Bold</b>	Indicates field names and other page elements, such as buttons and group box labels, when these elements are documented below the page on which they appear. When we refer to these elements elsewhere in the documentation, we set them in Normal style (not in bold).  We also use boldface when we refer to navigational paths, menu names, or process actions (such as <b>Save</b> and <b>Run</b> ).
<i>Italics</i>	Indicates a PeopleSoft or other book-length publication. We also use italics for <i>emphasis</i> and to indicate specific field values. When we cite a field value under the page on which it appears, we use this style: <i>field value</i> .  We also use italics when we refer to words as words or letters as letters, as in the following: Enter the number <i>0</i> , not the letter <i>O</i> .
KEY+KEY	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For ALT+W, hold down the ALT key while you press W.
Jump Links	Indicates a jump (also called a link, hyperlink, or hypertext link). Click a jump to move to the jump destination or referenced section.
Cross-references	The phrase For more information indicates where you can find additional documentation on the topic at hand. We include the navigational path to the referenced topic, separated by colons (:). Capitalized titles in <i>italics</i> indicate the title of a PeopleBook; capitalized titles in normal font refer to sections and specific topics within the PeopleBook. Cross-references typically begin with a jump link. Here's an example:  <hr/> For more information, see <u>Documentation on CD-ROM in About These PeopleBooks</u> : Related Documentation. <hr/>
<ul style="list-style-type: none"> <li>• Topic list</li> </ul>	Contains jump links to all the topics in the section. Note that these correspond to the heading levels you'll find in the Contents window.
 Name of Page or Dialog Box	Opens a pop-up window that contains the named page or dialog box. Click the icon to display the image. Some screen shots may also appear inline (directly in the text).





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Text in this bar indicates information that you should pay particular attention to as you work with your PeopleSoft system. If the note is preceded by **Important!**, the note is crucial and includes information that concerns what you need to do for the system to function properly.

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Text in this bar indicates For more information cross-references to related or additional information.

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Text within this bar indicates a crucial configuration consideration. Pay very close attention to these warning messages.

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## Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like changed about our documentation, PeopleBooks, and other PeopleSoft reference and training materials. Please send your suggestions to:

PeopleTools Product Documentation Manager  
PeopleSoft, Inc.  
4460 Hacienda Drive  
Pleasanton, CA 94588

Or send comments by email to the authors of the PeopleSoft documentation at:

[DOC@PEOPLESOFT.COM](mailto:DOC@PEOPLESOFT.COM)

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions. We are always improving our product communications for you.







## CHAPTER 1

# Using Application Designer

Every PeopleSoft Internet Architecture application comprises of a collection of related objects that work together for a specific purpose. Developing and customizing PeopleSoft applications is a step-by-step process where you define and build the objects, establish relationships among objects, implement security, run your PeopleSoft application within an Internet Browser, and test every aspect thoroughly. You use one interactive tool, the Application Designer, for the majority of these activities. The Application Designer is an integrated development environment that enables you to work with the numerous objects of a business application in a single work area. The following section introduces you to the Application Designer development environment

### PeopleSoft Internet Architecture

PeopleSoft Internet Architecture utilizes an Internet Browser for interacting with online PeopleSoft applications. You design applications using the Application Designer, and then execute using the services of the PeopleTools Application Server. For the Browser, the Application Server dynamically generates HTML pages based on page and component definitions.

Features of the Internet Architecture include:

- Ability to easily create robust and high performance internet applications of PeopleSoft transactions that look and work like a Web page.
- Support for as many existing page controls and concepts as possible. For example, controls such as push buttons, radio buttons, and drop-down lists; and concepts such as upgrading and multi-lingual support.
- Ability for the application to operate in a menu system or independently.

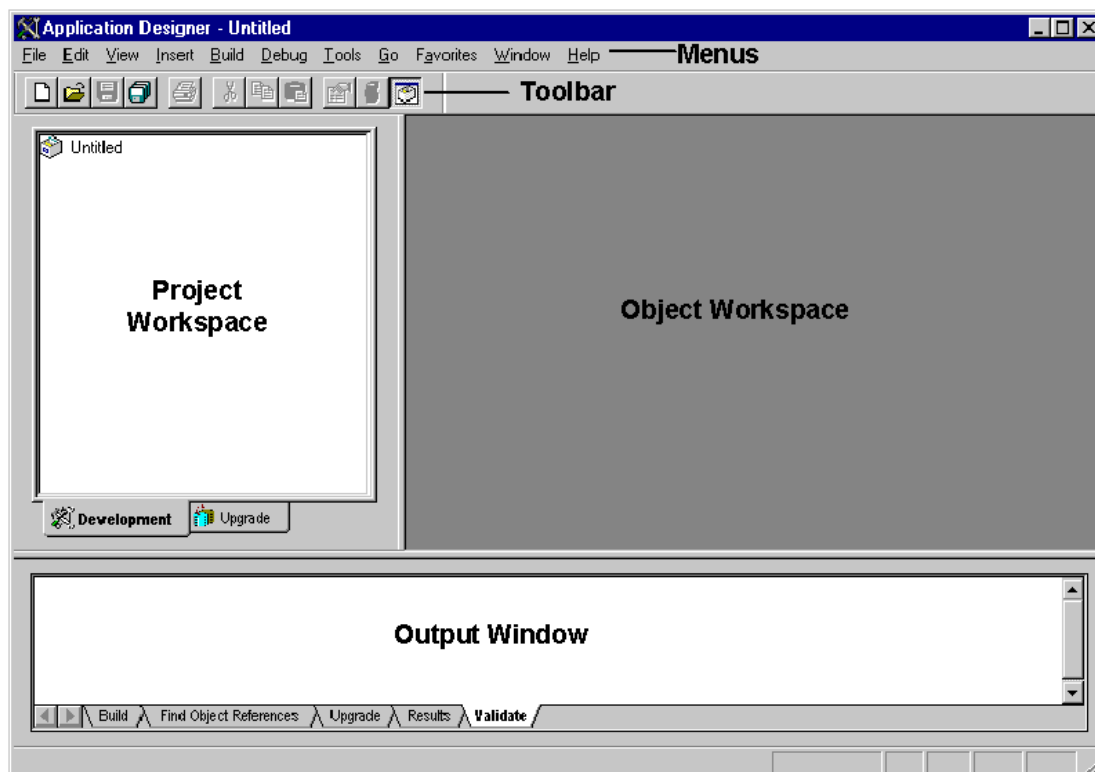
## Starting Application Designer

To start Application Designer

1. Select Go, PeopleTools, Application Designer.

The Application Designer window is divided into several components, Project Workspace, Object Workspace, Output Window, Application Designer Menus, and The Application Designer Toolbar:





Application Designer Components



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**For a complete description** of these components, see Application Designer Window Components.

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## The Application Designer Menu

This section lists the basic menu items in the Application Designer menu. For detailed information about each menu item, click one of the following:

File Menu

Edit Menu

View Menu

Insert Menu

Build Menu

Debug Menu

Tools Menu

Go and Favorites Menus for Windows Client Only














Window Menu

Help Menu

## The Application Designer Toolbar

The following table shows the toolbar buttons for frequently used commands.

<b>Button</b>	<b>Menu Command</b>	<b>What it does...</b>
	File, New	Enables you to create a new object definition and open it in the object workspace.
	File, Open	Enables you to open an existing object definition into the object workspace.
	File, Save	Saves the active object definition.
	File, Save All	Saves all open objects.
	File, Print	Same as File, Print menu item. Brings up the Print Records dialog for printing records and other definitions.
	Edit, Cut	Selected area is removed. Held in memory for later use.
	Edit, Copy	A duplicate of a selected area is made. Held in memory.
	Edit, Paste	Inserts information from Cut or Copy.
	File, Object Properties	Brings up the Object Properties dialog.
	Build, Build Current Object	Brings up the Build dialog.
	View, Project Workspace	Toggles display of the project workspace.

## Viewing PeopleCode

PeopleCode is the structured programming language that is built in to PeopleTools. PeopleCode is a complete programming language that extends the functionality of the PeopleTools environment to address all the requirements of modern business applications.



For more information on the PeopleCode programming language, see PeopleCode Developer's Guide.




PeopleCode programs can be associated with many items, such as a record field, a page, a component, even an application message. You can access any PeopleCode program from its related definition. Use the PeopleCode editor to edit your programs.

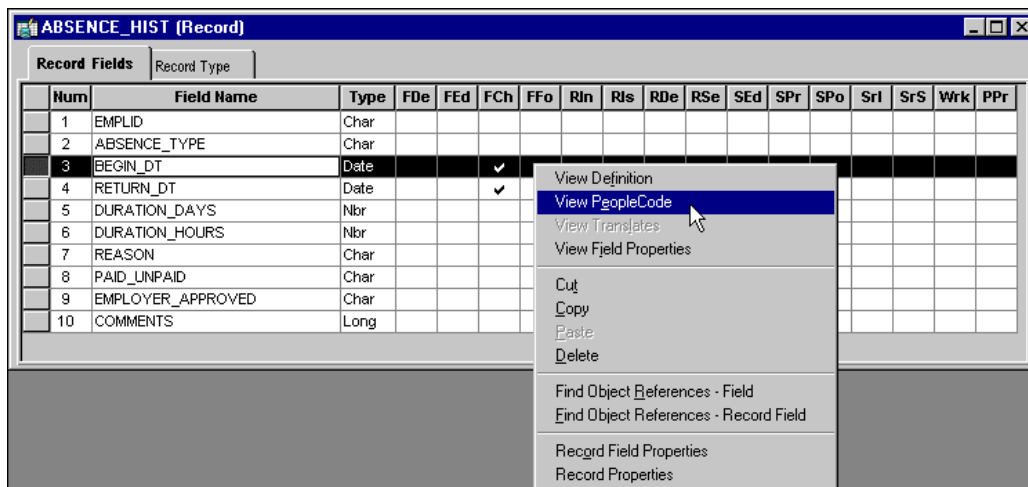


For more information see Using the PeopleCode Editor.

As an example, just *one* of the ways to access PeopleCode from *one* of the many places that PeopleCode is stored is to access Record Field PeopleCode from an open Record Definition.

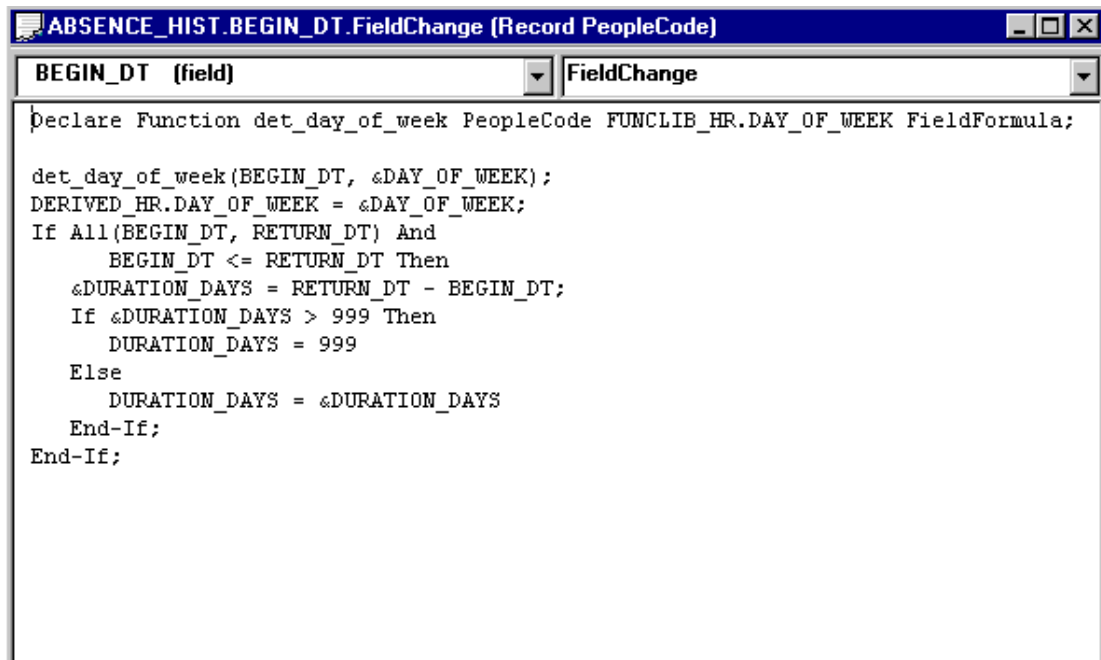
To view Record Field PeopleCode from Application Designer

1. Open a record definition in Application Designer.
2. Click the  toolbar button to view the PeopleCode display for the record.
3. Highlight a field containing PeopleCode in the record definition.
4. Double-click the **checkbox** under the column heading for the type of PeopleCode you want to view.



Accessing FieldChange PeopleCode from BEGIN\_DT Field





Viewing FieldChange PeopleCode

You can also right-click on a field, and use the pop-up menu to access the PeopleCode; or, you can right-click on a Page, Component, or Menu definitions and then select **View, PeopleCode**.

## Viewing Internet Options

Page controls display differently if the page is being developed for PeopleSoft Internet Architecture than for the Windows Client. You can turn this option off or on from either of the following menus in the Application Designer:

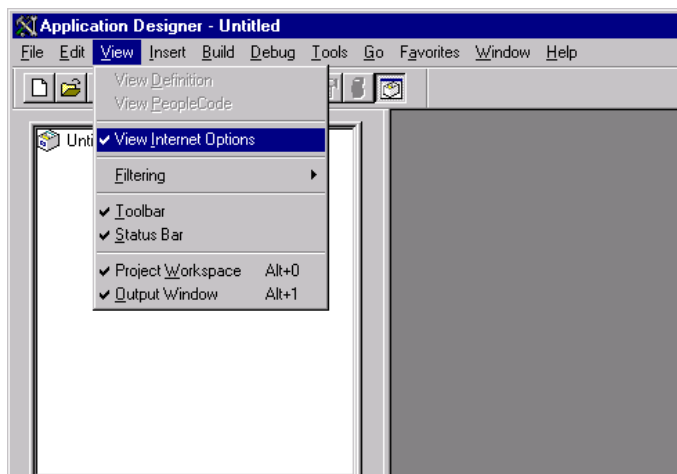
- View menu
- Tools, Options menu

The default is for **View, View Internet Options** to be set **ON**.

To turn on Internet Options using the View menu

1. Open Application Designer, select **V**iew.
2. Click on **View I**nternet Options so that it is checked in the drop-down list.

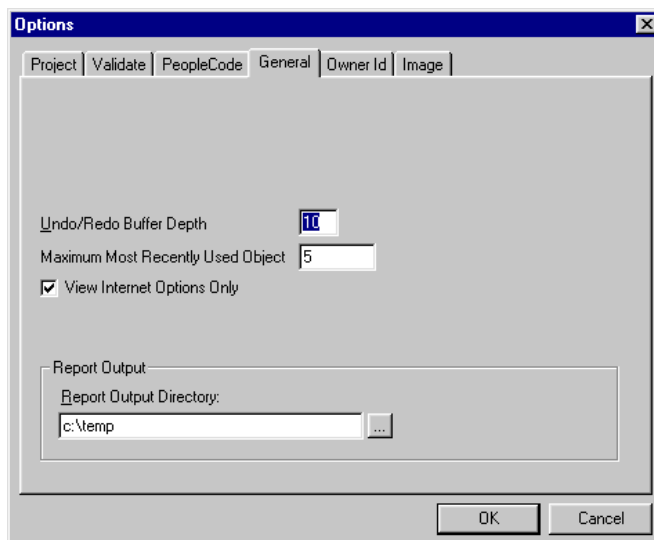




View Internet Options from View Menu

To turn on Internet Options using the Tools, Options menu

1. From the Application Designer, Select Tools, Options.
2. On the General tab, select **View Internet Options Only**.



View Internet Options from Options Menu

When you open a new page or an existing page, all Internet options will display. When you close Application Designer and reopen it, Internet options will automatically display.



## Working in Application Designer

Application Designer incorporates many features designed to make application development as easy and intuitive as possible. We assume that you are familiar with these Windows™ type features. However, if you want more information, click one of the following features:

Multiple Document Interface and Active Windows

Drag and Drop

Pop-up Menus

Property Sheets

Dynamic Toolbars and Menus

Customizing the Environment with Splitter Bars, Dockable Windows and Toolbars, and the View Menu

## Object Definitions

The object definitions you create or modify in the Application Designer can be the following types:

- Development definitions
- Miscellaneous (or formatting type) definitions

### Development Object Definitions

The development definitions include the following:

<b><i>Object Definitions</i></b>	<b><i>What are they?</i></b>	<b><i>For more information...</i></b>
Activity	A workflow map showing the individual steps, events, and routings that comprise a complete activity within a business process.	See Building Workflow Maps
Application Engine	A program comprising SQL statements and PeopleCode programs to be run in batch mode, as an alternative to using COBOL or SQR programs.	See Application Engine Programs



<b>Object Definitions</b>	<b>What are they?</b>	<b>For more information...</b>
Approval Rule Set Activity App Engine Program Approval Rule Set <a href="#">Component Interface</a> Business Interlink Business Process Field File Layout HTML Image Language Translation Tool Menu Message Message Channel Message Node Page Component Project Record SQL Style Sheet	Workflow maps that provide a visual representation of approval rules. Virtual Approver and GetApprovers both read Approval Rule Sets to determine who needs to approve particular transactions.	See Approval Rule Set
Business Interlink	Provides a gateway for PeopleSoft applications to the services of any external system.	See Business Interlink
Business Process	Workflow maps that provide a visual overview of the activities involved in a particular procedure	See Business Process Design
Component	Represents a logical business transaction or a set of logically related pages that are processed together.	See Creating Component Definitions



<b>Object Definitions</b>	<b>What are they?</b>	<b>For more information...</b>
Component Interface	Externalizes access to a component, so it can be used by a third party or an application message.	See Creating a Component Interface
Field	Individual pieces of data—such as an employee ID—that can be entered by the user and stored in the database or a column on a table or in a view	See Creating Field Definitions
File Layout	Definition (or mapping) of a file to be processed. It identifies <i>where</i> in a file data fields are located.	See File Layout
HTML Area	Where HTML code can be inserted on a page	See Creating HTML Definitions
Image	Used to store and display images, such as employee photos, product pictures, and so on.	See Creating Image Definitions
Menu	Enables access to the components you build, along with the pages contained in the components.	See Creating Menu Definitions
Message	Based on a multi-level structure, similar to components, that defines the data to be inserted into the application message at runtime.	See Message Definitions
Message Channel	These correspond to groups of message definitions, and help order messages properly, enhance scalability, and provide a simple way to define processing characteristics of many similar messages as a single group.	See Message Channel Definition
Message Node	The physical systems (application servers or databases) connected to the messaging network.	See Introduction to Application Messaging



<b>Object Definitions</b>	<b>What are they?</b>	<b>For more information...</b>
Page	Pages provide a way to enter, view, and edit data online. The system validates user input, writes it to the database, and then retrieves and displays it upon request.	See Creating Page Definitions
Project	A user-defined collection of related object definitions created for the purpose of developing, customizing, or upgrading a PeopleSoft application	See Using Application Designer Projects
Record	All the data that resides in PeopleSoft applications is stored in tables, or records, as part of a relational database system. Each record definition describes the properties of an underlying SQL table.	See Creating Record Definitions
SQL	Can be entire SQL programs, or just fragments of SQL statements that you want to re-use.	See Using the SQL Editor
Style Sheet	A collection of styles that can be used by Internet Architecture application pages.	See Creating Style Sheet Definitions


## Working with Object Definitions

This section describes the different ways in which you can work with object definitions within the Application Designer.

### Opening Object Definitions

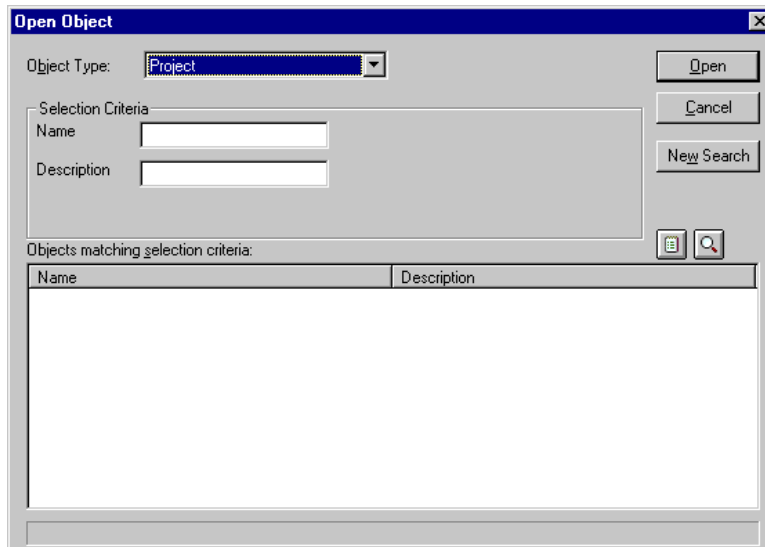
You use the Object Workspace when accessing or creating object definitions.

To open an object definition

1. Click the  toolbar button or select **File, Open**.



2. The **Open Object** dialog appears.



Open Object Dialog


3. Select the **Object Type**.


4. Provide Selection Criteria.

Enter an object **Name** or **Description** (or the beginning characters of either). Other selection criteria options may be available, depending on the object type.

5. Click **Open**, or press **Enter**, to display objects matching the selection criteria you entered.

If you want to clear the current selection criteria and start over, click **New Search**. Also, if you want to change how the search list is displayed:

click on the List button, , to see only the names of the objects, or

click on the Details button, , to see the names and descriptions listed (which is the default).

6. Select the object to open.
7. Double-click the object you want to open in the object workspace, or highlight the object and click **Open**.

You can also use the shift-click selection technique to select more than one object to open in a single action. Or right-click to get a pop-up menu that gives you the ability to **Open**, **Print**, **Rename**, or **Delete** the selected object.



## Viewing Object Definitions

When working in the project workspace, you can view the object definition referenced by the active object.

To view an object definition

1. Select View, View Definition.

You can also right-click on the object to be referenced and select **View Definition** from the pop-up menu.


## Viewing and Editing Object Properties

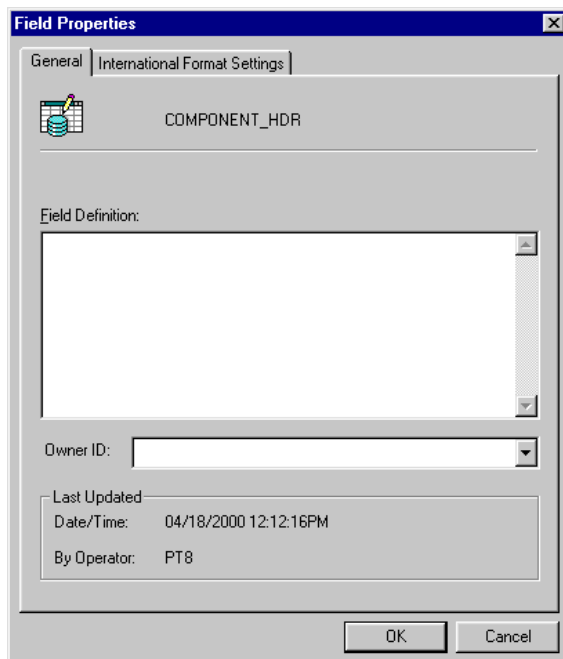
Each object type has properties associated with it.

To view or edit object properties

1. Select File, Object Properties.



You can also click the  toolbar button or press ALT + ENTER.



The Properties Dialog

The **Object Properties** dialog always includes a **General** tab that provides a place to display and enter descriptions and comments regarding the object definition.




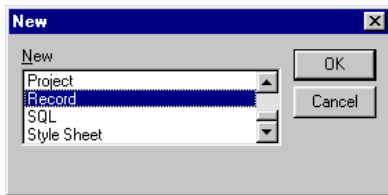
An optional **Owner ID** drop down list is provided to designate the “owner” of an individual object definition. This is to help identify which application team last made a change to an object definition. You can specify a default owner ID for each workstation at the **Tools, Options, Owner ID** tab dialog.

## Creating Object Definitions

When building or customizing an application, try to use existing object definitions as much as possible; when that’s not possible, create new object definitions.

To create a new object definition

1. Click the  toolbar button or select **File, New**.
2. Select the object type.



Specifying the Object Type to Create

The new object definition displays in the object workspace.

## Renaming Object Definitions

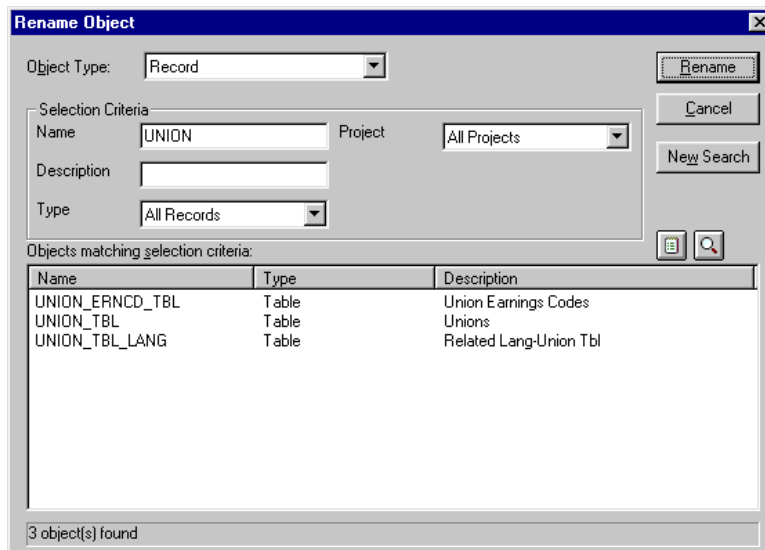
Existing object definitions within a database can be renamed at any time.

To rename an object definition within the database

1. Select File, Rename.

The **Rename Object** dialog looks like the **Open Object** Dialog, and you select objects in the same way.



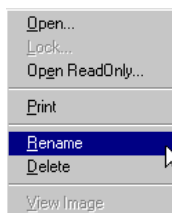


Rename Object Dialog

- Specify the Object Type and any Selection Criteria useful in locating the object you want to rename.

The **Rename Object** dialog does not have a **Select** button. So, after entering either a partial **Name** or **Description** of the object, press the ENTER key on your keyboard to retrieve a list of objects matching your selection criteria.

- Click on the object you want to rename.
- Click the **Rename** button in the dialog and double-click on the selected object.
- Or press the right -mouse button to get a pop-up menu and select **Rename**.



Rename Object Pop-up menu

- The selected object name, within the **Rename Object** dialog, will be in edit mode.
- Change the selected object name and press Return.

You will be prompted to close any open object definitions, if any are open, before you can save the new name. You will also be prompted with a **Confirm Rename** dialog, before you can save the change.

- Press **OK** to complete the renaming of the selected object definition.



## Deleting Object Definitions

*Deleting* an object is different than *removing* an object from a project. When you remove an object from a project, the reference to the object is removed from the project, but the object still exists in the database and thus may be a part of any other project. Deleting an object, on the other hand, permanently removes the object from the database. Any projects which contain the deleted objects will be affected.

To delete an object definition from the database

### 1. Select **File, Delete**.

The **Delete Object** dialog looks like the **Open Object** dialog, and you select objects in exactly the same way.

Name	Type	Description
UNION_ERNCNCD_TBL	Table	Union Earnings Codes
UNION_TBL	Table	Unions
UNION_TBL_LANG	Table	Related Lang-Union Tbl

3 object(s) found

Delete Object Dialog

### 2. Specify the **Object Type** and any **Selection Criteria** useful in locating the object(s) you want to delete.

The **Delete Object** dialog does not have a **Select** button. So, after entering either a partial **Name** or **Description** of the object, press the ENTER key on your keyboard to retrieve a list of objects matching your selection criteria.

### 3. Click on the object(s) you want to delete.

To select multiple objects, hold down either the SHIFT or CTRL keys on your keyboard while clicking the appropriate objects.

### 4. Click the **Delete** button and confirm that you want to delete the selected object(s).



## Inserting Object Definitions into a Project

You can insert objects individually or select a number of object definitions to insert all at once as a group.

To insert a single object definition into a project

1. Open the object you want to insert into the project.

Make sure the desired object definition is the active object in the object workspace.

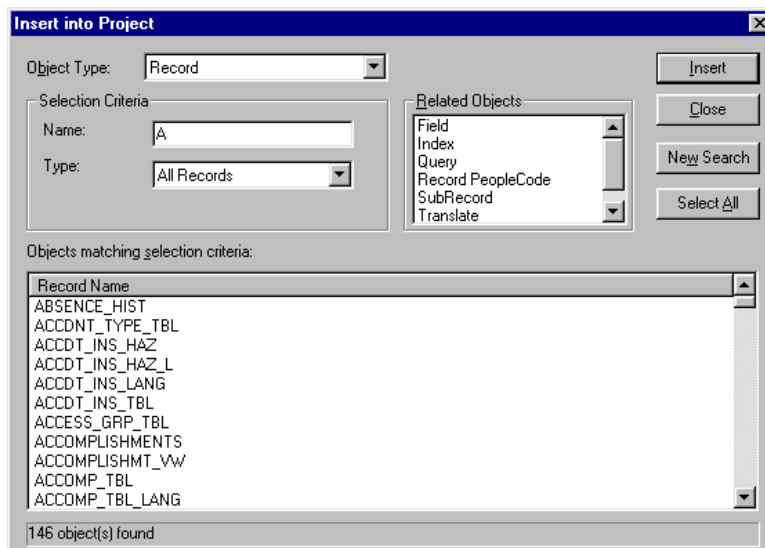
2. Select Insert, Current Object into Project.

The object is added to whichever project is currently open.

To insert a group of object definitions into a project

1. Select Insert, Objects into Project.

The **Insert into Project** dialog appears.



The Insert into Project dialog

2. Select the type of object to insert.

Click the **Object Type** drop-down list box arrow and select the object type. All available objects, including upgrade-only object types, are listed.

3. Enter the optional selection criteria.

You can enter the object name, a partial field name, or leave the selection criteria blank to see a list of all objects of the selected object type.



4. Select the object definitions to insert.

You can select numerous object definitions by holding either the SHIFT or CTRL keys while clicking the desired object definitions.

5. Specify which related object definitions to insert, if any.

If you want to insert related object definitions, specify them in the list of **Related Objects**. You can select numerous related object definitions by holding either the SHIFT or CTRL keys while clicking the desired object definitions.



**Note.** Once you've inserted objects into a project, the upgrade-only objects appear in the project workspace's Upgrade View, not the Development View.

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The status bar at the bottom of the **Insert into Project** dialog indicates that objects have been inserted. Additionally, the **Results** tab on the output window displays the number of objects inserted each time you perform an insert.

## Removing Object Definitions from a Project

*Removing* an object from a project is different than *deleting* it from the database. When you remove an object from a project, the reference to the object is removed from the project, but the object still exists in the database and thus may be a part of any other project.

To remove object definitions from a project

1. In the project workspace, select the object(s) you want to remove from the project.

To select multiple items, highlight one or more nodes using the Ctrl key on your keyboard while single clicking on the objects you'd like to remove.

2. Press the DELETE key on your keyboard, or right-click to get a pop-up menu and select **Remove from Project** from the menu.

This does not delete the object definition; it just removes it from the project.

## Finding Object Definitions

Although a project keeps track of your object definitions, the object definitions are not actually embedded within the project.



There is a distinction between *related* objects and *referenced* objects: A *related* object is one that **is used by** the current object. An *object reference* is one that **uses** the current object. For example, in the case of a component, **pages** within the component are related objects. The menus that use the component are its object references.

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## Supported Object Types

Some of the Object Types that the **Find Object References** feature supports are:

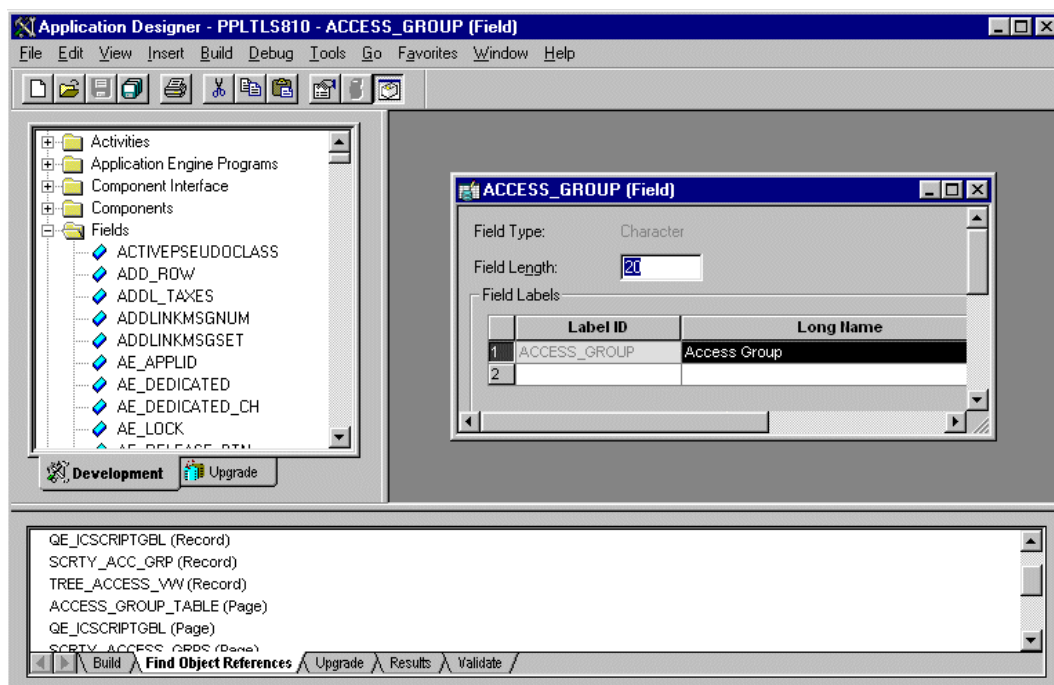
<b>Object Type</b>	<b>Can reference...</b>	<b>Detects this reference...</b>
Records	Pages	Page field
	Components	Search record and “add search record”
	Records	Record as an edit table on other record fields; in subrecords, other records
Pages	Pages (subpages and secondary pages)	Subpage or secondary page is a page field of the page
	Components	Component contains the page
	Projects	Project contains the page
Components	Menus (standard menus)	Item of standard menu is associated with the component
	Menus (pop-up menus)	Item of pop-up menu is associated with a transfer definition that refers to the component
	Component Interfaces	Component interface is associated with the component
	Projects	Project contains the component
Menus	Menus (pop-up menus)	Item of pop-up menu is associated with a transfer definition that refers to the menu
	Pages	Page and page field to menu (pop-up menus only)
	Pages	Page field of page uses the menu as a pop-up menu of the page field
	Pages	Page uses the menu as a pop-up menu of the page
	Projects	Project contains the menu
	Business processes and business process maps	Activities to a menu
	Activities	Step of activity is associated with the menu
	Activities	Message agent of activity is associated with the menu
Fields	Records	Record field use
	Pages	Page field use



To find object references

1. Open the object in the object workspace.
2. Select **Edit, Find Object References** or right-click on the object and select **Find Object References** from the pop-up menu.

After you select this item, a search of the database takes place, and the results are displayed on the **Find Object References** tab of the output window. In the example below, we first opened the ACCESS\_GROUP field and then selected **Edit, Find Object References**. The output window displays the five references found.

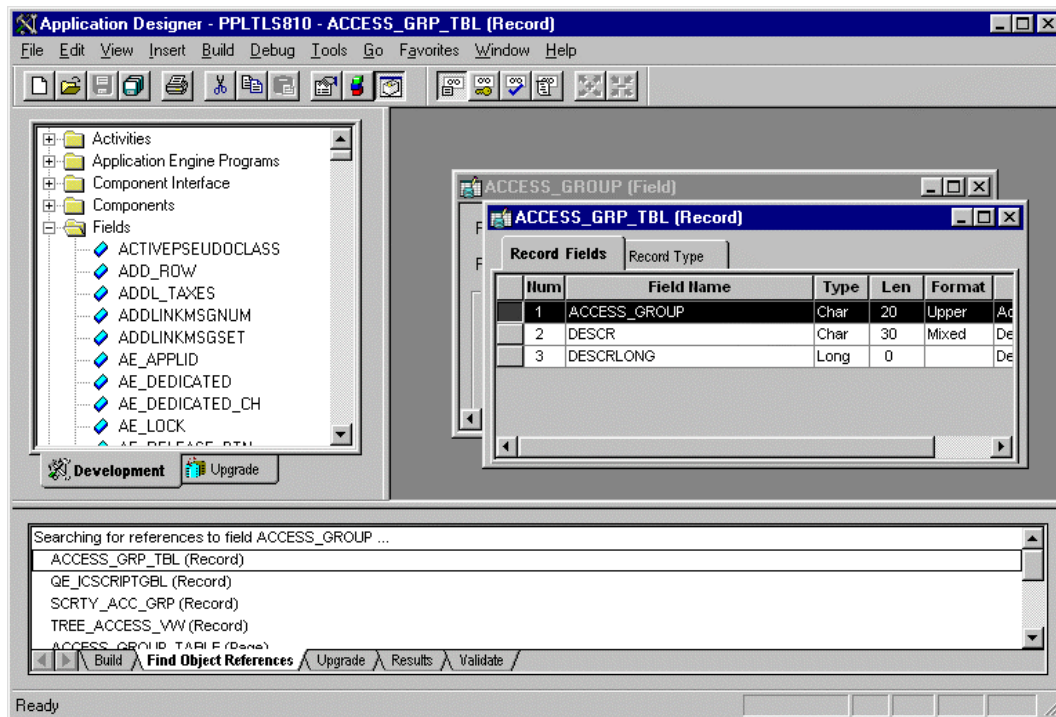


Finding Object References

3. Select any object displayed in the output window by double clicking on it.

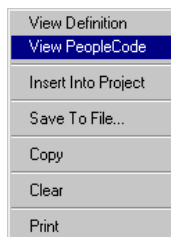
The selected object opens in the object workspace. In the example below, we selected *ACCESS\_GRP\_TBL (Record)* directly from the output window; then it opened in the object workspace.





### Opening Object References

- Once you find an object, you can select the object reference and right click to get the following pop-up menu.



### Find Object References Pop-up Menu



Double-clicking any entry in the **Find Object References** output window, opens the appropriate mode of Application Designer. In the case of double-clicking on a related record that was found, the record will be opened with the field you were looking for highlighted.

## Saving Object Definitions

In order to retain the changes you make, you must save the object definition. However, you must **name** new objects before you can save them.

To save an object definition

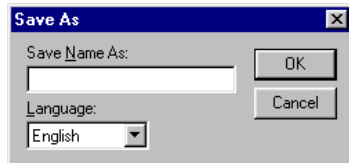


1. Click the Save button on the toolbar or select **File, Save** or **File, Save As** to save an object definition.

The **Save** and **Save As** commands save a single object at a time. You can also use the **File, Save All** command or the Save All toolbar button to save all open objects at once.

2. If you're saving a page or component, specify the **Language** or **Market**.

For a page definition, the **Language** drop-down box appears; for a component, the **Market** drop-down box appears.




Saving an Object Definition

## Closing Object Definitions

You can close the active object using the procedure below.

To close an object definition

1. Select File, Close or click the Close Window icon  on the title bar of the active object's window.

You can also select **Window, Close All** to close all open object definitions.

## Change Tracking and Change Control

The Application Designer includes change tracking and change control features so you can manage your customizations and upgrades as an integrated part of your development process. You can choose to enable change tracking, change control, or both.

### Change Tracking

Change tracking is an automatic audit of all changes to PeopleTools objects made using Application Designer, allowing you to identify the objects you have changed. This automatic audit helps to document and simplify the upgrade process.

### Change Control

Change control adds an additional level of control over who can make changes and how much information is captured about each change. *Object locking* controls access to objects. Locking an object (such as a page) gives you exclusive control of that object to make changes; however, other users can view it.



You control these features using options on the **Tools** menu, **Change Control Administrator** dialog.



For more information on change control, see [Using Change Control](#).

---

## PeopleCode

PeopleCode is the structured programming language built into PeopleTools that extends the functionality of the PeopleTools environment. All PeopleCode programs are associated with a parent object definition. These PeopleCode programs are considered part of the object definition of their parent component and you edit them as part of the object definition.

### PeopleCode and SQL Editor

The SQL Editor is a tool that enables you to construct SQL objects. The SQL Editor has a very similar look and feel to the PeopleCode editor. You can access the SQL editor from the following objects:

- Records based on SQL and Dynamic View
- Application Engine actions
- PeopleCode editor



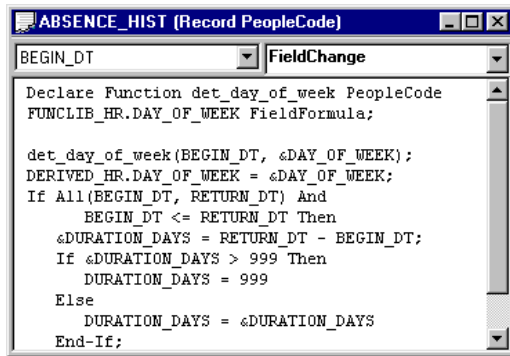
For more information see [Introducing the SQL Editor](#).

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### Navigation between PeopleCode Programs

The PeopleCode Editor lets you edit and navigate all PeopleCode programs that belong to the same parent object definition.





Working inside the PeopleCode Editor



For more information on PeopleCode Editor see Using the PeopleCode Editor.

## Building and Maintaining Data

The underlying database objects must be kept in sync with PeopleSoft object definitions. Therefore, from the Application Designer you'll do the following:

- Submit SQL Alter and Create commands for all types of database objects
- Manage the database index
- Manage the table space
- Manage the DDL model for tables, indexes, and table spaces

### Creating SQL Tables

In order to access data, you must create an SQL table and then store data in the fields and records. The process of executing the SQL necessary to synchronize the database with records, indexes, and DDL, is called **Build**.

The Build processes objects at the following three levels:

- Current record
- Selected records in the project workspace
- All records in the project



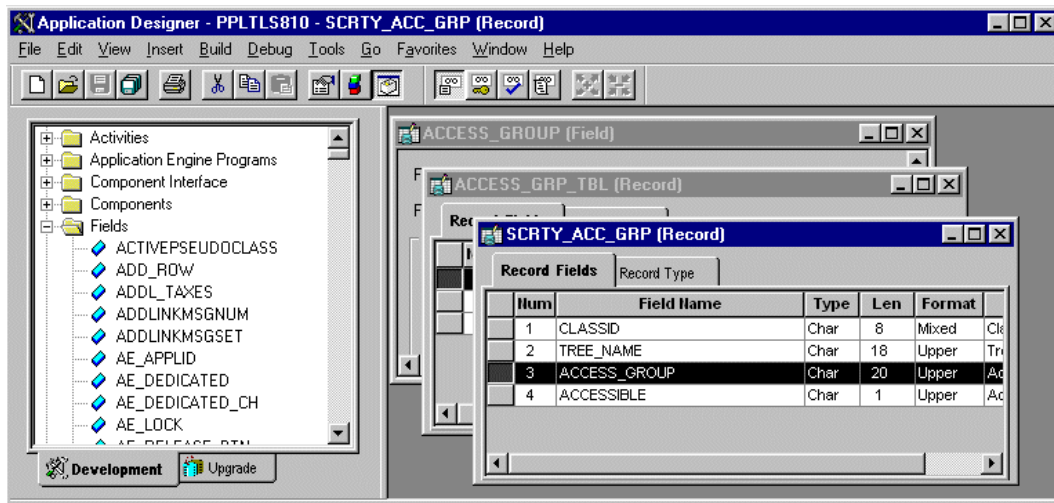
For more information, see Building SQL Tables and Views.



## Multiple Document Interface

Application Designer makes use of a multiple document interface (MDI). This means that each window in Application Designer's object workspace represents a view of an object definition, and you can have multiple windows open at the same time. These object definition windows must stay within the borders of the object workspace—but they can be maximized, minimized, cascaded, or tiled within that space.

You can have different types of object definition windows open at once, such as menu, field, record, and page windows. This enables you to work with different object definitions simultaneously, simplifying the process of designing a group of related objects.



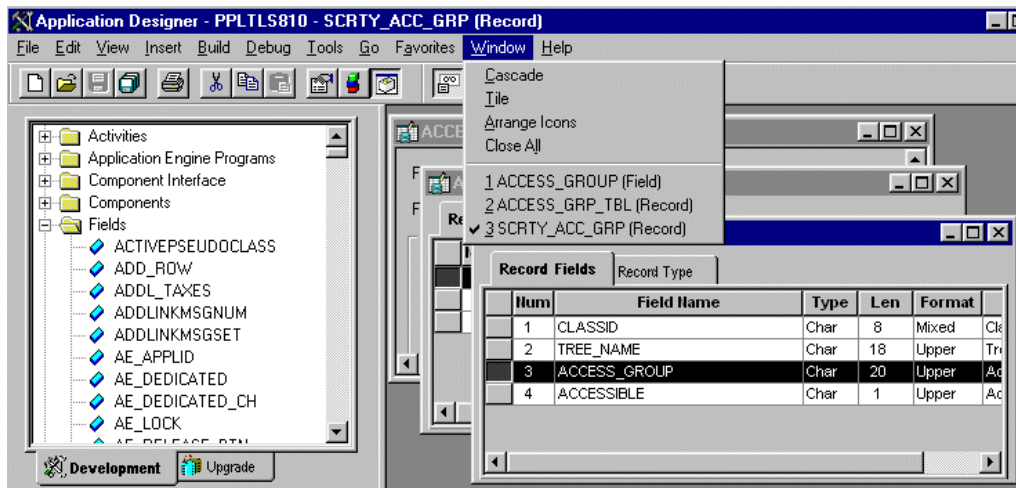
Three Object Definition Windows Open simultaneously within the Object Workspace

## Active Windows

Although you can have multiple windows open at the same time, only one window can be active at any moment—make a window active by clicking on it in the object workspace. The active window always displays on top with the title bar in “active window title” color.

In addition to clicking on a window to make it active, you can also use the Window menu. This menu displays the windows that are currently open with a check mark next to the active one. You can change the window that is currently active by selecting it from the menu.





Window Menu

Other options from the Window menu include **Cascade**, **Tile**, **Arrange Icons** or **Close All** windows.

## Drag and Drop

Application Designer makes ample use of “drag and drop” mouse techniques. For example, you can drag a field from a record definition and drop it onto a page definition. You can then drag the page onto a component, and drag the component onto a menu. Using the drag and drop technique is much faster and simpler than using menu commands to manipulate objects.

To drag and drop an object

1. Open the object definition you want to drag from in either the project workspace or the object workspace.

For example, if you want to drag a field from an existing record definition to a new page definition, first open the record containing the field. You can open it in the object workspace or simply expand the record in the project workspace, so that the fields are displayed. With the desired field displayed, you’ll be able to drag and drop it to another object definition.

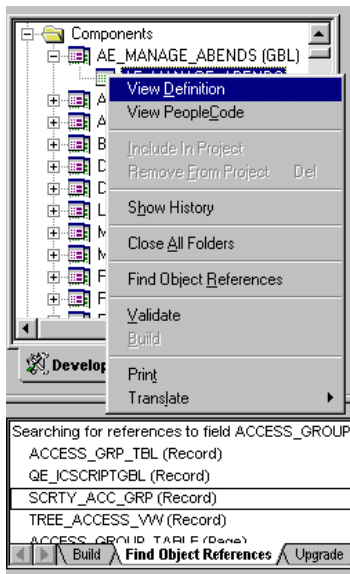
2. Open the object definition you want to drag to.
3. Drag the object from one object definition to the other.

## Pop-up Menus

Pop-up menus are context-sensitive menus that appear at the mouse pointer’s current location whenever you click the alternate mouse button (typically, the right mouse button). They provide efficient access to numerous Application Designer commands. Because pop-up menus are displayed at the pointer’s current location, they eliminate the need to move the pointer up to the



menu bar or to a toolbar. A pop-up menu contains only the commands that apply to the selected object or the current context.

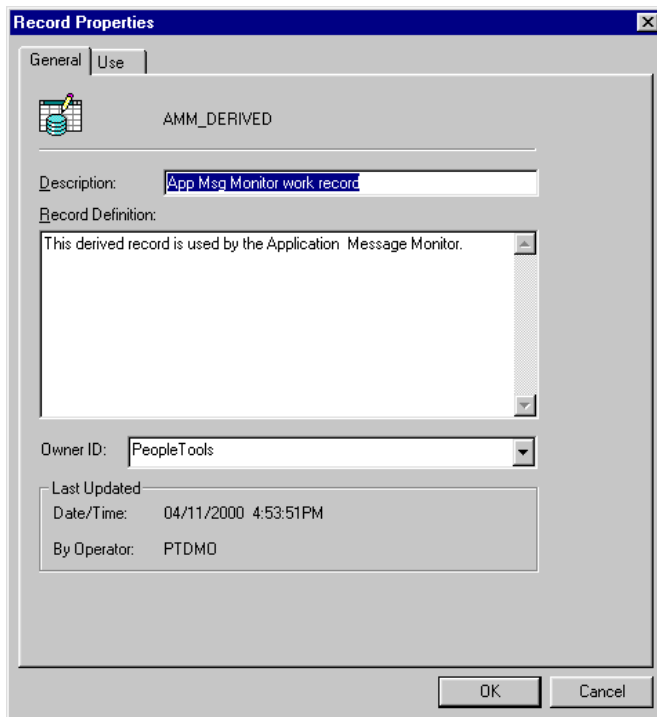


Example of a Component Definition Pop-up Menu

## Property Sheets

A property sheet is a dialog box that displays the user-definable properties of an object definition. A property sheet typically is displayed when you choose the Properties command for an object type by selecting the **File, Object Properties** menu, clicking the corresponding toolbar button, or right-clicking on the object and selecting **Properties** from the pop-up menu. You can also press Alt+Enter to display the property sheet for the active object definition.





A Property Sheet

With Application Designer, every object definition that you can open (menus, pages, components, records, fields, and so on) has an associated properties sheet. Object properties specific to the object type are grouped together in these object property sheets. For example:

- Record Type and Record Use properties are both found in the Object Properties sheet for records.
- Translates are found in the Object Properties sheet for fields.
- Menu groups and menu labels are found in the Object Properties sheet for menus.
- Search record, actions, and Internet settings are found on the Object Properties sheet for components.

## Dynamic Toolbars and Menus

The Application Designer toolbar and menu changes based upon the type of object definition that is active. For example, when a page object definition is active, the toolbar displays buttons that represent the objects you can add to a page. This technique is also known as *morphing*.

The change is so subtle that it can be easily missed. This is because the menu bar names are consistent between object types; but if you look at the menu items and toolbars closely, you will notice a distinct difference. For example, if a *page* window is active, the menus and toolbars change to include actions and options applicable to a *page* definition—as in the **Show Grid** option on the **View** menu and the introduction of the **Layout** menu. In addition, *page* specific toolbars are also displayed.



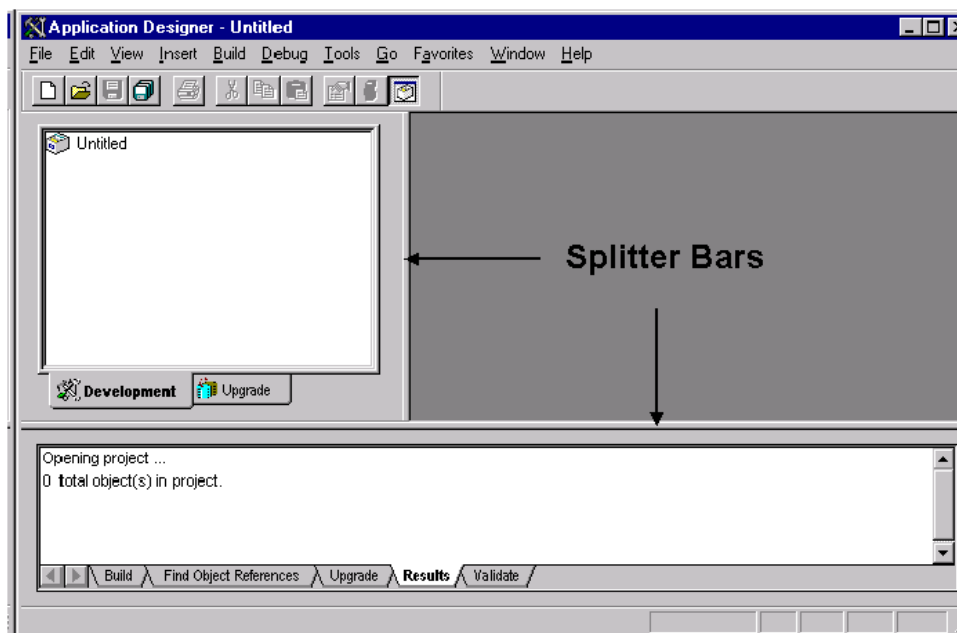
In the same respect, if a record window is active, the menus and toolbars morph to include actions and options applicable to a record definition. For example, different options would be available on the **View** menu (such as **View**, **Field Display** and so on). Different toolbar buttons for record definition actions would appear, as well.

## Customizing the Environment

Application Designer is highly customizable, enabling each user to tailor the tool to their particular needs or preferences.

### Splitter Bars

A splitter bar is a thin vertical or horizontal bar that separates windows within a parent window. Using the splitter bar enables you to resize two windows at the same time. Splitter bars are used between the project workspace, object workspace, and output window.



Splitter Bars Make it Easy to Resize Your Workspace

To resize an Application Designer workspace

1. Drag the splitter bar.

You can drag the splitter bar to change the size of the project workspace, object workspace, or output window.



## Dockable Windows and Toolbars

You can freely move Application Designer windows and toolbars to either anchor (or “dock”) to parts of the main application window, or to make them “float” freely anywhere you want them to appear. When you dock a toolbar or window, it means you anchor it to the top, sides, or bottom of the main window.

To move or dock an Application Designer window or toolbar

1. Drag the window’s title bar or the desired toolbar to a new location.

If you move the window or toolbar near the top, bottom, or sides of the main window, the window or toolbar will “snap” into place, meaning that it is docked. However, if you press and hold the Ctrl key and then drag the window or toolbar, you can prevent it from automatically docking when it is near the edge of the window.



Caution should be used when running the PeopleCode Debugger with “undocked” windows.

## View Menu

The **View** menu enables you display or hide different Application Designer components (such as the project workspace, output window, and toolbar).

## Application Designer Window Components

There are six primary components of the Application Designer window:

<b>Component</b>	<b>What it does...</b>
Title bar	Displays the name of the open project and active object definition.
Menu	Provides access to Application Designer commands and features.
Toolbar	Displays buttons useful in editing the active object.
Project workspace	A graphical representation of the components contained in a project. The project workspace window has two folder tabs representing the Development View and the Upgrade View.
Object workspace	Displays individual objects you open.
Output window	Contains the output text from Application Designer operations, such as Build (SQL Create and Alter), Find Object References, Upgrade, Results, Validate, and PeopleCode Log.

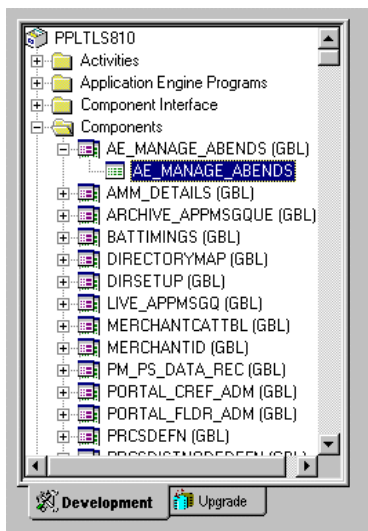




We recommend that you maximize the Application Designer window to make optimal use of the different workspaces.

## Project Workspace

You view projects and their associated object definitions in the project workspace. A project organizes and presents the object definitions of a business application in logical groups for easier development, customization, maintenance, and upgrade.



The Project Workspace, Shown with a Project Open

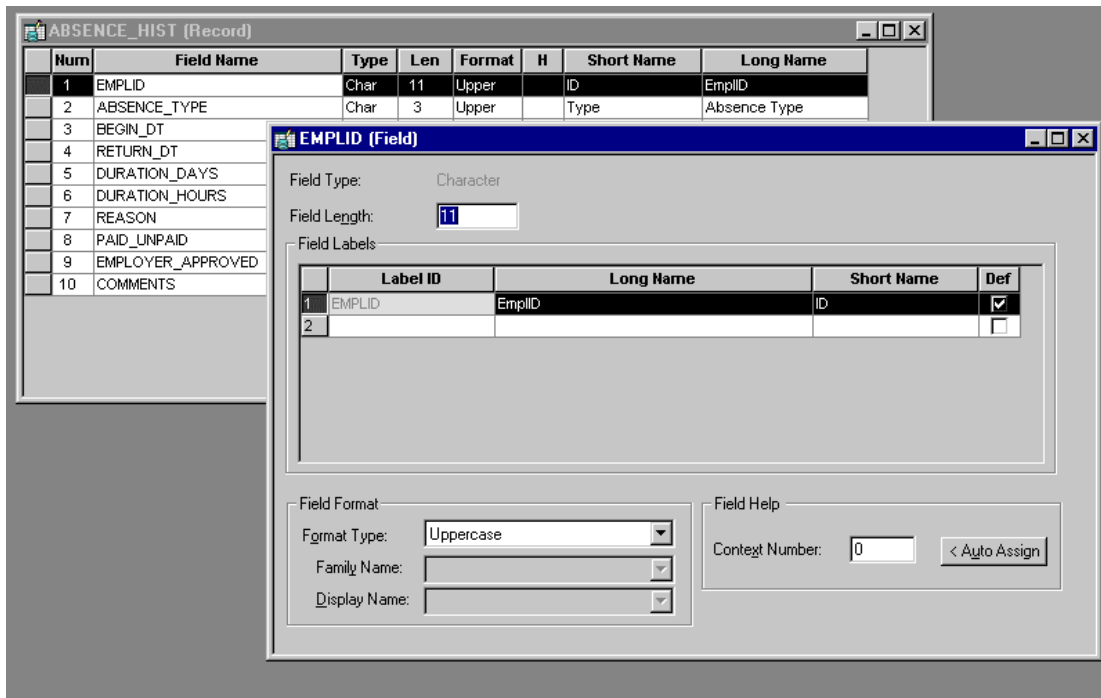
You can work with a development project or an upgrade project by clicking either the **Development** tab or the **Upgrade** tab at the bottom of the project workspace.

Note that the text on the **Development** and **Upgrade** tabs may not appear if there is not enough room to display them onscreen.

## Object Workspace

You use the object workspace to create and modify object definitions—which can be maximized, minimized, cascaded, or tiled within the workspace.



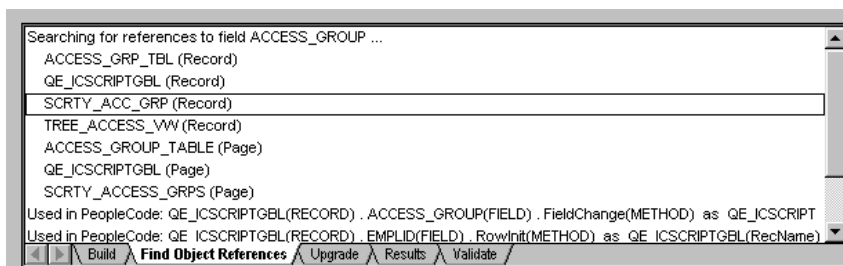


The Object Workspace, Shown with Two Object Definitions Open

## Output Window

The output window displays status messages of various Application Designer operations. The output is organized into different categories using workbook tabs at the bottom of the window.

The text displayed in the output window is context-sensitive, enabling you to select it to perform related operations. For example, if you have a field definition open, you can select **Edit**, **Find Object References** to list the object definitions that reference the active field definition. The list displays in the output window. You then can double-click any of the related object definitions listed to open them.



The Output Window



## Output Window Tabs

There are a number of tabs along the bottom of the output window related to numerous functions you can perform with Application Designer.

<b><i>Tabs</i></b>	<b><i>What they do...</i></b>
Build	Used to create tables, indexes, and views; and alter tables. If you specify the <i>Log to Output Window</i> option in the Build settings, then errors, warnings, and informational messages are displayed here. You can control the level of detail that is displayed
Find Object References	Identifies object definitions that are used by or referenced by other object definitions. You can double-click on the lines there, and it will open the named object definition.
Upgrade	Any upgrade actions initiated from Application Designer display here.
Results	Any messages related to project operations, like opening a project or inserting objects into the project, display.
Validate	Used to validate both projects and components. The results of the validation are displayed here.
Find in...	The Find in... dialog output is displayed here. You can double-click on the lines there, and it will open the named object definition. The Find In... search can also be limited to a specific Project, rather than the entire database.
PeopleCode Log	The PeopleCode log tab displays when you're in the debugger and stepping through code and get an error. The error will display there.

## Application Designer Menus

This section reviews the general Application Designer Menus and what they do. There are more specific menus that appear for each individual object definition, when it is open and in focus. Those menus are covered in the sections about each object definition.

### File Menu

<b><i>Menu Item</i></b>	<b><i>What it does...</i></b>
New	Enables you to create and open a new object definition.
Open	Enables you to open a selected, existing object definition.
Close	Closes the active object definition in the object workspace.
Save	Saves the active object definition in the object workspace.



Save As	Saves the active object definition, enabling you to change the name as you save it.
Save All	Saves all open object definitions.
Save Project	Saves the project.
Save Project As	Saves the active Project definition, enabling you to change the name of the project as you save it.
Copy Project to File	Export a project from your current database to a file.
Copy Project from File	Import a project from a file into your current database.
Merge Projects	Create a new project from selected objects of two existing projects.
Project Properties	Enables you to edit properties for the open project.
Object Properties	Gives you the active object definition <i>Properties</i> dialog enabling you to make general comments and attribute changes for Use, Type, and Internet; depending on what type of definition it is.
Rename	Enables you to rename selected object definitions.
Delete	Enables you to delete selected object definitions from the database.
Page Setup	Enables you to select what type of data to print as well as set up borders and margins.
Print Preview	Shows a wsywig display of print out on screen.
Print	Prints the active object definition in the object workspace.
View Report	Shows a report of object definition in an open window within workspace.
Report from File, Print Preview	Shows a Print Preview from selected report file, saved to disk.
Report from File, Print	Prints selected report file from disk.
Report from File, View Report	View Report from selected report file saved to disk.
Last Opened Objects	The last 5 opened object definitions are listed for convenient re-opening.
Exit	Close and exit from Application Designer.



## Edit Menu



The following are the general menu items for the Edit Menu. Other menu items appear when an object definition is currently active in the object workspace. Those menu items are described in each specific object definition section.

<b>Menu Item</b>	<b>What it does...</b>
Undo	Reverses last action
Redo	Repeats last action
Cut	Removes selected area and held in memory for later use.
Copy	Makes a duplicate of a selected area; held in memory.
Paste	Inserts information from Cut or Copy.
Delete	Deletes selected area.
Find Object References	Searches for all related object definitions and references (fields, records, pages, PeopleCode, and so on) to current open object definition. Findings are displayed in the Display Window under the Find Object References tab.
Find in...	Searches through all PeopleCode or SQL programs, for a text string you describe in a dialog box. You also have the ability to specify which type of PeopleCode and SQL programs you want to search through.

## View Menu

<b>Menu Item</b>	<b>What it does...</b>
View Definition	Displays definition that is referenced in the active object definition.
View PeopleCode	Displays PeopleCode characteristics of the active object definition.
View Internet Options	Turns on and off the PeopleSoft Internet Architecture options for pages and page controls in Application Designer. View, Internet Options is set on as the default.
Filtering	Options for filtering your view of Upgrade are: No Filtering, Selected for Upgrade Action, Not Selected for Upgrade Action, and Custom Filtering.
Toolbar	Turns the toolbar on and off.
Status Bar	Turns the status bar on and off.
Project	Turns the display of the project workspace on and off.



Workspace	
Output Window	Turns the display of the output window on and off.

## Insert Menu

<i><b>Menu Item</b></i>	<i><b>What it does...</b></i>
Current Object into Project	Inserts the active object definition into the project.
Objects into Project	Displays a dialog to insert objects into the project.
Projects into Project	Inserts another project into the active project.

## Build Menu

<i><b>Menu Item</b></i>	<i><b>What it does...</b></i>
Current Object	Displays a dialog to build or alter the record definition that is currently active in the Object Workspace.
Project	Displays a dialog to build (SQL Create and SQL Alter) all records in the project.
Settings	Displays a dialog where parameters are set that apply to build operations.

## Debug Menu

<i><b>Menu Item</b></i>	<i><b>What it does...</b></i>
PeopleCode Debugger Mode	Starts the PeopleCode Debugger, invoking a debugging session and enabling a full Debug menu to display. Once in Debugger mode, a Local Variables watch window opens in the Object Workspace.



For more information on **The Debug Menu** and the **PeopleCode Debugger**, see *Debugging Your Application*.

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## Tools Menu

<i><b>Menu Item</b></i>	<i><b>What it does...</b></i>
Validate Project	Validates attributes of the active project.
Compile All PeopleCode	Validates all PeopleCode in the current database.
Data Administration	Provides dialogs that describe Space allocation on the database.
Change Control	Provides dialogs that enable you to view history or set system wide change control options as the administrator.
Upgrade	Provides functions for upgrading an application project.
Translate	Provides options for translating base and operator language databases.
Miscellaneous Objects	Provides options for setting custom field formats, toolbars, colors, and styles.
Options	Enables you to select commands specifying Insertion commands, object language preference, validating options, PeopleCode fonts, Object OwnerID, and more.

## Go and Favorites Menus for Windows Client Only

There are two menus accessible from all PeopleSoft applications running under Windows Client only: **Go** and **Favorites**.

**Go** This menu gives you access to all of the different PeopleTools and Applications, including Application Designer. From within an application, selecting **Go**, **Recent** provides a list of the last 10 components you've opened.

**Favorites** This menu retains component destinations you've specified using the **Favorites**, **Add to Favorites** menu option, including the key list (running under Windows Client only).

## Window Menu

<i><b>Menu Item</b></i>	<i><b>What it does...</b></i>
Cascade	Cascades all objects that are not minimized in the object workspace into overlapping layers of objects with the object names visible.



Tile	Reorganizes and resizes all objects that are not minimized in the object workspace so that they are all visible and do not overlap.
Arrange Icons	Neatly groups together all minimized objects within the object workspace.
Close All	Closes all objects in the object workspace.

## Help Menu

<b><i>Menu Item</i></b>	<b><i>What it does...</i></b>
Current Window	Provides context sensitive help related to the active window by opening the appropriate PeopleBook in the appropriate location.
PeopleBooks Library	Takes you to the PeopleSoft Online Library; our online documentation for PeopleTools and the PeopleSoft applications you have licensed.
About PeopleTools	Displays the PeopleTools release level, application release, operator ID, database name, database type, and application server name (if applicable)







# Using Application Designer Projects

Application Designer's *project* feature is a simple and efficient way to organize your objects as you develop or customize a PeopleSoft Internet Architecture application.

A project keeps track of all object definition types as a simple list of object names. While the project provides a way to view and organize related object definitions, it is **not** where the objects are *stored*. Development objects exist outside of the project, and within your PeopleSoft database. The project simply references these objects, enabling you to view a subset of all the object definitions in your PeopleSoft database.



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**Note.** Any changes you make to an object definition within a project will also be reflected outside the project. Before you make any changes to an object within a project, be aware of how that may affect other objects outside the project. For example, when you rename or delete a field, you are doing so *globally*. Keep in mind that although you can enter a project name as selection criteria in certain Application Designer dialogs (like Open, Rename, and Delete), this is just to narrow the list of objects returned in the selection list.

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### Advantages of Projects

You are not required to use projects in Application Designer—you can open and edit individual object definitions without associating them with a project. However, using projects can help you:

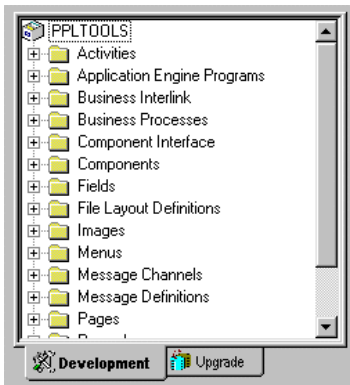
- Organize related object definitions and simplify access
- Better understand the relationships among object definitions
- Determine the scope of a development or customization project
- Coordinate the work of several developers working on the same application
- Streamline the migration of objects from one database to another during an upgrade
- Group together the object definitions to be promoted from development to production
- Use them for searching



## The Project Workspace

The project workspace displays a single project at a time and all its object definitions, making them easily accessible for opening and editing. You can have numerous objects open concurrently within the Object Workspace.

The Project Workspace has two views representing the collection of object definitions in the project: **Development** and **Upgrade**. You can switch between the views by clicking on the folder tabs at the bottom of the project workspace. To open folders and view related object definitions, click on the expand (+) button .




The Project Workspace



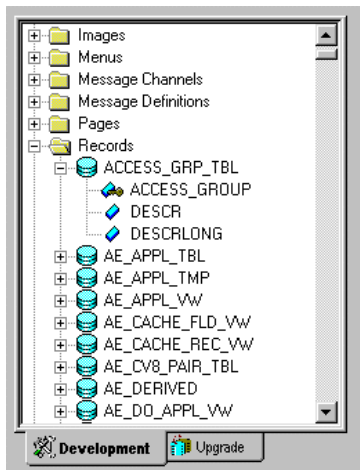
The Development and Upgrade Views show only the object definitions that are part of the project. For example, if a project does not include any messages, the **Messages** folder will not appear in the project workspace.

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### Development View

The Project folder  contains a folder for each object definition within the project. The Development View gives you direct access to the project's object definitions by double-clicking the object in the project workspace.



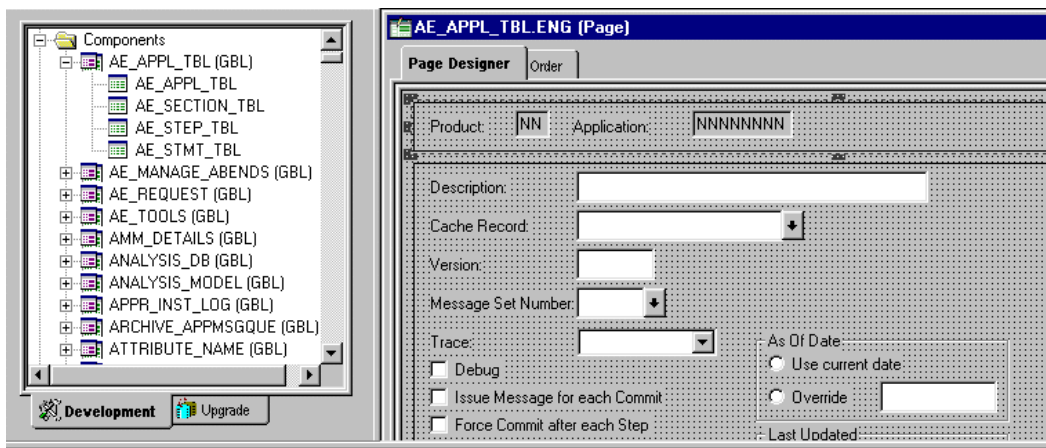


The Development View in the Project Workspace

The object definitions display in a *project tree* organized by object type.

## Related Object Definitions

The Development View also shows object definitions that are closely related to the objects in a project. You access these related object definitions by clicking the expand (+) button on an object type that has related objects. For example, if you click the expand (+) button on Components, you can see the related page definitions in the project workspace. You can double-click on any page definition to open it, even though it has not been explicitly defined as part of the project.



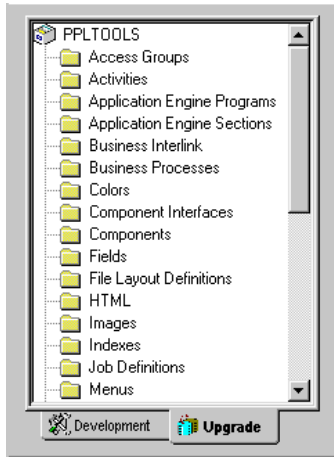
Expanded Components within the Project Workspace

## Upgrade View

The Upgrade View helps to streamline the migration of object definitions—such as records, pages, or PeopleCode—from one PeopleSoft database to another. It displays all of the object definitions available for upgrade, along with attributes related to the upgrade process. When you



double-click an object type in the Upgrade View, an upgrade definition window appears in the object workspace, displaying the object definitions of that type available for upgrade and associated upgrade options.



The Upgrade View in the Project Workspace

The Upgrade View is important when moving customizations into production and when upgrading to new PeopleSoft releases. Objects within development projects and upgrade projects are interchangeable, meaning components developed in Application Designer can be copied or compared using the Upgrade View.



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For more information, see [Upgrading with Application Designer](#).

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## Maintenance Projects

A maintenance project is a new PeopleSoft object to be used when you are copying a maintenance release database to a target database. In addition to simplifying the software upgrade, maintenance projects support the:

- **Tracking of applied software fixes in a log.** When you copy a maintenance project to a target database, the following information is recorded in PS\_MAINTENANCE\_LOG file:
  - Incident IDs
  - Descriptions of the fixes applied
  - Date the project was imported
  - Users who delivered and/or applied the fix
  - Release labels of the fixes
  - Dates and times of the fixes



You can view this log file to identify what fixes have been applied to your databases. You can also use this feature to track and deliver your own modifications to your PeopleSoft system.

- **Handling of dependency incidents.** Maintenance projects contain special properties called *Incident IDs* and *Dependencies*. Incident IDs and Dependencies, which are just Incident IDs that are dependent on other incidents, track the incidents and dependent incidents that have been included in the project.

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## Creating a Maintenance Project

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**Note.** Maintenance projects are intended to be used in upgrading your PeopleSoft database with new software releases. They are usually created and shipped by PeopleSoft. However, because this feature is available to you for your internal software update process, it is described in this section.

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To create a maintenance project

1. Navigate to the **Project Properties** dialog.

Select the **Maintenance Project** checkbox.

Project Properties General, Maintenance Project

2. Enter the Description and Comments.
3. Select the **Incident** tab.

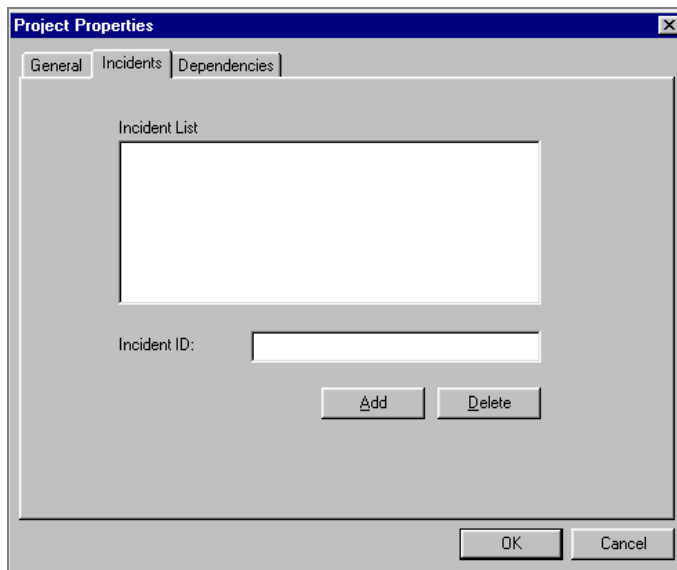
PeopleSoft uses this area to specify incidents related to the maintenance project.



If you are tracking your own incidents, enter the names of the fixes, or the incident IDs fixed in this project. The system logs them to the *PS\_MAINTENANCE\_LOG* file and they will be included when the project is copied.

We recommend that if you enter an incident or update ID, use a character prefix. PeopleSoft fixes use numeric IDs; for example, 0000000000012345.

Click the **Add** or **Delete** button. Click **OK** when finished adding or deleting incidents.



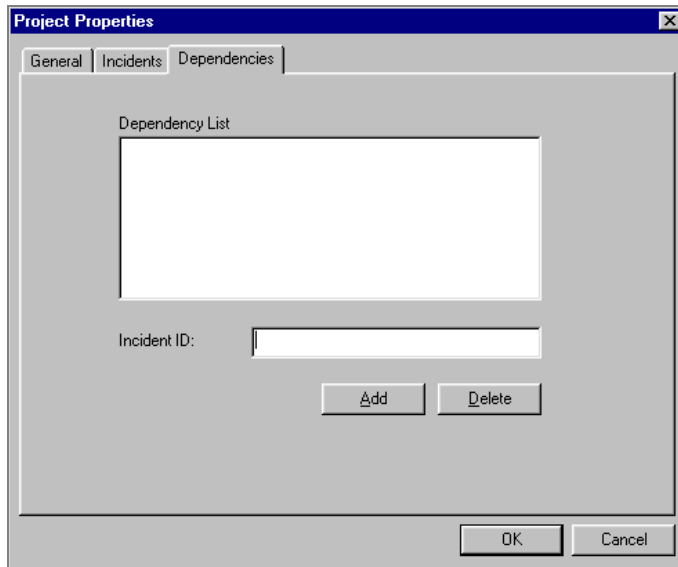
Project Properties, Incident tab

4. Select the **Dependencies** tab.

This is where you list any dependencies this project may have. The incidents you enter here are checked against those listed in the log file to verify whether the fix has been applied.

Enter the Incident ID for the incident you want to add to or delete from the list. Click the **Add** or **Delete** button. Click **OK** when finished adding or deleting incidents.





Project Properties, Dependency tab

## Working with Projects

This section covers the tasks you might perform with Application Designer projects.

---

### Opening Projects


You can open a project or an individual object definition using the **Open Object** dialog and the **Object Type** drop down list.



For more information on opening objects in general, see Opening Object Definitions.

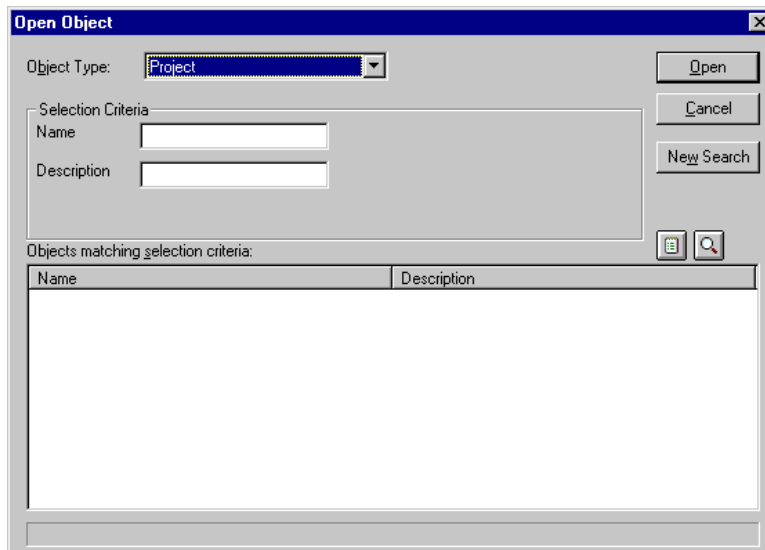
---

To open a project

1. Click the  toolbar button or select **File, Open**.

The **Open Object** dialog appears.





2. Specify Project in Object Type field.
3. Enter the optional Selection Criteria.

The **Selection Criteria** list reflects the selected object type. Enter the project **Name** or a **Description** (or the beginning characters of either).

4. Click **Open** (or press **Enter**) to display projects matching the selection criteria you entered.

If you want to clear the current selection criteria and start over, click on **New Search**.

5. Select the project to open.

Double-click the project you want to open in the object workspace, or highlight the project and click **Open**. If you right-click on a project name, a popup menu appears so you can **Open**, **Print**, **Rename**, or **Delete** the selected project.

---

## Creating New Projects


When you start Application Designer, an empty project titled “Untitled” always opens, whether you use the project or not. Unlike other object definitions, only one project can be open at a time. Although we encourage you to develop within projects, you can hide the project workspace window and ignore the project all together.



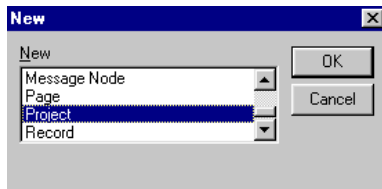
**Note:** Use **View, Project Workspace** or the corresponding toolbar button to hide the project workspace.

---

To create a new project

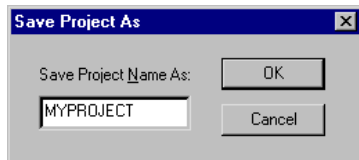
1. Click the  toolbar button or select **File, New** from the menu.
2. Highlight **Project** as the new object type to create, and click OK.





Creating a New Project

Another way to create a new project is to open an existing project; then, select **File, Save Project As** and enter a new name for the project.



Saving an Existing Project with a New Name



**Note.** All the existing object definitions within the project are also copied.

---

---

## Merging Projects

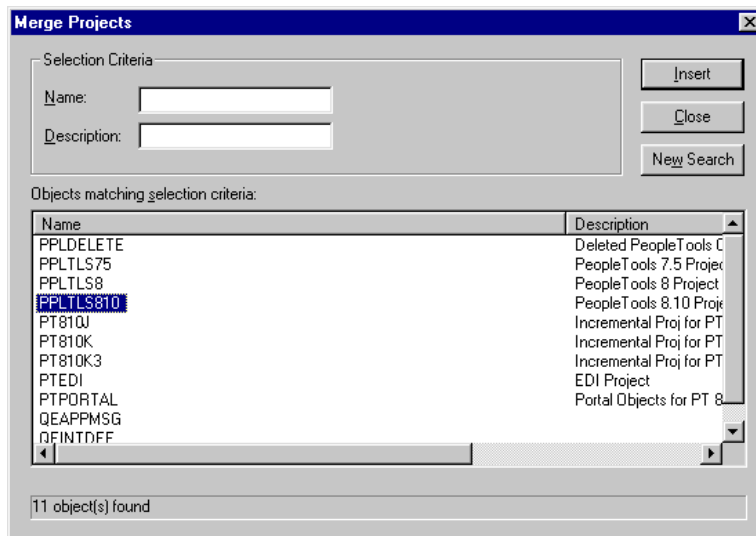
You can merge two or more projects by inserting all the object definitions from one project into another.

To merge projects

1. Open the project in which you want to insert another project.
2. Select File, Merge Projects.

The **Merge Projects** dialog appears.





The Merge Projects Dialog

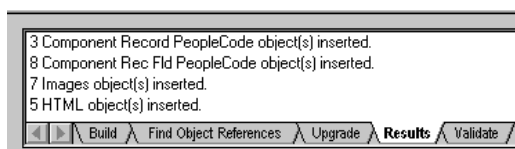
3. Select a project to insert into your currently open project.

The Selection Criteria varies depending on the object type you open. If you click Insert, the list box fills with objects that match the criteria.

4. Click **Insert**.

When one or more objects in the list is selected, those objects all get inserted into the project in one action.

After each search, note the information in the status bar and in the **Results** tab of output window.



Results Tab of Output Window

## Setting Project Options

You can set various processing options for all project operations in the Project Options dialog.

To set project options

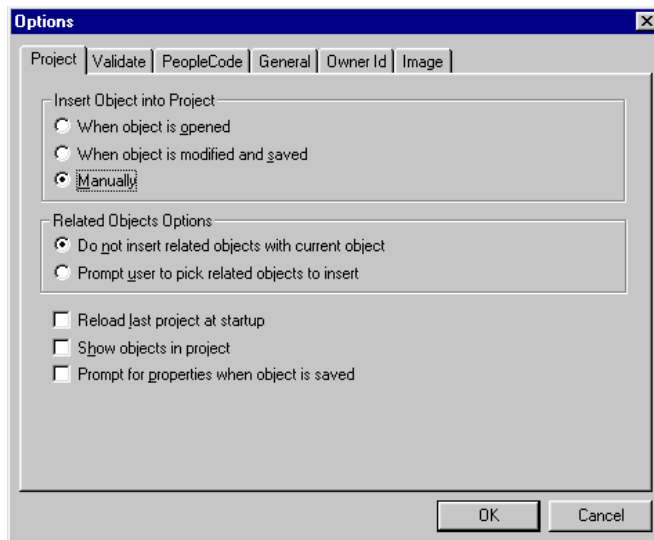
1. Select Tools, Options.

The **Options** dialog appears.

2. Click the Project tab on the Options dialog.



Use this tab to define when and how objects are added to the project and how the project displays in the project workspace.



Setting Project Options

The following table lists the options available on the **Project** tab.

<b>Group Name</b>	<b>Option</b>	<b>What it does...</b>
Insert Object into Project	When object is opened	Automatically inserts any object you open into the current project
	When object is modified and saved	Automatically inserts any object you save into the current project
	Manually (default)	No automatic insert of any object into the current project. This is the default option. Use the Insert menu to insert an object into the project.
Related Objects Options	Do not insert related objects with project	No prompt to include related objects. Only the specified object definition is inserted; not related objects.
	Prompt user to pick related objects to insert 1	When using Insert, Current Object, a dialog appears prompting which related objects should also be inserted.



(Other Project Options)	Reload last project at startup 2	Project that was last opened in the previous session. Opens automatically when starting Application Designer.
	Show objects in project	Objects explicitly in a project (Development view) show a black mark next to their icon to indicate they are in the project. Attribute objects, which are not explicitly part of the project, do not show a black dot.
	Prompt for properties when object is saved	Prompts you with object properties dialog first before being able to save the definition.

<sup>1</sup>The Related Objects Options apply only to the Insert, Current Object into Project dialog. They do not apply to the Insert Objects into Project dialog.

<sup>2</sup> Application Designer keeps track of the last project open on the specific workstation used.



For more information on inserting objects manually into a project, see Inserting Object Definitions into a Project.

---


## Saving a Project

You use a different command when saving an entire project than when saving other types of object definitions.

To save a project

1. Select File, Save Project.

You can also select **File, Save Project As** to save the project with a new name. This is a way to make a copy of a project, since the original project still exists under the original name.

Note that the  toolbar button saves whichever object is active in the object workspace, but cannot be used to save an entire project.



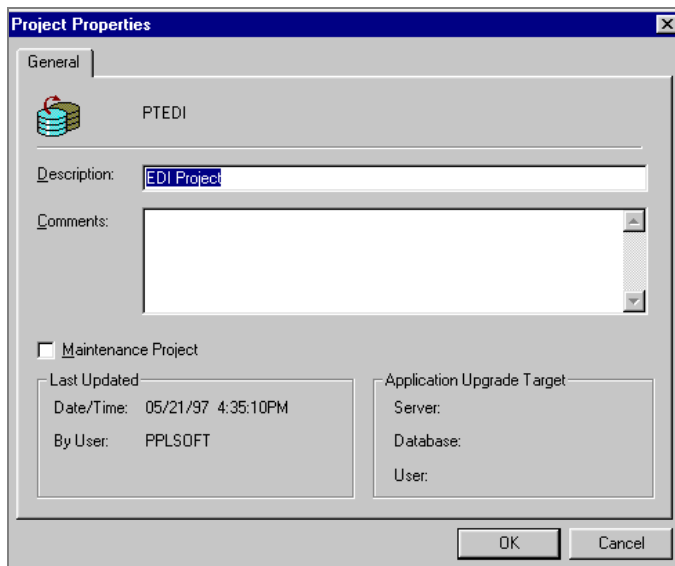
---

## Setting Project Properties

You can display and change the properties of the open project.

To set the properties of a project

1. Select File, Project Properties.



Project Properties Dialog, General Tab

Like the **Object Properties** dialog, the **Project Properties** dialog includes a **General** tab for documenting the project.

2. Enter a Description.
3. Optionally, enter **Comments**.
4. To save these settings, click **OK**.

---

## Validating Projects

Application Designer includes a validate utility to check your projects, as well as other components of your PeopleSoft application. When you validate a project, Application Designer checks to make sure that all object definitions included in the project actually exist in your database. An important part of the PeopleSoft upgrade process involves validating your upgrade project.



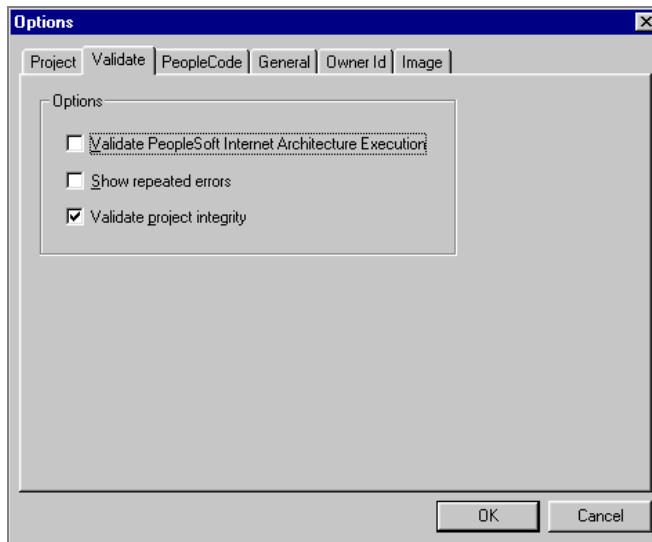
For more information on how validating a project is related to upgrades, see *Upgrading with Application Designer*.

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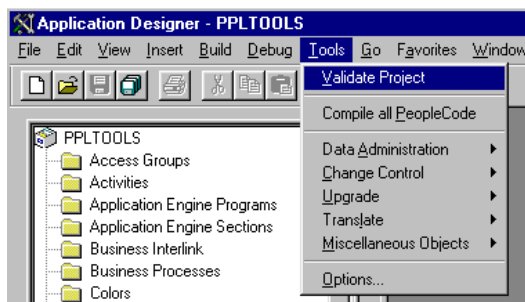
To validate a project

1. Ensure that a component definition is not active in the object workspace.  
Otherwise, the validation will occur on the component, rather than the project.
2. Select Tools, Options.
3. Select the **Validate** tab on the **Options** dialog.
4. Select Validate project integrity.



Setting Validate Project Integrity

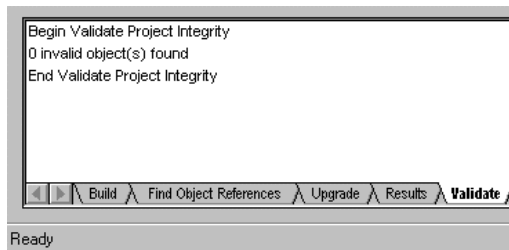
5. Click **OK**.
6. Select Tools, Validate Project.



Setting Validate Project

The Validate utility runs a series of tests on the project or components and sends its results to the **Validate** tab on the output window. If any errors are found, they are listed here.





The Output Window Displays Validation Results

## Setting Other Validate Options

The validate utility also checks your record field PeopleCode to see if it uses any functions that aren't valid for the PeopleSoft Internet Architecture.



**Validate** only checks record field PeopleCode on records that are part of a component; that is, inserted into the project with the component. It doesn't validate PeopleCode associated with a component, a page, a message definition, and so on.

When Validate finds PeopleCode that won't run on the PeopleSoft Internet Architecture, it outputs an error to the Validate tab of the output window.

Validate checks for:

- PeopleSoft Internet Architecture execution
- Project integrity

You can set these options on the Validate tab of the **Tools, Options** dialog.



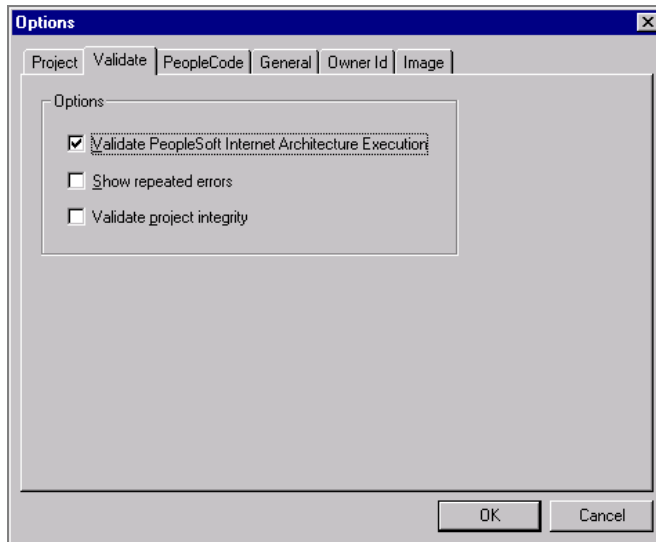
For more information about Project Integrity, see Reusing Projects.

Validate options give you control over the types of validation that Validate performs. You should check that these options are set correctly before validating an application.

To set validate options

1. In Application Designer, choose **Tools, Options**.
2. In the Options dialog, choose the Validate tab.





Validating page of Options dialog box

3. Select Validate PeopleSoft Internet Architecture Execution and click OK.

### Showing Repeated Errors

If you are validating multiple components that share some of the same records, errors and warnings in the shared records are reported only the first time they are encountered unless you select the **Show repeated errors** option.

If you do not set this option, validate reports an error only once, and the number of "errors previously encountered" in subsequent components is indicated when the same error or warning condition is detected.

This option causes previously reported errors to be displayed on a per component basis.

```
Validating Component: ABSENCE_HISTORY (GBL)
FUNCLIB_HR.DAY_OF_WEEK.FieldFormula.det_day_of_week: Use of non PeopleSoft Internet
Architecture function 'CreateObject' (17,11)
```

```
FUNCLIB_HR.DAY_OF_WEEK.FieldFormula.Foo: Use of non PeopleSoft Internet
Architecture function 'ObjectDoMethod' (17,11)
```

```
ABSENCE_HISTORY (GBL) - 2 error(s)
```

```
Validating Component: ABSENCE_HISTORY1 (GBL)
```

```
FUNCLIB_HR.DAY_OF_WEEK.FieldFormula.det_day_of_week: Use of non PeopleSoft Internet
Architecture function 'CreateObject' (17,11) (#2)
```

```
FUNCLIB_HR.DAY_OF_WEEK.FieldFormula.Foo: Use of non PeopleSoft Internet
Architecture function 'ObjectDoMethod' (17,11) (#3)
```

```
ABSENCE_HISTORY1 (GBL) - 0 new error(s), 2 error(s) previously reported
```





---

The second number in parenthesis and prefixed by the pound symbol indicates the line in the output window that the error was first reported on.

---

To show repeated errors

1. Select Show repeated errors.

## Validate Tab Features

The Validate tab displays errors and warnings that result from any validate operation.

You can directly access the offending PeopleCode function call by double-clicking its name in the window, or by right-clicking on its name and choosing View PeopleCode from the pop-up menu.

You can select text in the Validate tab and paste it into a text editor or word processor for saving or printing, or you can print the contents directly by right-clicking in the tab and choosing **Print**.

In some cases Validate may encounter the same error more than once; for example, if it finds the same invalid PeopleCode in a function that is called more than once.

```
Validating Component: ABSENCE_HISTORY (GBL)
ABSENCE_HIST.BEGIN_DT.FieldChange: Use of non-PeopleSoft Internet Architecture function 'WinExec'. (17,21)
ABSENCE_HIST.BEGIN_DT.FieldChange: Use of non-PeopleSoft Internet Architecture function 'GetCwid'. (17,21)
ABSENCE_HISTORY (GBL) - 2 error(s)
```

Validate Output Tab







## CHAPTER 3

# Creating Field Definitions

Fields are the basic building blocks in your PeopleSoft system—in database terms, they represent columns on a table or in a view. Field definitions are standalone development objects, defined in Application Designer, and can be shared across multiple record definitions. Changes to field properties affect all records which include that field.

Each field definition includes attributes such as data type, field name, long name, short name, field length, and various formatting values.

### Fields in Record Definitions

By grouping fields together that share a common theme, you build a record definition. For example, a department table (record) might include a Department ID field, Department Name field, Location field, and so on.

For each field definition that you add to a record, you define additional characteristics, called record field properties, that are specific to the way the field is used in that particular record. Record field properties are *not* shared with other records where the field is used.

## Creating New Field Definitions

We assume that you are already familiar with the Using Application Designer when working with field definitions.

To create a new field definition

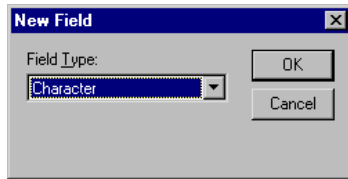
1. Click the **New** button on the Application Designer toolbar or select **File, New**.

The **New** dialog box displays.

2. Select **Field** and click OK.

The **New Field** dialog box displays.





New Field Dialog

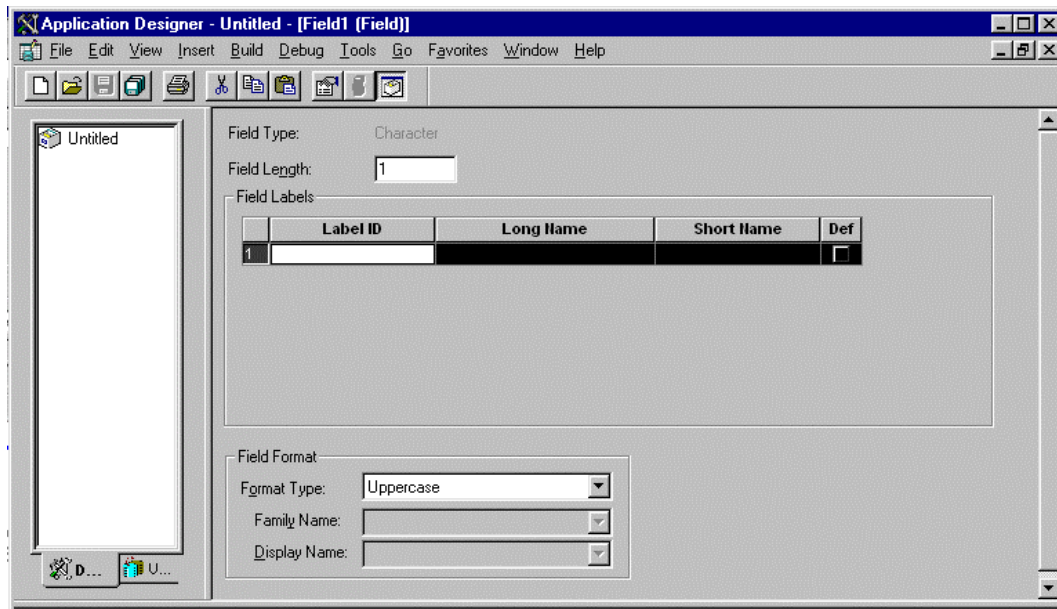
## Field Types

3. Select one of the following field types:

<b>Field Type</b>	<b>Description</b>	<b>System Name</b>
Character Fields	An alphanumeric field of fixed length.	Char
Long Character Fields	An alphanumeric field of variable length; used for textual entries such as comments or descriptions.	Long
Number Fields	A positive numeric field of fixed length for which decimals are allowed.	Nbr
Number Fields	A positive or negative numeric field of fixed length for which decimals are allowed.	Sign
Date Fields	A date field of constant length. Built-in edits prohibit illegal dates such as day 42 or month 20. Date fields always store a four-digit year.	Date
Time Fields	A Time field of a constant length. Built-in edits prohibit illegal times such as hour 26, minute 70, or second 94.	Time
DateTime Fields	A date and time field of constant length. Built-in edits prohibit illegal date/times as defined in the individual Date and Time fields. DateTime fields always store a four-digit year.	DtTm
Image Field	An image field to store images in a user defined format, such as JPEG or GIF.	Img
ImageReference Field	Use this when you want to change an image dynamically at runtime using PeopleCode. For information see Using the ImageReference Field in PeopleCode.	IRef

Once you make a choice, the Object Workspace displays a field definition window for you to complete your new field definition by specifying attributes.





Field Definition Window for a New Field

---

## Character Fields

Character fields are used for names, codes, and anything with letter values. But you also use them for numbers that you want to contain formatting attributes as well as the data itself. Examples of such fields are those in which you enter telephone numbers and ZIP/Postal codes. Character fields cannot be used in calculations. Decimal numbers can be entered in a character field, but cannot be used mathematically until converted back to a numeric field.

You can specify character field attributes at design time, as well as access most of them at runtime with PeopleCode. See the Field Class documentation for more information.

To specify character field attributes

1. Enter the Field Length.

You can enter a whole number between 1 and 254 for the length of the field.

2. Enter the Label ID, Long Name and Short Name.

### Label ID

Enter a unique identifier for the field which is less 18 characters, without spaces, and UPPERCASE. Make this the default label by selecting the **Def** check box in the last column, or the first label will be the default.



**Note.** You can specify multiple labels for one field, then call them at runtime. See the Multiple Labels section.

---



<b>Long Name</b>	Enter up to 30 characters as a name to describe the field. On a page definition, this name will appear as the <b>Label</b> for a field if you select RFT Long.
<b>Short Name</b>	Enter up to 15 characters as an alternate name to use on pages and reports if you have insufficient space to display the Long Name. If you leave <b>Short Name</b> blank, the system automatically copies the first 15 characters of <b>Long Name</b> into this field. On a page definition, this name will appear as the <b>Label</b> for a field if you select RFT Short.



If you name the field the same as the default label ID, you can identify the it with PeopleCode more easily.

---

### 3. Enter the **Field Format**.

Choose one of the following formats:

<b>Uppercase</b>	Converts the field value to uppercase and signifies that no other formatting options apply to this field. Use this option for code values, such as Department ID, where it doesn't matter if the user enters the value in upper or lower case. This is the default format.
<b>Mixedcase</b>	Stores uppercase and lowercase characters as entered. Use this option for fields that contain textual data such as a Department Name or a company division name. For example, <i>Accounting - Receivables</i> is more readable than <i>ACCOUNTING - RECEIVABLES</i> .
<b>Numbers Only</b>	Forces entries to be numeric. This is useful for enforcing numeric values without redefining the field as a Number field. This option will automatically fill in fields with leading zeros. For example, if the user enters <i>1</i> in a three-character field, the system will change this to <i>001</i> .
<b>SSN</b>	Formats the entry in (US) Social Security Number format: 999-99-9999. Define the field length as 9 even though the display length is 11. The system automatically adds dashes when formatting the field for display, but it's stored in the database without the dashes.



<b>SIN</b>	Formats the entry in Canadian Social Insurance Number format: 999-999-999; and performs the standard check digit edit for SIN. Define the field length as 9 even though the display length is 11. The system automatically adds dashes when formatting the field for display, but it's stored in the database without the dashes.
<b>Raw Binary</b>	Allows character fields containing embedded NULLs, such as encrypted values.
<b>Name</b>	Requires that the field entry be in the PeopleSoft standard name format:

[lastname] [suffix],[prefix] [firstname] [middle name/initial]

The entry can contain alphabetic characters, spaces, periods, hyphens, and apostrophes. Uppercase and lowercase characters are preserved as entered—in other words, mixedcase formatting is automatically included. Valid entries might include:

O'Brien,Michael  
Jones IV,James  
Phillips MD,Deanna Lynn  
Reynolds Jr.,Dr. John Q.  
Phipps-Scott,Adrienne  
Knauft,Günter  
Farrow,Mia



**Note.** If the name contains any Japanese characters, the first and last names must be separated by a space instead of a comma. The Japanese name format may contain hankaku katakana, Zenchiku katakana, hiragana, kanji and romaji characters. It may also include spaces, periods and hyphens.

<b>Postal Code North America</b>	Formats the entry to (US) ZIP code format or Canadian postal code format. The following table shows the valid entry formats and how they're stored in the database. Canadian postal codes are edited to ensure that alpha and numeric characters are entered in correct positions.
----------------------------------	--

<i>Entry format</i>	<i>Stored format</i>
99999	99999
99999-9999	99999-9999
999999999	99999-9999
A9A9A9	A9A 9A9



A9A 9A9	A9A 9A9
---------	---------

**Postal Code International**

Allows for the entry of international postal codes. The field length must be at least 7 characters. If 9 digits are entered, the system assumes the value is a US ZIP code; if the entry is in A9A9A9 format, the system assumes it's a Canadian postal code. Then, the value is formatted accordingly. For all other entries, no formatting is applied.

**Phone Num North America**

Formats the entry in North American telephone number format. The following table shows the valid entry format and how it's stored:

<i>Entry format</i>	<i>Stored format</i>
99999999	999-9999
999-9999	999-9999
9999999999	999/999-9999
999/999-9999	999/999-9999

**Phone Number International**

Allows for the entry of international telephone numbers. If you enter seven or 10 digits (and no other characters), the system assumes it's a North American phone number and formats it accordingly. For all other entries, no formatting is applied.

**Custom**

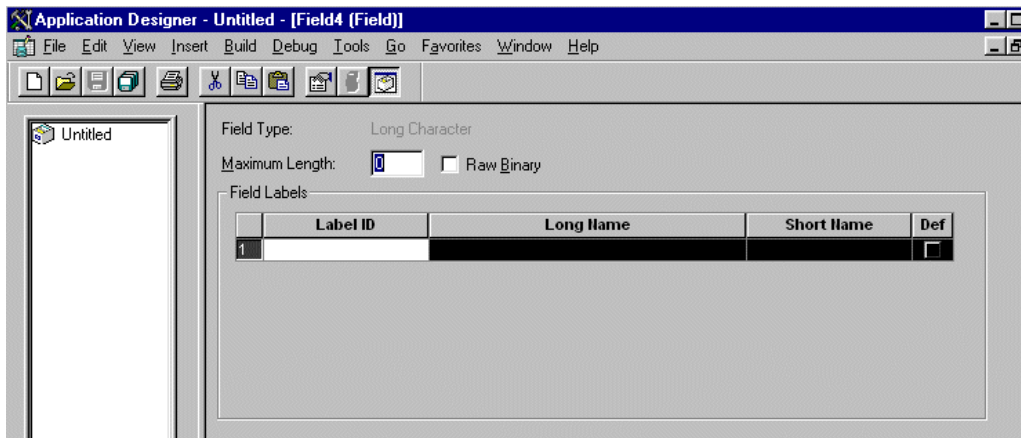
If you choose Custom as your Format Type, the **Family Name** and **Display Name** fields are activated. These selections enable you to apply additional formatting attributes that affect how the field is displayed on a page. See International Format Settings.

---

## Long Character Fields

This is an alphanumeric field of variable length that is used for text entries such as comments or descriptions. Depending on your database environment, the maximum length of a Long Character field may range from several thousand characters to 64,000 characters.





Defining Long Character Fields

To set long character field attributes

1. Specify Maximum Length, Raw Binary, and Field Labels.

#### Maximum Length

To control the length of a long character field, enter the maximum number of bytes you want the system to write to this field. If you don't specify a maximum length, you'll be able to enter a relatively unlimited number of characters—depending on the capacity of your database system. For Oracle, if the maximum length of a long field is less than 2000, the field can be stored more efficiently as a VARCHAR2000.

#### Raw Binary

Check this for fields that contain embedded NULLS.

#### Field Labels

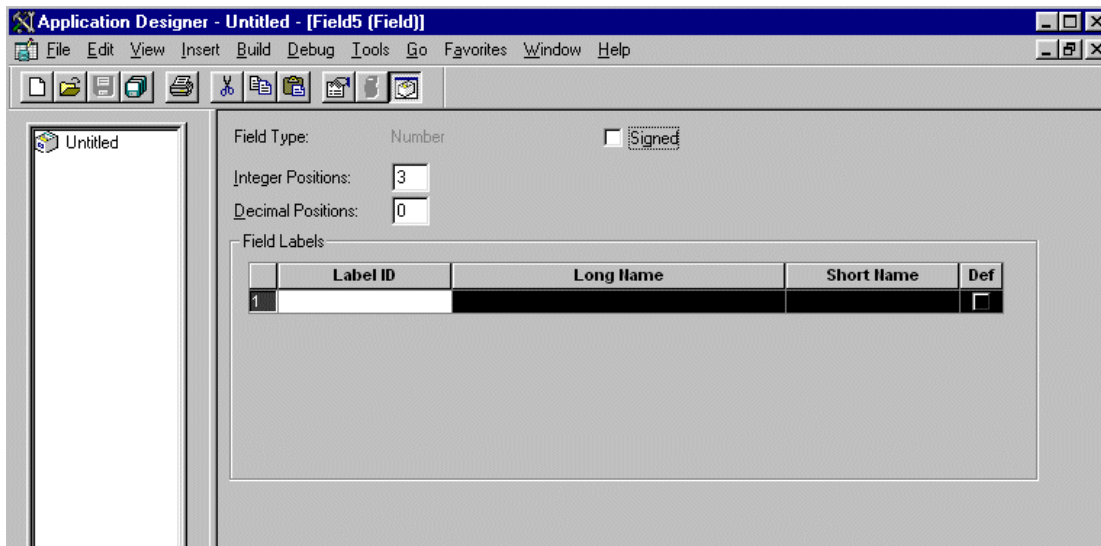
Enter Field Label information.

---

## Number Fields

A number field is a fixed length field that allows entry of positive numbers. Unlike Character fields, a number field may contain decimals, but does not contain special formatting such as the formatting for telephone numbers. Use Number fields for calculations. If you use number fields for codes, you sacrifice flexibility to change your coding structure to alphanumeric in the future.





### Defining Number Fields

To set number field attributes

1. Enter Integer Positions, Decimal Positions, Signed, and Field Label.

#### Integer Positions

#### Decimal Positions

Specify the number of Integer Positions to the left of the decimal; then, specify the Decimal Positions to the right of the decimal. If there are only decimal positions in the number, leave **Integer Positions** blank. In calculations, the system rounds up the result to the number of decimals defined here.

Number fields cannot exceed 31 positions (as in, the sum of integer and decimal positions cannot exceed 31).

#### Raw Binary

Used for fields that contain embedded NULLS.

#### Field Labels

Enter Field Label information.

#### Signed

Fixed length field that allows entry of positive *or* negative numbers. Check this for a field used for arithmetic calculations that may contain a negative value.

### Field Length Differences in SQL

The field length notation differs between the Application Designer and SQL. If you specify a field length of 8 integer positions and 3 decimal positions in Application Designer, SQL processes that as a length notation of 11.3.

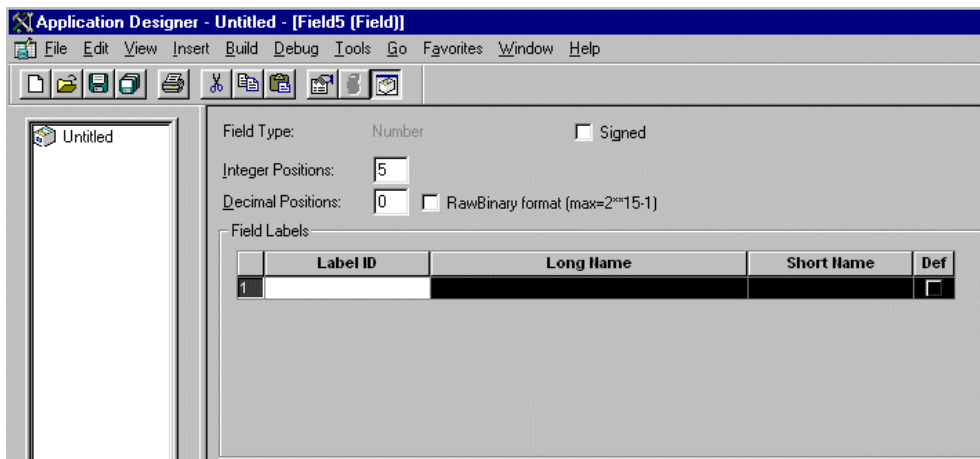


SQL describes field length in terms of *precision* and *scale*. Precision is the total number of integer and decimal positions. Scale is the number of decimal positions. Thus, 11.3 means 8 integer positions and 3 decimal positions; 11.0 means 11 integer positions and 0 decimal positions.

If there are only integer positions in the number, leave **Decimal Positions** blank. In calculations, the system will round up the result to the number of decimals as defined by this field attribute.

## RawBinary Format

The **RawBinary format** converts a number field value to a full length 16- or 32-bit integer. When you set Decimal Positions to 0 and Integer Positions to 5 or 10, the **RawBinary format** option displays.



RawBinary Format Option

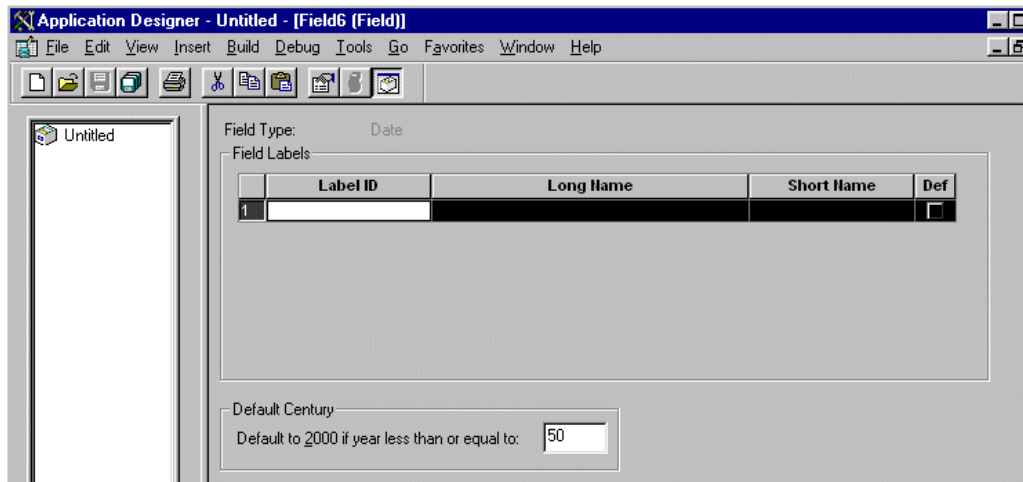
If Integer Position is...	RawBinary allows values up to...	And stores number as a...
5	65535	16-bit integer
10	4294967295	32-bit integer

## Date Fields

Date fields are fixed length (10) and contain calendar dates. This field type has built-in edits that prevent the entry of an illegal date (such as day 42 or month 20). A Date field has a field length of 10 and is maintained by the system.

The default format of a date field is defined by the database and can be overridden by your Browser settings.





Defining Date Fields

To set date field attributes

1. Enter Field Labels and Default Century.

#### Field Labels

Enter Field Label information.

#### Default Century

Specify the last two digits of a year, which is typically what users enter in a Date field. If you enter **50** as your **Default Century** option, this means that when a number 0 through 50 is entered as the year in a Date field, the century defaults to 2000. If a number from 51 through 99 is entered in a Date field, the century defaults to 1900. The number 50 is assigned as a default.

### Effective Date Fields

The EFFDT (Effective Date) field has special properties related to the processing of effective dates on rows and should only be used when needed.

Unlike regular Date fields, which you can use anywhere in the system, you should use EFFDT only on record definitions where you want to maintain data history—future, current, and past—to store rows of data in sequence. This enables you to store multiple occurrences of data based on when it goes into effect.

For effective-dated rows, you can only have one current row of data, but multiple occurrences of future and history.

### *Understanding Effective Dates*

Effective dates allow you to keep historical, current, and future information in tables. You can use the information to look at what's happened up to now and plan for the future. There are three types of effective dates:



<b>Future</b>	Data rows that have effective dates greater than the system date—usually today’s date.
<b>Current</b>	The data row with the most recent effective date closest to today’s (system) date, but not a future date. Only one row is the current row.
<b>History</b>	Data rows that have effective dates less than the current data row.

EFFDT is almost always a key and almost never a list item. You should turn on the **Descending Key** attribute so the row with the most recent effective date is displayed first on Pages. You may want to enter %DATE (current system date) as the default constant for this field.



As an alternative, you can use %CLIENTDATE as the default constant for the Date field. %CLIENTDATE will adjust the date as appropriate to the timezone of the browser (or Windows) client.

To enable you to track an accurate history of all your effective-dated information, the system invokes special logic when you access a record definition that contains EFFDT. The action that you select will dictate whether you can access the row type and what you can do with each type of row.

<b>Action Type</b>	<b>View</b>	<b>Change</b>	<b>Insert New Rows</b>
<b>Update/Display</b>	Current, Future	Future only	Effective Date Greater Than the Current Row
<b>Update/Display All</b>	History, Current, Future	Future only	Effective Date Greater Than the Current Row
<b>Correction</b>	History, Current, Future	All Existing Rows	Add New Rows with No Effective Date Restrictions



For records that do not contain EFFDT, all actions (Update/Display, Update/Display All, and Correction) operate the same way—they retrieve all existing rows for the specified keys.

When you’re running a page with effective-dated records and you insert a row, the system copies the contents of the prior row into the new row to save you keying time. On a large effective-dated table, you don’t want to have to re-enter all the data when only a single field changes. Also,



anytime you insert an effective dated row using PeopleCode, the same copying of the prior row contents takes place.

## Effective Status

On prompt tables, EFF\_STATUS (Effective Date Status) almost always accompanies EFFDT. When used with EFFDT, it's part of the mechanism that enables the system to select the appropriate effective-dated rows.

You can also use EFF\_STATUS by itself as a simple status field. But please don't change the translate values. They must be **A** (active) and **I** (inactive) for EFFDT to work properly. If you need a status field with different values, use or define a different field.

## Effective Sequence

The EFFSEQ (Effective Sequence) field serves different purposes depending on whether or not it's paired with EFFDT. If EFFSEQ isn't paired with EFFDT, EFFSEQ has no special function and can be used as a simple sequencing field wherever you need one.

If EFFSEQ is paired with EFFDT, it has special properties. It allows you to enter more than one row with the same effective date. In this case, you would assign a unique sequence number to each row that has the same effective date. Do not make EFFSEQ a required field—*unrequired* allows the first EFFSEQ to be zero. You should check **Display Zero** in the Page definition to have zeros shown on the Page.

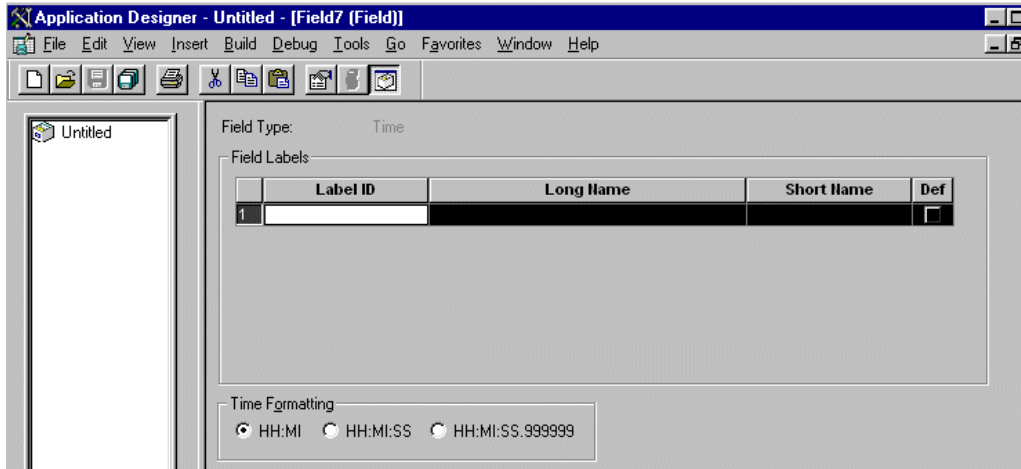
For example, suppose you want to enter both a transfer and a pay rate change for an employee, and both actions are effective on the same day. You would enter the transfer on the Job Data Pages as usual and leave the **Effective Sequence Number** field 0 (zero). Then insert a row to enter the change in pay rate. This time the Effective Date is identical to the previous row, but enter **1** in the **Effective Sequence Number** field. That's all there is to it.

---

## Time Fields

Time fields are fixed length (15 positions, format of HH:MI:SS.999999) that need to contain the time of day. The maximum time precision varies, depending on your database.





Defining Time Fields



You can use %CLIENTDATE as the default constant for the Time field. %CLIENTDATE will adjust the date as appropriate to the timezone of the browser (or Windows) client.

To set time field attributes

1. Enter Field Labels and Time Formatting.

#### Field Labels

Enter Field Label information.

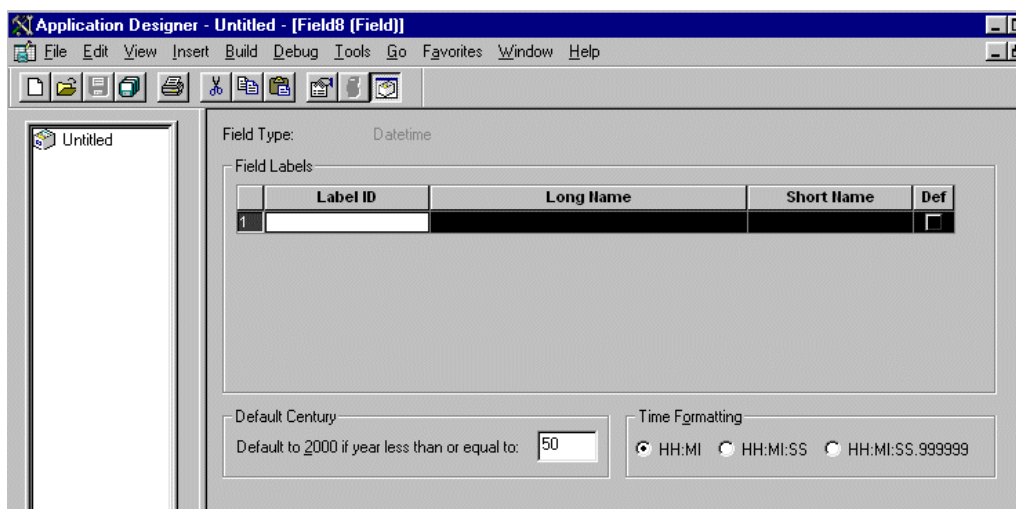
#### Time Formatting

Specify the formatting you prefer for this field, where:  
 HH: *hours*, MI: *minutes*, SS: *seconds*, 999999  
*microseconds*

## DateTime Fields

The DateTime field is fixed length (26 positions, format of YYYY-MM-DD-HH-MI-SS.999999) and contains dates and times. The maximum date/time precision depends on your database.





Defining DateTime Fields

To set DateTime field attributes

1. Enter Field Labels, Default Century and Time Formatting.

<b>Field Labels</b>	Enter Field Label information.
<b>Default Century</b>	Enter Default Century.
<b>Time Formatting</b>	Enter Time Format.



You can use %CLIENTDATE as the default constant for the DateTime field. %CLIENTDATE will adjust the date as appropriate to the timezone of the browser (or Windows) client.

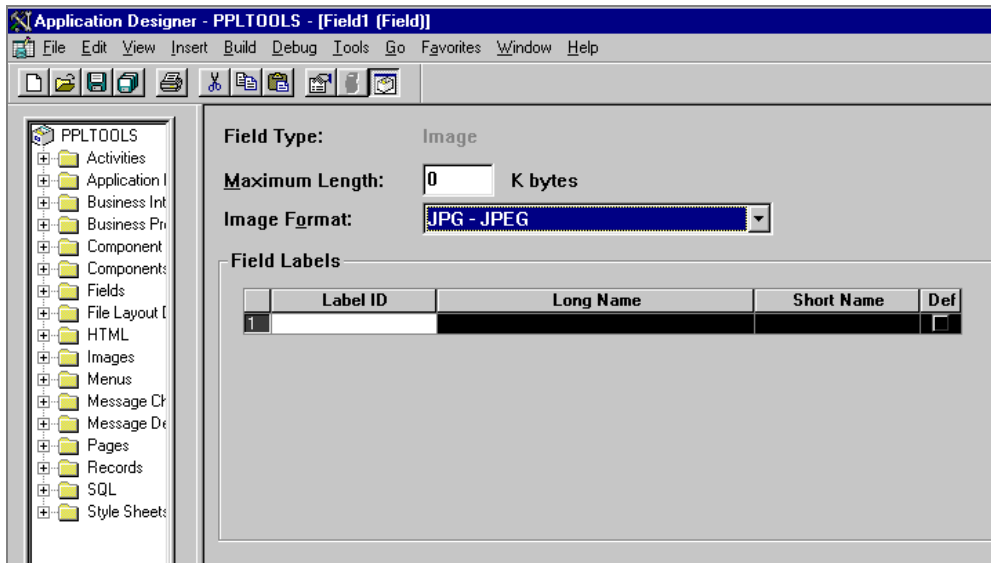
## Image Field

Use Image fields to store images as well as textual data in tables. This field enables you to store pictures of assets, your company logo on SQL Tables, or scanned images of employees as part of their personal data row. See Creating Image Definitions for information on how Application Designer and PIA works with Images in general.



Image fields are used to store static images, that can't be changed at runtime. Application images must be updated using the Windows Client. If you want to use PeopleCode to change the images, use the ImageReference field.





Adding an Image Field

To set image field attributes

1. Enter Maximum Length, Image Format, and Field Labels.

#### Maximum Length

Specify the maximum number of bytes you want used to store an image field. If you don't specify a Maximum Length, the maximum length is determined by your database platform. If a user attempts to cut and paste an image that is larger than the specified maximum length or database capacity, an error message displays.

<b>Database</b>	<b>Maximum Length</b>
DB2	32 Kilobytes
Oracle	2 Gigabytes
Sybase	32 Kilobytes
SQLBase	4 Gigabytes
SQL Server	2 Gigabytes
Informix	2 Gigabytes
DB2/UNIX	2 Gigabytes
DB2/400	32 Kilobytes



**Format**

Select an image format. We use the Media Cybernetics Halo Image Library™ to support BMP, DIB, CUT, EPS, JPG, PCX, PCT, and TGA image types. This determines the type of image you can select and write to the database for this field.

**Field Labels**

Enter Field Label information.

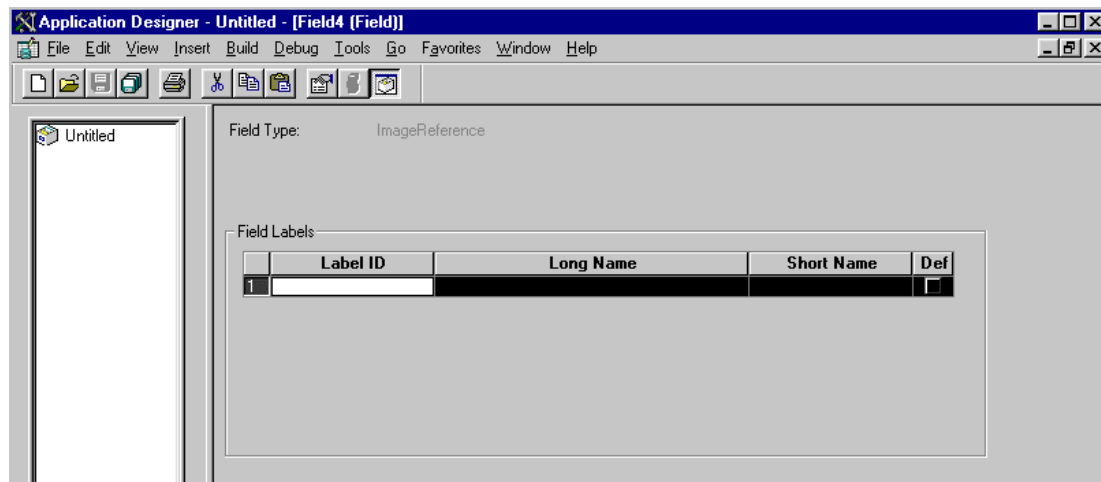


**For information** on how to convert all supported Image formats to JPG (the most common format to display in all Browsers on all platforms), see [Converting Images](#).

---

## ImageReference Field

Use the ImageReference field to store static images, that can be changed at runtime with PeopleCode. By associating image definitions with an ImageReference field on a page, you can then display images dynamically. For example, if you wanted to have different images display on an employee profile, depending on the status of their current review, you could use the ImageReference field to reference the “current review” field and display the appropriate image. See [Creating Image Definitions](#) for information on how Application Designer and PIA works with Images in general.



Adding ImageReference Field



For more information, see [Using the ImageReference Field in PeopleCode](#).



## Using Multiple Labels

You can define additional label pairs, along with an identifier for any field. Multiple fields are useful when you want different labels displayed on different pages. For example, on one page you can set the label to “Begin Date” while on another page the label could be “Begin Dte”.

Multiple labels are displayed in alphabetical order and sorted by Label ID. You can sort the labels in a field by double-clicking on the column header. The sorting is not saved, but is helpful for quickly viewing the labels.

The screenshot shows a dialog box titled "BEGIN\_DT (Field)". It has a "Field Type:" dropdown set to "Date". Below it is a "Field Labels" section containing a table with four columns: "Label ID", "Long Name", "Short Name", and "Def".

	Label ID	Long Name	Short Name	Def
1	BEGIN_DT	Begin Date	Begin Date	<input checked="" type="checkbox"/>
2	BEGIN_DT1	Begin Date1	Begin Dte1	<input type="checkbox"/>
3	BEGIN_DT2	Begin Date2	Begin Dte2	<input type="checkbox"/>
4				<input type="checkbox"/>

Below the table are two sections: "Default Century" with a text box "Default to 2000 if year less than or equal to:" and a value of "50"; and "Field Help" with a text box "Context Number:" and a value of "0", followed by an "< Auto Assign" button.

Multiple Label ID, Long Name, and Short Name

To add a new label

1. Open a new or existing field definition in the object workspace.
2. Enter a **Label ID**, **Long Name**, and **Short Name** in the last row.

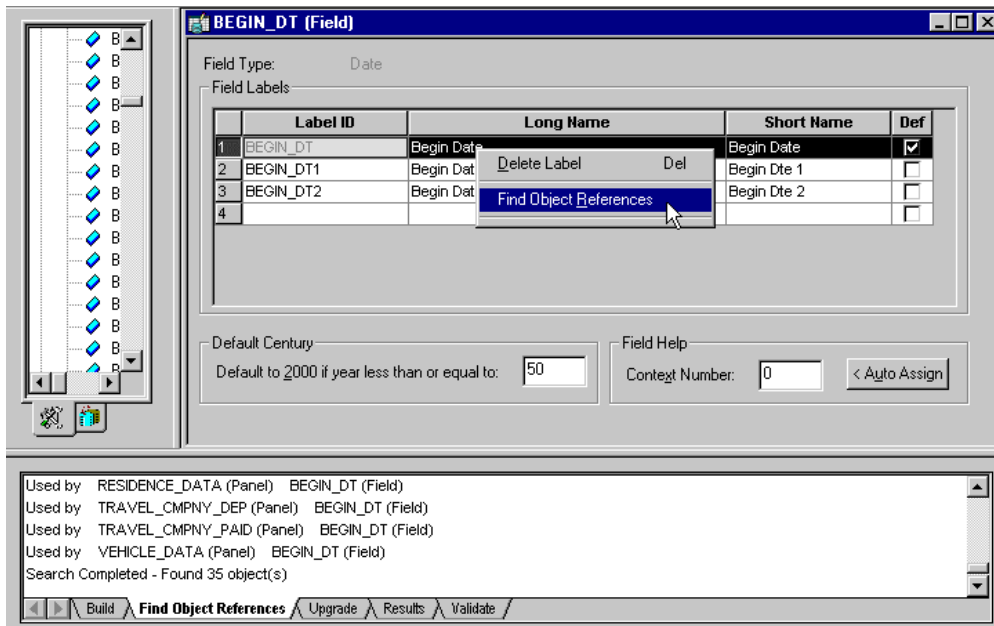


The Label ID must be unique so that each field definition label can be identified separately, and it needs to be entered in UPPERCASE with no spaces.

## Defining Multiple Labels

A right-click brings up the context menu with a **Delete Label** option. Labels that are currently in use cannot be deleted. You can find where the label is used by highlighting the label and selecting the **Find Object Reference** menu item from the context menu. The results will display in the **Find Object Reference** output below.





### Find Object References Output

Each label can have related language labels.

Once the multiple labels are defined, you can choose appropriate labels when designing a record or page. You can also specify different labels in PeopleCode.

To add a linefeed for Long Name and Short Name, enter:

\n

(a back slash and a letter n). For example, “work \n month” will add a line feed between the words “work” and “month”.

## Using Record Definitions

For the Record Definition, a dropdown listbox **Record Field Label ID** is available on the **Use** tab of the **Record Field Property** dialog. The dropdown listbox contains a list of Label ID, Short name, and Long name, defined at the Field Definition. As a default, “\*\*\* Use Default Label \*\*\*” is used, but you can choose other labels from the list.



**Record Field Properties**

Use | Edits

Field Name: BEGIN\_DT

**Keys**

- ☒ Key
- ☐ Duplicate Order Key
- ☐ Alternate Search Key
- ☒ Descending Key
- ☐ Search Key
- ☐ List Box Item
- ☐ From Search Field
- ☐ Through Search Field

**Audit**

- ☐ Field Add
- ☐ Field Change
- ☐ Field Delete

☐ System Maintained

☐ Auto-Update

**Record Field label ID**

xxxx Use Default Label xxxxx

xxxx Use Default Label xxxxx

BEGIN\_DT: "Begin Dte, Begin Date"

BEGIN\_DT1: "Begin Dte1, Begin Date1"

BEGIN\_DT2: "Begin Dte2, Begin Date2"

or

Record Name:

Field Name:

**Default Panel Control**

System Default

**Record Field Help Context Number**

0

Record Field Label ID Drop Down

By setting **Use Default Label** on the **Record Field Property** dialog, the **Record Field label** will change automatically, whenever the Default label in the Field Definition is changed. For example, when a default label in the Field Definition is set to 'BEGIN\_DT', the Record Field label is 'Begin Date'. When a default label in the Field Definition is changed to 'BEGIN\_DT1', the Record Field label will automatically change to 'Begin Date1'.

**BEGIN\_DT (Field)**

Field Type: Date

**Field Labels**

	Label ID	Long Name	Short Name	Def
1	BEGIN_DT	Begin Date	Begin Date	<input type="checkbox"/>
2	BEGIN_DT1	Begin Date 1	Begin Dte 1	<input checked="" type="checkbox"/>
3				<input type="checkbox"/>

**Default Century**

Default to 2000 if year less than or equal to: 50

**Field Help**

Context Number: 0

Setting Begin Date 1 as the Default Label



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## Opening Field Definitions

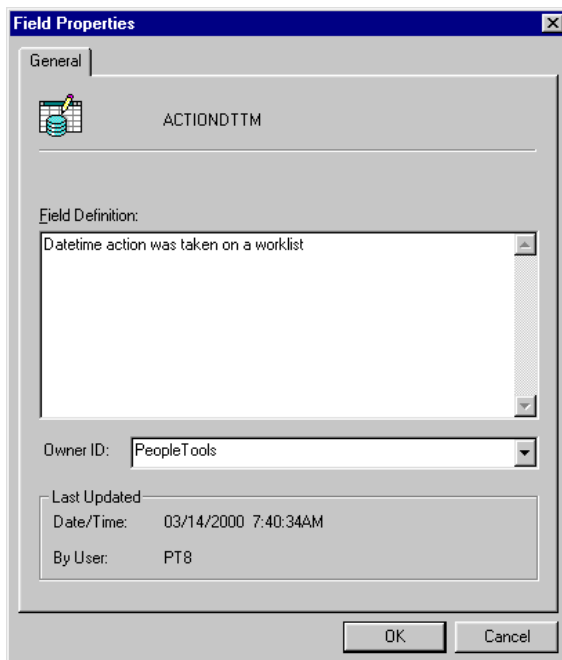
Besides **File, Open** there are alternate ways to open a field definition. You can do any of the following:

- **Clone an existing definition.** If you want to create a field definition with similar attributes as an existing one, do this by cloning an existing definition and saving it under a different name. Open an existing field definition, select **File, Save As**, and enter a new name.
- **Open the field from Project Workspace.** Double-clicking a field from the Project Workspace opens a field definition window in the Object Workspace
- **Open the field from the record.** Open an existing record definition. When the Record Definition window opens, you can select a field, right-click, and select **View Definition**.

## Viewing Field Properties

To see a field's properties from a Field Definition window, click the **Properties** button, right-click and select **Field Properties** from the popup menu, or go to **File, Object Properties**.

If you are in a Record Definition window, first open the Field Definition window by highlighting the field, right-clicking the field name, and selecting **View Field Properties** from the popup menu.



Field Properties Dialog

The Field Properties General tab provides a place for you to enter comments documenting the purpose of the field definition. The Owner ID drop down enables you to select a valid owner, as



in application project or role. The Last Updated box contains information—date, time, and User ID—about the last time the field definition was modified.

## Searching for Field References

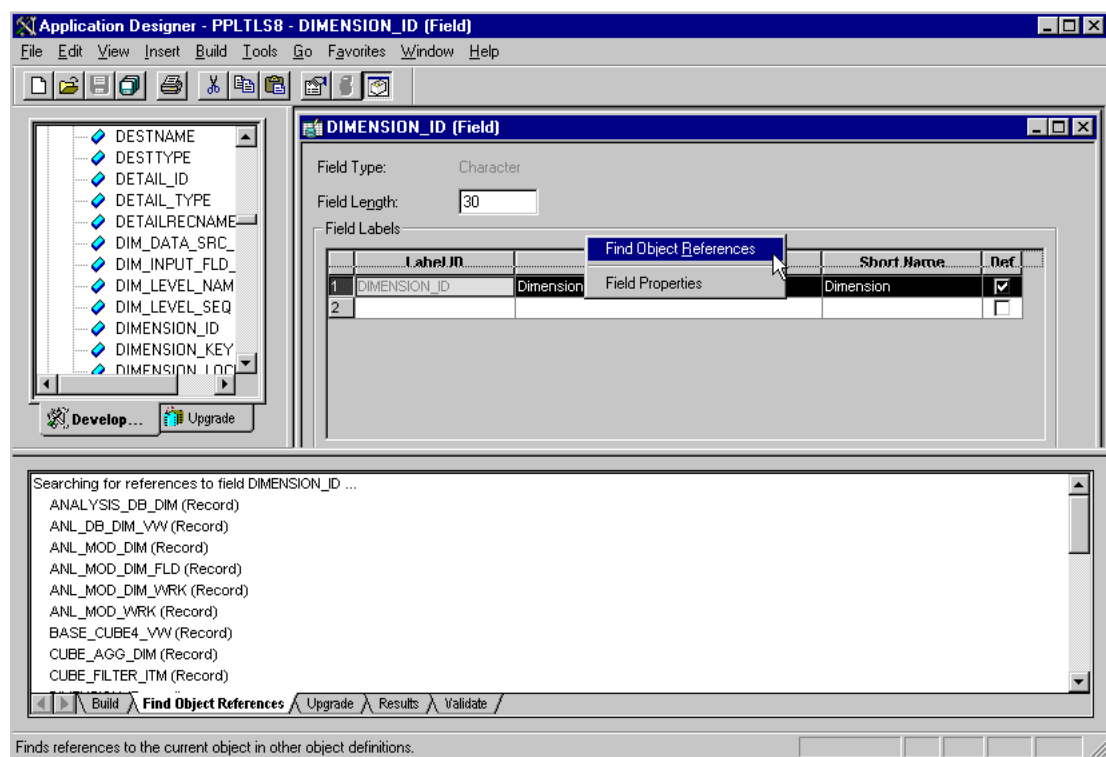
Before you make any changes to field definitions, remember that such changes affect that field's attributes in **every** record where it's used. Before making a field definition change, we recommend you determine the extent of the change is by finding out how many records would be affected.

To search for a field reference

1. Open the field definition window and select **Edit, Find Object References**.

If you're in a Record Definition window, another method is to highlight the field, right-click the field name, and select **Find Object References-Field** from the popup menu.

Another way starts with the Project Workspace tree. Highlight the field, right-click the field name, and select **Find Object References** from the popup menu.



## Determining Where Fields are Used

The Output Window **Find Object References** tab displays a list of all record definitions, Page definitions, messages, channels, File Layouts and PeopleCode programs where the field is used. You can double-click any of the lines of output to open the corresponding definition in the Object Workspace.



---

## Changing Field Definitions

When you develop new record definitions or modify existing ones, you may need to change certain characteristics or attributes for a field. If you change any attributes in a field definition, the change affects every occurrence of the field in every record definition. So before you change any of the basic attributes in a field definition, consider how it will affect all the record definitions where the field occurs. If the change isn't appropriate for every occurrence of this field, consider defining a new field instead.



Changing the name or length in a field definition requires modification of the underlying SQL table. This is done either by executing **Build** and specifying **Create Tables** or **Alter Tables**, or carrying out an action issued by your System Administrator. For example, if you change the length in a field definition and 30 record definitions contain the same field name, you have 30 records that need to be created or altered.

---

## Changing Field Types

If you want to change a field's type and use the original field name for the new field, simply delete the original field and add the new one.

## Renaming Field Definitions

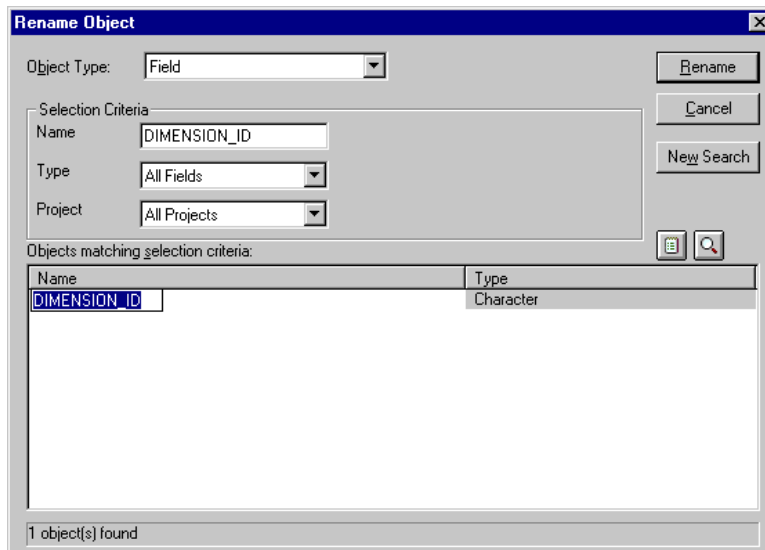
There are two ways to rename a field definition:

- Using Rename Object
- Using Open Object

To rename a field definition from the Rename Object dialog box

1. You can rename a field using the Rename Object dialog by selecting **File, Rename**.





### Renaming Fields

2. In the Rename Object dialog box, choose Field as the **Object Type** and enter the **Name** of the field.

If you aren't sure of the name or the correct spelling, use the search criteria fields to locate the field you wish to rename. The list displays field names that match your search criteria.

3. To rename a field in the list, highlight the field and click **Rename** or double-click the field.

The field name becomes editable and you can type the new name.

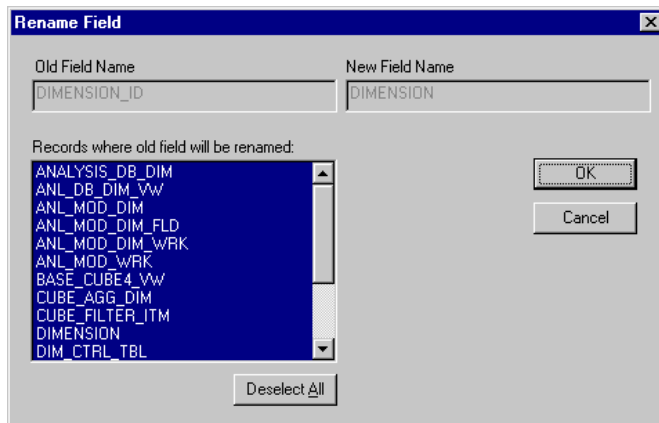
4. When you've finished typing the new name, press ENTER or click the **Rename** button.

The **Rename Field Dialog** appears. You can then choose the records where the field will be renamed. The **De-select All** button toggles to **Select All** for making choosing of the selection easier.

5. Click **OK**.

When you decide to continue with the renaming process, the system will close any open objects and prompt you to save any changes you may have made. It will also confirm that you really want to change the name on the record definitions where the field is used.





Rename Field Dialog

To rename a field definition from the Open Object Dialog Box

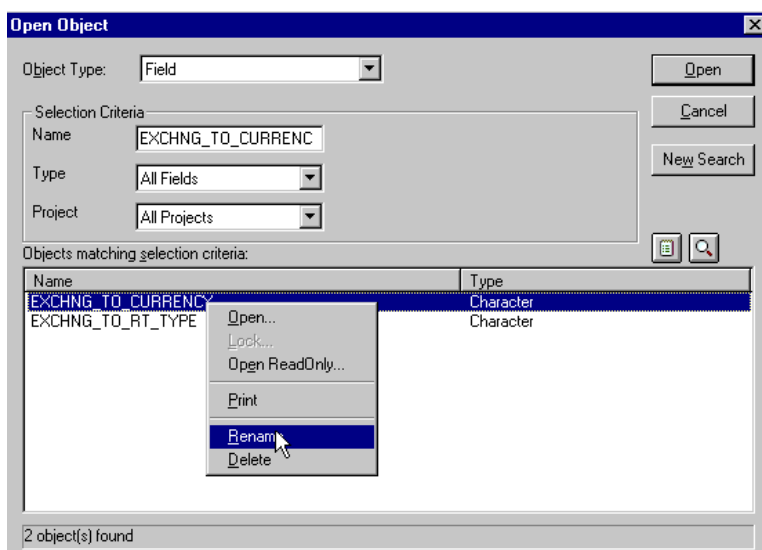
1. To display the **Open Object** dialog, choose **File, Open**.

This dialog enables you to set up search criteria for locating field names.

2. Select Field as the Object Type.

If you have additional information, you can fill in the **Name** field. You may further narrow your search criteria by selecting a field **Type** or the name of the **Project** that contains the field you wish to delete.

3. When you have completed your search criteria, click the **Select** button.



Rename Option From the Open Object Dialog

4. You can rename a field in the Open Object dialog by highlighting the field, right-clicking the field name, and choosing **Rename**.



Or, you can highlight the field name and then click it a second time. The field name becomes editable and you can enter a new name.

5. When you've finished typing the new name, press ENTER or click the **Rename** button.
6. Click **Yes** on the **Confirm Rename** dialog and on the Application Designer warning dialog.

## Results of Renaming Field Definitions

When you rename a field, the system automatically renames all references to it.



**Note.** The text portion of SQL functions such as SQLExec and Scroll Select, and the field references will not be renamed.

---

If you have already SQL Created the underlying tables for the record definitions that contain the field you renamed, you'll need to recreate or alter those tables. If you have data in the tables you want to preserve, you should use the SQL Alter function to rename the database table fields.

## Deleting Field Definitions

This section describes two ways to delete a field definition:

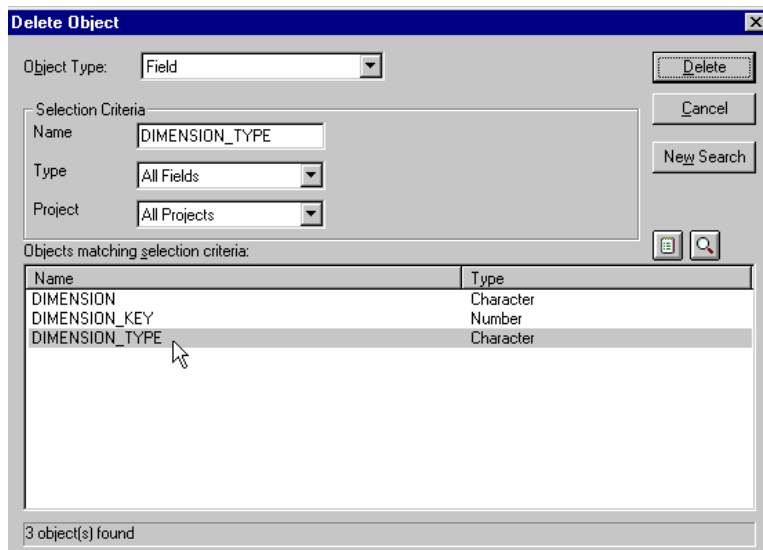
- Using the **Delete Object** dialog box
- Using the **Open Object** dialog then deleting

To delete field definitions from the Delete Object dialog box

1. Select **File, Delete** to open the **Delete Object** dialog box.

The **Delete Object** dialog is displayed.



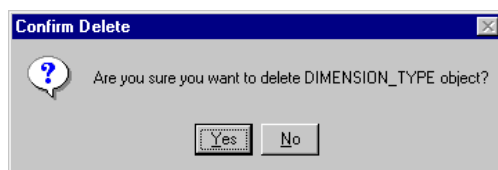


Delete Object Dialog

The Delete Object dialog enables you to set up search criteria for locating field names.

2. Select **Field** as the Object Type.
3. If you have additional information, you can fill in the **Name** field.
4. You may further narrow your search criteria by selecting a field **Type** or the name of the **Project** that contains the field you wish to delete.
5. When your search results appear in the output window, delete a field definition by highlighting the field and clicking the **Delete** button, or double-click the field name.

The **Confirm Delete** dialog box is displayed to confirm you really want to delete the field definition.



Confirm Delete Dialog

6. Click **Yes** to proceed with the deletion.



You cannot delete a field if it is currently used on any records. Before you delete a field definition, you must first remove it from any records where it resides.

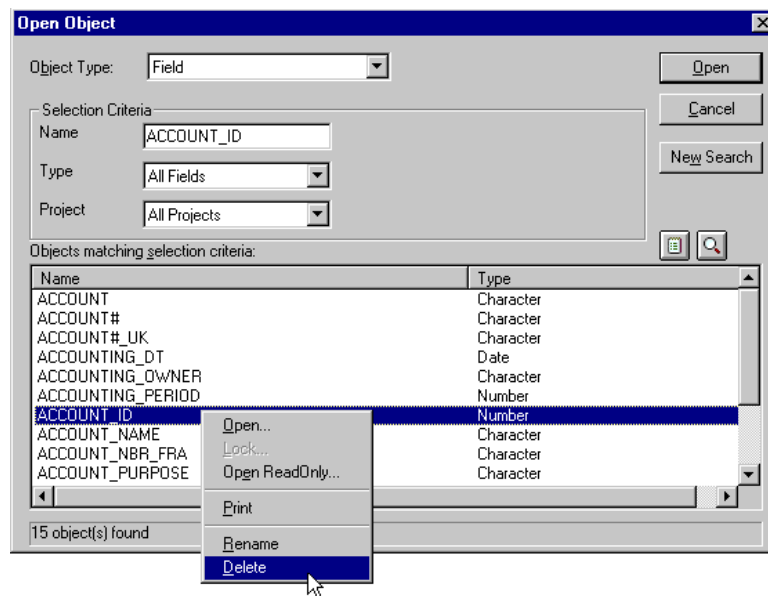
To delete field definitions from the Open Object dialog box

1. Select **File, Open** to display the Open Object dialog box.



This dialog enables you to set up search criteria for locating field names.

2. Select **Field** as the Object Type.
3. If you have additional information, you can fill in the **Name** field.
4. You may further narrow your search criteria by selecting a field **Type** or the name of the **Project** that contains the field you wish to delete.
5. When you have completed your search criteria, click the **Select** button.



Delete Option From the Open Object Dialog

6. From the list of field names that result from your search, right-click the field you wish to delete.
7. From the pop-up menu, select **Delete**.
8. Then select **Yes** on the **Confirm Delete** dialog box.

## Printing Field Definitions

If you plan to make changes to your field definitions, we recommend viewing your field definition before you proceed. You can view it online or print it to a one-page report which combines information from several resources. This can also serve as a paper audit trail to document your database.

To print a field definition

1. From the Field Definition window, select **File, Print**.



You can also click the **Print** button to open the Print dialog box, where you can specify your printing options.

In addition, you can print field definitions from the Open Object dialog. On the list resulting from your search, right-click the name of the field definition you wish to print and choose **Print** from the Pop-up menu in order to view your printing options.

## Custom Field Formats

PeopleTools has formatting provisions at both the field and page levels. The field format specifications affect internal values stored in the database, and the page formats affect the visual presentation of values.

There are several formatting options for US Social Security Numbers, Canadian Social Insurance Numbers, postal codes, telephone numbers, and various currencies, dates, and times. Custom Field Formats extend these formatting provisions to support the same types of data in other countries. They also support other types of formatted information, such as bank codes, credit card numbers, part numbers, or serial numbers.

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### Format Notation

Stored and Display formats are defined by strings that contain *lexical*, *literal*, and *meta* characters.

- Lexical characters are used to delimit character expressions and to designate interpretation rules.
- Literal characters represent only themselves.
- Meta characters represent a class of characters.

You use the format symbols in the following tables to create the format notation for your own custom field formats:

<i><b>Meta Symbol</b></i>	<i><b>Meaning</b></i>
#	<p>Digit placeholder.</p> <p>If the number has more digits to the right of the decimal point than there are #'s to the right in the format, the number will be <b>truncated</b> to as many decimal places as there are #'s to the right.</p> <p>If the number has more digits to the left of the decimal point than there are #'s to the left in the format, the extra digits will be displayed.</p> <p>If the number has fewer digits to the right of the decimal point than there are #'s to the right of the decimal point in the format, spaces will be added. Similarly, if the number has fewer digits to the left of the decimal point, than #'s to the left of the decimal</p>



	<p>point in the format, spaces will be added.</p> <p>Example format = ###.##</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>1234.567</td><td>yes</td><td>1234.56</td></tr></table>	input	matches?	Output	1234.567	yes	1234.56
input	matches?	Output					
1234.567	yes	1234.56					
0 (Zero)	<p>Digit placeholder.</p> <p>Follows the same rules as for # preceding, except that if the number has fewer digits than there are zeroes in the format, the extra zeroes will be displayed.</p> <p>Example format = 000.00</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>1.2345</td><td>yes</td><td>001.23</td></tr></table>	input	matches?	Output	1.2345	yes	001.23
input	matches?	Output					
1.2345	yes	001.23					
Period	<p>Decimal point.</p> <p>This symbol determines how many digits (0's or #'s) are displayed to the right and left of the decimal point.</p> <p>If the format contains only #'s to the left of this symbol, numbers less than 1 are displayed with a decimal point.</p> <p>This symbol has meaning only in conjunction with the # and 0 symbols.</p> <p>Example format = ###.##</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>.12345</td><td>yes</td><td>.12</td></tr></table>	input	matches?	Output	.12345	yes	.12
input	matches?	Output					
.12345	yes	.12					

Meta Symbol	Meaning									
9	<p>Required numeric placeholder.</p> <p>If the number does not have the same number of digits as there are 9's, an error message will be displayed.</p> <p>Example format = 999</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>123</td><td>yes</td><td>123</td></tr><tr><td>12</td><td>no</td><td></td></tr></table>	input	matches?	Output	123	yes	123	12	no	
input	matches?	Output								
123	yes	123								
12	no									
A	<p>Matches any alphabetic character A-Z or a-z.</p> <p>Example format = AA</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>Sd</td><td>yes</td><td>Sd</td></tr></table>	input	matches?	Output	Sd	yes	Sd			
input	matches?	Output								
Sd	yes	Sd								



	4A	no									
<b>Z</b>	<p>Matches any alphabetic or numeric value A-Z or a-z or 0-9.</p> <p>Example format = ZZ</p> <table> <tr> <td>input</td><td>matches?</td><td>Output</td></tr> <tr> <td>3g</td><td>yes</td><td>3g</td></tr> <tr> <td>A3C</td><td>no</td><td></td></tr> </table>		input	matches?	Output	3g	yes	3g	A3C	no	
input	matches?	Output									
3g	yes	3g									
A3C	no										
<b>@</b>	<p>Matches any character.</p> <p>Example format = @@@</p> <table> <tr> <td>input</td><td>matches?</td><td>Output</td></tr> <tr> <td>1q?</td><td>yes</td><td>1q?</td></tr> </table>		input	matches?	Output	1q?	yes	1q?			
input	matches?	Output									
1q?	yes	1q?									

Lexical Symbol	Meaning												
*	<p>Matches zero or more occurrences of the preceding character expression.</p> <p>Example format = a*b</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>b</td><td>yes</td><td>b</td></tr><tr><td>ab</td><td>yes</td><td>ab</td></tr><tr><td>aab</td><td>yes</td><td>aab</td></tr></table>	input	matches?	Output	b	yes	b	ab	yes	ab	aab	yes	aab
input	matches?	Output											
b	yes	b											
ab	yes	ab											
aab	yes	aab											
+	<p>Matches one or more occurrences of the preceding character expression.</p> <p>Example format = a+b</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>b</td><td>no</td><td></td></tr><tr><td>ab</td><td>yes</td><td>ab</td></tr><tr><td>aab</td><td>yes</td><td>aab</td></tr></table>	input	matches?	Output	b	no		ab	yes	ab	aab	yes	aab
input	matches?	Output											
b	no												
ab	yes	ab											
aab	yes	aab											
[ ]	<p>Denotes a character expression that matches the input character if the input character is the same as any character in the list enclosed by the [ ] pair.</p> <p>If the expression matches, the input character is displayed. All characters enclosed in [ ] braces are interpreted as literal characters.</p> <p>Example format = [ab]c</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>ac</td><td>yes</td><td>ac</td></tr></table>	input	matches?	Output	ac	yes	ac						
input	matches?	Output											
ac	yes	ac											



{ }	bc	yes	bc
	Denotes a character expression that matches the input character if the input character matches any character in the list enclosed by the { } pair.		
	If the expression matches, the first character in the list (not the input character) is copied to output. All characters enclosed in { } braces are interpreted as literal characters.		
	Example format = {ab}c		
	input	matches?	Output
	ac	yes	ac
	bc	yes	ac
?	Preceding expression is optional. Preceding expression will be copied to output only if it appeared in input.		
	Example format = a?b		
	input	matches?	Output
	ab	yes	ab
	b	yes	b

Lexical Symbol	Meaning									
!	<p>Preceding expression is optional. Whether or not preceding expression is matched, it is copied to output.</p> <p>Example format = a!b</p> <table><tr><td>input</td><td>matches?</td><td>Output</td></tr><tr><td>ab</td><td>yes</td><td>ab</td></tr><tr><td>b</td><td>yes</td><td>ab</td></tr></table>	input	matches?	Output	ab	yes	ab	b	yes	ab
input	matches?	Output								
ab	yes	ab								
b	yes	ab								
~	<p>Preceding expression is optional. Even if preceding expression is matched, it is not copied to output.</p> <p>Example format = a~b</p> <table><tr><td>input</td><td>matches?</td><td>output</td></tr><tr><td>ab</td><td>yes</td><td>b</td></tr><tr><td>b</td><td>yes</td><td>b</td></tr></table>	input	matches?	output	ab	yes	b	b	yes	b
input	matches?	output								
ab	yes	b								
b	yes	b								
\	<p>Treat the following character as a literal.</p> <p>Example format = a\?b</p> <table><tr><td>input</td><td>matches?</td><td>output</td></tr><tr><td>ab</td><td>no</td><td></td></tr></table>	input	matches?	output	ab	no				
input	matches?	output								
ab	no									



	a?b	yes	a?b									
( )	Groups expressions.  Example format = (abc)!99  <table><tr><td>input</td><td>matches?</td><td>output</td></tr><tr><td>abc12</td><td>yes</td><td>abc12</td></tr><tr><td>12</td><td>yes</td><td>abc12</td></tr></table>			input	matches?	output	abc12	yes	abc12	12	yes	abc12
input	matches?	output										
abc12	yes	abc12										
12	yes	abc12										

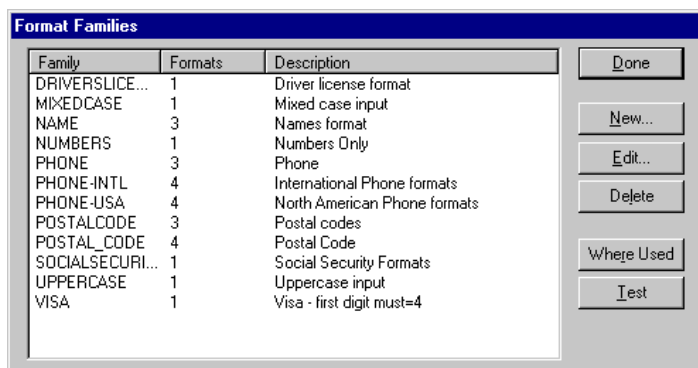
## Format Families

**Custom Field Formats** allow you to create your own format definitions using format notation, and apply them to fields. These formats are organized into **Format Families**, which can include one or more unique formats.

To make changes to Format Families

1. Select Tools, Miscellaneous Objects, Field Formats.

The **Format Families** dialog displays.



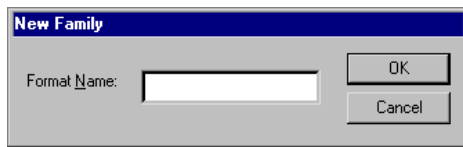
Format Families Dialog

The **Format Families** dialog lists the defined format families, and allows you to edit, delete, or create new families. You can also find where each family is used in your applications, and perform tests.

2. To define a new format family, click the **New** button.



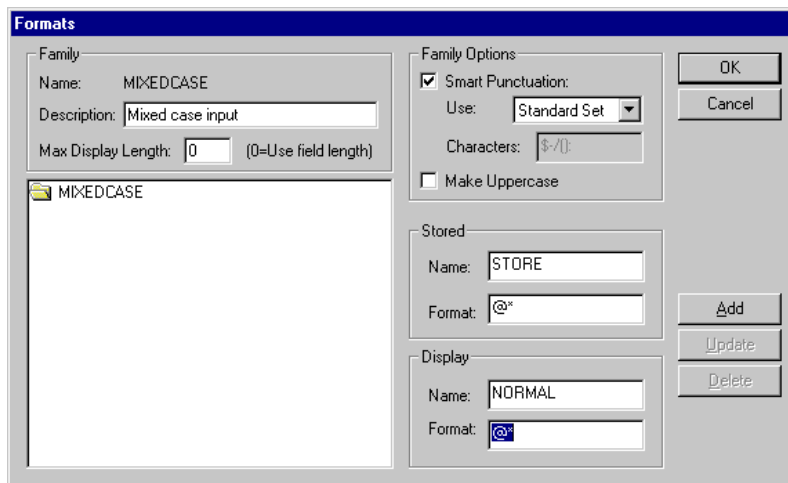
The **New Family** dialog is displayed.


 A dialog box titled "New Family" with a blue header bar. It contains a text field labeled "Format Name:" and two buttons: "OK" and "Cancel".

New Family Dialog

3. Type a name for your new format family and click **OK**.

The **Formats** dialog displays. Enter the format notation for your new format family, describe it and give it a name.


 A complex dialog box titled "Formats" with a blue header bar. It is divided into several sections:
 

- Family**: Contains fields for "Name:" (set to "MIXEDCASE"), "Description:" (set to "Mixed case input"), and "Max Display Length:" (set to "0" with a note "(0=Use field length)").
- Family Options**: Includes a checked "Smart Punctuation:" checkbox, a "Use:" dropdown (set to "Standard Set"), a "Characters:" field (set to "\$-/\|"), and an unchecked "Make Uppercase" checkbox.
- Stored**: Contains fields for "Name:" (set to "STORE") and "Format:" (set to "@\*").
- Display**: Contains fields for "Name:" (set to "NORMAL") and "Format:" (set to "@\*").

 On the right side, there are buttons for "OK", "Cancel", "Add", "Update", and "Delete". A list box on the left shows "MIXEDCASE" with a folder icon.

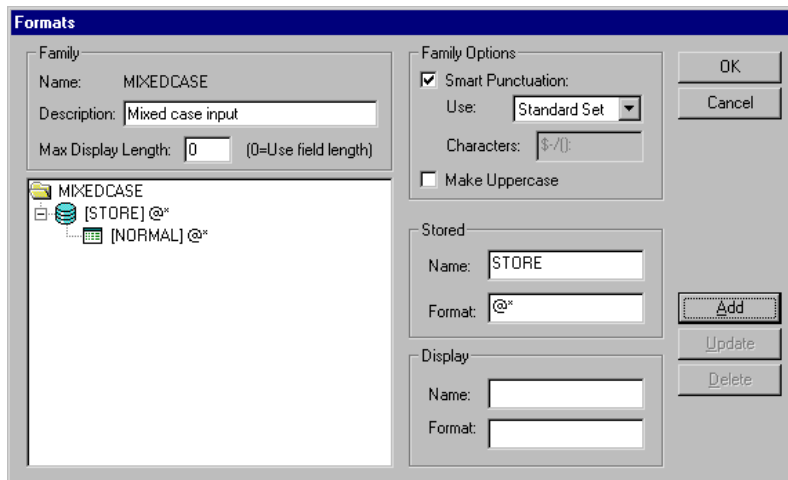
Formats Dialog

4. In the **Stored** section, enter a **Name** for the stored format, then enter the format notation you want to use for storing the data in the **Format** field.

Since a **Stored** format cannot exist alone, a **Display** format is always required. If you are adding to a family which has one or more existing **Stored** formats, a display name and format pair is not required. Application Designer automatically places all of the current Display formats into the new stored format. The Display format defaults to the Stored format for you to redefine at a later time.

5. In the **Display** section, enter a **Name** for the format, then enter the format notation you want to use for displaying the data in the **Format** field.
6. Click the **Add** button to add the new format family, and click **OK** when you are finished.





Formats dialog

## Max Display Length

Max Display Length allows you to override the default length used in determining the length of the edit field in Custom format. This is useful when the displayed data is longer than the defined field length. An example is if you have stored data as 999 (field length in the database would be 3 characters), but the display format of the data is 9-9-9 (5 characters).

Application Designer uses the field length of 3, by default, for the edit field which is not long enough to hold the 5 characters of the reformatted data. By entering 5 in the **Max Display Len** field, the page will use 5 characters for the edit field, without requiring the field length in the database to be 5 characters long.

---

## Editing Formats

The **Edit Formats Dialog** presents a tree control where the stored and display formats for a family along with all its options and attributes are defined. This dialog enables you to **Add**, **Update**, and **Delete** stored and display formats, enter a **Description** for the family, and specify **Options** such as **Uppercase** and **Smart Punctuation** for the family. Changes are saved when you click **OK**.

To add a new stored format

1. Open the Format Family to which you want to add a format.
2. Click once on the format family name.
3. Enter the Stored and Display names and format notation, then click **Add**.

The new format is displayed in the tree below the existing formats.

To add a new display format to a stored format



1. Click once on the stored format name in the tree to which you want to add a display format.
2. In the **Display** section, enter a new **Name** and **Format** notation.
3. Click the **Add** button to add the display format.

The new Display format is displayed in the tree, attached to the Stored format to which it belongs.

**Formats**

Family  
Name: SOCIALSECURITY  
Description: Social Security Formats  
Max Display Length: 0 (0=Use field length)

Family Options  
☒ Smart Punctuation:  
Use: Standard Set  
Characters: \$-/()  
☐ Make Uppercase

Stored  
Name:   
Format:

Display  
Name:   
Format:

Buttons: OK, Cancel, Add, Update, Delete

To update a Display Format

1. Highlight the Display Format in the tree view.

**Formats**

Family  
Name: MIXEDCASE  
Description: Mixed case input  
Max Display Length: 0 (0=Use field length)

Family Options  
☒ Smart Punctuation:  
Use: Standard Set  
Characters: \$-/()  
☐ Make Uppercase

Stored  
Name: STORE  
Format: @\*

Display  
Name: NORMAL  
Format: @\*

Buttons: OK, Cancel, Add, Update, Delete

Filling in Stored and Display Formats



Clicking on the **Update** button applies only to Display Formats.



2. Click on a display format and fill in the enabled fields.
3. Click **Update** and the Display will be updated.

Updated Stored and Display Formats

To delete a Stored Format

1. Highlight the Display format and click the **Delete** button.



Stored formats cannot be deleted directly. Therefore, all **Display** formats for a specific **Stored** format must be deleted first. This is to ensure data is not "stranded" in the database under an invalid format. When the last Display format is deleted for a Stored format, the Stored format is automatically deleted.

Deleting "Normal" Display Format



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## Family Options

### Smart Punctuation

Smart Punctuation automatically adds or removes punctuation characters to the data entered. For instance, if you type in a phone number like:

8005551212

and tab off the entry field, it is then reformatted to

800-555-1212

The system uses the punctuation characters specified in the punctuation list to strip out unwanted input and to modify the pattern specified before applying the pattern to the data.



The default is to have smart punctuation enabled and to use the **Standard Set** of characters.

---

This set can be modified by selecting **Custom** in the options drop down listbox and typing another set of punctuation characters to be used. **Smart punctuation** processes the characters defined in the *standard set* or *custom set* as follows:

- The input has all characters in the punctuation set stripped out—similar to ignoring white spaces.
- The pattern has all the characters in the punctuation set expanded if not found in the input. This is done by enclosing each punctuation character found in the punctuation set with “[*puncchar*]!”
- Formatter is run on the modified data from step 1, applying the modified pattern from step 2.



**Warning** Meta characters and lexical characters in the punctuation sets should be used with caution. Step two of the transformation process modifies the format pattern so special characters may sometimes be converted to literals (when placed inside the left/right brace).

---

### For example:

If the input is (800)555-1212, the display pattern is 999-999-9999, the punctuation set is “()-”, and the stored pattern is 999999999; “(“, “)” and “-“ are stripped out of the input since they appear in the punctuation set. At this point, the input looks like:

8005551212

The display pattern is modified to 999[-]!999[-]!9999 since the “-“ is in the punctuation set. The transformed data (8005551212) is matched against the display pattern of 999[-]!999[-]!9999. Since at this point the match is successful, the raw data is transformed into



800-555-1212

Now the input data has successfully matched the expected display format. The next step is to transform this data into what we want stored. In this case, the stored format has no dashes, as in 999999999.

The transformed data: 800-555-1212 is once again stripped of the smart punctuation characters so it looks like 8005551212, and this time the pattern of the stored format is: 999999999. Once again, a match is made so that 8005551212 is stored into the database.

Finally, the stored data is reformatted back to the display using 8005551212 and the display pattern. Output to the display would be reformatted to 800-555-1212.

## Make Uppercase

**Custom** format fields are set up to support mixed case. With uppercase turned on, the data will be transformed into upper case when you tab off the field.

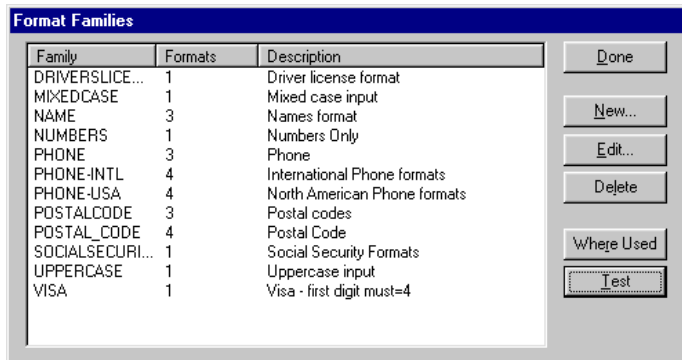
The screenshot shows the 'Formats' dialog box. On the left, under 'Family', the 'Name' is 'UPPERCASE' and the 'Description' is 'Uppercase input'. Below this is a tree view showing 'UPPERCASE' with sub-items '[STORE] @\*' and '[NORMAL] @\*'. On the right, under 'Family Options', 'Smart Punctuation' is checked with a dropdown set to 'Standard Set', and 'Make Uppercase' is checked. Below these are sections for 'Stored' and 'Display', each with 'Name' and 'Format' input fields. On the far right are buttons for 'OK', 'Cancel', 'Add', 'Update', and 'Delete'.

Format Dialog



The **Delete** button deletes the selected format. The **Where Used** button brings up another dialog which shows all fields that use the selected format family. The **Test Button** brings up a dialog to test the selected format family.





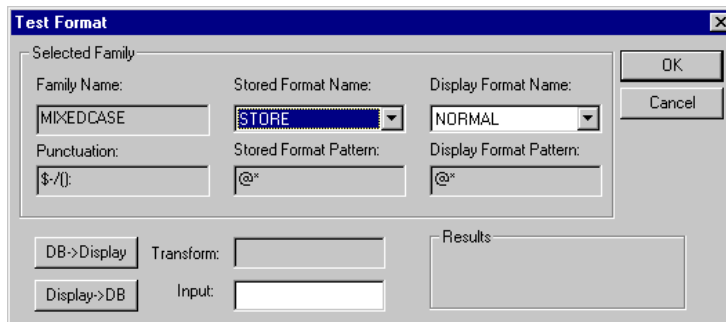
Field Formats, Format Families Dialog

## Testing Formats

The Test Format dialog allows you to test a specific format or unformatted path for a family without having to build a page.

To test a format family

1. Use the two dropdown list boxes to select a **Stored** and **Display** format pair to test.



Test Format Dialog

2. Choosing between the following two options for processing the format.

### DB->Display

The system will process the input field as if it were data from the database. The Stored format pattern is applied to the input, then the Display format pattern is applied to the result of that. The output is shown in the **Transform** field, which is the same output displayed for a field using this format.



**Display->DB**

The system will process the input field as if it were user input from a page. It applies the **Display** format pattern to the input, then applies the Stored format pattern to the result of that. The transformed output is then displayed in the **Transform** field. This output reflects what would be stored into the database if the operation were successful. On an actual page, when the user tabs off the field the system calls the **DB->Display** function to reformat the user input for the display.

Test Format Dialog - Phone

## Using the Translate Table

The Translate Table is a prompt table, that's like an all purpose data dictionary, to store values for fields that don't need individual prompt tables of their own. As a general rule, you should store field values on the Translate Table, if the field meets the following criteria:

- Field Type is Character.
- Field Length is 1 to 4 characters.
- Field Values consist of a relatively small, static set of values not maintained by the user.
- No other fields are related to this field.



If the only values for a field are **Y** and **N** (for Yes and No), you don't need to enter them on the Translate Table. The Translate Table comes with a field for Y/N named PSYESNO. When you select the **Yes/No Table Edit**, the system automatically points to the PSYESNO field within the Translate Table.

### Example of When to Use the Translate Table

Consider the relative attributes of a **Department ID** field and a **Gender** field in a company database. Note the following table—Department ID is not a good case for using the Translate Table, it requires its own prompt table. However, Gender field is a good case for using the Translate Table.



<b>Characteristics</b>	<b>Department ID</b>	<b>Gender</b>
Field Type	Character	Character
Field Length	Longer than 3 characters	1 character
Field Values	Could be many values, 20 or more	2 possible values
Other related fields	Related to other fields, like department manager	Not related to other fields
Requires maintenance	Yes, users might have to add departments	No, gender is a static value

---

## Translate Table Attributes

The system maintains the structure of the Translate Table and you supply the data. Unlike other PeopleSoft-maintained tables which are prefaced with a PS (no underscore), the name of the Translate Table is XLATTABLE. This table contains the following fields:

<b>Field name</b>	<b>Description</b>
FIELDNAME	Field name, such as ABSENCE_TYPE
LANGUAGE_CD	Language code
FIELDVALUE	A value for the field
EFFDT	Effective date
VERSION	Internal version number; system-maintained
EFF_STATUS	Status—active or inactive
XLATLONGNAME	30-character description; used as a label on pages and reports
XLATSHORTNAME	10-character description; used as a label on pages and reports
LASTUPDDTTM	DateTime field showing the last time a field was updated.
LASTUPDOPRID	The User ID of the user who most recently updated the field.

If you need to define more information about a field other than the attributes listed above, you should create a separate prompt table for the field instead of adding it to the Translate Table.

When the user presses the prompt button to prompt for valid values in a field of a page, the system displays a list of the translate values for a field.

Each value on the Translate Table has an effective date, and the date must be earlier than the effective dates of any rows that will reference the value. The translate values delivered by




PeopleSoft all have an effective date of January 1, 1900. Keep this in mind if you add new translate values for a field.



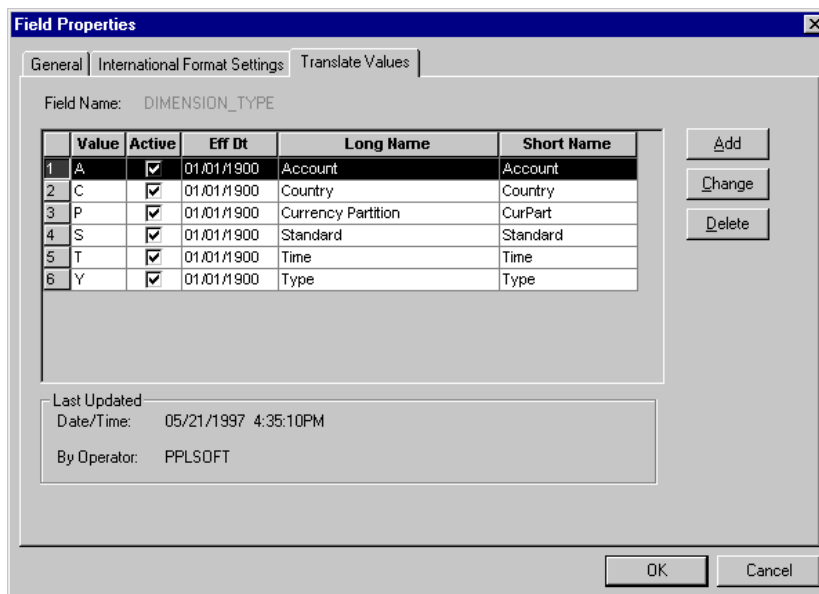
Some languages, like Japanese and Chinese, require two bytes to store a single character of information. If you are defining a field that will contain values in Japanese or Chinese, be sure to define the field length as an even number of characters—either two or four.

To add translate values to the Translate Table

1. From a Field Definition window, click the **Properties**  button, or go to **File, Object Properties**.

You can also right-click and select **Field Properties**, or press **Alt-Enter**.

2. From a Record Field definition window, highlight the field, right-click the field, and select **View Translates** from the popup menu.
3. Select the Translate Values tab.



	Value	Active	Eff Dt	Long Name	Short Name
1	A	<input checked="" type="checkbox"/>	01/01/1900	Account	Account
2	C	<input checked="" type="checkbox"/>	01/01/1900	Country	Country
3	P	<input checked="" type="checkbox"/>	01/01/1900	Currency Partition	CurPart
4	S	<input checked="" type="checkbox"/>	01/01/1900	Standard	Standard
5	T	<input checked="" type="checkbox"/>	01/01/1900	Time	Time
6	Y	<input checked="" type="checkbox"/>	01/01/1900	Type	Type

Field Name: DIMENSION\_TYPE

Last Updated  
Date/Time: 05/21/1997 4:35:10PM  
By Operator: PPLSOFT

#### Translate Values

The Translate Values dialog box displays any existing values for the field and enables you to **Add**, **Change**, or **Delete** values. In the **Last Updated** box, you'll see information—date, time, and User ID—about the last update for the selected translate value.

4. Click Add to define a new value.



The screenshot shows a dialog box titled "Add Translate Table Value". It has four input fields: "Field Value", "Effective Date" (which is pre-filled with "12/09/1998"), "Long Name", and "Short Name". To the right of the "Effective Date" field is an unchecked checkbox labeled "Inactive". At the bottom right are two buttons: "OK" and "Cancel".

### Defining Translate Values

5. Enter the **Field Value**, **Effective Date**, **Long Name**, and **Short Name** that your users will enter on the page.

#### Field Value

The translate value for the field. The system automatically sorts values in ascending order as you enter them. If you enter three translate values with **Field Values** A, T, and C, they will appear in the Translate Values dialog box as A, C, T.

#### Effective Date

This defaults to today's date. Change this to the date when you want this value to take effect. If you want the effective date to predate all rows on your database, enter *01011900* (January 1, 1900).

#### Inactive

When a value for a field becomes obsolete, we recommend that you check **Inactive** rather than deleting it. Deactivating a value allows fields on the database that still contain the value to pick up the correct Long Name and Short Name. If you delete an obsolete code from the Translate Table and you still have records on the database that contain that value, you'll need to change all those values to active values.

#### Long Name

Enter up to 30 characters for the long display name.

#### Short Name

Enter up to 10 characters for the short display name. If you leave **Short Name** blank, the system automatically copies the first 10 characters of **Long Name** into this field. We recommend that you use mixed case to improve readability.

---

## Changing Translate Values

If you want to change an existing translate value, highlight the value and click **Change** or double-click the value. The system displays the **Change Translate Table** dialog box. **Field Name** and **Field Value** will be grayed. Be aware that if you change the **Effective Date**, the system will add another value and you should delete the old value.

Sometimes the meaning of a translate value changes, but you still need to retain both values on the Translate Table. For example, suppose your PROFICIENCY Field has a value of *E* for Extremely High. You've been in production for five years, when upper management decides to change the meaning of the value to *Exceptional* as of January 1, 1998.



You can accommodate this type of change by creating a second active entry for the same translate value.

The first value is valid in the time range between the Effective Dates of January 1, 1990, and December 31, 1997. The second entry is valid from January 1, 1998 onward. You don't want to delete the old entry because there may be rows on the database that predate January 1, 1997, that contain this value. You may also want to maintain the old definition for historical reporting.

---

## Deleting Translate Values

Use caution when deleting a translate value, unless you are removing an invalid value that is entered by mistake. If you want to deactivate a value because it's no longer used or its meaning has changed, either change the Long Name and Short Name or change the status to **Inactive**. If you do want to delete the value, highlight it and click the **Delete** button. The row will disappear.

---

## Saving the Translate Table

Once you have made all your changes to the Translate Table, you must save the *entire field definition*. There is no save option specifically for translate values. Click **OK** from the Field Properties display and save the field definition by clicking the **Save** button or selecting **File, Save**.

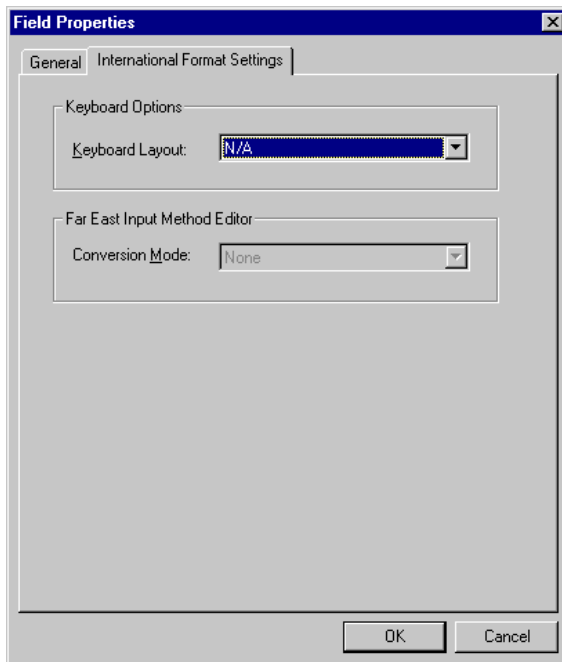
To save the Translate Table, you must be authorized to modify field definitions. There is a special "Translates Only" security access level for fields that allows translate values to be updated, but not other field attributes.

## International Format Settings

International Format Settings allow the mapping of an **Input Method Editor** (IME) to a character field, so that when entering the field, an appropriate **IME** can be activated.

Use the **Field Properties** dialog for International Format Settings.





International Format Settings

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## Keyboard Options and Language Settings

Each language can have its own keyboard layout. By setting a particular keyboard layout, you can also use different character sets. While for some languages the keyboard choice is purely cosmetic; for other languages, the change is dramatic. Languages which use single-byte, phonetic characters, do not need an IME—they simply use different keyboard layouts. Whereas languages such as Japanese, Korean, and Chinese require an IME.

You need to invoke system-wide language settings in two levels. The first level is the Keyboard Language Windows Control Page and the second is the Language Setting for PeopleTools.

Use the **Keyboard Options** section to convert from system-wide language settings to a specified language.

For more information on setting your regional settings in Windows, see [Changing the Windows Regional Settings](#) in the Globalization book.

## Keyboard Options and Far East IME Conversion mode

Selecting one of the Eastern keyboard layouts, for example MS Japanese IME, invokes a **Conversion Mode** for the **Far East Input Method Editor**.

**In the Far East Method Editor section, specify one of the following Conversion Modes:**

<b>Conversion Mode</b>	<b>Definition</b>
None	None is equal to N/A. It puts the language mode back to whatever the operating system process setting is in



	PeopleTools.
Disabled	Disabled is equal to English. No conversion occurs.
On and Off	Selecting On or Off allows you to toggle between settings you have set (On), and the way settings were before (Off).

For **Japanese** and **Korean**, specify the following:

<b>Conversion Mode</b>	<b>Definition</b>
AlphaNumeric Single Byte.	Japanese, Korean only
AlphaNumeric Double Byte.	Japanese, Korean only

For **Japanese**, specify the following:

- Hirigana
- Katakana Single Byte
- Katakana Double Byte

For **Korean**, specify the following:

- Hangul Single Byte
- Hangul Double Byte
- Hanja Characters

**IME** mode should only apply to fields with a format of Uppercase, Mixedcase, Name, Zip/Postal code International and Custom. Keyboard Layouts should apply to all field formats.

## Field Focus and International Settings

Default system settings will be used when an instance of PeopleTools is started, just like any other Windows application. Those default settings will remain in effect until a user changes them, or until focus is set to a field with international settings (a setting on the **International Format Settings** dialog other than **N/A**).

Setting focus to a field with international settings will cause those settings to take effect. When you leave that field by tabbing or clicking out of it, the previous settings will be restored (see Example 1).

However, if the new field also has international settings, those settings will take effect (see Example 2).



**International Settings : Example 1****Default setting:** Alphanumeric**Field1 settings:** N/A**Field2 settings:** Katakana**Field3 settings:** N/A

- The user sets the following focus: Field1 -> Field2 -> Field3
- The settings take effect as follows: Alpha -> Katakana -> Alpha

**International Settings : Example 2****Default setting:** Alphanumeric**Field1 settings:** N/A**Field2 settings:** Katakana**Field3 settings:** Hirigana**Field4 settings:** N/A

- User sets the following focus: Field1 -> Field2 -> Field3 -> Field4
- Settings take effect as follows: Alpha -> Katakana -> Hirigana -> Alpha

***Overriding Format Settings***

The user can override the settings at any time, even if a field has international settings. If the user overrides the settings while in a field with international settings, those overrides will only last while they are in that field (See Example 1 below). If they override international settings while on a field with N/A settings, the override becomes the new default for the application (See Example 2 below).

**International Settings****Default setting:** Alphanumeric**Field 1 settings:** N/A**Field 2 settings:** Katakana**Field 3 settings:** N/A**Example 1**

User sets the following focus: Field1 -> Field2 -> Change setting to Hirigana in Field2 -> Field3

Settings take effect as follows: Alpha -> Katakana -> Hirigana -> Alpha



**Example 2**

User sets the following focus: Field1 -> Change to Hirigana in Field1 -> Field2 -> Field3

Settings take effect as follows: Alpha -> Hirigana -> Katakana -> Hirigana



## CHAPTER 4

# Creating Record Definitions

Fields grouped together as a unit are *record definitions*. This section describes how to create, modify, and delete record definitions within your PeopleSoft system. A *record definition* represents what your underlying SQL database tables will look like, and how they will process data.

This section assumes you are familiar with basic record and table concepts. If you would like more information, click on one of the following subjects:

[Introduction to Records](#)

[Normalized Relational Databases](#)

[Understanding Control Tables](#)

[Understanding TableSets](#)

[Steps for Sharing Tables](#)

[Adding the Set ID field to Record Definitions](#)

## Types of Record Definitions

You can create the following types of record definitions within the Application Designer:

- SQL Tables
- SQL Views
- Dynamic Views
- Derived/Work Records
- Subrecords
- Query Views
- Temporary Tables










## Tools for Defining Record Attributes

This section describes the menu items you'll use to specify and view record attributes.

### Menu Items for Records

The following table shows the record-oriented menu items, applicable toolbar icons and their attributes that you use when working with records.

<b>Menu</b>	<b>Icon</b>	<b>Attribute</b>	<b>Purpose</b>
<b>Edit</b>		Setting Record Field Properties	Property Sheet where you select properties pertaining to a selected field within a record.
<b>View</b>		Field Display	Allows you to view field definitions of list of fields in a record
		Use Display	Allows you to view Record Field Use properties of the list of fields in a record
		Edits Display	Allows you to view Record Field Edits Properties of list of fields in a record.
		PeopleCode Display	Allows you to view PeopleCode characteristics of the active object
		Viewing a SubRecord	Expands the SubRecord in the main record view, shaded by a gray background.
		Viewing a SubRecord	Collapses the Grayed SubRecords in the main record view.
<b>Insert</b>		Inserting with Insert, Field	Inserts a field into the record
		SubRecords in Records	Inserts a Subrecord into the record.
<b>Build</b>		Current Object	Specifies how to create database objects in the database. How you want to execute the command. Special commands for creating/altering SQL tables, views, and indexes also reside in this menu.
<b>Tools</b>		Data Administration	Defines Data Administrative functionality such as Index, DDL and Space allocation
		Miscellaneous	Provides style changes to the fields,



		ous	toolbars and pages.
		View Options	Allows you to select commands specifying Insertion commands, object language preference, and validating options

---

## Views

You can see four views of the record by choosing **View** from the main toolbar. Then select Field Display, Use Display, Edits Display, or PeopleCode Display.

## Reordering Fields

You can reorder the display of fields in the record definition by double-clicking the attribute name. For example, if you double-click on **Field Name**, the fields will be displayed in alphabetical order and then double-clicking on **Num** will return the fields to their numeric order. This doesn't change the order of the fields in the actual record. The number that the fields are originally assigned remains the same. This is very important when it comes to Key fields.

If you want to actually reorder the fields in the records, you need to do a cut and paste, or select the field and move it. This can be done in all display views. Very helpful if you have many fields in a record (more than a screen display worth), and you want to see all the fields that have FieldChange PeopleCode attached. Or maybe you wanted to see all the fields of type CHAR grouped together, and so on.

## PeopleCode Attached to Fields

Fields that are marked in **BOLD**, signify that a PeopleCode program is attached to that field. The field will display as bold in all of the record definition views.

## Column Sizing and Sorting

Column lengths can be changed in any of the displays by dragging them smaller or wider with your cursor. As in making the "short name" column smaller, so that the entire "long name" for each field displays. The default sizing of all columns return, once you have closed the record and reopened it again.

You can also sort the rows in your columns by double clicking on the column heading. Double-clicking on the Num column heading will return the list of record fields to the default sort order.



## Field Display

Field Display shows the basic field definition characteristics for fields on the record definition. Field definition characteristics are global—they affect all record definitions where the field is used. To open the associated field definition, right-click while in Field View and select ‘View Definition’.

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	EMPLID	Char	11	Upper	ID	EmplID
2	ABSENCE_TYPE	Char	3	Upper	Type	Absence Type
3	BEGIN_DT	Date	10		Begin Date	Begin Date
4	RETURN_DT	Date	10		Return Dt	Return Date
5	DURATION_DAYS	Nbr	3		Days	Duration (Days)
6	DURATION_HOURS	Nbr	1.1		Hours	Duration (Hours)
7	REASON	Char	30	Mixed	Reason	Reason
8	PAID_UNPAID	Char	1	Upper	Paid/Unpd	Paid/Unpaid
9	EMPLOYER_APPROVED	Char	1	Upper	Approved	Employer-Approved
10	COMMENTS	Long	0		Comment	Comment

Field Display Mode

The following field attributes display:

<b>Num</b>	Represents the number of the field in the order it is defined in the record.
<b>Field Name</b>	Represents the name of the field in the SQL database.
<b>Type</b>	Shows the data type of field, such as Character, Number, or Date.
<b>Length</b>	Indicates the maximum length of the field, including any decimal places.
<b>Format</b>	Notes any special formatting specified for the field, such as mixed case, date, international phone number, or RawBinary.
<b>Short Name</b>	Displays the short name of the field as users will see it on pages or in PeopleSoft nVision.
<b>Long Name</b>	Displays the long name of the field as users will see it on pages or in PeopleSoft nVision.



## Use Display

Use Display shows key-related characteristics and default values for fields that determine how fields will be used in a record. The use characteristics may differ for fields used on more than one record definition. Simply double-click on the field to access the Record Field Properties dialog where you define these parameters. You can also right click and choose Record Field Properties from the popup menu.

Num	Field Name	Type	Key	Ord	Dir	CurC	Srch	List	Sys	Audit	Default
1	EMPLID	Char	Key	1	Asc		Yes	Yes	No		
2	ABSENCE_TYPE	Char	Key	2	Asc		No	No	No		'CNF'
3	BEGIN_DT	Date	Key	3	Desc		No	No	No		%date
4	RETURN_DT	Date					No	No	No		
5	DURATION_DAYS	Nbr					No	No	No		
6	DURATION_HOURS	Nbr					No	No	No		
7	REASON	Char					No	No	No		
8	PAID_UNPAID	Char					No	No	No		'U'
9	EMPLOYER_APPROVED	Char					No	No	No		'N'
10	COMMENTS	Long					No	No	No		

Use Display Mode

The following field attributes display:

<b>Num</b>	Represents the number of the field as defined in the record.
<b>Field Name</b>	Represents the name of the field in the SQL database.
<b>Type</b>	Shows the type of field, such as Character, Number, or Date.
<b>Key</b>	Indicates whether the field is a key to the record definition. Key fields are included in an index automatically created during the Build process.
<b>Ord</b>	Indicates the order of key fields in the index. This order can be customized from the Index dialog box and is reflected here in the Ord column.
<b>Dir</b>	Direction—indicates in what order the key field indexes will be created on the database, ascending or descending.
<b>CurC</b>	Currency control—the currency format for this field is controlled by the currency code in another field.



<b>Srch</b>	Search Key—indicates the fields to be prompted for in a search record dialog box.
<b>List</b>	List Box Item—indicates whether the values for the field will be displayed in the search record list box.
<b>Sys</b>	System—indicates the field is generated and maintained by the system.
<b>Audit</b>	Specifies whether any adds, changes, or deletes to data in this field will be written to the standard PeopleTools Audit Table: PSAUDIT.
<b>Default</b>	Default Value—represents the default value used to initialize the field.

## Edits Display

The Edits Display mode shows you all editing options (edit as a validation rule) available for fields in a record. Edits on a field vary from one record definition to another. To access the Record Field Properties dialog to define parameters, double-click on the field.

Num	Field Name	Type	Req	Edit	Prompt Table	Set Control Field	Rs Dt	Event
1	EMPLID	Char	Yes	Prompt	PERSONAL_DATA		No	No
2	ABSENCE_TYPE	Char	Yes	Xlat			No	No
3	BEGIN_DT	Date	Yes				No	Yes
4	RETURN_DT	Date	No				No	Yes
5	DURATION_DAYS	Nbr	No				No	Yes
6	DURATION_HOURS	Nbr	No				No	No
7	REASON	Char	No				No	No
8	PAID_UNPAID	Char	Yes	Xlat			No	No
9	EMPLOYER_APPROVED	Char	Yes	Y/N			No	No
10	COMMENTS	Long	No				No	No

## Edits Display Mode

<b>Num</b>	Represents the number of the field.
<b>Field Name</b>	Represents the name of the field in the SQL database.
<b>Type</b>	Shows the type of field, such as Character, Number, Date, and so forth.
<b>Req</b>	Required—indicates if the field is required; a user must enter a value before the record can be written to the database.

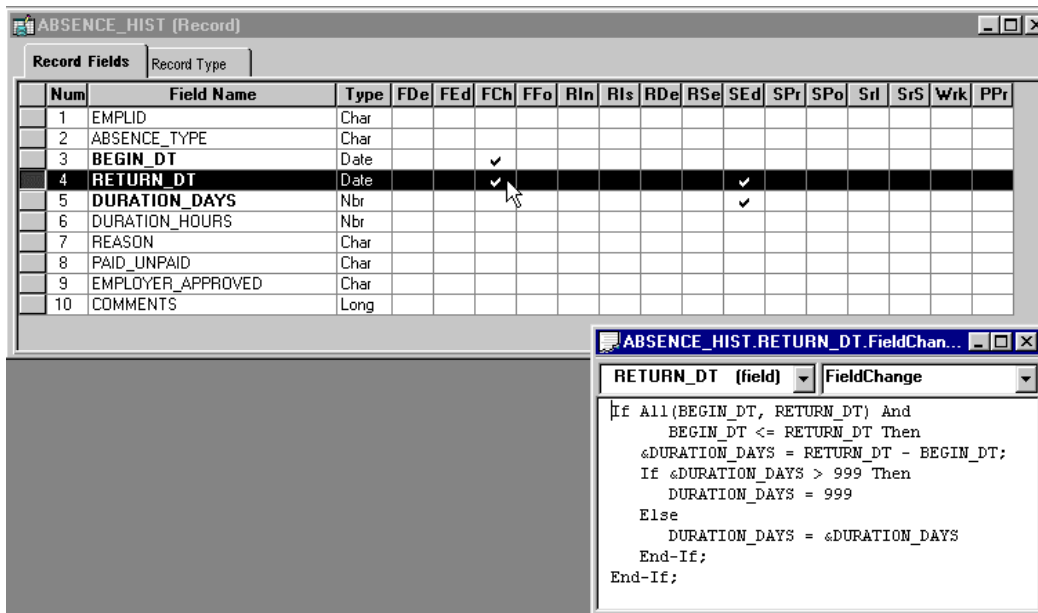


<b>Edit</b>	Specifies that the valid values for this field are validated against a table. XLAT means the translate table stores the codes and translate values. Y/N means only two values, <i>Y</i> for yes, or <i>N</i> for no, are valid. Prompt indicates that valid values reside on a designated Prompt Table.
<b>Prompt Table</b>	Indicates the Prompt Table for a field. When a user presses <b>F4</b> on a field defined with a Prompt Table, the valid values stored on this table will be retrieved.
<b>Set Control Field</b>	If you plan to use the Table Sharing feature to add an additional high level key to identifying common sets of values and handling exception values, you need to add the name of the key here. The Set Control Field determines which set of values will be displayed, based on how you define table sharing.
<b>Rs Dt</b>	Reasonable Date—Specifies whether a reasonable date test will be performed on a date field. All date fields are automatically edited to ensure that you can enter only valid values. The reasonable date test warns if the date is outside a 30-day range before and after the current date. You can use this, among other things, to guard against entering the wrong year in a date.
<b>Event</b>	Indicates whether any type of PeopleCode has been added for this field. (Can also tell this because field will be bold if PeopleCode has been added.)

## PeopleCode Display

PeopleCode Display contains a column for each PeopleCode program type and specifies if a program exists. To access the PeopleCode Editor, double-click on a cell (the intersection of an event type column and field row). You can also right-click and select 'View PeopleCode' from the popup menu to get the PeopleCode Editor.





PeopleCode Display Mode with PeopleCode Editor



For more information on PeopleCode Program Type definitions, see Data Types in PeopleCode.

## Saving Your Work

We recommend that you save your work every time you define a new record definition. As soon as you add or change one element within the new definition, save your work and name your record (you can't save a record definition until you have made at least one change to the record definition—by changing record properties or adding/deleting at least one field or changing the Record Field Properties).

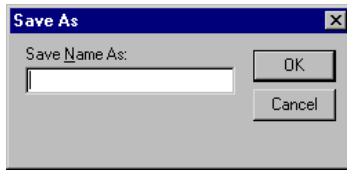
You can't add PeopleCode to a field until you have saved your record definition.



Save early and frequently! Resist the temptation to save later—after you've added and defined the attributes of your fields.

To save your new record definition, select **File, Save** or **File, Save As**. If you haven't named the definition, the system will prompt you to enter a Record Name.





Saving Record Definitions

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## Naming Records Definitions

Record definition names can have the following characteristics:

- Length can be up to 15 characters, with the exception of the Temporary Table type which has a maximum length of 13.
- Must begin with a letter and can contain underscores to make it more readable.
- Avoid special characters, such as # or \$, which may cause problems in some database environments.

## Record Naming Conventions

To help identify the purpose of different types of record definitions, PeopleSoft recommends that you adopt our naming conventions for record definition names, and use the following suffixes:

<b>_TBL</b>	Identifies an edit or prompt table that contains data used for validation, as opposed to data maintained by the application. Prompt tables store commonly used values. They include, but are not limited to, control tables, which store company-wide values. For example the location table (LOCATION_TBL) stores valid values for all operating locations where your company does business, the country table (COUNTRY_TBL) stores values for all valid countries.
<b>_VW</b>	Identifies a record definition that is physically implemented by defining a SQL view.
<b>_DVW</b>	Identifies a dynamic view.
<b>_WRK</b>	Identifies record definitions created as derived/work records.
<b>_SBR</b>	Identifies record definitions created as subrecords.
<b>_QVW</b>	Identifies a Query View
<b>_WL</b>	Identifies the record as a worklist record definition.

In some cases, we also use prefixes to identify special types of record definitions:



<b>R_</b>	Identifies record definitions created as work record definitions for SQR reports. The remainder of the record name consists of the program or report ID.
<b>AUDIT_</b>	Identifies record definitions used to store audit information for other record definitions in the database
<b>WEBLIB_</b>	Identifies record definitions used to store internet scripts. Internet scripts are generally located in FieldFormula PeopleCode events. A WEBLIB record with an internet script needs to be granted access with Maintain Security before it can be executed in a PeopleCode program.
<b>FUNCLIB_</b>	Identifies record definitions that contain written PeopleCode functions, as opposed to built-in functions. You can include these records in your component and call them as functions as needed. These self-developed functions are generally located in FieldFormula events, and the records are usually derived.
<b>DERIVED_</b>	Identifies shared record definitions (across an application module or group) that have fields for PeopleCode events.

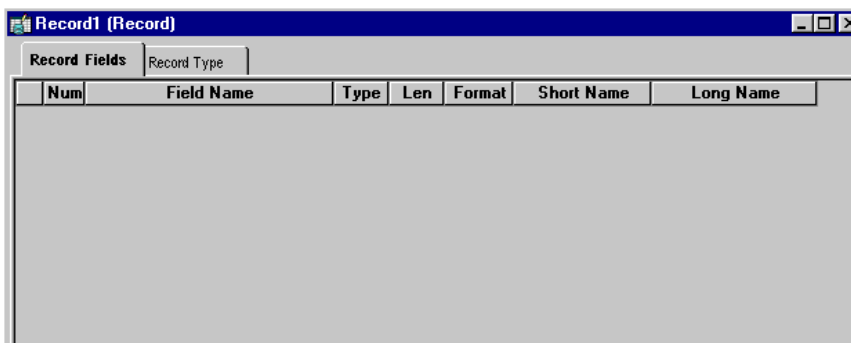
## Creating a New Record

This section describes how to create new record definitions.

To create a new record definition

1. Select **File, New** or click the New button on the Application Designer toolbar.
2. Select Record and click OK.

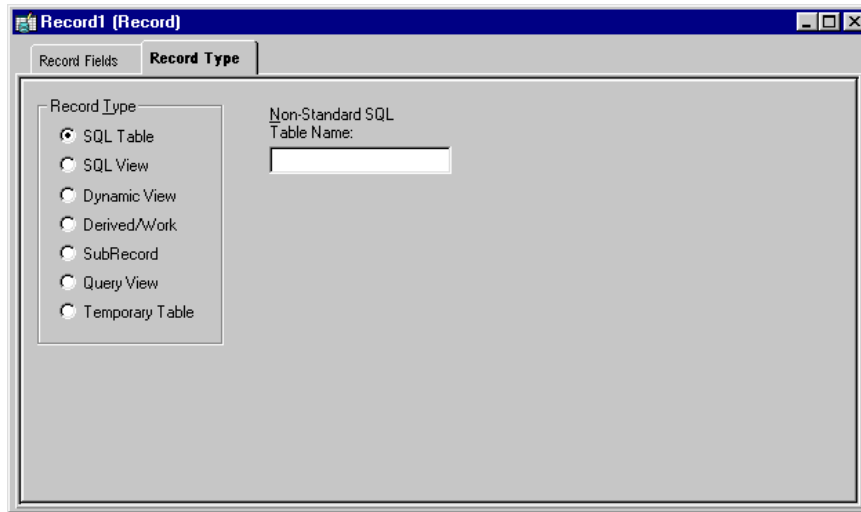
The Object Workspace displays so that you can build a list of fields in a record definition. To see how to add fields to the record definition, see [Adding Fields to Record Definitions](#).



New Record Definition



3. Select the **Record Type** property tab to define the type of record definition.



Specifying Record Type Properties

## Record Types

### SQL Table

Defines a record definition that will have a corresponding physical SQL table on the database. You create this table when you run the Build Operation on the Build menu. This is the default setting.

### SQL View

Defines a record definition that corresponds to a SQL view, which is not a physical SQL table on the database, but rather fields (from one or more SQL tables) reorganized into a different sequence—offering you an alternate *view* of information stored in tables.

To create the Creating SQL View and Dynamic View Select Statements, enter a SQL Select Statement in the box labeled SQL View Select Statement and then execute the Build.

### Dynamic View

Defines the record definition that can be used like a view in pages and PeopleCode, but is actually not stored as a SQL View in the database. Instead, Component Processor uses the view text as a base for the SQL SELECT that is executed at runtime. Creating SQL View and Dynamic View Select Statements can provide superior performance in some situations, such as search records and in PeopleCode Selects, because they are optimized more efficiently than normal SQL Views.



<b>Derived/Work</b>	Defines the record definition as a temporary workspace to be used during online page processing. A derived/work record is not stored on the database, so you do not Build it.
<b>SubRecord</b>	Defines the record definition as a subrecord—a group of fields commonly used in multiple record definitions—you can add to other record definitions. This way you can make any changes to the group of fields in one place, as opposed to on each record definition the group of fields is used.
<b>Query View</b>	Defines the record definition as a Query View—a view constructed using PeopleSoft Query tool. Before you can create the view, Application Designer prompts you to save the definition.
<b>Temporary Table</b>	Defines the record definition as a temporary table. Temporary images of the table can be created, specified by the PeopleTools Options Page. Temporary tables are used for running Application Engine batch processes. Temporary tables can store specific data to update without risking your main application table.
<b>Non Standard SQL Table</b>	Non-Standard SQL Table Name

## Opening an Existing Record

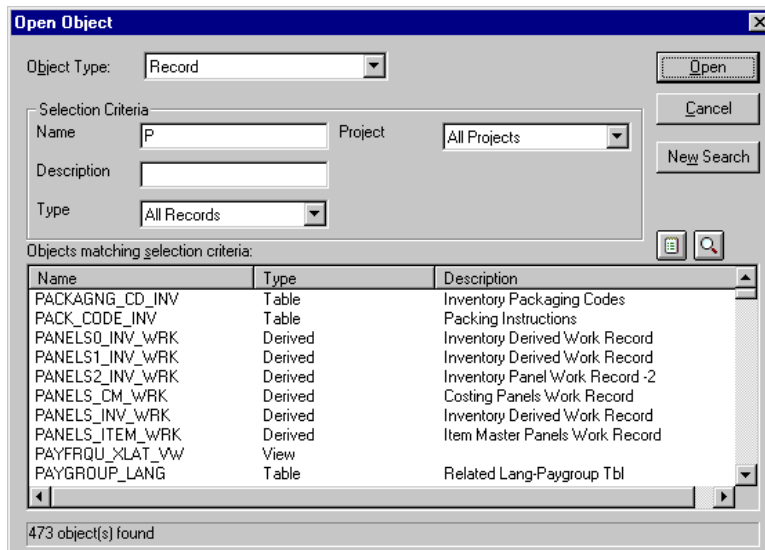
This section describes how to open an existing record definition.

To open an existing record definition

1. Select **File, Open** or click the **Open** toolbar button to open an existing record definition.
2. Select Record from the Object Type list and then click **Select**.
3. In the **Open Object** dialog, enter the first letter of the record you are searching for and click **Select**.

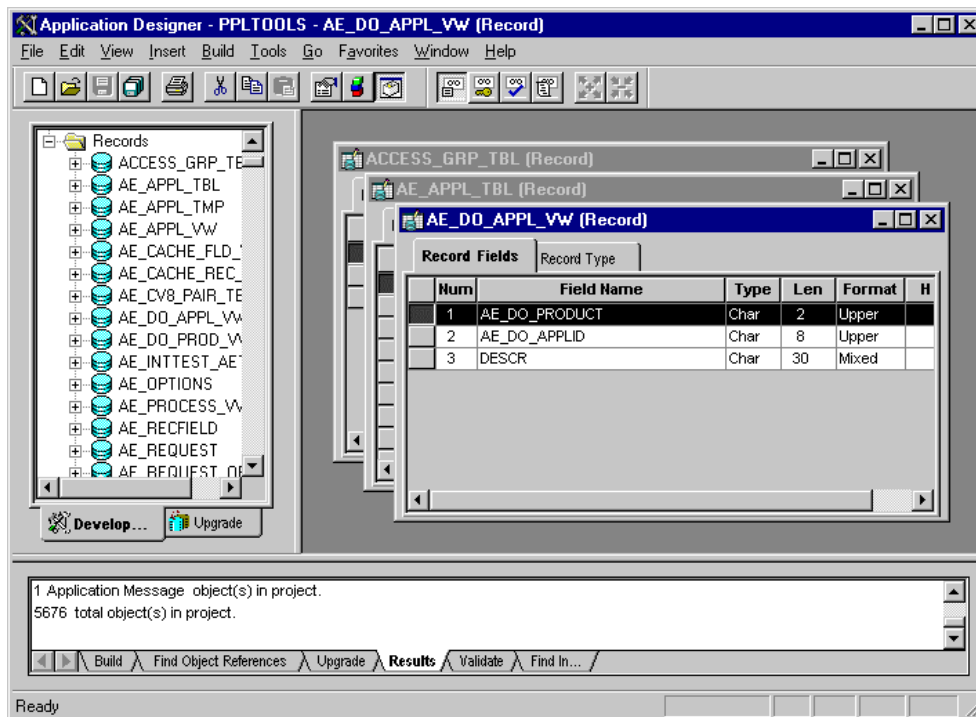
You can narrow the search criteria by specifying Type and/or Project.





### Searching for Existing Records

You can also open an existing record from the project tree view by double-clicking a record name.



### Selecting Records From a Project



## Adding Fields to Record Definitions

You create record definitions by adding field definitions to a new record definition—or by cloning and modifying an existing record definition. You can add fields in any order, and reorder them at any time. Keep in mind that keys should be located at the top of the record definition, in order of importance.



For more information on reordering fields, see [Reordering Fields](#).

Each field has a basic attributes that are shared across all records that contain the field. They include data type, field name, long name, short name, field length (or integer/decimal positions), formatting, help context number, and translate values.

If you change any of these attributes for a field, the change effects every occurrence of the field on every record definition. If the change isn't appropriate for every occurrence of this field, consider defining a new field instead.

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	EMPLID	Char	11	Upper	ID	EmplID
2	ABSENCE_TYPE	Char	3	Upper	Type	Absence Type
3	BEGIN_DT	Date	10		Begin Date	Begin Date
4	RETURN_DT	Date	10		Return Dt	Return Date
5	DURATION_DAYS	Nbr	3		Days	Duration (Days)
6	DURATION_HOURS	Nbr	1.1		Hours	Duration (Hours)
7	REASON	Char	30	Mixed	Reason	Reason
8	PAID_UNPAID	Char	1	Upper	Paid/Unpd	Paid/Unpaid
9	EMPLOYER_APPROVED	Char	1	Upper	Approved	Employer-Approved
10	COMMENTS	Long	0		Comment	Comment

Used in PeopleCode: ABSENCE\_HIST(RECORD). BEGIN\_DT(FIELD). FieldChange(METHOD) as ABSENCE\_HIST(RecN  
 Used in PeopleCode: ABSENCE\_HIST(RECORD). DURATION\_DAYS(FIELD). SaveEdit(METHOD) as ABSENCE\_HIST(Re  
 Used in PeopleCode: ABSENCE\_HIST(RECORD). RETURN\_DT(FIELD). FieldChange(METHOD) as ABSENCE\_HIST(Re  
 Used in PeopleCode: ABSENCE\_HIST(RECORD). RETURN\_DT(FIELD). SaveEdit(METHOD) as ABSENCE\_HIST(RecN  
 Search Completed - Found 13 object(s)

Build Find Object References Upgrade Results Validate

Output Window Displaying Find Object References



Keep in mind that a change to field name or length requires modification of the underlying SQL table either by executing the SQL Build or SQL Alter menu items, or an action issued by your System Administrator. For example, if you change a field length on one record definition, and 30 other record definitions contain the same field name, you have 31 records that need to be SQL Built or SQL Altered.

There are three ways to insert a field into a record.

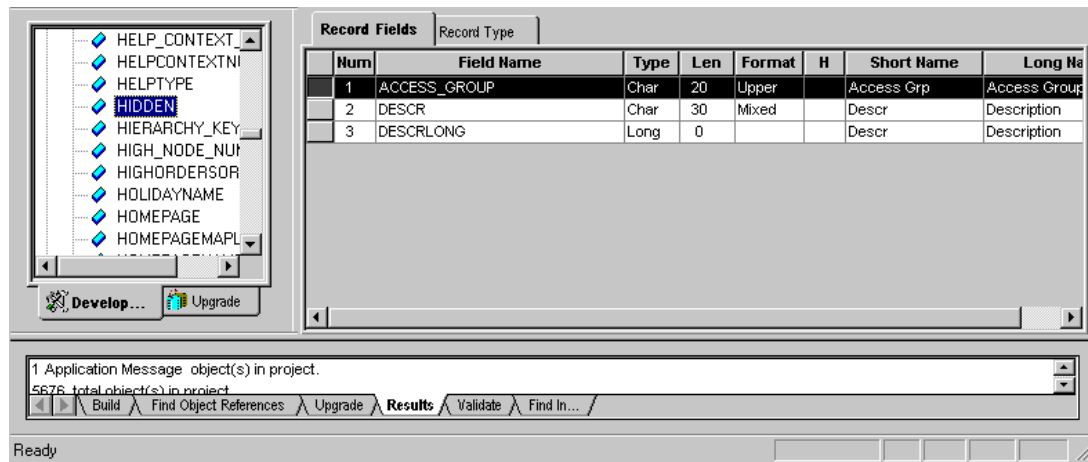
- From the Project Workspace Tree
- From the Insert Menu (**Insert, Field**)



- Drag and Drop from existing records.

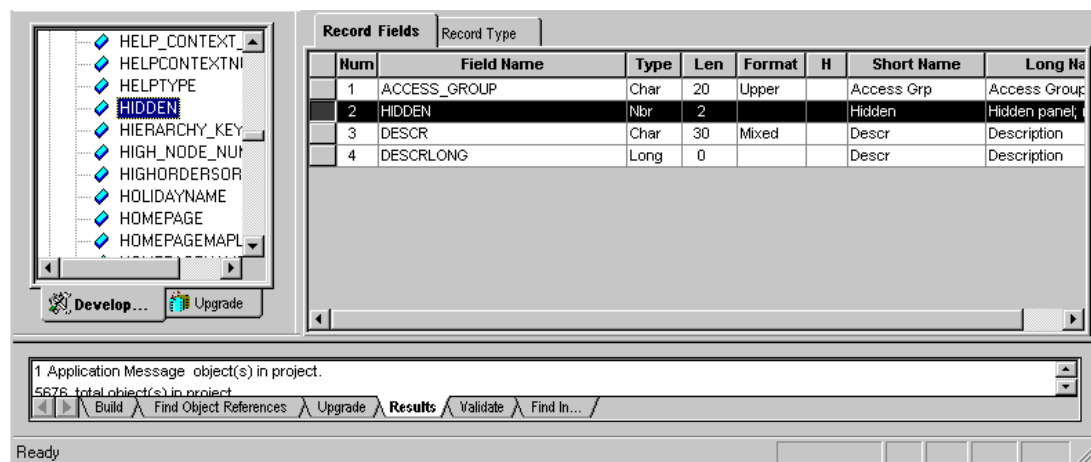
## Inserting from a Project Workspace Tree

If you want to add existing fields to your record definition, you can easily locate them using the Application Designer Project Workspace tree. To see the other methods used to find and open existing fields, see *Opening Field Definitions*.



Displaying Fields in the Project Workspace

To add a field to a record definition simply drag the field from the Project Workspace tree and drop it onto the Object Workspace.



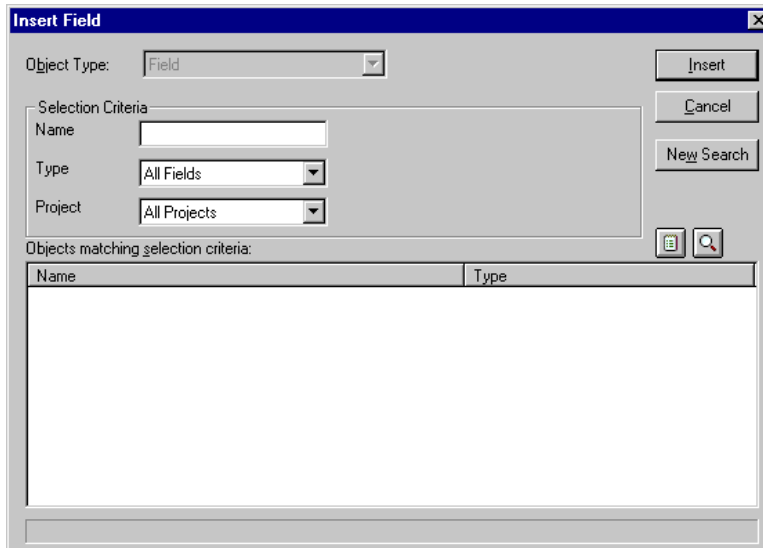
Adding a Field to a Record Definition

The field and its attributes are automatically added to the list of fields in the record definition.



## Inserting with Insert, Field

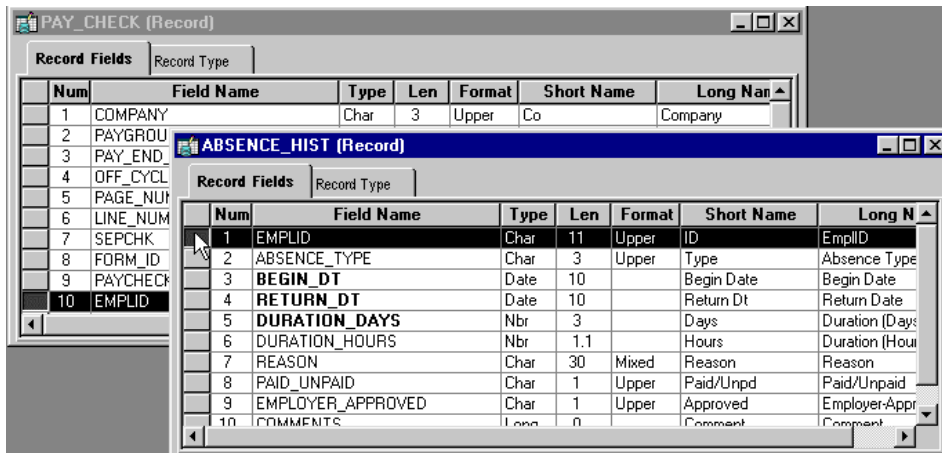
Use the **Insert, Field** menu selection to search for fields with a Selection Criteria and then add them to your record. By using the Insert button these definitions will be inserted to your record definition. You may also choose to double-click on a selected field definition Insert the Field Definition. Fields are inserted below the selected field in the record definition.



Insert Field Dialog

## Inserting with Drag and Drop

Open a record that contains one or more fields that you need, select the field and drag a copy of the field and drop it to a new record.



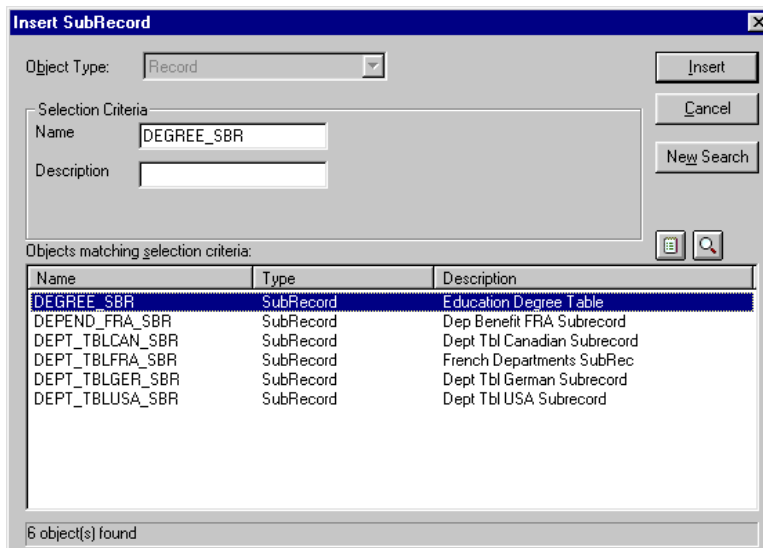
Drag and Drop Record Changing



## SubRecords in Records

### Inserting a SubRecord

**Insert, SubRecord** allows you to search, select and insert SubRecords into your record. A SubRecord by definition allows you to add a group of fields that are commonly used in multiple record definitions. A SubRecord must be defined before it can be inserted into a record definition.



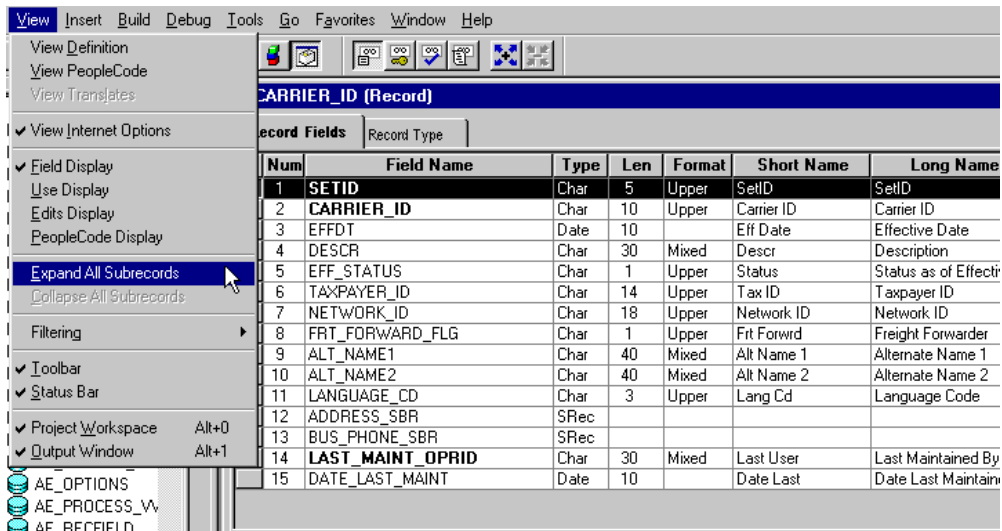
Inserting a SubRecord

### Viewing a SubRecord

Any open record that has a subrecord inserted in it can have the subrecord expanded into the same record definition window by selecting **View, Expand All Subrecords**, or by pressing the

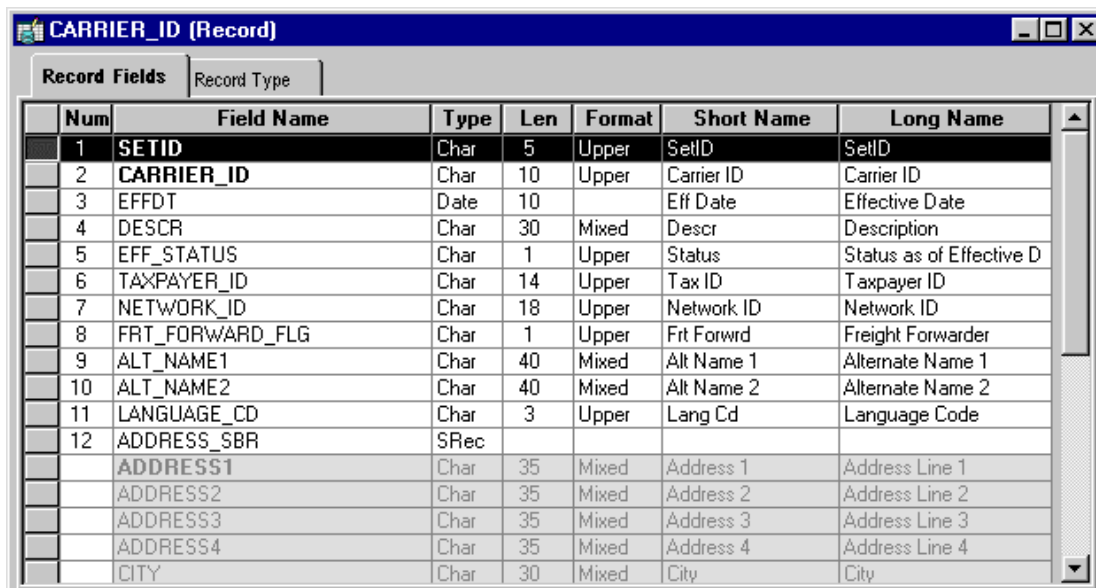
**Expand all Subrecords** Toolbar button .





### Expanding Subrecords in Record Definition

Once you select **Expand All Subrecords**, the parent record definition expands to show the subrecord's field relationships (in gray) to the parent record.



### Subrecord Expanded in Parent

When the subrecord is expanded, you cannot insert, cut, delete, paste, reorder, and sort files. If you've reordered the display of the fields, you can't expand the subrecords.

The expanded subrecord fields are read-only. You cannot see the properties of these fields. In order to access the properties, you need to open the subrecord first. The short cut to opening a subrecord is by a mouse click on the expanded subrecord and then select **View Definition**. This will open a subrecord definition from which you can then view the properties of the fields.

The subrecord is collapsed by selecting **View, Collapse All Subrecords**.



## Nested SubRecords

Nested subrecords are fully supported to any level. Expanding a record toggles the record field list to show all the fields from all levels of nesting. Changes to subrecords are immediately reflected in expanded records.

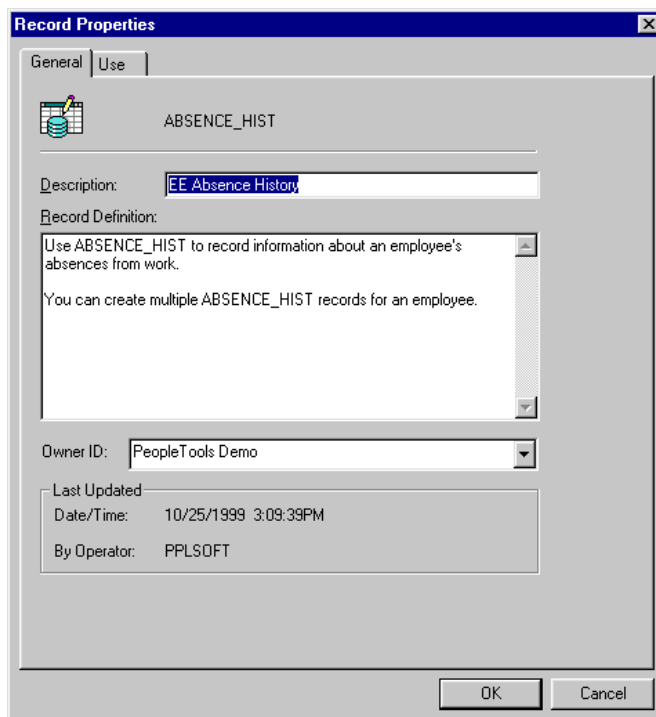
## Editing PeopleCode in SubRecords

You can edit PeopleCode attached to a subrecord field by double-clicking on the appropriate field checkmark, as it is displayed in the expanded record. Any PeopleCode changes you make will apply to all records that contain that subrecord.

## Setting Record Properties

While you can define the purpose of a record definition at any time, you should have a clear idea of how you want to apply it before you begin building it. As in, it is also necessary to fill in a **Description** and **Owner ID**.

To define record properties



The screenshot shows the 'Record Properties' dialog box with the 'General' tab selected. The record name is 'ABSENCE\_HIST'. The 'Description' field contains 'EE Absence History'. The 'Record Definition' text area contains the text: 'Use ABSENCE\_HIST to record information about an employee's absences from work. You can create multiple ABSENCE\_HIST records for an employee.' The 'Owner ID' dropdown is set to 'PeopleTools Demo'. The 'Last Updated' section shows 'Date/Time: 10/25/1999 3:09:39PM' and 'By Operator: PPLSOFT'. At the bottom are 'OK' and 'Cancel' buttons.

General Property for Record Definition

1. Use the General tab to enter Comments, a long Description, and the Owner ID of the record definition.



Enter comments including any details about the record type, use, parent/child relationships or other information important for fellow application designers. For example, if your record definition name is COUNTRY\_TBL, your Record Description could be simply Country Table.

The **Owner ID** drop-down box displays a list of applications this record is being used with. This list is helpful to identify what applications the record is being associated with in your application development phase.

2. Select **File, Object Properties** or click the **Properties** toolbar button.



The record description is important because it is what PeopleSoft Query and Tree Manager use to identify the record.

---

3. The **Use** property tab enables you to designate **Set Control Fields**, **Record Relationships** and designate **Record Audit** options for this record.

The image shows the 'Record Properties' dialog box with the 'Use' tab selected. The dialog has two tabs: 'General' and 'Use'. The 'Use' tab contains the following sections:

- Set Control Field:** A dropdown menu.
- Record Relationships:** A group box containing three dropdown menus:
  - Parent Record:** Set to 'PERSONAL\_DATA'.
  - Related Language Record:** Empty.
  - Query Security Record:** Set to 'PERS\_SRCH\_GBL'.
- Record Audit:** A group box containing:
  - Record Name:** A dropdown menu.
  - Audit Options:** A group box with four checkboxes:
    - ☐ Add
    - ☐ Change
    - ☐ Selective
    - ☐ Delete

At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Specify Record Use Properties

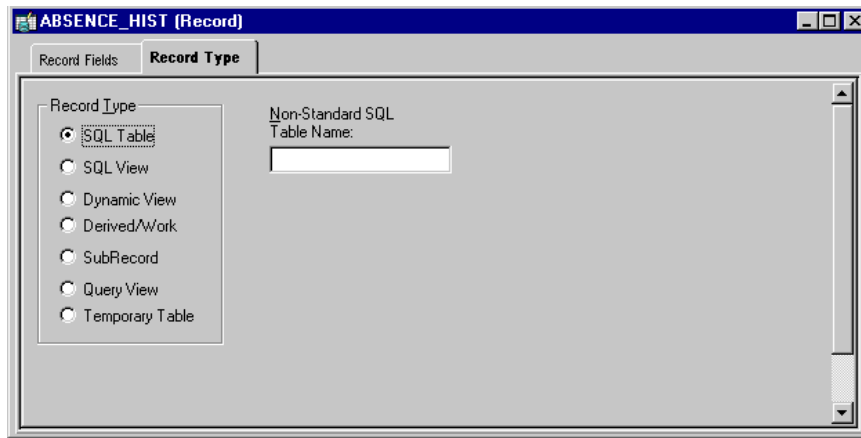


For more information on Assigning Set Control Fields, Record Relationships (SubRecords in Records, Identifying Related Language Record Definitions, and Implementing Query Security), and Auditing at the Record Level, see [Defining Set Control Fields](#).

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4. The **Record Type** property tab a record definition allows you to define the type.





Specifying Record Type Properties

## Setting Record Field Properties

When you add a field to a record definition, it takes on additional attributes that define the way the field is used in that particular record. These include key settings, default values, table edits, and PeopleCode programs. Field properties define Record Field Properties.

The properties of record fields are not shared among records—they are specific to a single record definition and are stored with the record. Therefore, even though you may add the same field to multiple records, each record stores a unique set of Record Field Properties while the primary field definition remains the same.

When you access *record* field property from a *record* definition, you work on the Record Field Properties, not a field definition's properties. This is probably the most common method you'll use to open an existing field in a record definition.

To edit record field properties from a record definition

1. Select **Edit, Record Field Properties** from the Application Designer menu.

You can also highlight the field and double-click from a Record Definition window.

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### Use Tab

The Use tab of Record Field Properties allows you to specify how a field is used within a record definition. For example, is the field a key in the record, a listbox item; what are the default values; should there be audits, and so on?

While you are setting properties, you may find it helpful to see the Use Display window for a global view of the Use Record Field Properties. Do this by clicking the **Use Display** button or choosing **View, Use Display**.

To specify how the record field is to be used



1. Select the **Use** tab from the **Record Field Properties** dialog.

The field type (for example, Character Field Use, Long Character Field Use, Number Field Use, Date Field Use, Time Field Use, Datetime Field Use and Image Field Use) determines the Use selections you make.

## Character Field Use

**Record Field Properties**

Use | Edits

Field Name: NAME

**Keys**

- ☐ Key
- ☐ Duplicate Order Key
- ☐ Alternate Search Key
- ☐ Descending Key
- ☐ Search Key
- ☐ List Box Item
- ☐ From Search Field
- ☐ Through Search Field
- ☐ Default Search Field

**Audit**

- ☐ Field Add
- ☐ Field Change
- ☐ Field Delete
- ☐ System Maintained
- ☐ Auto-Update

**Record Field Label ID**

Use Default Label

**Default Value**

Constant:

or

Record Name:

Field Name:

**Default Page Control**

System Default

OK Cancel

Character Field Use Properties in a Record

To define how a character field will be used

1. Specify the Keys, Auditing Field Use, Record Field Label ID, Assigning Default Values, and Default Page Control, and System Maintained.

## Keys

As you add fields to your record definition, you need to decide which field or fields will uniquely identify each row—these will be the record **keys**. The nature of the data you are storing should naturally determine the “keys” to the information in the database.



**Key**

Check **Key** to identify the field as the search criteria that uniquely identifies each row. You cannot have duplicate values for primary keys. For example, EMPLID is the only key to the PERSONAL\_DATA record definition. Therefore, EMPLID must be a unique value for each employee and there can be only one PERSONAL\_DATA row per employee.

**Records with Multiple Keys**

You may specify more than one field as a key to a given record definition—in other words, a record definition can have a compound key.

	Num	Field Name	Type	Key	Ordr	Dir	Curr	Srch	List	Sys	Audt	Default
	1	EMPLID	Char	Key	1	Asc		Yes	Yes	No		
	2	ABSENCE_TYPE	Char	Key	2	Asc		No	No	No		'CNF'
	3	BEGIN_DT	Date	Key	3	Desc		No	No	No		%date
	4	RETURN_DT	Date					No	No	No		
	5	DURATION_DAYS	Nbr					No	No	No		
	6	DURATION_HOURS	Nbr					No	No	No		
	7	REASON	Char					No	No	No		
	8	PAID_UNPAID	Char					No	No	No		'U'
	9	EMPLOYER_APPROVED	Char					No	No	No		'N'
	10	COMMENTS	Long					No	No	No		

**Defining Compound Key Combinations**

For example, the keys to the ABSENCE\_HIST record definition are EMPLID, ABSENCE\_TYPE and BEGIN\_DT. This means that a given absence history can be created only once.

**Keys on Parent/Child Tables**

In some cases, you'll have a field within a table for which you want to allow multiple occurrences, in which case you create a subordinate or child table. For example, for employee reviews, an employee can be reviewed for performance in multiple categories—organization skills, interpersonal skills, and so forth. These categories and ratings are stored in a separate child table, EE\_REVIEW\_RT, directly related to the REVIEW\_DT, the parent table which stores information about employee reviews.

The keys you establish on parent record definition will determine which keys are required on any child record definitions. The child must have the same keys as the parent, plus one or more keys that uniquely identify each row.

	Parent Table	Child Table
<b>Record Definition</b>	REVIEW_DT	EE_REVIEW_RT
<b>Key Fields</b>	EMPLID	EMPLID
	REVIEW_DT	REVIEW_DT



		CATEGORY
--	--	----------

Most record definitions have either one primary key, multiple keys that compose independent or parent/child key combinations. There are, however exceptions, such as Record Definitions without Keys and Duplicate Order Keys.

### ***Records Without Keys***

Some record definitions, such as INSTALLATION, don't require keys—because only one row of data exists in the table. Whereas a table normally has keys to help distinguish between multiple occurrences of data, in this case there's only one row of data, so there's no need to distinguish one row from another. Another primary use for keys is to build database indexes to rows—since there's only one row for each table, the record doesn't need indexes.

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	COMPANY	Char	3	Upper	Co	Company
2	MIN_STD_HRS	Nbr	2,2		Min Std Hr	Minimum Standard Hour
3	MAX_STD_HRS	Nbr	2,2		Max Std Hr	Maximum Standard Hour
4	STD_HRS_DEFAULT	Nbr	2,2		Default Hr	Default Standard Hours
5	TEMP_SSN_MASK	Char	3	Upper	Temp SSN	'Temporary SSN' Mask
6	COMMIT_AFTER	Nbr	4		Commit Aft	Commit After Empl Proce
7	POSITION_MGMT	Char	1	Upper	Posn Mgmt	Position Management O
8	COUNTRY	Char	3	Upper	Cntry	Country
9	COMP_FREQUENCY	Char	1	Upper	Comp Freq	Compensation Frequenc
10	EMPLID_LAST_EMPL	Nbr	10		Last Empl	Last Employee ID Assign
11	EMPLID_LAST_APPL	Nbr	10		Last Appl	Last Applicant ID Assign
12	NON_EMPLOYEE_LAST	Nbr	10		Last NonEm	Last Non-Employee ID A
13	JOB_REQ_NBR_LAST	Nbr	6		Last Req#	Last Job Requisition # U

INSTALLATION Table

### ***Records with Duplicate Order Keys***

Occasionally, you may encounter situations where a unique identifier for each row does not exist. *Duplicate Order Keys* are a way of “ordering” data in the table when duplicate values are allowed.

For example, on the EDUCATN table, we anticipated that an employee could receive two degrees of the same type on the same date. For example, though rare, Simon Schumaker could receive two honorary degrees in Computer Science on the same day.

Because there is no unique identifier—the Employee ID, Date Earned, and Degree are all the same—the user has to maintain the data differently. The key, instead of defining a unique row, defines a group of rows. Within that group, you need to determine the order in which you want to display information.

You check the Duplicate Order Key to indicate that duplicate values may occur. The order in which you place duplicate order keys on a field list, determines the order in which duplicate keys will be retrieved.

On the EDUCATN record definition, we have three keys that together determine how information will be stored and retrieved. EMPLID identifies the group of rows; the placement of the duplicate order keys, DT\_EARNED and DEGREE, instruct the system to order rows in the group first by date, then by degree.



EMPLID	DT_EARNED	DEGREE
8001	June 1, 1992	HON
	June 1, 1992	HON

The system concatenates or joins keys when it checks for uniqueness. In this case, the system accepts duplicate entries in the DEGREE and DT\_EARNED fields because they are part of a set identified by EMPLID.

### *Ordering Keys*

The position of keys relative to one another is critical in a record definition—you should always list them in order of importance.

The primary key must be the first field on the record, followed by the next-most-important key, and so on. Key fields are followed by any duplicate order keys, in order of importance. Then come fields that aren't keys. You can scatter alternate key fields anywhere among regular fields, in any order. They don't need to be grouped.

Key, Duplicate Order Key, and Alternate Search Key are mutually exclusive.



The display of key fields in record definition views does not always match the order in the record. Always check the **Num** column to see the actual order.

### *Alternate Search Keys*

Alternate Search Key identifies the field as a key that provides an alternate path into the table data. Duplicate values are allowed in an alternate search key field. If you define a field on a search record as an alternate search key, when you bring up a page, the system prompts you to enter a key or alternate search key values.

In the example below, the default **Basic Search** page uses the primary key, EmplID, as the search key. You can also search on another Key or Alternate Search Key by selecting it from the **Search By** drop-down.

[Home](#) > [Administer Workforce](#) > [Administer Workforce \(U.S.\)](#) > [Use](#) > [Absence History](#)

**Absence History**

---

**Find an Existing Value**

Search By:

EmplID:

[Advanced Search](#)

Basic Search



An **Advanced Search** page gives the user the key or alternate search keys at the same time, as in Name, Last Name, and Social Security #. This search page is designed for the user who needs the flexibility of searching on more than one piece of information, simultaneously.

Use the following search to look for an existing value.

**EmplID:**

**Name:**

**Last Name:**

**Social Security #:**

[Basic Search](#)

☐ Include History ☐ Correct History

#### Advanced Search



Keep in mind that each alternate search key you establish causes a database index to be created when you SQL CREATE the table. While database indexes are important, they consume disk space, and, when the system needs to support the alternate key, processing time. Therefore, don't add alternate search keys unless you really need them.

### *Descending Keys*

Identify the field as a Descending Key if you want rows of data to be retrieved in 3-2-1 or C-B-A order. If you leave this option turned off, the key is an ascending key—meaning that rows are stored and retrieved in 1-2-3 or A-B-C order. This option applies only to a field specified as a key, duplicate order key, or alternate search key. The default order is ascending. We use descending order primarily for Effective Date fields. Most Character keys are ascending.

### *Search Keys and List Box Items*

When you specify a **Search Key**, the field will be available in the Basic Search page. A Search Key is valid only for keys and should be used only on search records. With a Search Key checked, the system automatically turns on the List Box Item.

☒ Search Key

#### Active Search Key

Turn on **List Box Item** if you want the field to appear in the list box preceding a page.

☒ List Box Item

#### List Box Item



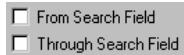
If a field has values on the Translate Table, and you designate it as a list box item, the list box automatically shows the translated value instead of the code.



### *From and Through Search Fields*

Select the **From Search Field** and **Through Search Field** attributes for fields used as search records. If you check the From Search Field, the displayed list contains rows where the field value is greater than or equal to a value entered by the user. If you check Through Search Field, the displayed list contains rows where the field value is less than or equal to a value entered by the user.

If you do not want these fields to be in a search list box, un-check **List Box Item**, even if the field is an **Alternate Search Key**.



The image shows two checkboxes in a light gray box. The first checkbox is labeled 'From Search Field' and is checked. The second checkbox is labeled 'Through Search Field' and is also checked.

From and Through Search Field



For more information, see Example of From and Through Search Fields.

### **Record Field Label ID**

Specify which label, Long Name or Short Name, to use for the record.

As a default, **\*\*\*Use Default Label\*\*\*** is set. This enables you to change labels of record fields dynamically, anytime that the default label on the field definition is changed.

For example, if a Field Definition has 3 labels:

- Label1( Long Name1, Short Name1), marked as default
- Label2( Long Name2, Short Name2)
- Label3( Long Name3, Short Name3)

When the **Label ID** on a record field is set to "Use Default Label", initially the Record field's Long Name and Short Name would be Long Name1 and Short Name1. If the default label is changed to Label3 on the Field Definition, then the Record Field's Long Name and Short Name would change to Long Name3 and Short Name3 automatically.

### **Assigning Default Values**

Enter a **Default Value** for this field. Select the most commonly used value as the default, and keep in mind that you can always type a different value if the default is inappropriate. The more defaults you provide, the more data entry time you'll save your users.

For a given field, you can enter a default value as a system variable or as a combination of **Record Name** and **Field Name**.



**System Variable**

Specifies a value as a default field. The value you specify is case-sensitive. You can specify a system variable (such as %date or %time) if you want the default to be the current date or time.

If you add a value that will be edited against a Translate Table or a Yes/No Table—which store values in uppercase—and a translate value or a Yes/No value already exists for this field, the system automatically converts the value to uppercase. Otherwise, it accepts the value as entered.

Don't enter double or single quotation marks in the **Constant** field. You see them displayed on the Use Display window and in the record definition report, but that's just to let you know that the default is a constant.



The system doesn't edit the value you enter as default constant. This means that when a field has values on the Translate Table, you can enter a default value that isn't on the Translate Table. This allows the system designer to specify a value that a user can't ordinarily enter. So use care when setting default constants.

**Record Name, Field Name** Defaults the value of the field to the value of another field.

**Auditing Field Use**

For some field values, you may want to keep a history of who adds, changes, or deletes data. When you turn on one of the Audit Field options, the information is stored in the PeopleTools Audit table, PSAUDIT.

PSAUDIT contains a number of special audit fields that monitor who made changes, when, and what type of action they performed. When the system writes an entry to PSAUDIT, it includes the keys to the record definition where the field resides. It can store up to a maximum of 15 keys per record definition, and the maximum size of the keys or the audited field is 50 characters.

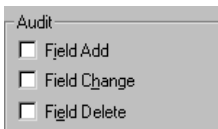
PeopleSoft maintains the structure of PSAUDIT. Rows of data are added depending on the type of options you specify for audited fields.

<b>Audit Field Name</b>	<b>Purpose</b>
AUDIT_OPRID	Identifies the user who caused the system to trigger the audits by performing an <b>Add</b> , <b>Change</b> , or <b>Delete</b> to an audited field.
AUDIT_STAMP	Identifies the date and time the audit was triggered.



AUDIT_ACTN	Indicates the type of action the system audited. Possible action values include:  A      Inserted D      Deleted C      Changed
RECNAME	Identifies the name of the audited record definition.
FIELDNAME	Identifies the name of the audited field.
OLDVALUE	Stores the original value of the field for audit change and delete actions.
NEWVALUE	Stores the new value of the field for audit change and delete actions.
KEY# 1–15	Stores the old values of key fields in order of appearance on the record definition. PSAUDIT supports up to 15 different keys fields, each with a maximum field length of up to 50 characters.

Whenever a user modifies an audited field and Saves the changes, the system inserts the old field contents, new field contents, identifying user data, and key values into PSAUDIT. One row is inserted for each field that is audited.



Audit Check Box

You specify when you want Field Audit entries to be generated by turning on any or all of the appropriate **Audit** options:

**Field Add**                                      Audits this field whenever a new row of data is added.

**Field Change**                                      Audits this field whenever the contents are changed.

**Field Delete**                                      Audits this field whenever a row of data is deleted.

These options apply only to data that is manipulated on a normal PeopleSoft application page through component processing. These options do *not* apply to data that is added using SQLExec in PeopleCode or by some other means. PSAUDIT logs the user ID, the date and time the field was modified, and the old and new values.

If you have certain fields you want audited regardless of what record definition they're in, you want to control when the fields will be audited. Or, if you want to audit several fields in a record definition, you may want to consider specifying audits at the record definition level.



## Default Page Control

This enables you to specify the default appearance of a field as it appears on the page that corresponds with the Record Field you are creating. You can choose a Default Page Control for a field by making a selection from the dropdown box.

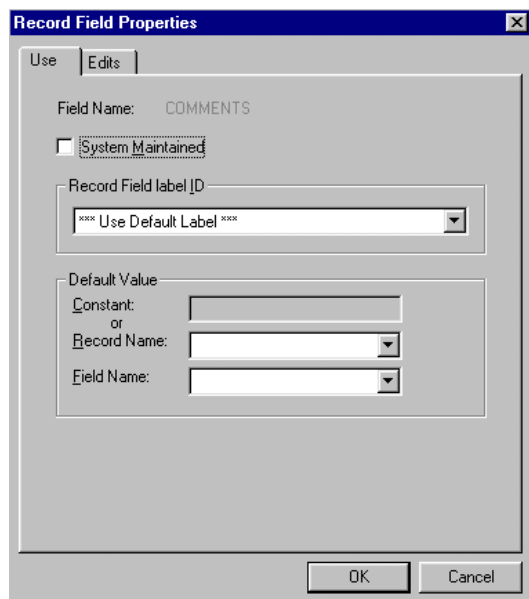
## System Maintained

This option is for documentation purposes only and doesn't affect processing. Check this option if you want to document that the field value is system-generated.

---

## Long Character Field Use

Depending on how you plan to use the field, you may want to set standard default text or have it display text that is stored in another record.

The image shows a screenshot of the 'Record Field Properties' dialog box, specifically the 'Edits' tab. The 'Field Name' is set to 'COMMENTS'. The 'System Maintained' checkbox is unchecked. The 'Record Field Label ID' dropdown menu is set to 'Use Default Label'. Under the 'Default Value' section, there are three options: 'Constant' (with an empty text box), 'Record Name' (with a dropdown menu), and 'Field Name' (with a dropdown menu). The 'OK' and 'Cancel' buttons are at the bottom right.

Long Character Field Use Properties in a Record

To define how a long character field will be used

1. Specify System Maintained, Record Field Label ID, and Assigning Default Values.



## Number Field Use

The **Record Field Properties** dialog box is shown with the **Use** tab selected. The **Field Name** is **DURATION\_HOURS**. The **Keys** section on the left contains several checkboxes: **Key** (checked), **Duplicate Order Key**, **Alternate Search Key**, **Descending Key**, **Search Key**, **List Box Item**, **From Search Field**, **Through Search Field**, and **Default Search Field**. The **Audit** section contains **Field Add**, **Field Change**, and **Field Delete**. Below these are **System Maintained** and **Auto Update**. On the right, the **Record Field Label ID** is set to **Use Default Label**. The **Default Value** section has **Constant**, **Record Name**, and **Field Name** options. The **Currency Control Field** is set to **System Default**. The **Default Page Control** is also set to **System Default**. **OK** and **Cancel** buttons are at the bottom.

Number Field Use Properties in a Record

To define how a number field will be used

1. Specify the **Keys**, **Auditing Field Use**, **System Maintained**, **Record Field Label ID**, **Assigning Default Values**, and **Default Page Control**.
2. Specify the **Currency Control Field**.

This field allows the user to specify where to find the currency code used to display the currency symbol, decimal digits, and scale of a number field.

The **Currency Control Field** dropdown menu is shown. The list of options includes **EXCHNG\_TO\_CURRENCY** (selected), **EXCHNG\_TO\_RT\_TYPE**, **ORDER\_LAST**, **TEMP\_SSN\_MASK**, and **System Default**.

Setting Currency Control Field

To use this option, the multi-currency option must be set. You may also want to enable the current display when you define the field in the page.



## Date Field Use

**Record Field Properties**

Use | Edits

Field Name: RETURN\_DT

**Keys**

- ☐ Key
- ☐ Duplicate Order Key
- ☐ Alternate Search Key
- ☐ Descending Key
- ☐ Search Key
- ☐ List Box Item
- ☐ From Search Field
- ☐ Through Search Field
- ☐ Default Search Field

**Audit**

- ☐ Field Add
- ☐ Field Change
- ☐ Field Delete

☐ System Maintained

☐ Auto-Update

Record Field label ID: Use Default Label

Default Value:

Constant:

or

Record Name:

Field Name:

Default Page Control: System Default

OK Cancel

Date Field Use Properties in a Record

To define how a date field will be used

1. Specify the Keys, Auditing Field Use, System Maintained, Record Field Label ID, Assigning Default Values, and Default Page Control.

Typically, you'll want to make a Date Field a Descending Keys so that the row with the latest, most current, date is displayed first. For example, let's say you added three JOB data entries for an employee, effective dated June 1, 1972, April 20, 1982, and October 30, 1992. In descending order, you would see the three rows in this sequence on the Job Data pages:

October 30, 1992  
 April 20, 1982  
 June 1, 1972

In ascending order, you would see the same records in this sequence:

June 1, 1972  
 April 20, 1982  
 October 30, 1992

If you want the value to default to the current system date, enter the **Default Value Constant**:

%DATE



Case doesn't matter. Also keep in mind that you may want to display a default date constant, even if the value won't display on a page. For example, you might want to add a Date field as a listbox item on a search record that's used to retrieve a specific row of data.

### Auto Update

Check this to have the field updated with the server's current date and time whenever a user creates or updates a row. Any user entries—even if permitted on a page—will be overwritten by the server time.

## Time Field Use

The image shows the 'Record Field Properties' dialog box with the 'Use' tab selected. The 'Field Name' is 'END\_TIME'. The 'Keys' section includes checkboxes for 'Key', 'Duplicate Order Key', 'Alternate Search Key', 'Descending Key', 'Search Key', 'List Box Item', 'From Search Field', 'Through Search Field', and 'Default Search Field'. The 'Audit' section includes checkboxes for 'Field Add', 'Field Change', 'Field Delete', 'System Maintained', and 'Auto-Update'. The 'Record Field Label ID' is set to 'Use Default Label'. The 'Default Value' section has fields for 'Constant', 'Record Name', and 'Field Name'. The 'Default Page Control' is set to 'System Default'. The 'Time Zone' section has a checkbox for 'Specified Time Zone' and a 'Time Zone Control Field'. The 'Related Date' section has a 'Date Control Field'.

Time Field Use Properties in a Record

To define how a time field will be used

1. Specify the Keys, Auditing Field Use, System Maintained, Record Field Label ID, Assigning Default Values, and Default Page Control, and Auto Update.

Typically, you'll want to make a Date Field a Descending Keys so that the row with the latest and most current Time is displayed first.

2. Specify the Time Zone and Date Control Field.



Specified Time Zone, Time Zone Control Field, Date Control Field are only activated if the current field is a Time or DateTime field. They determine whether the field is displayed or entered in a specified time zone.

**Specified Time Zone**

Times are always stored in a database base time zone. But when you place a time field on a page, you can choose whether to display the time in the base time zone or another time zone.

If you leave **Specified Time Zone** unchecked, the time displays in the database base time zone. If you have users in multiple time zones, you can reduce confusion by showing the time zone along with the time.

If you select **Specified Time Zone**, the system converts the time according to the time zone specified in the **Time Zone Control Field**. This control field must be a field on the current record. Be sure to set an appropriate default value for the Time Zone Control Field.

**Date Control Field**

Select which related date field on the current record is used to store the calendar date, to which this field should be adjusted, from drop-down list.



For more information, see Understanding Time Zones in Globalization.

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## Datetime Field Use

Datetime Field Use Properties in a Record

To define how a datetime field will be used

1. Specify the Keys, Auditing Field Use, System Maintained, Record Field Label ID, Assigning Default Values, and Default Page Control, and Auto Update.

Typically, you'll want to make a Date Field a Descending Keys so that the row with the latest and most current Time is displayed first.

2. Specify the Zone and Date Control Field.

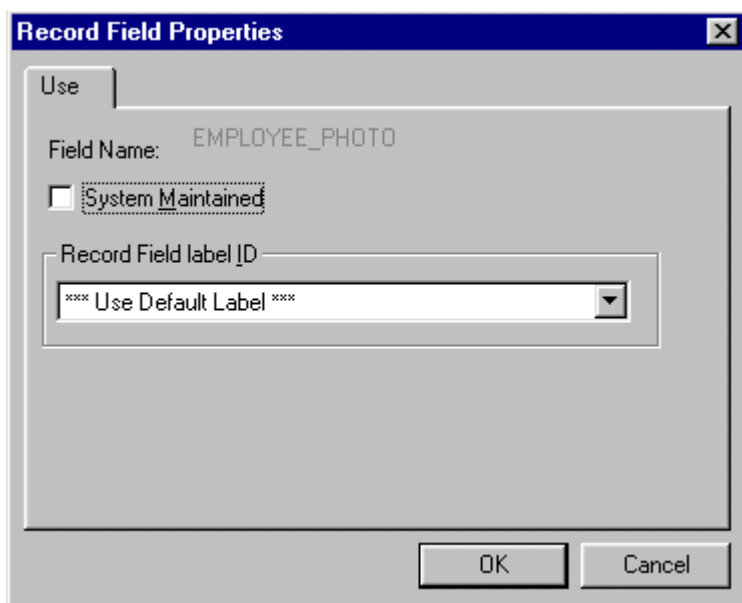


For more information, see Understanding Time Zones in Globalization.

## Image Field Use

You use this field for storing images in a user defined format, such as bitmap (BMP) or Postscript (EPS). Image fields cannot be changed by the developer at runtime.





Field Use Properties in a Record



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**Note:** Application Images can only be updated using the Windows Client.

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To define how an image field will be used

1. Specify the System Maintained attribute and the Record Field Label ID.



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For more information on image fields, image definitions, and image controls, see [Creating Image Definitions](#).

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## ImageReference Field Use

Use this field when you want to change an image dynamically at runtime with PeopleCode.



**Record Field Properties**

Use

Field Name: MYIMAGE\_2

**Keys**

- ☐ Key
- ☐ Duplicate Order Key
- ☐ Alternate Search Key
- ☐ Descending Key
- ☐ Search Key
- ☐ List Box Item
- ☐ From Search Field
- ☐ Through Search Field
- ☐ Default Search Field

**Audit**

- ☐ Field Add
- ☐ Field Change
- ☐ Field Delete
- ☐ System Maintained
- ☐ Auto-Update

Record Field label ID: Use Default Label

Default Value:

Constant:

or

Record Name:

Field Name:

Default Page Control: Image

OK Cancel

ImageReference Field Use Properties

## Using the ImageReference Field

If you want to associate an image definition with a record field at runtime, you need to use an ImageReference type field. An example of this is if you needed to reference a red, yellow, or green light on a page dynamically, depending on the context or changing value of another field.



For more information see Using the ImageReference Field in PeopleCode.

To change the image value of a ImageReference field

1. Create an ImageReference type field.
2. Select the image definition you want to use.



3. Add the ImageReference field to a record that will be accessed by the page.
4. Add an image control to the page and associate the image control with the ImageReference field.
5. Assign the field value.

Use the keyword **Image** to assign a value. For example:

```
Local Record &MyRec;
```

```
Global Number &MyResult;
```

```
&MyRec = GetRecord();
```

```
If &MyResult Then
```

```
&MyRec.MyImageField.Value = Image.THUMBSUP;
```

Else

```
&MyRec.MyImageField.Value = Image.THUMBSDOWN;
```

End-If;



For more information on image fields, image definitions, and image controls, see [Creating Image Definitions](#).

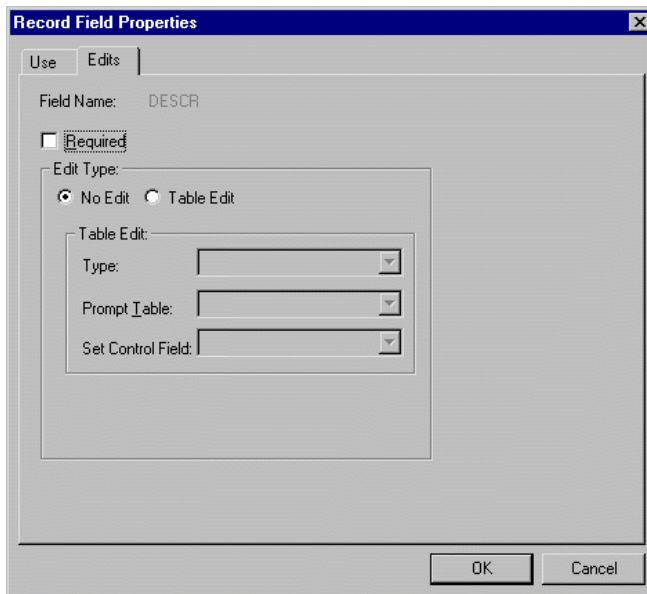
## Edits Tab

The Edits tab allows you to specify whether the system is to perform special edits or validations on a record field. You also name the record definition for the prompt table that stores valid values.

## Character Field Edits

The Character Record Field Properties Edits tab lets you specify the record definition for a prompt table that stores valid values and indicate if and how you want the values edited as they're entered.





Character Field Edits in a Record

To set character field edits in a record

### 1. Specify Required and Edit Type.

#### Required

Check this if you don't want users to skip a field or leave it blank. Users will not be able to save their work until they complete all the required fields on a page.

#### Edit Type

In the Edit Type group box, select the type of edit that applies to this field:

#### No Edit

Does not edit the contents of this field on any table. The default is **No Edit**, which grays out any options in the **Table Edit** group box.

#### Table Edit

Edits the contents of the field against the *values* maintained in the specified table. When you select **Table Edit**, the system activates the **Type** field in the **Table Edit** group box.

#### Table Edit

In the Table Edit group box, choose one of the following types of tables:

#### Prompt Table with No Edit

Provides users with a list of suggested values, but does not edit the contents of the field against the Prompt Table. Users can enter any value. Selecting this option activates the Prompt Table field.



<b>Prompt Table Edit</b>	Edits the contents of the field against the values maintained in the specified Prompt Table. Selecting this option activates the Prompt Table field. When you enter a Prompt Table name and tab out of the field, Set Control Field is also activated.
<b>Translate Table Edit</b>	Edits the contents of the field against the Translate Table. The Translate Table is a table that stores values for fields that need to be validated but don't need individual tables of their own. If you select this option, Prompt Table and Set Control Field are grayed out.
<b>Yes/No Table Edit</b>	Makes the only valid values for this field Y for Yes and N for No. If you select this option, Prompt Table and Set Control Field are grayed out.



**Note.** If you add a field (other than with the Paste action) to a record and the field name is already defined on the database with previously defined translate values, the system automatically selects Table Edit and chooses Translate Table Edit as the table Type. For both Translate edit and Yes/No edit, we recommend you follow our design standards, and check Required and specify a default value for the field in the **Record Field Properties** dialog box.

<b>Prompt Table</b>	Enter the name of the record definition you want to use as the Prompt Table for this field.
---------------------	---

### Using Variable Prompt Tables

If you want the Prompt Table to vary depending on the context of the field, you'll need to indicate a field on the derived/work record DERIVED, which will contain the name of the prompt table at runtime. A derived/work record definition is a temporary "work" record which you can use to group fields for which the values are not stored anywhere on the database because they vary as the result of calculations or manipulation of data on other fields. To specify a variable prompt table, you'll first need to add a field (if it doesn't already exist) to the DERIVED record definition. Then in the Prompt Table field enter:

```
%FieldName
```

The % is required, and indicates that you're referencing a derived/work record definition named DERIVED. *FieldName* is the name of the field on that DERIVED record definition.



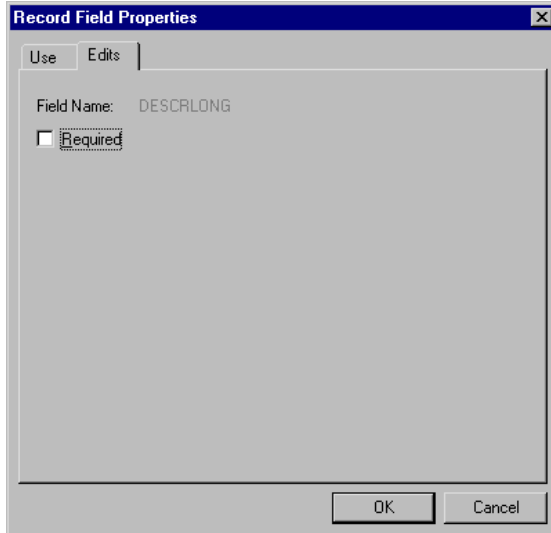
When designing your page, you can only reference a field on a derived/work record using an edit box page control. It will not work with drop-down list boxes.



## Set Control Field

Select a Set Control Field that overrides the Set Control Field of the record definition specified in Prompt Table. If you don't specify a name in this field, it defaults to the Set Control Field of the record definition specified in Prompt Table.

## Long Character Field Edits

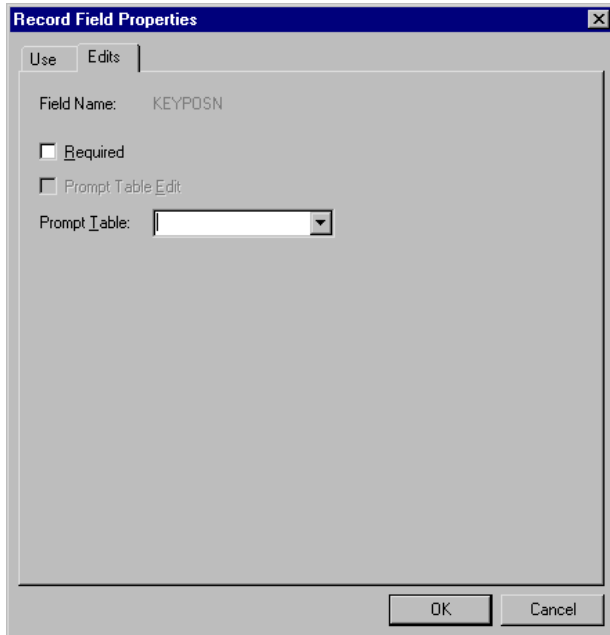


Long Character Field Edits in a Record

Check **Required** if you don't want users to skip the field or leave it blank.



## Number Field Edits



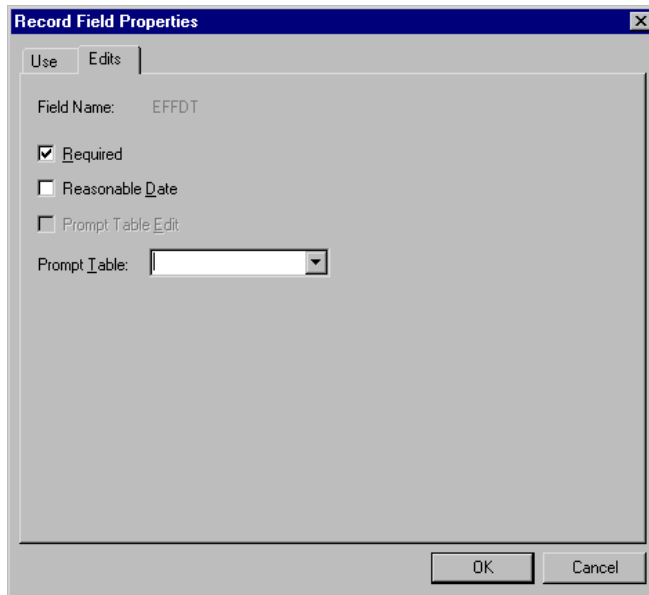
### Number Field Edits in a Record

To define how a number field will be edited

1. Check the Required or Prompt Table Edit box, as appropriate.



## Date Field Edits



Date Field Edits in a Record

To define how a number field will be edited

1. Check the Required and Reasonable Date.

### Reasonable Date

Check this if you want the system to test the field value and see if it is within 30 days of the current date. If the date is out of range, a warning message displays when the user tabs out of the field.

2. Specify Prompt Table Edit and Prompt Table, if appropriate.

## Time Field Edits

See Date Field Edits.

## Datetime Field Edits

See Date Field Edits.

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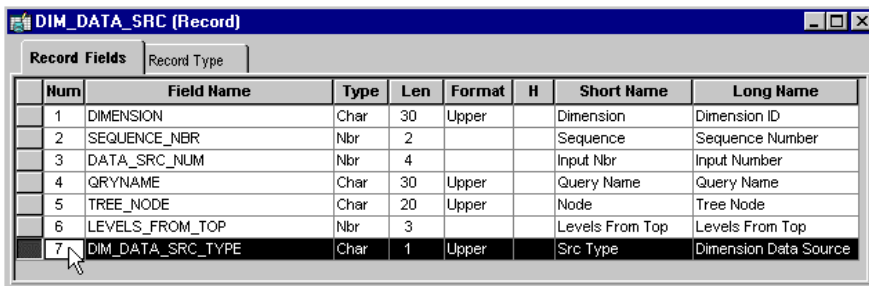
## Moving Fields within Same Record

You can actually move fields within a record by selecting a field and dragging it to another place in the open record definition. In addition, the visible ordering of fields can be changed by clicking on any of the grid headings.



To move a field within the same record definition.

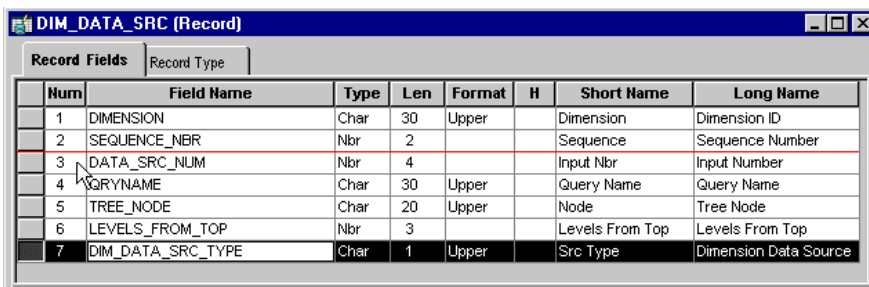
1. Highlight the field you want to move.



Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	DIMENSION	Char	30	Upper		Dimension	Dimension ID
2	SEQUENCE_NBR	Nbr	2			Sequence	Sequence Number
3	DATA_SRC_NUM	Nbr	4			Input Nbr	Input Number
4	QRYNAME	Char	30	Upper		Query Name	Query Name
5	TREE_NODE	Char	20	Upper		Node	Tree Node
6	LEVELS_FROM_TOP	Nbr	3			Levels From Top	Levels From Top
7	DIM_DATA_SRC_TYPE	Char	1	Upper		Src Type	Dimension Data Source

Highlighting Field to be Moved

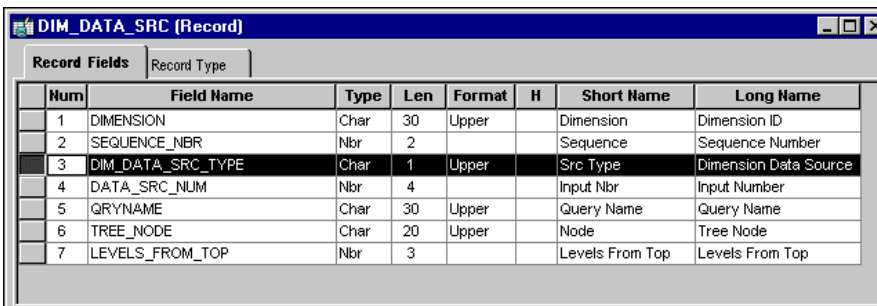
2. Hold your mouse button down on the selected field number and move it to the new position you want it to be in the record definition window.



Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	DIMENSION	Char	30	Upper		Dimension	Dimension ID
2	SEQUENCE_NBR	Nbr	2			Sequence	Sequence Number
3	DATA_SRC_NUM	Nbr	4			Input Nbr	Input Number
4	QRYNAME	Char	30	Upper		Query Name	Query Name
5	TREE_NODE	Char	20	Upper		Node	Tree Node
6	LEVELS_FROM_TOP	Nbr	3			Levels From Top	Levels From Top
7	DIM_DATA_SRC_TYPE	Char	1	Upper		Src Type	Dimension Data Source

Moving Field to new Position

3. The record window automatically re-numbers the fields in the new order.



Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	DIMENSION	Char	30	Upper		Dimension	Dimension ID
2	SEQUENCE_NBR	Nbr	2			Sequence	Sequence Number
3	DIM_DATA_SRC_TYPE	Char	1	Upper		Src Type	Dimension Data Source
4	DATA_SRC_NUM	Nbr	4			Input Nbr	Input Number
5	QRYNAME	Char	30	Upper		Query Name	Query Name
6	TREE_NODE	Char	20	Upper		Node	Tree Node
7	LEVELS_FROM_TOP	Nbr	3			Levels From Top	Levels From Top

Re-numbered Field in New Position

You can always undo the field move by selecting **Edit, Undo**.



**Note** that the fields are not re-ordered on the actual table, just in the visible display of the record definition.

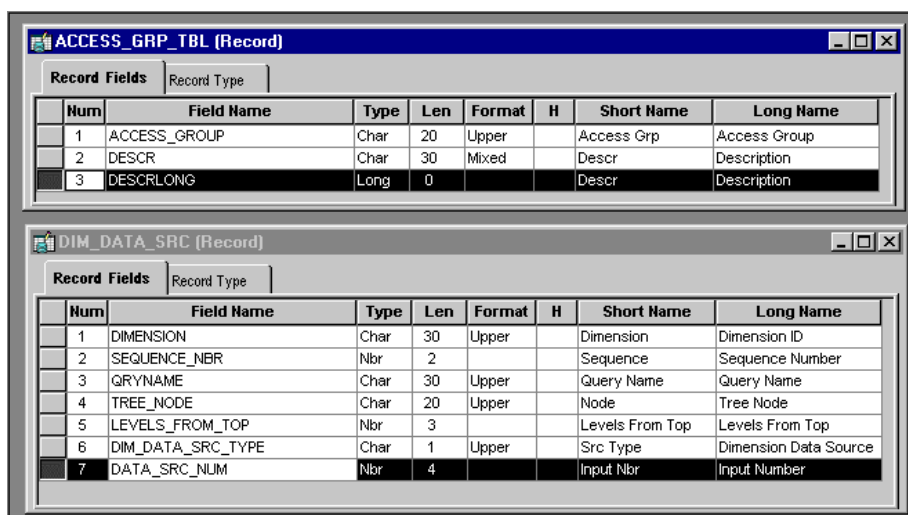


## Moving Fields to Another Record Definition

In order to move fields from one record definition to another, you can cut and paste the fields. You can also drag and drop a field from the Project Workspace onto a record definition in the Object Workspace, or between open record definitions.

To move a field from one record definition to another

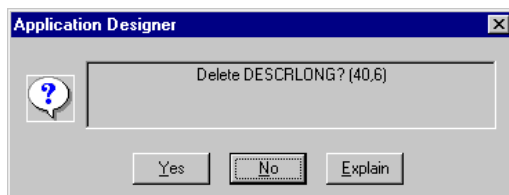
1. Open the two records you want to move the field between.



Two Record Definitions Open in Object Workspace

2. Select the field you want to move.
3. Select **Edit, Cut** or press **Ctrl-X**, to cut the field.

You will need to answer the following dialog, asking if you really want to delete the selected field.



Delete Dialog

If this is the correct field to cut from the record, press **Yes**.



4. Select the position in the destination record where you want the field to be added.

**ACCESS\_GRP\_TBL (Record)**

Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	ACCESS_GROUP	Char	20	Upper		Access Grp	Access Group
2	DESCR	Char	30	Mixed		Descr	Description

**DIM\_DATA\_SRC (Record)**

Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	DIMENSION	Char	30	Upper		Dimension	Dimension ID
2	SEQUENCE_NBR	Nbr	2			Sequence	Sequence Number
3	QRYNAME	Char	30	Upper		Query Name	Query Name
4	TREE_NODE	Char	20	Upper		Node	Tree Node
5	LEVELS_FROM_TOP	Nbr	3			Levels From Top	Levels From Top
6	DIM_DATA_SRC_TYPE	Char	1	Upper		Src Type	Dimension Data Source
7	DATA_SRC_NUM	Nbr	4			Input Nbr	Input Number

Selected Placement for New Field

5. Select **Edit, Paste**, or press **Ctrl-V**, to paste field into new record definition.

**ACCESS\_GRP\_TBL (Record)**

Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	ACCESS_GROUP	Char	20	Upper		Access Grp	Access Group
2	DESCR	Char	30	Mixed		Descr	Description

**DIM\_DATA\_SRC (Record)**

Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	DIMENSION	Char	30	Upper		Dimension	Dimension ID
2	SEQUENCE_NBR	Nbr	2			Sequence	Sequence Number
3	QRYNAME	Char	30	Upper		Query Name	Query Name
4	TREE_NODE	Char	20	Upper		Node	Tree Node
5	LEVELS_FROM_TOP	Nbr	3			Levels From Top	Levels From Top
6	DIM_DATA_SRC_TYPE	Char	1	Upper		Src Type	Dimension Data Source
7	DATA_SRC_NUM	Nbr	4			Input Nbr	Input Number
8	DESCRLONG	Long	0			Descr	Description

New Field Pasted in New Record



**Note:** PeopleCode associated with fields are not carried over with clip and paste operations. The same is true for delete and undo with field deletions within records. RecordField attributes, such as key, search key, and so on, *are* retained.



## Dragging and Dropping Multiple Selections

Single and multiple field selections can also be copied from one record definition to another by dragging and dropping.

### *Multiple Selections*

Multiple selection of fields in a record can be done by using a variety of methods:

- Holding the Shift key and using the Up and Down arrow to select a consecutive range of fields.
- Clicking on a field in a record, holding the Shift key, and then clicking another field to include in a range.
- Clicking on a field, holding the CTRL key, then clicking on another field, and so on.
- Clicking on a field, leaving the mouse button down, then dragging the mouse up or down to create a selected range of fields.

Once you have a multiple selection of fields, they can be clipped, cut, deleted, or pasted. Multiple selections can be dragged and dropped onto other parts of a record, as well as onto a new record. This can be a very quick way of cloning or creating similar records.

Multiple selections can also be dropped directly from a record onto a page definition, to be laid out later.



The only exception for multiple selection are subrecord fields. They are exempt.

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## Deleting a Field from a Record Definition

To delete a field from a record definition

1. Highlight the field you want to remove and press the DEL (Delete) key, or right-click the field in the Object Workspace and select **Delete**.

This deletes the field completely and doesn't copy it to the clipboard. Unlike a Cut operation, which **does** copy to the clipboard.

2. When the system prompts you to confirm the deletion, click **Yes**.

If you've already SQL Created the underlying table for the record definition from which you are deleting the field, you'll need to recreate the table, or use the SQL Alter function to alter the table.

Remember, if you delete a field from a record definition, you also need to delete it from any pages where it appears. When you delete a field, the system doesn't automatically delete references to the field in PeopleCode, so you'll need to do this manually. To find out where



the field is referenced in PeopleCode, you can use **Find Object References** to see where it is referenced directly. You can also reference the following two reports:

- Fields and Records (XRFFLRC) shows which records contain the field.
- Fields Referenced by PeopleCode Programs (XRFFLPC) shows any PeopleCode that refers to the field on the record.

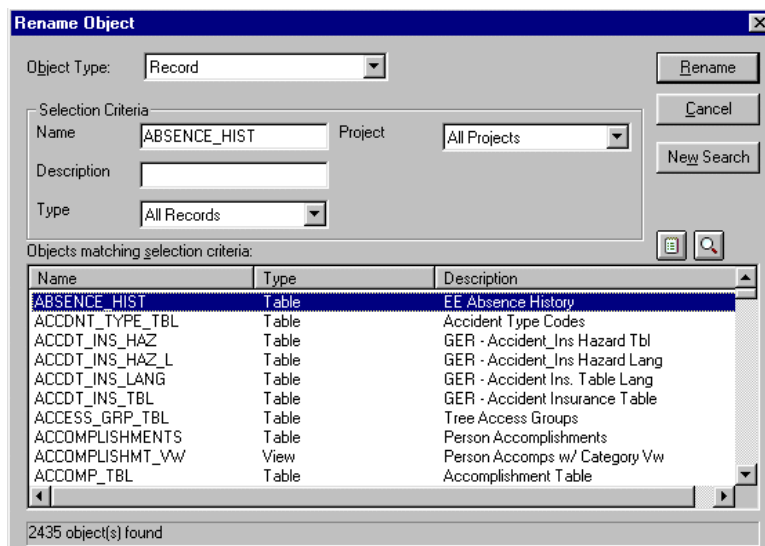
You'll need to modify or remove PeopleCode when you find any references to the deleted field.

## Renaming a Record Definition

To rename a record definition

1. Select File, Rename.

The **Rename Object** dialog displays.



Rename Object Dialog

2. Select Record from Object Type and click Rename.
3. Highlight the record and click **Rename** or double-click on the record. A rectangular box appears around the name.

Type the new name and press ENTER. When you rename a record definition, the system automatically renames all references to it in PeopleCode except in the text portion of SQL functions, such as SQLExec and Select.



You also need to manually change record names in the viewtext as well. To find the text portion of SQL functions in PeopleCode, or record names in viewtext, use **Edit, Find In** to search for the matching text.

If you have already SQL Created the underlying tables for the record definition you renamed, you'll need to recreate that table. If you have data in the tables you want to preserve, you should use the SQL Alter function to rename the data base tables.

---

## Deleting Record Definitions

To delete a record definition

1. Select **File, Delete**.
2. Highlight the record definition to delete and click **Delete** or double click.



When you delete a record definition the system automatically deletes any PeopleCode associated with the record.

3. Click **Yes** if you really want to delete the record definition.



**Note.** Notify your database administrator which record definition you deleted, so they can drop the underlying SQL table and its contents from the database.

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## Printing Record Definitions

You can print your record definitions as reference identifying all the fields and their various attributes—any special use, edits, or PeopleCode you've applied.

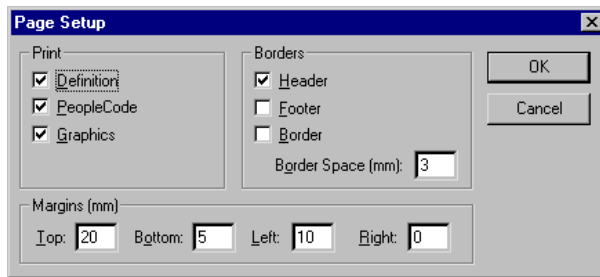
In order to print a record definition, you need to have it open in the Object Workspace.

To Print a Record Definition

1. Select **File, Page Setup**, if you want to change any of the Print Record defaults.

The system retains your changes until you reset them again. The **Page Setup** dialog displays.





Page Setup Dialog

2. Select the options for print.

**Definition**

Prints a picture of what the definition looks like.

**PeopleCode**

Check this if you want the report to include a listing of any PeopleCode programs attached to each field, identifying the program type and listing all the PeopleCode statements. The default is on.

**Graphics**

Not used for Record definition printing.

**Margins(mm)**

Sets the distance from the edge of the page (in millimeters) to the Left, Right, Top, and bottom edges of the page image or report. The defaults are: Top 20, Bottom 5, Left 5, and Right 0.

**Header**

Prints a header at the top of the report indicating the date and time you printed the report, database name, record name, version number, and page number. The default is on.

**Footer**


Prints a footer at the bottom of the report indicating the date and time you printed the report, database name, record name, version number, and page number. The default is off.

**Border**

Prints a border or box around a record definition report. To print reports faster, leave the Border check box turned off. This means the printer can print the report in character mode rather than in graphics mode. The default is off.

**Border Space(mm)**

Inserts a set amount of space between a graphical boarder around the record definition report and the margins of the report. The default is 3.

3. Click **OK** when you are done to close the **Print Setup** dialog and save your settings.
4. Select **File, Print**, click the toolbar print icon , or press **Ctrl-P** to print.



## Record Definition Report

The following table shows the list of the columns on the record definition report and their contents:

<b>Column</b>	<b>Contents</b>
Field Name	The name of the field.
Type	The field type.
Length	The length of the field (not specified for Long Character fields).
Format	The field format.
Long Name	The 30-character name of the field.
Short Name	The 15-character name of the field.
Key	Identifies any key attributes (characters defined by position).
Req	Yes indicates the field is Required.
TblEdt	Prompt indicates field values are edited against a specified prompt table. Y/N    Field uses the Yes/No Table. Xlat    Field has values on the Translate Table. Values (if printed) are listed below the field.
AU	Yes indicates the Auto-Update option is on.
Dt	Yes indicates the Reasonable date option is on.
PC	Yes indicates the field has PeopleCode. PeopleCode text (if printed) appears below the field.
Aud	Yes indicates the field audit flag is turned on. A      Audit add C      Audit change D      Audit delete
Prompt Table	Name of the prompt table, if any.
Default Value	Displays any default value or constant.

You may also see additional reference lines below each field or at the end of the report.

<b>Reference</b>	<b>Description</b>
SQL View	Shows the SQL View Select statement for view-type record definitions. This appears at the top of the report.



<b>Reference</b>	<b>Description</b>
System Maintained	Indicates the System Maintained check box is turned on. Because this option is for documentation purposes only—it doesn't really do anything—it doesn't warrant its own column heading.
DbField Help Context: <i>nnn</i>	Indicates the field has been assigned a field help context number to link it to a help file that describes how the field is used wherever it appears on the database.
RecField Help Context: <i>nnn</i>	Indicates the field has been assigned to a record field help context number to link it to a help file that describes how the field is used only as it appears on this record definition.
Audit Record	Identifies any user-defined audit record. Lists the audit record name and the type of audit.
Set Control Field	Identifies any set control field designated for the record definition
Related Language Record	Identifies any related language record designated for the record definition.
Query Security Record	Identifies views used to restrict Query access to data stored in the table.
Parent Record Name	Identifies the hierarchical relationship of the record for Query reporting.

Printing records with subrecords takes into account if the record is being displayed as expanded or collapsed. If the record view is expanded, the subrecords fields are indented to the appropriate level of nesting.

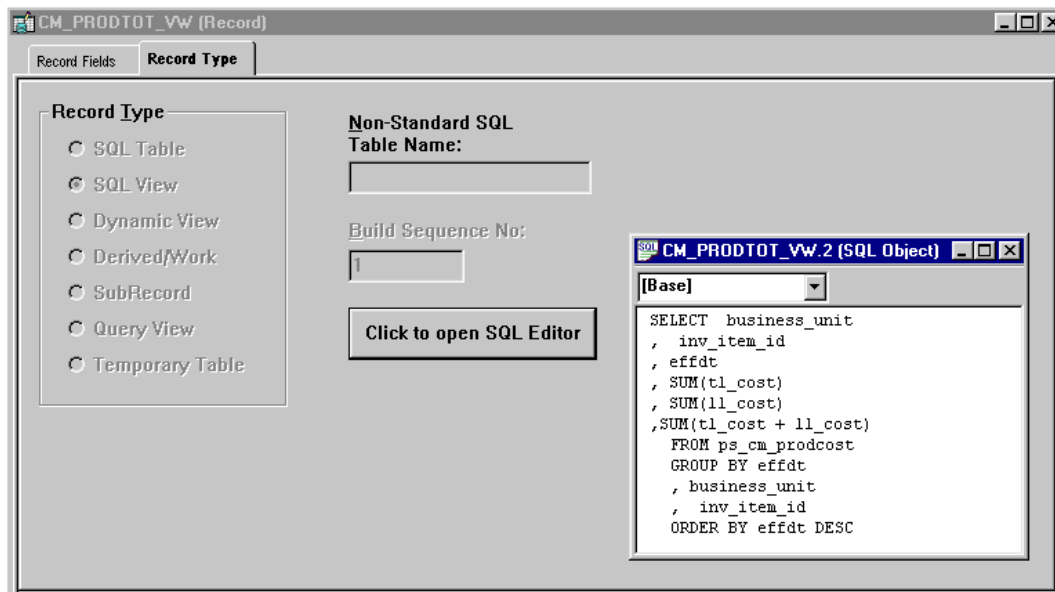
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## Creating SQL View and Dynamic View Select Statements

If you are creating a SQL View or Dynamic View record definition, you'll need to enter a **SQL View Select Statement**, to indicate what field values you want to join from which tables. The only difference between the standard View and Dynamic View is that the Dynamic View is not defined as a view to the data base—it is stored on the client and executed as a select at run time. Dynamic Views avoid some constraints on Views on some platforms.

When the SQL VIEW or DYNAMIC VIEW is selected, the Push Button **Click to open SQL Editor** is enabled. You can open the SQL Editor by clicking the push button. The View Text is saved when the record is saved, by using **File, Save** or clicking the **Save** Tool Bar button. The record must be saved first, prior to opening the SQL Editor.





SQL View Select Statement of Record

The **Build Sequence No** edit box enables you to set the order in which the dynamic view is to be created. The default is set to 1 when the record/view is initially created. Views that you need to have created first can be set to 0, while views that you want created last can be set to 1 or greater. The Build Sequence Number is stored along with the other details of the record/view in your database.



For more information see View Dependencies in Building SQL Tables and Views.



The order of the columns in the Select statement must be identical to the field order in the corresponding record definition. Also, only certain types of meta-SQL statements can be used in ViewText. For more information see Meta-SQL (chapter in PeopleCode.)

## Non-Standard SQL Table Name

**Non-standard SQL Table Name**, is provided to let you override the standard PeopleTools convention of pre-pending “PS\_” to the record name when dealing with a corresponding table in the database.

The criteria is:

- If a “Non-Standard SQL Table Name” is specified, PeopleTools will use the non-standard SQL Table Name when referencing the table (as in, any SQL statements will use the non-standard table name).
- If a “Non-Standard SQL Table Name” is not specified, PeopleTools will pre-pend “PS\_” to the



record name when referencing the table (as in, it will work the way it has always worked).

We turn on **Non-Standard SQL Table Name** for all the PeopleTools system tables, as in PSRECDEFN, PSDBFIELD, and so on. This feature is also useful for creating a record definition for external (non-PeopleSoft) tables.

For example, let's say you want to create a page so you can view data in a SERVICE\_REQUEST table that is part of an external software product. You would:

- Define a record to represent the external table (as in, "EXT\_SRVREQ").
- Enter a Non-Standard SQL Table Name of "SERVICE REQUEST" for the EXT\_SRVREQ record.

Your pages would then reference EXT\_SRVREQ and any SQL (Create Table, Alter Table, SQLExec, View Text) would reference the actual table name, SERVICE\_REQUEST.

## Introduction to Records

One of the first things you need to consider as a system designer is how you want to store, retrieve, manipulate, and process data stored in tables within your application database. The Application Designer creates and modifies record definitions—the design specifications that determine the structure of your application data tables and online processing for your PeopleSoft application—all without changing source code.

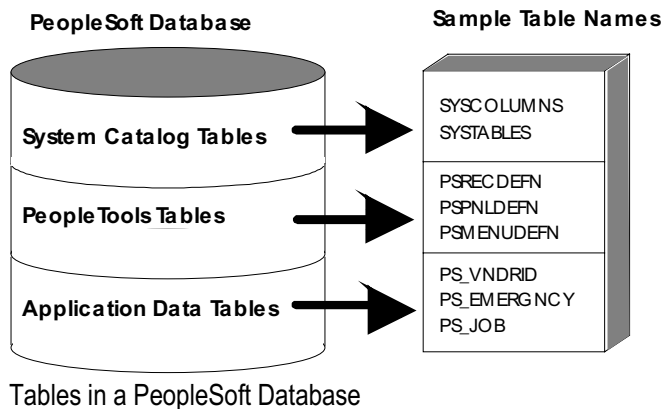
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### A Table-Based System

PeopleTools-based applications are table-based systems. A database for a PeopleTools application contains three major sets of tables:

- *System Catalog* Tables store physical attributes of tables and views, which your database management system uses to optimize performance.
- PeopleTools Tables contain information that you define using PeopleTools.
- Application Data Tables house the actual data your users will enter and access through PeopleSoft application windows and Pages





Much like a spreadsheet, each of these tables is made up of columns and rows. Columns define the structure of how data will be stored. Rows represent the actual data stored in the database.

Every time you create a new object using PeopleTools, the system inserts rows of data into various PeopleTools tables. The entries in these tables determine the online processing of the system, as well as what happens during imports. PeopleSoft maintains the structure of these tables. You maintain data in the PeopleTools tables related to objects you create or customize using PeopleTools. The PeopleTools tables can be most easily viewed in the PPLTOOLS project using the Application Designer.

To create the application data tables that will store the rows of data your *users* will manipulate, you first need to create a record definition, which determines the structure of the table and the characteristics of the fields—as well as any online processing you want to occur behind the scenes when a user enters data. You then apply the SQL Create option to build the SQL table where your application data will reside based on a subset of parameters in your record definition. During this process, the system automatically gives the application data table the same name as your record definition, prefaced with *PS\_*.

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## Normalized Relational Databases

To better understand the structure of your PeopleSoft system, you should be familiar with the concept of a normalized relational database. A *normalized* table adheres to certain standards designed to improve the productivity of the database user. Normalization makes the database much more flexible, allowing data to be combined in many different ways.

The standards for a normalized database are called *forms*, such as *first normal form*, *second normal form*, and so on.

### First Normal Form

The *first normal form* requires that a table contain no repeating groups of non-key fields—or in COBOLese, no “occurs” fields. In other words, when you’re setting up a record definition, if you encounter a field that could have multiple occurrences, you should put that field in a separate record subordinate to the primary record definition (a child record.) This allows unlimited occurrences of a repeating field rather than a specified number. Each row of data is uniquely



identified by a primary key, which can be a single field or a group of fields that, when concatenated together, form a unique key.

For example, look at the record definition structure of the tables we use to schedule exam times for different locations on our training database. Here are the necessary fields, in order of importance:

LOCATION

EXAM\_DT

EXAM\_TIME

You know that you will have multiple exam dates and times per location. Here's how you could set up record definitions to accommodate this data.

<b>Record Definition</b>	<b>Field</b>	<b>Key?</b>
LOCATION	LOCATION	Yes
EXAM	LOCATION	Yes
	EXAM_DT	Yes
EXAM_TIME	LOCATION	Yes
	EXAM_DT	Yes
	EXAM_TIME	Yes

Because multiple exam dates per location may exist, we added exam dates to the second record definition, the child record, subordinate to the first, the parent record. Similarly, since there can be multiple exam times per date, exam times are located on a third record definition, subordinate to the second.

## Second Normal Form

The *second normal form* dictates that every non-key field in a table must be completely dependent on the primary key. So if you have two fields that make up the key to a table, every non-key field must be dependent on both keys together. For example, if a table has employee ID and Department ID as keys, you wouldn't put Department Name on the table because Department Name is dependent only on Department ID and not on Employee ID.

## Third Normal Form

The *third normal form* is a corollary to the second; it requires that a non-key field not be dependent on another non-key field. For example, if a table is keyed by employee ID, and Department ID is a non-key field on the table, you wouldn't put Department Name on the record because Department Name is dependent on a non-key field (Department ID). This is why Department Name would be found only on the table keyed by Department ID, not on any other that contains Department ID.



With the third normal form, you store shared fields on tables of their own and then reference them elsewhere. For example, you wouldn't put Department Name in every record definition where Department ID appears. Instead, you would create a prompt table of Department IDs and Department Names. Similarly, you would create a prompt table of job codes and job titles instead of putting a job title in every employee's record.



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When designing record definitions, adherence to the third normal form is recommended to increase flexibility and reduce data redundancy.

---

## Planning Record Definitions

Before you begin to create record definitions, you should have a clear picture of how you plan to use the record definition, the fields it will contain, any special edits you would like to see performed on the record definition or specific fields within the definition.

Keep in mind that you are actually defining two layers of information:

- Record level
- Field level

At the record level, you determine the ultimate purpose of the record definition and how it will be used in the system. Is it destined to define an underlying SQL table to hold data? Are you building a view to join or retrieve information from other tables? Do you need a temporary work record where you can store derived data?

You can audit record level changes, as opposed to individual fields contained within the record definition—an efficient alternative if you plan to audit several fields. More sophisticated use of record definitions, such as sharing information in table sets and multi-language controls, are also established at the record level.

The field level is where you get down into the details of what types of fields you plan to add. Should they be character fields or number fields? Should automatic formatting be used? What do you want to be the keys to the data stored in the database? Which fields should you audit? Do you want to specify prompt tables so users can select from lists of valid values stored elsewhere in the database?

In most cases, if you are creating a record definition for a SQL Table, you won't have to worry about record level definitions for parameters and conditions. Unless you change how a record definition is used, the system automatically assumes you are defining a record definition for an underlying SQL Table.

## Understanding Control Tables

Control tables store information that control the processing of an application. This type of processing may be consistent throughout an organization, in which case the entire organization “shares” the same control information, or it may only be used by portions of the organization—for more limited sharing of data.



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## Sharing One Set of Common Values

The first, most obvious, type of sharing is to create one table that everyone shares—one to store common information that is valid for *all* users, such as a country table to store country codes or a department table to store department codes. Such control tables are ordinarily maintained centrally because the data is being shared throughout the entire organization.

---

## Sharing Common Values

What do you do if the codes stored in a table are valid only for *some* users? Take benefit plans for example. Typically, you would store information for benefits plans in a plan table. The problem is that not all plans are valid for all employees. It may depend on whether they are full time or part time, union or non-union. And then there's overlap. Some plans may be appropriate for all employees, others only for some. Yet from a relational database point of view, you don't want to define the same plan value—and associated data—more than once.

In this case, you can easily resolve the problem through the use of two tables. The first is the plan table, which stores the relevant data for each plan. The second table defines which plans are valid for various benefit “programs,” or groups of plans. For example one benefit program could be valid for non-union employees, another benefit program could contain the plans as negotiated with a union.

<b>Benefit Program Table</b>		<b>Benefit Plan Table</b>			
<b>Key</b>	<b>Valid Values</b>	<b>Key</b>	<b>Description</b>	<b>Field</b>	<b>Field</b>
Non-Union Program	Plan 1	Plan 1	Health	...	...
	Plan 2	Plan 2	Life	...	...
Union Program	Plan 2	Plan 3	Savings	...	...
	Plan 3	Plan 4	Health-Union	...	...
	Plan 4				

Again, these tables are ordinarily centrally maintained, because the data is being shared by various groups in the organization.

---

## Sharing Multiple Sets of Values

Now let's go to the opposite extreme—where *none* of the information is valid for all users. A likely scenario: a multi-company organization that needs to store completely different sets of accounting codes for its various operating entities, where the data for these accounting codes is maintained in a set of relevant control tables. In this case, the actual data values differ, but the structure of the control tables remain the same. PeopleTools enables you to share sets of values in a control table through *TableSets*.



## Understanding TableSets

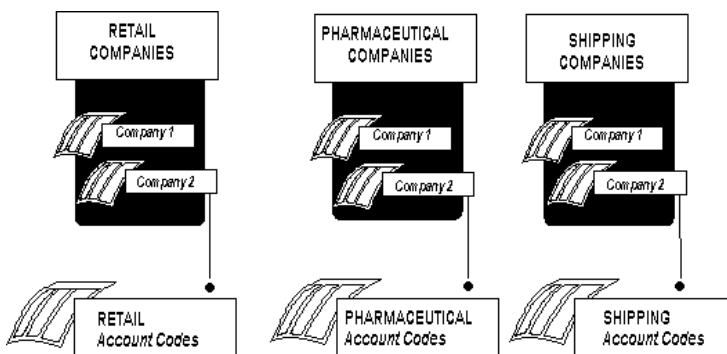
In cases where *none* of the information stored in control tables is valid for all users, but the structure of these common tables are the same, you'll want to set up a means to share multiple sets of values. An example might be a multi-company organization that needs to store completely different sets of accounting codes for its various operating entities, where the data for these accounting codes is maintained in a set of relevant control tables. In this case, the actual data values differ, but the structure of the control tables remain the same. PeopleTools enables you to share sets of values in a control table through TableSets.

To give you a better idea of what TableSets are and how they work, let's take a look at an organization that has two retail stores with common accounting codes, two pharmaceutical firms with another set of accounting codes, and two shipping firms with yet another set of codes.



Maintaining Multiple Account Codes for Multiple Companies

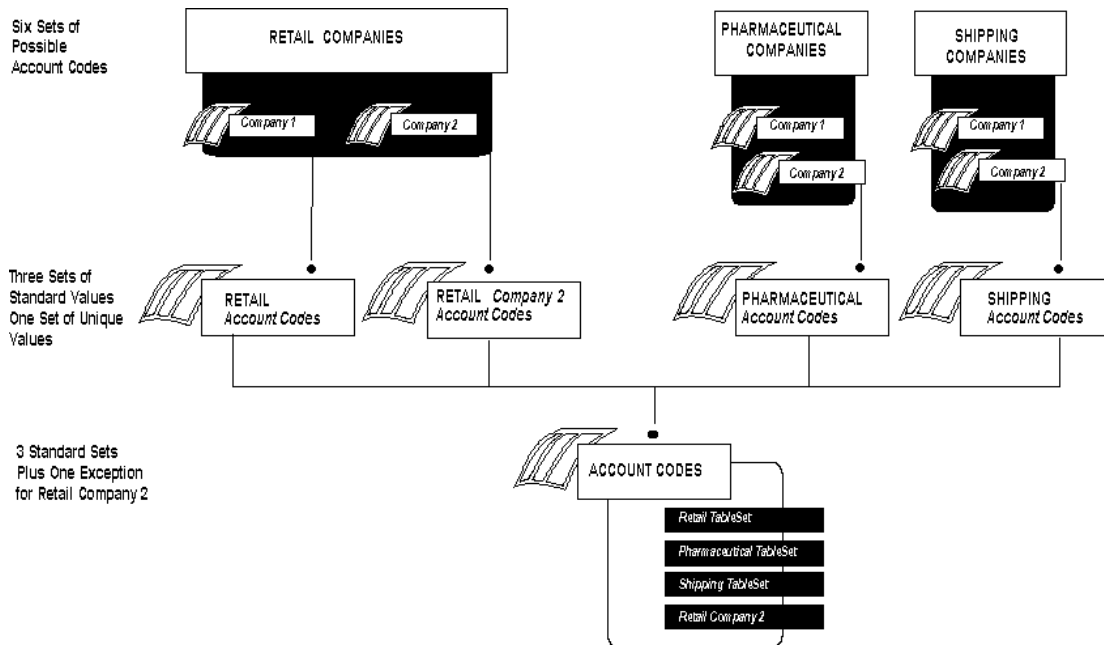
Presuming that each of these companies had completely different accounting codes, you could condone establishing six different sets of account codes to be maintained by each of these different companies. Alternatively, if they all had exactly the same accounting codes, you could limit them to one set of values. But the reality is usually somewhere in between. One set of account codes for each type of business: retail, pharmaceutical, and shipping. Rather than have six different companies maintaining separate copies of this common data, you want to reduce the number to three sets.



Sharing Multiple Account Codes Among Companies

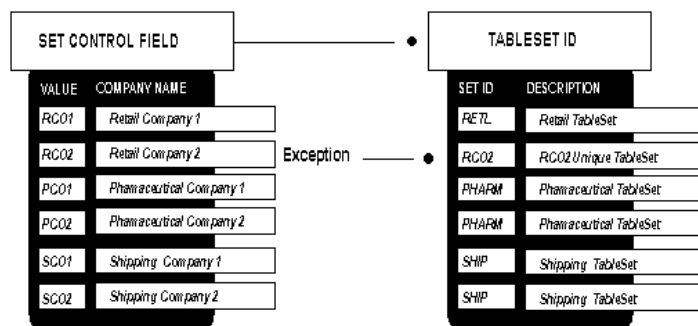
You also want to handle exceptions. Suppose that Retail Company 2, a recently acquired company, had its own unique set of account codes. A separate set of values should be maintained for this company as an exception to the Retail rule.





### Sharing Account Codes Among Companies with Exceptions

When you share tables in PeopleTools applications you simply add the field SETID as an additional key or unique identifier to the table you want to share. This key serves as a “Set ID” to identify the sets of information within the table that will be shared by multiple companies or business units under your corporate umbrella. You then specify a *Set Control Field*, which tells the system which field is to be used to map between the original key and the table sets. You can specify any field that logically identifies the table set. In this case, we’d most likely assign company as the set control.



### Linking Set Controls and Table Sets

## Sharing Groups of Record Definitions

While this example illustrates how you might share data values for a single table—Account Codes—in the real world you typically would share data stored in many tables, based on the same tablesets. To minimize the overhead of defining table sets, you can define *Record Groups* that share table data in a similar manner. For example, rather than use the tablesets you establish for



accounting codes solely for the Accounting Code Table, you would group all accounting-related tables in one record group.

---

## TableSets and PeopleSoft Applications

Some PeopleSoft applications are already set up to take full advantage of TableSets and table sharing. Throughout the PeopleSoft Financials and HRMS product line, you'll find TableSets used extensively, in most cases triggered by Business Unit.

As we continue to refine our application designs and explore new ways to incorporate sharing into our standard system designs, you can get involved as well, by discussing with your project teams which tables would most lend themselves to sharing within your organization.

---

## Steps for Sharing Tables

To share tables you need to both modify the record definition for the table you want to share as well as the one that contains the set control field. Using the online PeopleTools Utilities for TableSets, you define the terms or controls for sharing. Once you determine what you want to share and how, in the Application Designer, you'll:

- Add the SETID field to the record definition for that table as a key field.
- Define a Set Control Field as the field controlling the assignment of table sets.

Then go to the PeopleTools Utilities window to:

- Create Set IDs.
- Establish Set Controls that determine who uses which table set.
- Define Record Groups to identify the tables and any subordinate or child tables that will be affected.

For example, within our PeopleTools database we have three companies: one U.S.-based parent company, PST, and two sister companies: CCB in the United States and VNB in Canada. Within this organization, all the U.S.-based companies share one set of accounting codes, all the Canadian-based VNB companies another.

<b>USA Account Codes</b>	<b>Canadian Account Codes</b>	<b>Description</b>
123456789	123456789	Teller
987654321	987600000	Customer Service
CCB-4476-EXTSAL-USA	VNB-4476-EXTSAL-CDN	Extraordinary Salary Employees
CCB-4476-REGSAL-USA	VNB-4476-REGSAL-CDN	Regular Salary Employees



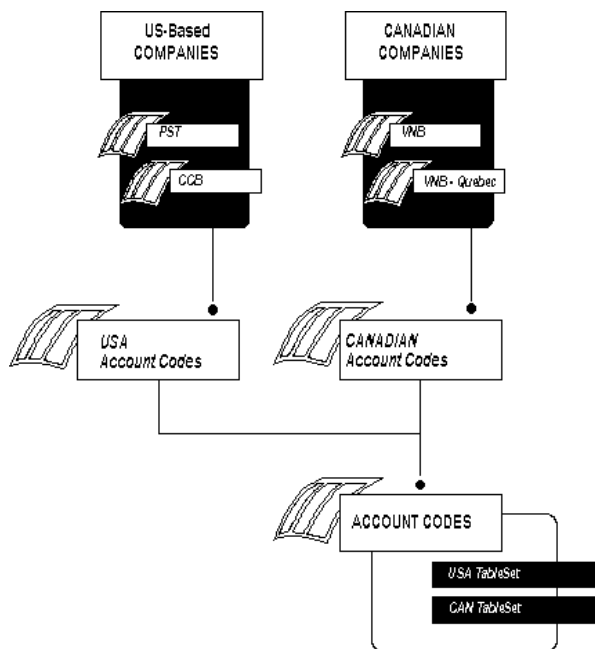
These two groups of companies need to be able to maintain parallel sets of accounting codes; and in some cases they want to have the same code, uniquely identified as for USA or Canadian companies.

Our job is to set up the Account Code table so that when users access that Page or prompt for valid values, they see only the values for their respective company—depending on whether they’re located in the United States or Canada.

To do this we’ll need to modify both the Account Code Table, which will be shared, and the Company table, the values of which (CCB, PST, VNB) control the Table sets used. We’ll then create two TableSet IDs:

USA For U.S.-based companies

CAN For Canadian-based companies



Tablesets and Set Control Fields

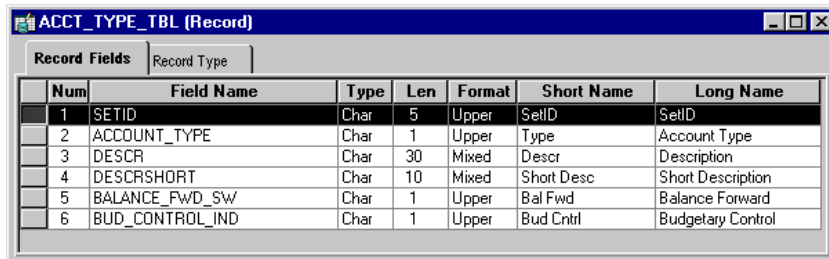
## Adding the Set ID field to Record Definitions

Open the record definition for the table you want to share. This is where you’ll add the Set ID as a high-level key that will uniquely identify each table set. Select **New, Field, Character**, and enter the special field PeopleTools provides for table sharing:

SETID

Set ID is a five-character field. Add it to the top of your record definition list, and define it as a required key, search and list item, with a prompt table edit against the PeopleTools SETID\_TBL.





Num	Field Name	Type	Len	Format	Short Name	Long Name
1	SETID	Char	5	Upper	SetID	SetID
2	ACCOUNT_TYPE	Char	1	Upper	Type	Account Type
3	DESCR	Char	30	Mixed	Descr	Description
4	DESCRSHORT	Char	10	Mixed	Short Desc	Short Description
5	BALANCE_FWD_SW	Char	1	Upper	Bal Fwd	Balance Forward
6	BUD_CONTROL_IND	Char	1	Upper	Bud Cntrl	Budgetary Control

Adding Set IDs to Record Definition

---

## Assigning Set Control Fields

If you plan to use the Table Sharing feature to add an additional high level key to identifying common sets of values and handling exception values, you'll enter a **Set Control Field**. The Set Control Field determines which set of values will be displayed, based on how you define table sharing.

Table Sharing is usually applied in multi-company environments, where you may want to share certain tables within some operating entities, while allowing others to retain control over the contents of their own. Use the feature to maintain a single table, in which you can store multiple sets of values to be used by different entities within your organization.

When you're creating a record definition that will be shared, you add the field Set ID as a high level key. The Set ID value is controlled by the key entered in the Set Control Field. These Set IDs identify groups of tables to be shared and give each business entity the ability to select whether they want to use the corporate wide table, or maintain their own. You enter the name of the key as your **Set Control Field** for each record definition that will be shared.

For example, if you have several companies within your organization, many of which share the same set of account codes, you would add a SET ID field to the Account Table record definition, on which you would enter Company as the Set Control Field. This will enable different companies to access the account values stored on the same Account Table. As each company defines its set controls, they have the option to use the shared Account Table, or maintain control of their own.

---

## Defining Set Control Fields

To determine which table set to use, you need to first identify the set control field.

To define the set control field

1. Select **Edit, Object Properties** from the menu bar and click the **Use** tab.



**Record Properties**

General Use

Set Control Field: BUSINESS\_UNIT

Record Relationships

Parent Record: ACCT\_CD\_TBL

Related Language Record: ACCESS\_GRP\_TBL

Query Security Record:

Record Audit

Record Name:

Audit Options

☒ Add

☒ Change

☐ Selective

☐ Delete

OK Cancel

### Establishing Set Control Fields

Enter the field that will identify the appropriate Set ID in the **Set Control Field**. In the example, we specify the Set Control Field as the *value* of the Company field.

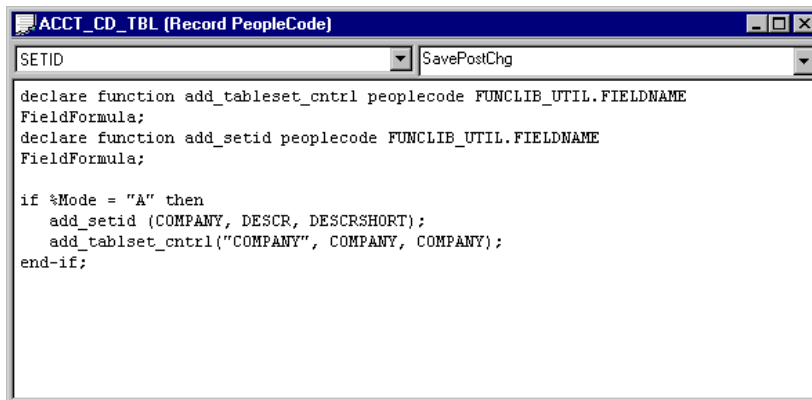
2. Click **OK** to save your changes.
3. Use SQLAlter to alter your underlying SQL table, because you've added a new field.
4. When the system prompts you for a default Set ID, enter the most common Set ID for your company.

### Modifying the Set Control Field

If you are sharing tables or using a set control field not already defined as such in your PeopleSoft application, you need to make some modifications to the record definition for the table where you store values for your specified set control field. For example, all PST company codes are stored in the COMPANY\_TBL.

Here, you need to add PeopleCode to the Set Control Field, so that each time you add a new value, the system will populate the set controls in PeopleTools utilities, where you will assign the appropriate tablesets.





Attaching PeopleCode to your Set Control Field.

This program assigns a default Set ID with the same value as the Set Control Field Value, for each new COMPANY row that you add to the COMPANY\_TBL. For example, when you add a row for CCB in the Company table, it creates a default Set ID of CCB. This way, each value you add is assigned a unique tableset, until you assign shared tablesets in the Utilities window.

You can easily clone and modify this program to change the ADD\_SETID and ADD\_TABLESET\_CNTRL statements to reflect your table sharing objectives. Alternatively, if you're working with existing tableset functionality, you can point to a model SetID delivered with your PeopleSoft application.

---

## Creating Set IDs

Now that you've laid the groundwork for sharing your table, you define the Set IDs that will logically group information. When you're defining Set IDs, keep in mind that you are creating groups that may naturally share more than one table. Even though CCB and VNB are planning to share only the ACCT\_CD\_TBL now, the Set IDs you set up may define logical divisions within the organization that serve as the basis for sharing all accounting related tables. You should describe your sets to give them as broad an application as practical within your organization.

To define a SetID

1. In the Utilities PeopleTool, select **Use, TableSet ID, Add** from the menu bar.
2. In the **Add--TableSetID** dialog, enter the name of your new **SetID** and click **OK**.

The TableSetID component is displayed.



TableSet ID

**SetID:** USA

**Description:** USA

**Short Description:** USA

**Comments:**

Save Return to Search Add Update/Display

### Adding Set IDs

3. Enter a **Description** and **Short Description** to clearly identify the purpose of the table set.

If possible use descriptions that denote the shared table and set control field. For example, for CCB and VNB we added two Table Set IDs, identifying them as related to accounting codes for companies:

<b>Set ID</b>	<b>Description</b>	<b>Short Description</b>
USA	Accounting Codes - USA Co.s	AcctCd USA
CAN	Accounting Codes - CAN Co.s	AcctCd CAN

---

## Defining Record Groups

In the record group table, you group together the record definitions for the tables you want to share, as well as any dependent record definitions. If you're adding a table to a PeopleSoft application, an appropriate record group may already be defined. However, if you're adding new business functions, you may need to add a new record group for the tables you're defining.

To define a record group

1. In Utilities, select Use, Record Group.
2. Click on Add a New Value.



**Record Group**

---

**Add a New Value**

Record Group ID:

[Find an Existing Value](#)

### Adding Record Groups

3. Enter a Record Group ID.

The Record Group ID should be descriptive enough to encompass a category of related tables, not just the table you are specifically sharing.

Record Group Table

**Record Group ID:** ACCOUNTING

**Description:**

**Short Description:**  ☐ Force Use of Default SetID

View All First 1 of 1 Last			
	*Record (Table) Name	Record Description	
1	ACCT_CD_TBL <input type="button" value="🔍"/>	Account Codes	<input type="button" value="+"/> <input type="button" value="-"/>

### Defining Record Groups

4. Enter a broad **Description** and **Short Description** for the record group.
5. In the **Record (Table) Name** box, press the prompt button for a list of only the record definitions (and any dependent record definitions) defined with the same Set Control Field.

This prompt list comes from a SQL view of record definitions that are defined with that Set Control Field—that haven't already been associated with a record group.

6. Add a row for each record definition listed that you want to include in this record group.

Be sure to include record definitions for any views that contain this set control as well as the SQL tables.



## Establishing Table Set Controls

As you add values for your set control, the system will automatically populate the TableSet Controls 1 table with default values. You'll go here to define who will use which table set.

To define TableSet Controls

1. Select Use, TableSet Control.

**TableSet Control**


---

**Find an Existing Value**

Search By:

Set Control Value:

[Advanced Search](#)

[Add a New Value](#)

Updating TableSet Controls

2. Type the **Set Control Value** for which you want to assign a tableset and click **Search**.

For example, we use Company as our Set Control Field and PST, CCB, and VNB are values we'll add to the company table.

Record Group   **Tree**

**Set Control Value:**   CCB

**\*Default SetID:**     Corporate

Record Group Control					View All   First 1-2 of 2 Last	
	Record Group ID	Description	*SetID	Short Description		
1	ACCOUNTING	Accounting Code Records	<input type="text" value="META"/> <input type="button" value="Q"/>	Meta	<input type="button" value="+"/>	<input type="button" value="-"/>
2	FS_18	Items (Trade & Commerce)	<input type="text" value="CCB"/> <input type="button" value="Q"/>	Corporate	<input type="button" value="+"/>	<input type="button" value="-"/>

[Record Group | Tree](#)

Understanding Default TableSet Controls

Remember that the system automatically assumes that each new set control value will want to maintain it's own set of tables—not enable table sharing. So the default values will be the same as the Set Control Value. In this case, when we added the value CCB to the Company table, the system populated the TableSet Controls with a Default Set ID of CCB.



Because CCB is a U.S. based company that we want to have share the same USA Accounting Codes, we need to change the defaults to USA.

- Click the search button list next to the **Default SetID** field and then click **Lookup**.

**TableSet Control**

**Lookup Default SetID**

Search By:

SetID:

[Advanced Lookup](#)

**Search Results**

View All First 1-39 of 39 Last

SetID	Description
<a href="#">BW</a>	Biweekly Hourly Payroll
<a href="#">CCB</a>	Corporate Sets
<a href="#">CE</a>	Corporate Level Elimination BU
<a href="#">CONSL</a>	For Consolidation Processing
<a href="#">F01</a>	Valley Bank
<a href="#">FS</a>	Financial Services Bus Rules
<a href="#">H01</a>	General Medical Center
<a href="#">H01A</a>	Bulk Storage Warehouse
<a href="#">H01B</a>	Central Supply
<a href="#">H01C</a>	Point of Service - Nursing
<a href="#">HC</a>	Health Care Business Rules
<a href="#">HCCS</a>	Central Supply
<a href="#">HCPQS</a>	Nursing Station
<a href="#">HCWHS</a>	Bulk Storage Warehouse

Lookup Default SetID Page

- Select a **Default Set ID** from the search list.

This is the Set ID the system will use as you add additional record definition groups to be shared within this table set.

- For each Record Group, enter the **Set ID** you want to use.

While we've set up our database to share only one accounting-related record group, you may have multiple record groups that you will assign default Set ID or unique Set IDs.

- In the **Record Group Controls** group box, press the prompt button to prompt for a list of only the record definitions.

As well as any dependent record definitions defined with the same Set Control Field. As in a Company, which has PostSave PeopleCode that recognizes it as a tableset control field.

This prompt list comes from a SQL view of record definitions that are defined with that Set Control Field—that haven't already been associated with a record group.

- In each **Record Group** row, specify the appropriate Set ID.

Now, William Davis, the AVP & Computer Systems Manager for CCB, always gets a little confused when he gets to this panel—a sort of “Zen and the art of table sharing” reaction. To



help clear his head, he always asks himself this question before modifying the **tableset** controls:

When the component processor encounters a record definition that contains the field *COMPANY* with a value of *CCB*, which *TableSet* should be used for prompting?

Because this value, *CCB*, is a U.S.-Based company that he wants to use the *USA* tableset, he can now confidently change the Default Set ID and Record Group Controls Set ID to *USA*.

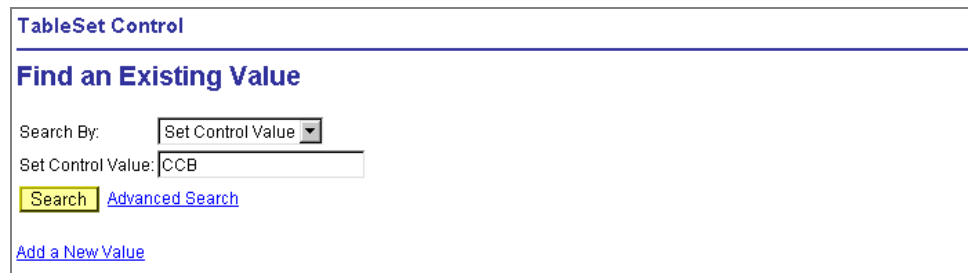
---

## Sharing Trees

If you want to share Trees as well as tables and views, you complete TableSet Controls 2 the same way as you did TableSet Controls 1. For example, if PST and CCB wanted to share one Department tree for organizational security, and VNB another, you would assign the appropriate Set ID for each value.

To define Table Set Controls for trees

1. Select Use, TableSet Control.



**TableSet Control**

---

**Find an Existing Value**

Search By: Set Control Value ▾

Set Control Value:

Search [Advanced Search](#)

[Add a New Value](#)

Updating Tree TableSet Controls

2. Enter the name of the Set Control Value for which you want to assign a tableset.

For example, we use *Company* as our Set Control Field and *PST*, *CCB*, and *VNB* are values we'll add to the company table.



Record Group | Tree

Set Control Value: CCB

\*Default SetID: CCB

Tree Controls				View All	First	1 of 1	Last
	*Tree Name	Description	*SetID	Short Description			
1	<input type="text"/>		<input type="text"/>		+	-	

Save Return to Search Previous tab Next tab

Record Group | Tree

### Assigning Set Controls for Trees

Because you already assigned a Default Set ID in TableSet Controls 1, the system will display the **Default Set ID** you assigned this field value. If you created another tableset for sharing trees, you can change this value.

3. In the **Tree Controls** group box, click on the prompt button, to prompt for a list of only the tree definitions defined with the same Set Control Field, such as Company, which has PostSave PeopleCode that recognizes it as a tableset control field.

This prompt list comes from a SQL view of tree definitions that are defined with that Set Control Field—that haven't already been associated with a tree group.

4. In each **Tree** row, specify the appropriate Set ID.

Remember to ask yourself this question when modifying the **tableset** controls:

When the component processor encounters a tree definition that contains the field *COMPANY* with a value of *CCB*, which *TableSet* should be used for prompting?

To view all record definitions associated with a set control

1. Select TableSet Controls.



Record Group
Tree

Set Control Value: CCB

\*Default SetID: CCB Corporate

Record Group Control				View All First 1-2 of 2 Last	
Record Group ID	Description	*SetID	Short Description		
1 ACCOUNTING	Accounting Code Records	META	Meta	+	-
2 FS_18	Items (Trade & Commerce)	CCB	Corporate	+	-

Save
Return to Search
Previous tab
Next tab

[Record Group | Tree](#)

### TableSet Controls Record Group

In this summary panel, you can view all the record definitions within a record group and any dependent records within each record group for each set control field value.

Because you've added Set ID as a search and list item, you'll want to add it as a display only level 0 key on the corresponding page for the table to be shared.

---

## Sharing the Results

Once you set up and define all your set controls, you can see the results of your labor by looking at pages on which you'll reference codes stored in a shared table. For example, on **Administer Workforce, Use, Job Data 1 and 2**, you can see Account Code is an optional field edited against the ACCT\_CODE\_TBL. In this component, the system identifies the Company based on the Department to which an employee is assigned. For example, Simon Schumacher is in Department *10100*, which is associated with the company *CCB*.



### Company Code Associated with a Department ID

Click on tab **Job Data 2** and enter 8001 or Simon Schumacher in the search record dialog to retrieve a CCB row, for which the company is defined in the department table. Here you can see that Simon works in Dept (Department) 00001, which identifies him as a CCB employee. If you position press the prompt button next to Account Code field, the system displays only those rows within the Account Code table that are associated with USA, the Set ID for CCB.

Alternatively, if you access the Job row for Joan Avery, an employee of VNB, and press the prompt button on the same Job Data 2 Account Code field, you'll retrieve only valid values associated with CAN, the Set ID for VNB.

---

## Identifying Parent/Child Relationships

If this is a subordinate or child record, select a **Parent Record Name**. This enables the parent/child relationship of the tables to be reflected in the hierarchy box you'll use to automatically perform joins in PeopleSoft Query.

For example, the Purchase Order Line record would be a child of the Purchase Order Header record.

---

## Implementing Query Security

Select a **Query Security Record** to secure access to a particular record using a security view. For example, if you only want operators authorized to view personal search records to perform queries on the absence history table, you would select PERSONNEL\_SRCH as the Query Security Record for the ABSENCE\_HISTORY record definition.



---

## Identifying Related Language Record Definitions

If you plan to maintain multiple language versions of your application data, you will want to create two record definitions for each table: The first is your “master” record definition, which will contain all the appropriate key and non-key field definitions. You clone this master record definition to create a **Related Language Record** definition, to which you add an additional key for Language Code. This related language record definition should contain only those non-key fields whose contents vary by language. You link the two record definitions by specifying the name of the related language record definition in this field on the master record definition.

At run time, the system looks at the operator’s language preference and retrieves the data value from the appropriate related language record definition.



For more information about creating related language record definitions and international features of PeopleTools, please see Globalization.

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## Auditing at the Record Level

While you can audit individual fields at the field level, you may find it more efficient to have the system audit the entire row whenever a user adds, changes, or deletes information. With record-level audits, the system focuses on rows of data, instead of specific fields. Consequently, a record-level audit writes a single row of audit data, rather than writing multiple rows for each insert, change, or delete transaction at the field level.

<b>Audit Record Add</b>	Inserts an audit table row whenever a new row is added to the table underlying this record definition.
<b>Audit Record Change</b>	Inserts one or two audit table rows whenever a row is changed on the table underlying this record definition.
<b>Audit Record Selective</b>	Inserts one or two audit table rows whenever a field that is also included on the record definition for the audit table is changed.
<b>Audit Record Delete</b>	Inserts an audit table row whenever a row is deleted from the table underlying this record definition.

---

## Creating User-Defined Audit Record Definitions

To audit at the record level, you must create a record definition and SQL table in which you’ll store audit information. You enter the name of the user-defined audit record to be used in conjunction with the Audit Options check boxes in the **Record Use Properties Tab**. Depending on the audit options you select, the system will write rows to this audit table when a row is added, changed, or deleted from the underlying SQL table.





When you create a new audit record definition, be sure to name it with an **AUDIT\_** prefix. Some processes, such as the Employee ID Change and Employee ID Delete in the PeopleSoft HRMS product line, make changes to certain fields, such as EMPLID. These processes will not affect any record definitions that begin with the **AUDIT\_** prefix, leaving your audit data secure.

The easiest way to create an audit table is to open the record definition you want to audit, and save it as a new file, prefaced with **AUDIT\_**. Audit record definitions can't contain key fields. So if you clone a record definition to create an audit record definition, you must remove all key attributes.

We recommend that you also take advantage of the audit-specific fields already defined for the PeopleTools audit table, PSAUDIT, which we use to track field level audits. Place these audit fields at the top of your audit record definition, as you would keys.

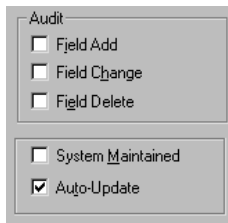
<b>Audit Field Name</b>	<b>Purpose</b>
AUDIT_OPRID	Identifies the operator who caused the system to trigger the audits—either by performing an add, change, or delete to an audited field.
AUDIT_STAMP	Identifies the date and time the audit was triggered.
AUDIT_ACTN	Indicates the type of action the system audited. Possible action values include:  A      Row Inserted  D      Row Deleted  C      Row changed (updated), but no key fields changed. The system writes old values to the audit table  K      Row changed (updated), and at least one key field changed. The system writes old values to the audit table  N      Row changed (updated), and at least one key field changed. The system writes new values to the audit table
AUDIT_RECNAME	Identifies the name of the record definition audited.

In most cases you'll want to include AUDIT\_OPRID, AUDIT\_STAMP, AUDIT\_ACTN. The AUDIT\_STAMP must be given the attribute AUTOUPDATE. You may also want to add AUDIT\_RECNAME, if you are creating an audit table to audit more than one record definition.



Remember to turn on the **Auto-Update** property for the field in the Record Field Properties dialog. Otherwise, you will not get a Date/Time stamp in your audit record.





Audit

☐ Field Add

☐ Field Change

☐ Field Delete

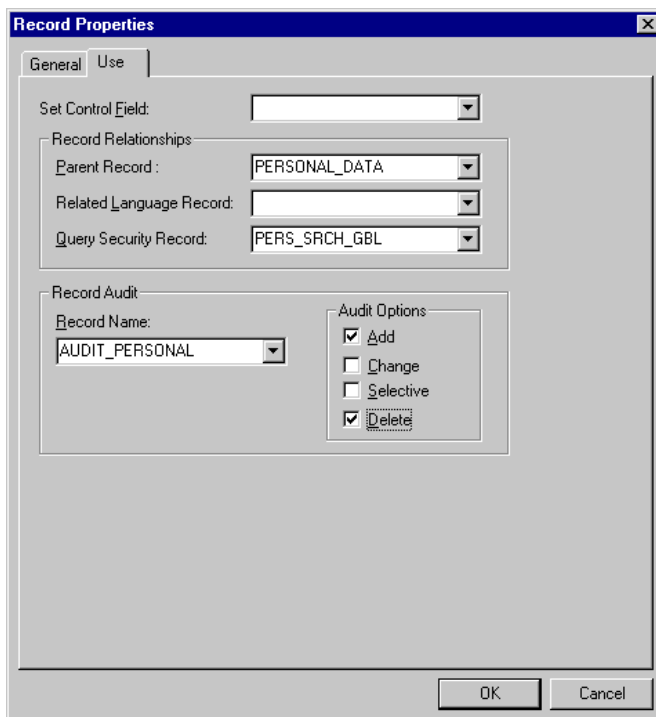
☐ System Maintained

☒ Auto-Update

## Specifying Selective Changes

When you turn on selective record-level audit, the system writes audit data only when at least one field that is also on the audit record definition changes.

For example, PERSONAL\_DATA contains two non-key fields: PER\_STATUS and HOME\_PHONE. If we want to perform a selective audit whenever PER\_STATUS changed, we would simply add PER\_STATUS to the AUDIT\_PERSONAL audit record. Then, if the value of PER\_STATUS is changed on PERSONAL\_DATA, the system generates an audit record. On the other hand, if only the value of HOME\_PHONE,—which isn't contained in the audit record—changes, no audit record is generated.



Record Properties

General Use

Set Control Field:

Record Relationships

Parent Record: PERSONAL\_DATA

Related Language Record:

Query Security Record: PERS\_SRCH\_GBL

Record Audit

Record Name: AUDIT\_PERSONAL

Audit Options

☒ Add

☐ Change

☐ Selective

☒ Delete

OK Cancel

### Creating an Audit Record

On the ABSENCE\_HIST record definition we turned on the Audit Options to audit for any rows added or deleted to the specific fields included on AUDIT\_PERSONAL, which we entered as the Record Audit, Record Name.



## Example of From and Through Search Fields

In the **Contract Clause** edit box, the user can enter a specific clause and have that record open up immediately. For example, if the user enters 001, there is only one record that could be displayed, so the display of the results in the list box is bypassed, and the specified record opens immediately. However, instead of entering a specific clause number, the user could enter as much of the clause as desired, and the system automatically displays a list of results, based on an implied “like” pattern matching. For example, if a user entered 00, all records beginning with “00” display in the list box (001 through 009, but not 010):

**Contract Clause Table**

---

**Find an Existing Value**

Search By: Contract Clause

Contract Clause:

☐ Include History ☐ Correct History

Search [Advanced Search](#)

[Add a New Value](#)

**Search Results**

View All First 1-9 of 9 Last

Contract Clause	Description
<a href="#">001</a>	Drivers License
<a href="#">002</a>	Non-Competing Clause
<a href="#">003</a>	Able to obtain Credit Card
<a href="#">004</a>	Traveling Required
<a href="#">005</a>	Pass Security Clearance
<a href="#">006</a>	None
<a href="#">007</a>	Services to the Third Parties
<a href="#">008</a>	Confidentiality after Terminat
<a href="#">009</a>	Unauthorized disclose Info

Contract Clause Showing “00” Search Results

On the other hand, if the user enters nothing in the **Contract Clause** edit box, the system displays all possible results, as shown below:



**Contract Clause Table**

---

**Find an Existing Value**

Search By:

Contract Clause:

☐ Include History ☐ Correct History

[Search](#) [Advanced Search](#)

[Add a New Value](#)

**Search Results**

View All First 1-10 of 10 Last

Contract Clause	Description
<a href="#">001</a>	Drivers License
<a href="#">002</a>	Non-Competing Clause
<a href="#">003</a>	Able to obtain Credit Card
<a href="#">004</a>	Traveling Required
<a href="#">005</a>	Pass Security Clearance
<a href="#">006</a>	None
<a href="#">007</a>	Services to the Third Parties
<a href="#">008</a>	Confidentiality after Termination
<a href="#">009</a>	Unauthorized disclose Info
<a href="#">010</a>	Pass 3 months probation

Contract Clause Showing “Null” Search Results

The search dialog below shows what a modified version of the dialog above looks like. Note that it includes a new **Contract Clause To** edit box that provides the “through” search functionality.

[Home](#) > [Administer Workforce](#) > [Administer Workforce \(GBL\)](#) > [Setup](#) > **Contract Clause Table**

---

**Contract Clause Table**

---

**Find an Existing Value**

Contract Clause:

Contract Clause To:

Description:

☐ Include History ☐ Correct History

[Search](#) [Clear](#) [Basic Search](#)

[Add a New Value](#)

**Search Results**

View All First 1-5 of 5 Last

Contract Clause	Description
<a href="#">003</a>	<a href="#">Able to obtain Credit Card</a>
<a href="#">004</a>	<a href="#">Traveling Required</a>
<a href="#">005</a>	<a href="#">Pass Security Clearance</a>
<a href="#">006</a>	<a href="#">None</a>
<a href="#">007</a>	<a href="#">Services to the Third Parties</a>

“Contract Clause To” Edit Box

With the addition of the **Contract Clause To** search field, the user has the ability to search for a range of values.



## Adding search capability to existing search dialogs

To Apply the From/Through Logic to a Search Dialog

1. Determine which component you want to change.

You need to modify the search record for a particular page, so you first need to identify the appropriate component. Let's say you want to change the search dialog associated with the CNT\_CLAUSE\_TABLE.GBL component, so that a user can specify at runtime a range of **Contract Clause** numbers on the search dialog. The original search dialog associated with this component is shown below.

Original Search Page

The original search dialog provides no way for the user to specify a range of values to return.

2. Determine which field to use the From/Through search logic on.

Open the component in Application Designer and examine the search record associated with the component. In this case, the search record is CNT\_CLAUSE\_TBL, shown below, and the field that you want to apply the From/Through search logic to is CONTRACT\_CLAUSE.

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	CONTRACT_CLAUSE	Char	3	Upper	Clause	Contract Clause
2	EFFDT	Date	10	Upper	Eff Date	Effective Date
3	EFF_STATUS	Char	1	Upper	Status	Status as of Effective D
4	DESCR	Char	30	Mixed	Descr	Description
5	DESCRSHORT	Char	10	Mixed	Short Desc	Short Description
6	DESCR254	Char	254	Mixed	Long Descr	Long Description
7	COMMENTS	Long	0	Comment	Comment	Comment

CNT\_CLAUSE\_TBL Record

3. Create a new view that contains the same fields as the original search record.

To use the From/Through search logic, the search record *must be a view*. (If the search record is already based on a view, you can modify the existing view instead of creating a new view.)



4. Apply the **From Search Field** property to the field.

In the new view, mark the from search field with the following record field properties: **Key**, **Search Key**, and **From Search Field** (making the field a **List Box Item** is optional).

**Record Field Properties**

Use | Edits

Field Name: CONTRACT\_CLAUSE

**Keys**

- ☒ Key
- ☐ Duplicate Order Key
- ☐ Alternate Search Key
- ☐ Descending Key
- ☒ Search Key
- ☒ List Box Item
- ☒ From Search Field
- ☐ Through Search Field
- ☐ Default Search Field

**Audit**

- ☐ Field Add
- ☐ Field Change
- ☐ Field Delete

☐ System Maintained

☐ Auto-Update

**Record Field label ID**

\*\*\* Use Default Label \*\*\*

**Default Value**

Constant:

or

Record Name:

Field Name:

**Default Page Control**

System Default

OK Cancel

CONTRACT\_CLAUSE Record Field Properties

5. Create a new field with exactly the same characteristics as the “From” field.

For example, if CONTRACT\_CLAUSE represents the field we want to search *from*, you can create a field called CONTRACT\_CLAUSE\_TO representing the field to search *through*.

6. Insert the new field directly below the original field, as shown below.

**CNT\_CLAUSE\_VW (Record)**

Record Fields | Record Type

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	CONTRACT_CLAUSE	Char	3	Upper	Clause	Contract Clause
2	CONTRACT_CLAUSE_TO	Char	3	Upper	Contract Clause	Contract Clause To
3	EFFDT	Date	10		Eff Date	Effective Date
4	EFF_STATUS	Char	1	Upper	Status	Status as of Effective D
5	DESCR	Char	30	Mixed	Descr	Description
6	DESCRSHORT	Char	10	Mixed	Short Desc	Short Description
7	DESCR254	Char	254	Mixed	Long Descr	Long Description
8	COMMENTS	Long	0		Comment	Comment

CNT\_CLAUSE\_TL Record Definition



7. Apply the **Through Search Field** property to the field.

Mark the new Through Search field with the following record field properties: **Key**, **Search Key**, and **Through Search Field** only.

**Record Field Properties**

Use | Edits

Field Name: CONTRACT\_CLAUSE\_TO

**Keys**

- ☒ Key
- ☐ Duplicate Order Key
- ☐ Alternate Search Key
- ☐ Descending Key
- ☒ Search Key
- ☐ List Box Item
- ☐ From Search Field
- ☒ Through Search Field
- ☐ Default Search Field

**Audit**

- ☐ Field Add
- ☐ Field Change
- ☐ Field Delete

☐ System Maintained

☐ Auto-Update

Record Field label ID: Use Default Label

Default Value:

Constant:

or

Record Name:

Field Name:

Default Page Control: System Default

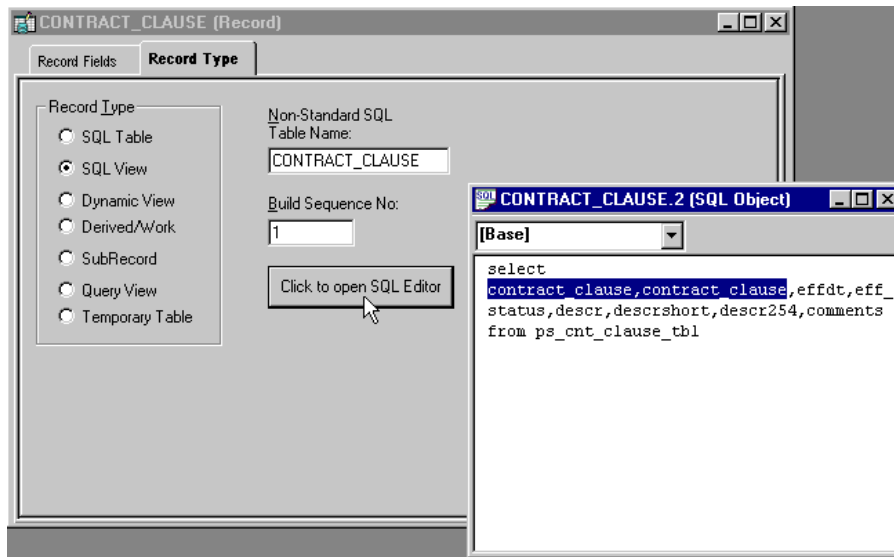
OK Cancel

CONTRACT\_CLAUSE\_TO Field Properties

8. Update the SQL view text.

Update the **SQL View Select Statement** in the new view to reflect the new column. That is, the view text should select the same field twice in a row, as shown below.



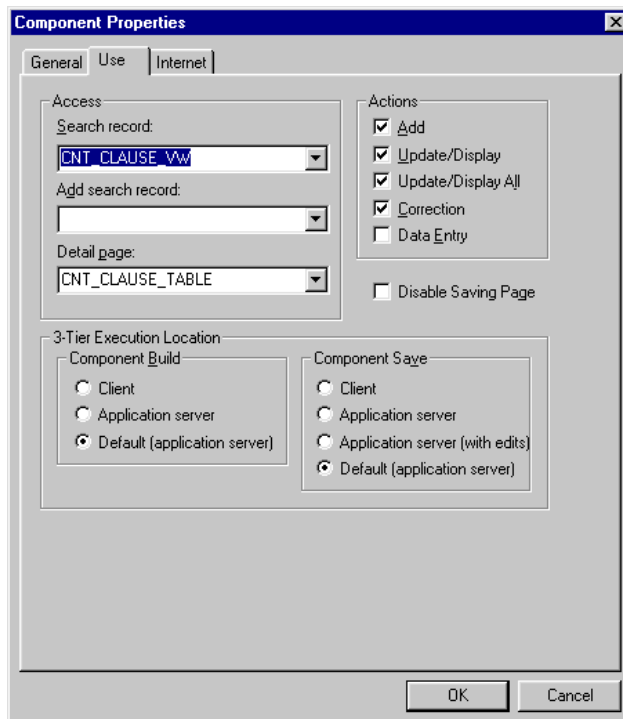


Updating the SQL View Select Statement

The view needs to select the same field twice. This is because the same field is used for the “From” logic and the “Through” logic.

9. Save and build the new view.
10. Update the component properties.

You must update the search record so that the component uses the new view.



Updating with new Search Record



## 11. Test the new search dialog.

The search dialog should now include the new “through” field, so that the user can specify a range of values for the field, as shown below. Because you want to search on both fields, you must use **Advanced Search**.

[Home](#) > [Administer Workforce](#) > [Administer Workforce \(GBL\)](#) > [Setup](#) > **Contract Clause Table**

---

**Contract Clause Table**

---

**Find an Existing Value**

Contract Clause:

Contract Clause To:

Description:

☐ Include History ☐ Correct History

[Basic Search](#)

[Add a New Value](#)

**Search Results**

[View All](#)    First  1-5 of 5  Last

Contract Clause	Description
<a href="#">003</a>	<a href="#">Able to obtain Credit Card</a>
<a href="#">004</a>	<a href="#">Traveling Required</a>
<a href="#">005</a>	<a href="#">Pass Security Clearance</a>
<a href="#">006</a>	<a href="#">None</a>
<a href="#">007</a>	<a href="#">Services to the Third Parties</a>

The results in the list box should reflect a range of values between the “From” and “Through” fields specified (the results are *inclusive*—they include the minimum and maximum values the user specified).







# Building SQL Tables and Views

Using Application Designer, you create several kinds of object definitions that represent database components. For instance, field definitions represent table columns, and record definitions represent tables and views from which you can create indexes. The important concept to remember is that the definitions are just the blueprints for the actual, physical database components with which they are associated. In the context of the whole application development cycle, using the Build process (creating SQL tables, views, and indexes) comes after you've defined new fields and created the record definitions. After you build the SQL tables you then begin creating page definitions.

After you create and define your field and record definitions, you will need to create or build the underlying SQL tables that will actually house the application data that your users will enter online in your production environment. This Build process is the centerpiece of Application Designer's Data Administration features. Build uses Data Definition Language (DDL) to construct a physical database component based on the associated record and field definitions you've created. With the Build feature you can create the following:

- Tables
- Views
- Indexes

You can also use the Build feature to *alter* existing tables if you change the record definition after the table already exists. Altering a table is useful, because it allows you to make changes without losing the application data already housed in the table. In general, the results of the Build operation are written to a script file that a Database Administrator can run later. On some database platforms, you can execute the SQL online, if you prefer, so that your changes are immediately reflected in the physical database. However, keep in mind that if you run the SQL immediately, you will not have the chance to review it to make sure the table built will truly meet all of your requirements.

## Before You Begin

Before you begin reading about the Data Administration tools and the Build process, it may be useful to review what Data Definition Language (DDL) means in terms of PeopleSoft and the security issues involved with building and executing scripts.



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## DDL Review

DDL is the part of the SQL language that pertains to the creation of tables, indexes, views, and tablespaces. DDL is also the part of the SQL language that differs most between the various relational database platforms. Each database vendor provides different syntax and configuration options for creating the tables, organizing them, and optimizing performance. Because PeopleTools supports multiple database platforms, we have designed a flexible way of specifying DDL that allows you to take advantage of each vendor's particular features. The basic components of our DDL support include the following:

- **DDL Model definition**—a complete set of the supported DDL statements for each database platform. The statements include Create Table, Create Tablespace, and Create Index. Each DDL model statement has substitution parameters that can be specified at the database level or they can be overridden for individual records.
- **Tablespace DDL**—supported by some database platforms, tablespaces are a way of organizing tables into groups. Database Administrators control a number of tuning and configuration settings that affect all included tables at the tablespace level, so this is an important grouping.
- **Record DDL**—this is where you can specify the DDL model substitution parameters for an individual record.
- **Index DDL**—this is where you can specify the DDL model substitution parameters for a unique index or other index.
- **Sizing Sets**—Sizing Sets are a way to maintain multiple versions of your DDL Model statements for a particular database platform. For example, you could use one Sizing Set during a development phase, when tables only have test data, and you could use a separate Sizing Set during production when tables have much more data.

---

## Build Security

Maintain Security allows you to specify which users can build scripts, execute scripts (Execute SQL now), maintain DDL, and so on.

To grant build authority to a user

1. From the browser, open your PeopleSoft Internet Application.
2. Open PeopleTools, Maintain Security, Use, Permission Lists.

At the search page, open a permission list, such as **ALLPNLS**, the Operator Class for all pages in the system. The Permission Lists component then opens.

3. Open the **PeopleTools** page.

Click on the PeopleTools tab or press ALT+P, Enter twice.



General | Pages | **PeopleTools** | Process | Sign-on Times | Component Interface | Message Monitor | Web Libraries | Query | Mass Change Security

Permission List: ALLPNLS  
Description: Operator Class for All Panels

**PeopleTools Permissions**

☒ Application Designer Access ☒ Object Security Access  
☒ Data Mover Access ☒ Query Access  
☐ Import Manager Access

**App. Designer Permissions**

[Object Permissions](#)  
[Tools Permissions](#)  
[Misc. Permissions](#)

Save Return to Search Previous tab Next tab Add Update/Display

PeopleTools page in ALLPNLS Permission List

4. Select the **Tools Permissions** hyperlink from the **App. Designer Permissions** group box.

The **Application Designer Tools Permission** page opens. The control associated with authorizing build rights is the **Build/Data Admin** row.

5. Assign the appropriate Access Code to Build/Data Admin.

**App. Designer Tools Permission**

Permission List: ALLPNLS  
Description: Operator Class for All Panels

View All First 1-7 of 7 Last

Tools	*Access Code
Build / Data Admin.	Full data adm
Change Control	Build on-line Build scripts only
Language Translations	Full data admin.
Password Controls	No Access
Peoplecode Debugger	Full Access
SQL Editor	Full access
Upgrade	Full access

Full Access (All)  
Read Only (All)  
No Access (All)

OK Cancel

Determining build/data administration security access

Select the appropriate build access degree from the **Access Code** drop-down menu for the **Build/Data Admin** row, that you want to grant to a particular user.

- **No access.** For users who do not need to and *should not* generate nor execute scripts.



- **Build scripts only.** For users who should be able to generate scripts but not run them online, as in selecting the Execute SQL now option on the Build dialog box. This operator will not have access to creating or customizing indexes, or any other such data administration tasks that you can execute from the Tools, Data Administration menu group.
- **Build on-line.** For an operator who needs to generate and run scripts.
- **Full data admin access.** For the DBA who is responsible for *all* aspects of your database. Full access also requires access to the record's object type.



Build scripts only and Build on-line access requires read or update access to the records' object type. Any Build security changes will take effect the next time a user signs on to PeopleTools.

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6. Select the **OK** button to accept the change.

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For more information see Build and Data Administration.

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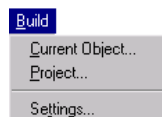
## The Build Interface

The Build interface is not complicated; it consists of three components that contain all the commands and options associated with building tables, views, indexes, and altering tables.

---

### Build Menu

Use the Build menu in the Application Designer to access the Build dialog box by selecting either Current Object or Project. You can also select the Settings menu option to review the Build Settings dialog box to make sure that you have selected all of the appropriate options for your build process.



The Build menu

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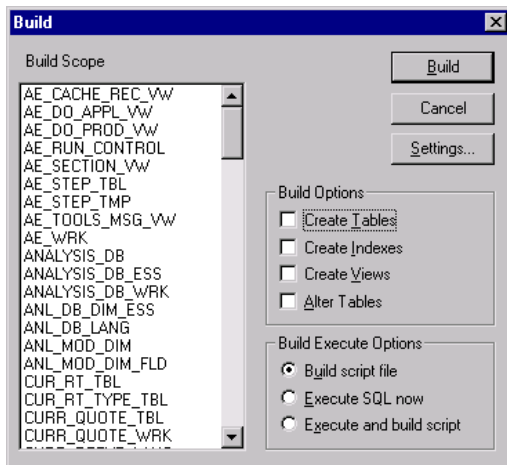
For more information on the Current Object and Project menu options, refer to Build Scope.

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## Build Dialog Box

With the Build dialog box you can create or run the SQL scripts that define the underlying database components. Use it to build tables, indexes, views, and to alter existing tables.



Build dialog box

## Build Scope List Box

The Build Scope list box, on the left side of the dialog box, contains a list of all the objects that will be included in the current build process. The records that appear in the Build Scope list box cannot be selected or cleared. If you find that you need to narrow the scope of your build, you should do so before arriving at the Build dialog box.



For more information refer to Build Scope.

## Build Options

The Build Options group allows you to specify what action you want to occur: Create Tables, Indexes, Views, or Alter Tables. If you select Create Tables or Alter Tables, then, by default, Create Indexes will automatically be selected.



**Note.** You can select both Alter Tables and Create Tables to run concurrently as long as the Skip table if it already exists option is enabled on the Create tab in the Build Settings dialog box. Otherwise, there would be no way to determine whether you wanted to alter or recreate a table that already exists.



## Build Execute Options

The **Build Execute Options** group offers the following options:

- **Build script file.** The advantage to using this option is that you can review and update the SQL prior to executing the script. This is the safest method.
- **Execute SQL now.** The advantage in using this option is that it's not necessary to invoke another program to run the SQL; the SQL runs as part of the Build process. The disadvantage with running the SQL immediately is that you have no opportunity to review the SQL prior to it being committed to the database.
- **Execute and build script.** The advantage of this option is that you can review the SQL that the Build process just ran.

To run the SQL script file that the Build process generates, you will need to use a third party SQL interpreter, such as Oracle's SQL\*Plus or Microsoft's ISQL/W. Most database vendors include a native command processor that you can run on the client or the server.

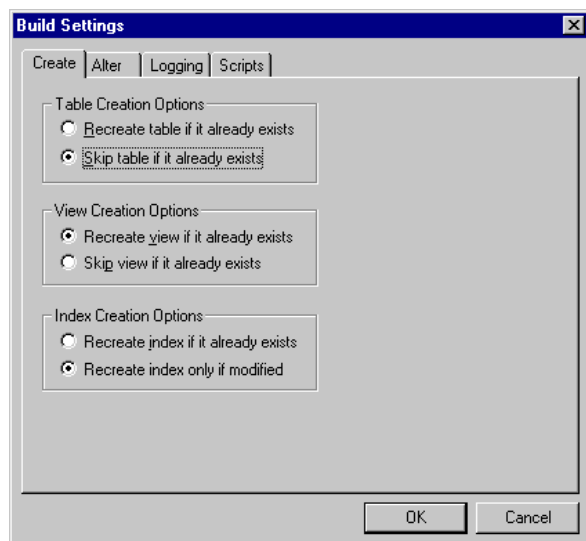


For the Alter Tables build, the "Execute SQL now" option is only available on DB2/UNIX and Informix platforms. However, you can select Execute SQL now to create tables, views and indexes on all platforms.

Do *not* attempt to run Build scripts through Data Mover. The scripts may contain syntax specific to your database platform that Data Mover is not designed to process.

## Settings Button

Pressing the Settings button from the Build dialog box opens the Build Settings tab dialog box where you can view or change your options.



Build Settings dialog box



The **Build Settings** dialog box offers the following tabs:

- **Create.** Specify your Create Table and Create Views options.
- **Alter.** Specify your options when running Alter Tables.
- **Logging.** Specify the logging level and where you would like the output log file to be placed.
- **Scripts.** You can choose the format of your script file and the name and location of the file that the build process generates.

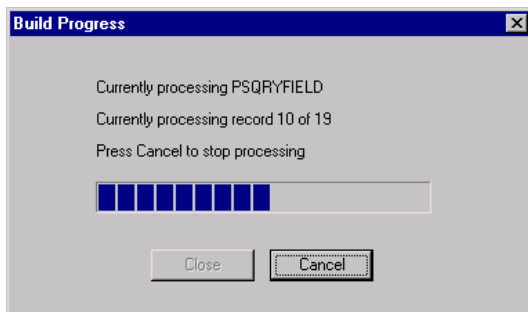


For more information on all of these settings and when to set them, refer to [Choosing Build Settings](#).

---

## Build Button

Pressing the Build button starts the Build process. While the Build process is running, the Build Progress dialog box appears, showing the current record being processed, the record number being processed in the series, and the total number of records that comprise the build. To stop a running build process, press the Cancel button. When the Build process completes, the Cancel button is disabled and the Close button is the only valid button.



Build Progress dialog box

When the build process completes, the Build Progress dialog box will read "Process Complete."



Once the Build process begins, there are no runtime prompts until the process is complete. All events are written to the Build log.

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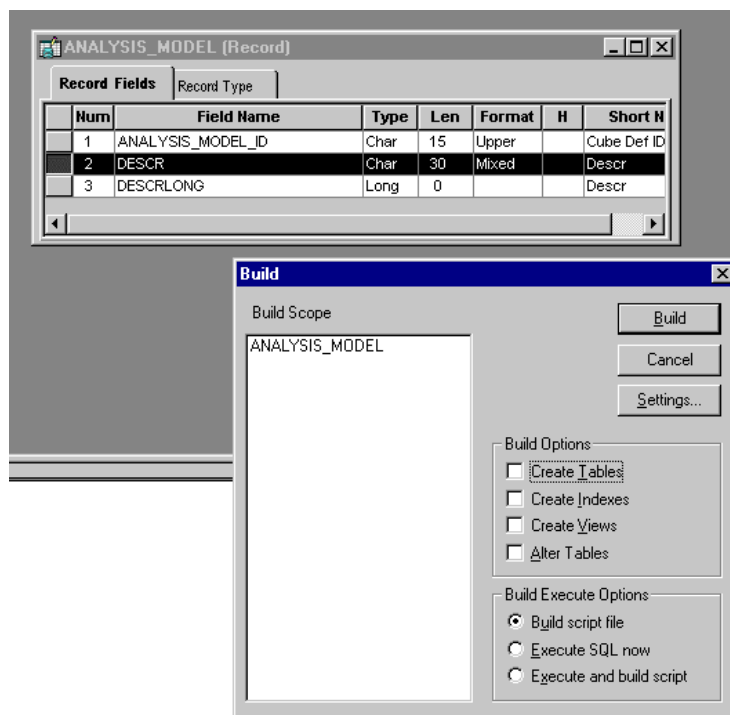
## Build Scope

There are three different scopes of the Build feature that determine the size of your build project. Depending on what you actually want to build—one record or an entire project—you can determine this by selecting one of the scopes described in the following sections.



## Current Object

Select Build, Current Object when you want to build or alter the active record definition. By active definition, we are referring to the definition that is currently active in the Object Workspace.

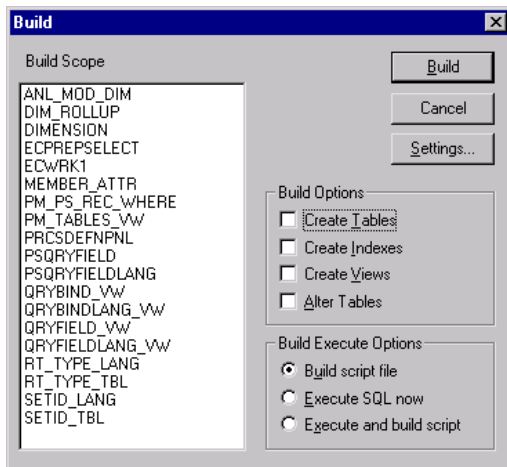


Current project build scope

## Build Project

Select Build, Project when you want to build or alter all the records, indexes, and views in the current project—all the records that appear in the Project Workspace. As shown in the following example, you will typically find numerous record definitions in the Build Scope list box.





Project build scope

To Build all objects in a database, you would create a new project and insert all the appropriate records; you can just insert records of a particular type, such as views. If you create another record after the “all records” project is built, you need to manually add the new record to the project.

---

## Build Selected Objects

If you do not want to build an entire project or even the current project, you can opt to build just the objects you select in the Project Workspace. In some situations you may just want to build a subset of the records in the project that is currently open. You can select the objects you want to build by pressing the CTRL button, and selecting multiple records in the Project Workspace. After you have selected the appropriate records, then, with a right-mouse click, invoke the pop-up menu, which offers the Build option.

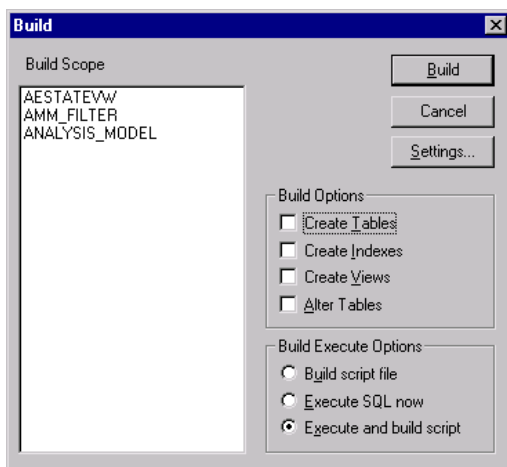
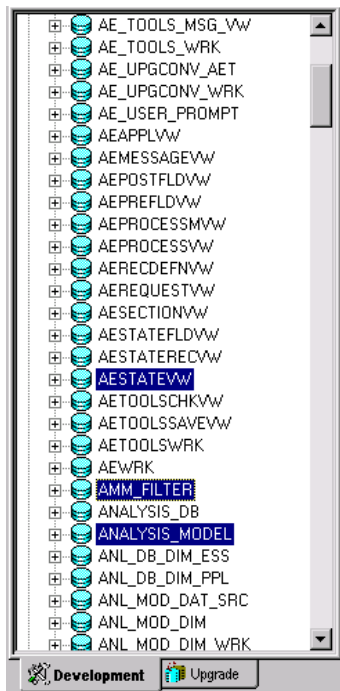


You must invoke the Build process from the pop-up menu; you cannot build selected objects from an open project using the Build menu.

---

As shown in the following example, only the objects that are selected in the Project Workspace appear in the Build Scope list box.



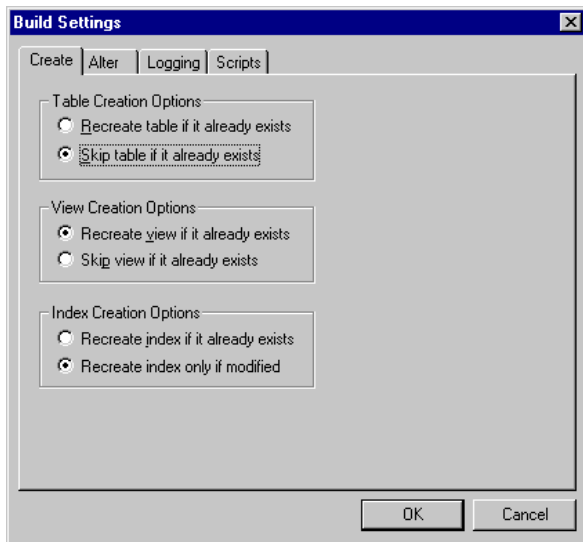


Selected objects build scope

## Choosing Build Settings

The Build Settings dialog box lets you customize various aspects of the build process. Depending on which build option you are running, your build settings will vary. The settings you choose are stored on your workstation, so that they can be re-used during future Application Designer sessions. When you select Build, Settings or press the Settings button on the Build dialog box, the Build Settings dialog box will appear.





Build Settings dialog box

The Build Settings appear on the following four tabs:

- **Create.** The Create tab allows you to specify create settings, such as whether an existing table or view is skipped or dropped and recreated.
- **Alter.** The Alter tab allows you to specify alter options, such as Drop Column Options.
- **Logging.** The Logging tab allows you to control logging levels and where the build runtime status information is written.
- **Scripts.** The Scripts tab allows you to specify the save format, name, and location of the SQL script generated by the Build process.

The options most likely to change each time you run a build process appear on the Build dialog box, and the options that are most likely to remain the same from run-to-run are defined in the Build Settings dialog box. Since most of the settings you choose, due to your preferences, will remain similar from one build to the next, all of the options defined on the Build Settings dialog box are retained between sessions, including the Build Execute Options selections from the Build dialog box. The attributes that PeopleTools does not retain are the Build Options selections from the Build dialog box.

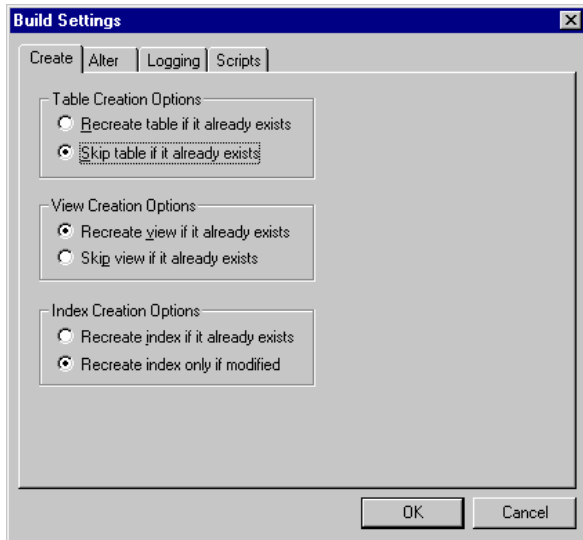
The following sections discuss the various settings involved with each tab on the Build Settings dialog box.

---

## Create Tab

When you select Create Tables or Create Views, you'll want to make sure that you also specify the desired options on the Create tab of the Build Settings dialog box.





Build Settings – Create tab

The following sections describe what the options on the Create tab mean to your build.

### Table Create Options

These options determine when a table should and *should not* be created.

- **Recreate table if it already exists.** This option will always drop and recreate a table if it already exists. Use this option with extreme care because if there is any data in the table that already exists, it will also be dropped. If you select this option, Build prompts you to confirm your specified intention prior to performing any destructive action. If you don't care about losing the data that resides in the table, then this option is much faster compared to doing an alter.
- **Skip table if it already exists.** This option will only create those tables that are newly defined. If you want to preserve the data already residing in existing tables or you're just interested in creating the tables that do not already exist, this is the appropriate option.

### View Creation Options

Similar settings are available for creating views that you use for creating tables.

- **Recreate view if it already exists.** Since views are just logical views of data, it is safe to use this option; you don't run the risk of losing physical data. Using this option ensures that all views in the project are rebuilt, whether they need to be or not.
- **Skip view if it already exists.** If you're only concerned with creating views that do not already exist in the database, this is the appropriate option. This option is useful if you want to run Build Project on a large project and only a subset of the views in the project need to be created. This consumes less time than recreating all the views in the project.



## Index Creation Options

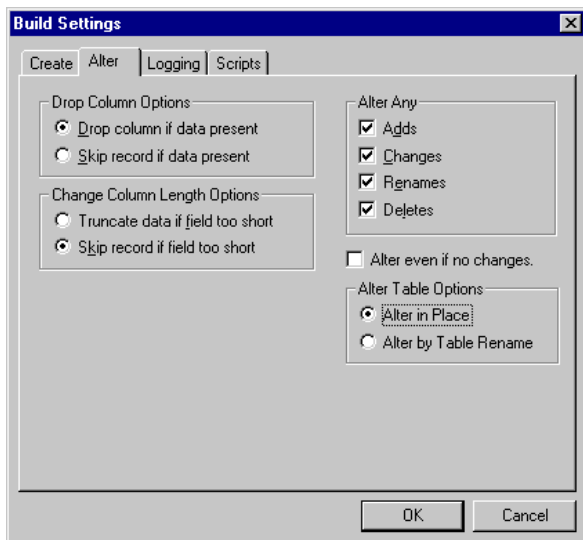
These options determine when an index should be recreated and when it should not.

- **Recreate index if it already exists.** Recreates the index for your build, even if you already have one in place. In other words, it recreates the index no matter what the situation.
- **Recreate index only if modified.** Recreate the index only if the data is being modified in the build process.

---

## Alter Tab

If you make any changes to your record definitions, the tables in your production database should reflect those changes to maintain your data integrity. When you perform an alter, make sure you select the appropriate options on the Alter tab.



Build Settings – Alter tab

The following sections describe the options that the **Alter** tab offers.

### Drop Column Options

The **Drop Column Options** are referenced whenever a field is deleted from a PeopleTools record definition and data exists in the database for that column.

- **Drop column if data present.** Drops the column and data, and a warning is written to the build log.
- **Skip record if data present.** Aborts the alter for that record, and an error message is written to the log. Processing continues with the next record.





---

Whenever you select **Drop column if data present** you run the risk of losing data, and you will be prompted at runtime to confirm your choice of this option.

---

## Change Column Length Options

The **Change Column length** options are used whenever the length of a character column is reduced in PeopleTools and an alter could result in data truncation.

- **Truncate data if field too short.** Alters the record and a warning message is written to the build log.
- **Skip record if field too short.** The alter for that record is aborted and an error message is written to the build log. Processing continues with the next record.



---

Whenever you select **Truncate data if field too short**, you run the risk of losing data, and you will be prompted at runtime to confirm your choice of this option.

---

## Alter Any

PeopleTools assumes you want to perform alters for any modifications made to tables, so, by default, all the check boxes in the Alter Any group are selected. Alter Any allows for custom alter processing regarding Adds, Changes, Renames, and Deletes. For example, you have the flexibility to add, change, and rename fields, but not delete any removed columns. When you complete any other custom external conversion processes, you can then enable the delete processing to drop columns that are no longer defined.

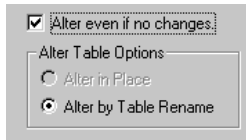
Normally you would have all of these options selected, but during upgrades or operations requiring data conversion steps you may choose a subset of actions. For example:

- Perform alter with Adds and Changes selected.
- Perform data conversion routines to populate the new and changed columns (perhaps from columns that are ultimately to be dropped).
- Perform alter with Rename and Delete selected.

## Alter Even If No Changes

This check box option forces an alter, *even* if no changes are made to the tables. The check box is not checked by default. If the “Alter even if no changes” check box is checked, the Alter Table Options group box will automatically be set on Alter by Table Rename and the Alter in Place option is disabled.





Alter even if no changes checked

## Alter Table Options

In the Alter Table Options group box, there are two radio buttons:

- Alter in Place
- Alter by Table Rename

The default is for Alter in Place to be checked. For database platforms where Alter in Place is not supported, alter will automatically be done by Alter by Table Rename (even if the check box is not set to that option). By selecting Alter by Table Rename, a temporary table (with changes made to the original table or its fields) is created and the data from the original table is dumped into the temporary table. The original table is then dropped and the temporary table is renamed to the original table.

If a table is renamed from the old name to a new name, the indexes that were created on the old table are moved to the new table, but the index names still remain in the old table's name. With Alter by Table Rename selected, the indexes of the old table are dropped before renaming to the new table name and the indexes are recreated after the table is renamed to the new name. This way the index is created in the new table's name.

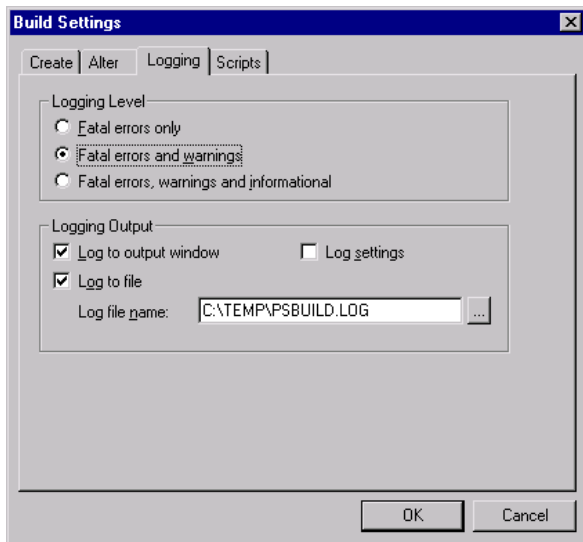
---

## Logging Tab

You can monitor the build process by reviewing the log files it automatically generates. Keep in mind that the log file is *entirely* separate from the script file; do not confuse the two. How much information that the log file contains is up to you. You can set up your logging so that all status (both good and bad) appears in the log, or you can specify that just the errors or warnings appear in the log. This section describes the options you can specify in regards to the Build log file.

You control the settings for the Build log file on the Logging tab on the Build Settings dialog box. Here you specify the desired Logging Level and how you would like to view the log information—from a file or in the output window.





Logging Tab

The following sections describe the options available with your log output.

## Logging Level

Select one of the options in the Logging Level group to specify the detail of information that you want in your Build log output. If you're only interested in seeing the operations that failed, then select Fatal errors only. You can add warnings to that mix by selecting Fatal errors and warnings. If you want to see everything that processed successfully *and* all of the errors and warnings, then select Fatal errors, warnings and informational.

If you're processing a large number of objects, you're probably only interested in seeing the ones that failed. Whereas, if you're processing a small number of objects, you may want to see all of the successful operations, too. It's all a matter of personal preference and does not affect the actual build of your SQL tables, but it may help you to track down any potential glitches.

## Logging Output

The **Logging Output** group allows you to specify where and in what form you would like to view your log output. You have the following options:

- **Log to output window.** Writes the same information that would appear in the log *file* to the Application Designer Output Window. Always be aware of the level that you've selected. If there is a lot of detail (high logging level plus many records to process) it may be easier on the eyes to copy the logging information to a file, and print it later.
- **Log to file.** Writes the log to a file. If you select this option, you have the option of specifying a custom location and name for your log file in the Log file name edit box. If you do not select this option, the edit box will be disabled.
- **Log settings.** The option writes all of the runtime options to the log. If you select this option it will not be necessary to rerun a test when you have a problem. Should it be necessary to report a problem with the Build process or troubleshoot, it is important to know the settings that were



active.

We recommended selecting the Log to file option *and* Log to output window with a minimum logging level of Fatal errors and warnings. That way if you run into a problem, you already have the information that will be needed to research the problem. Otherwise you will have to run the process again with a higher logging level.

## Example Log Results

The following sections provide samples of the type information you can expect to see in your log output that correspond to the selections you make on the Logging tab.

### *Fatal Errors*

```
SQL Build process began on 7/30/97 at 8:46:46 PM for database OM51U20

Error: BI_BILL_BY_F_VW - Unable to retrieve current DDL space name. Alter
processed failed. (76,47)

Error: BI_CHARGE_VW - Unable to retrieve current DDL space name. Alter
processed failed. (76,47)

Error: PS_BI_CYCLE_VW - alter failed due to an unknown column type (UNDEFINED)
found for field BILL_CYCLE_ID. (76,22)

Error: PS_BI_IVCLAYOUT_VW - alter failed due to an unknown column type
(UNDEFINED) found for field INVOICE_LAYOUT_ID. (76,22)

Error: CARINA - alter failed because SQL table does not exist. (76,7)

SQL Build process ended on 7/30/97 at 8:54:34 PM.

2487 records processed, 11 errors, 0 warnings

SQL Build script for all processes written to file C:\TEMP\step38.SQL.

SQL Build log file written to C:\TEMP\step38.LOG
```

### *Warnings*

```
SQL Build process began on 8/27/97 at 4:00:32 PM for database DXD7L

Warning: ABSENCE_HIST2 - data would be truncated by altering REASON. Record
processed. (76,24)
```

### *Fatal Errors, Warnings and Informational*

```
SQL Build process began on 8/27/97 at 3:58:58 PM for database DXD7L

Warning: ABSENCE_HIST2 - data would be truncated by altering REASON. Record
processed. (76,24)
```



Error: ABSENCE\_HIST2 - field PAID\_UNPAID to be deleted has data present. Record skipped. (76,23)

Informational: ACCOMPLISHMT\_VW - view created and scripted successfully. (76,18)

Informational: ACCT\_AD2\_INV\_VW - view created and scripted successfully. (76,18)

Informational: ACCT\_ADJ\_INV\_VW - view created and scripted successfully. (76,18)

Informational: ACCT\_ISS\_INV\_VW - view created and scripted successfully. (76,18)

Informational: ACCT\_STK\_INV\_VW - view created and scripted successfully. (76,18)

Informational: ACCT\_TYPE\_VW - view created and scripted successfully. (76,18)

Informational: ACTION\_SP\_VW - view created and scripted successfully. (76,18)

Informational: ACTION\_XLAT\_VW - view created and scripted successfully. (76,18)

Informational: ADJUST\_INV2\_VW - view created and scripted successfully. (76,18)

Informational: ADJUST\_INV\_VW - view created and scripted successfully. (76,18)

11 records processed, 1 errors, 1 warnings

SQL Build script for all processes written to file C:\TEMP\PSBUILD.SQL.

SQL executed online.

SQL Build log file written to C:\TEMP\PSBLD.log

## ***Log Settings***

\*\*\*\* Begin Build Settings for this Run

Create Tables = No

Create Indexes = No

Create Views = No

Alter Tables = Yes

Log to File = Yes

Log to Window = Yes

Write comments to script = Yes

Always overwrite files = Yes

Execute SQL Now = No

Write SQL to script file = Yes

Logging level = Log fatal errors, warnings and informational messages



```

Alter execution option = Alter by table recreation

Table creation option = Skip table if it exists

View creation option = Drop and recreate view if it exists

Alter Adds = Yes

Alter Changes = Yes

Alter Renames = Yes

Alter Deletes = No

Write script output to: Single file

Log filename = C:\TEMP\psalter32a.LOG

Single script filename = C:\TEMP\psalter32a.sql

Alter drop column option = drop column if data present

Alter truncate column option = truncate column if data present

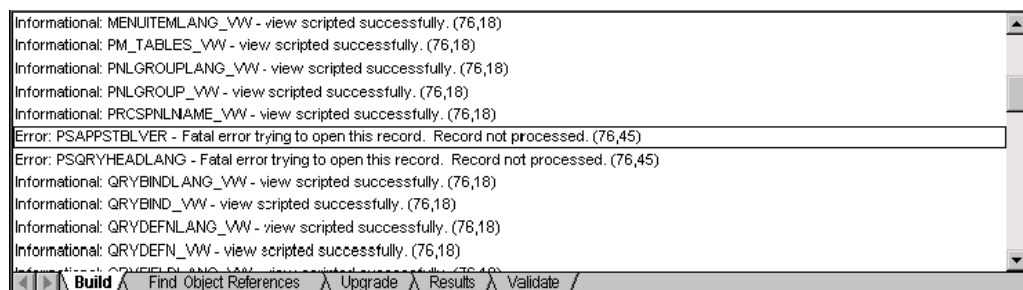
Target database platform = DB2

Target sizing set = 0

```

## Working with the Output Window

You can navigate from error messages in the Application Designer Output Window to the corresponding record definition by selecting the appropriate line in the Build log and double-clicking anywhere on that line. Application Designer will open the corresponding record in the Object Workspace.



Application Designer Output window

Also, you can double-click any line in the output window that corresponds to a file—not just record—and Application Designer opens that file with whatever application you have defined to open files with a given extension. For example, if you have SQL files associated with your native SQL command utility, your SQL utility will launch and load your PSBUILD.SQL script when you double-click the line that reads:

```
Single script file name = C:\TEMP\PSBUILD.SQL
```





Application Designer uses the standard Windows method for defining which programs are associated with particular file types. To modify the file associations, open My Computer and select **View, Folder Options** and select the **File Types** tab.

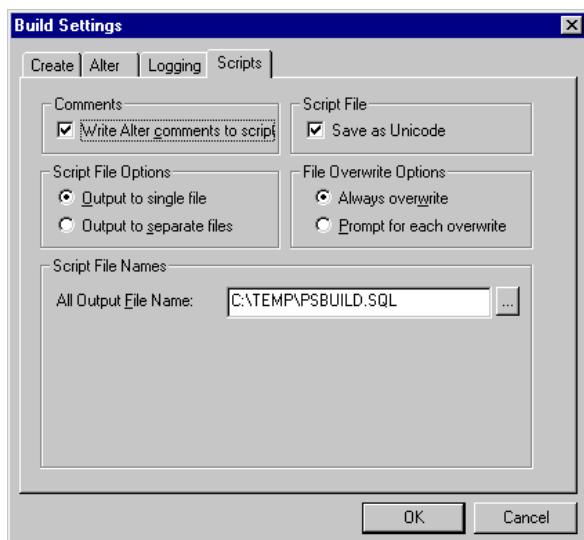
## Scripts Tab

If you've elected to build a script file, then the build process will generate a script file that contains all of the CREATE and/or ALTER SQL statements so that you can review them prior to running the SQL through another SQL command processor. If the generated script file meets your requirements, a DBA can run the script at a later date. The Build process can produce multiple scripts during a single run—one for each build option—depending on the script settings that you specify at run time. For example, you can specify that the Build process generate a separate script for your tables, views, indexes, and alters, or you can opt to have all the SQL for each action contained in one script.



**Important.** When executing your generated build scripts, there are two factors that you must keep in mind: use your platform specific SQL command tool and *do not* use Data Mover.

You use the Scripts tab on the Build Settings dialog box to specify where the SQL script is written, whether or not you want multiple scripts generated for each object type, and whether you want previous scripts overwritten.



Build Settings – Scripts tab

The following sections describe the options you can specify regarding the build scripts you will generate.



## Comments

The Write Alter comments to script check box is simply a switch allowing you to either include or suppress alter comments. The following example reveals the types of comments that you will find in your PSALTER.SQL script if you enable this option:

```
-- Alters for record PS_AE_RUN_CONTROL ;

--          AE_THREAD - change ;

--          OPRID - change ;


-- Start the Transaction ;


-- Data Conversion ;


-- Drop Old Indexes ;


DROP INDEX SYSADM.PS_AE_RUN_CONTROL

/

-- Add Columns ;


ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_1 DECIMAL(12,4)

/

ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_2 CHAR(12)

/

UPDATE PS_AE_RUN_CONTROL SET

    Z_TMP_ALTER_1 = AE_THREAD,

    Z_TMP_ALTER_2 = OPRID

/
```

If you do not choose to view the Alter comments, the script containing the same commands as the previous script would look like this:



```

DROP INDEX SYSADM.PS_AE_RUN_CONTROL

/

ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_1 DECIMAL(12,4)

/

ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_2 CHAR(12)

/

UPDATE PS_AE_RUN_CONTROL SET

    Z_TMP_ALTER_1 = AE_THREAD,

    Z_TMP_ALTER_2 = OPRID

/

```

### Script File

The default for the Save as Unicode check box is set based on the combination of the UNICODE/ANSI build and the UNICODE/ANSI database. This check box is enabled only when using MSSQLServer and Oracle databases. For all other platforms like Sybase, Informix, DB2, and so on, the check box will be permanently disabled, since the script files will always be ANSI.

The following table explains the default settings for the Save as Unicode check box:

<b><i>DB Platforms (Unicode as opposed to ANSI)</i></b>	<b><i>Default for Save as Unicode check box</i></b>
Unicode-Build Unicode-Database	Checked
Unicode-Build ANSI-Database	Unchecked
ANSI-Build ANSI-Database	Disabled

The script file option, Save as Unicode, is stored in the registry along with the other build settings. Therefore, the previous setting is always the default—every time the dialog box is opened.

The type of script file that gets generated during Build is based on the Save as Unicode check box setting for the UNICODE/ANSI build and UNICODE/ANSI database.

The details are as follows:

	<b><i>Save as Unicode Option</i></b>	<b><i>MSSQL Server</i></b>	<b><i>Oracle</i></b>
UNICODE-	Checked	UCS2 script	UTF8 script



Build			
UNICODE-Database	Unchecked	MSS quoted ANSI script	Oracle quoted ANSI script
UNICODE-Build	Checked	UCS2 script	UTF8 script
ANSI-Database	Unchecked	ANSI Script	ANSI script
ANSI-Build	Disabled	ANSI script	ANSI script
ANSI-Database			

## Script File Options

If you would like all of your CREATE TABLE statements to be written to one SQL script file and your CREATE INDEX statements to another, then select the **Output to separate files** option. On the other hand, if you prefer to have all of your statements—CREATE, ALTER, and so on—contained in a single file, then select the **Output to single file** option.



**Note.** Script files can be quite large. To reduce the size of files so that they are easier to manage, choose the **Output to separate files** option. Also, script files are never appended; they are either overwritten or the process can be aborted if you've elected to be prompted before a build script file is overwritten.

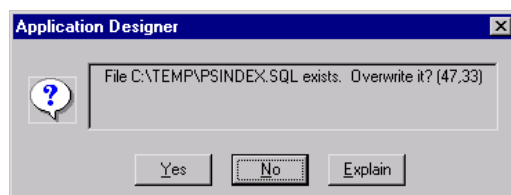
Notice that, depending on which output option you choose, the options in the Script File Names group box change to suit one file or multiple files.



For more information on specifying multiple script file names, refer to Script File Names.

## File Overwrite Options

The File Overwrite Options will indicate whether you want to automatically overwrite or be prompted before script files get overwritten. Your personal preference determines which technique you employ. If you don't mind that your previous build scripts get overwritten, then select **Always overwrite**. If you are more comfortable being alerted when a script is about to be overwritten, then select **Prompt for each overwrite**. The following example shows the type of prompt that appears to alert you of an impending script file overwrite.



Build script overwrite prompt



To avoid the possibility of overwriting files all together, you can opt to use a naming convention that will, in itself, prevent any overwrites. For example, you could specify a unique name for each build script, as shown:

```
C:\TEMP\PSINDEX1.SQL
```

```
C:\TEMP\PSINDEX2.SQL
```

## Script File Names

The options available to select in the Script File Names group box depends on your selection in the Script File Options group.

### *Output to Single File*

When you have Output to single file selected in the Script File Options group, just one edit box will appear in the Script File Names group box: All Output File Name. The default name for the generated script will be PSBUILD.SQL.



**Note.** Script files can be quite large. To reduce the size of files so that they are easier to manage, choose the **Output to separate files** option. Also, script files are never appended; they are either overwritten or the process can be aborted if you've elected to be prompted before a build script file is overwritten.

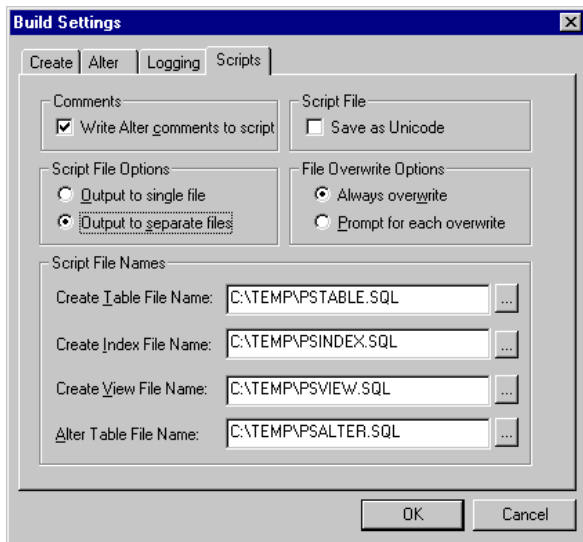
---

### *Output to Separate Files*

If you have Output to separate files selected in the Script File Options group, the following four edit boxes appear—one for each build option—in the Script File Names group box.

- **Create Table File Name.** The default name for this script is PSTABLE.SQL.
- **Create Index File Name.** The default name for this script is PSINDEX.SQL.
- **Create View File Name.** The default name for this script is PSVIEW.SQL.
- **Alter Table File Name.** The default name for this script is PSALTER.SQL.





Output to separate files

## Creating Tables

The Build process generates the appropriate SQL Create statements to build tables based on both your record definition and your platform. It prefaces each new application SQL table with a *PS\_* to identify it as an application built using PeopleTools. For example:

PS\_ABSENCE\_HIST

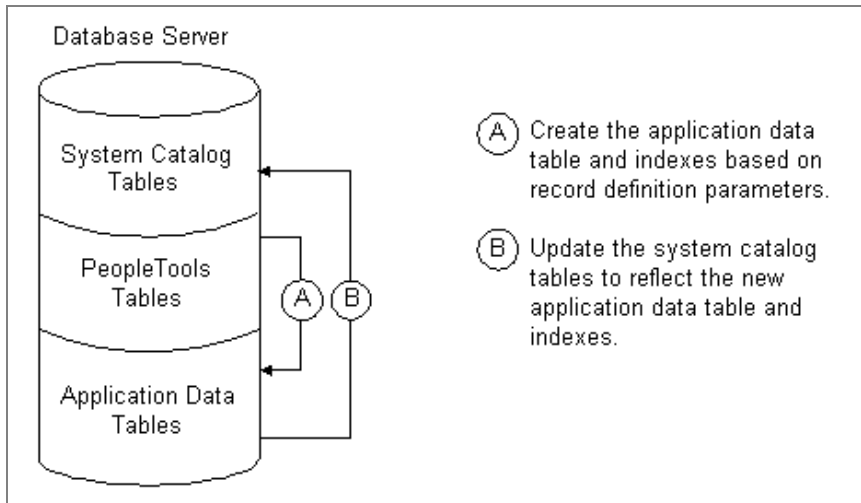


PeopleTools will not preface table names with *PS\_* if you have specified a custom name in the Non-Standard SQL Table Name edit box located on the Type tab on the Record Properties dialog box.

Build also creates the appropriate indexes. And, because Long Character fields operate more efficiently in some database environments when they're located at the end of the table, Build automatically positions Long Character fields at the end of the table for each database environment.

The Create Table process creates a new application table based on parameters defined in the record definition. When a new table is created, the DBMS updates the System Catalog tables to reflect the attributes of the new table.





Create table process

After you build an updated SQL build script and execute it, the PeopleTools tables and the System Catalog tables are synchronized; the record definition and the Application Data table are synchronized. The following table lists the steps of the Create Table process and the associated record definition parameters.

<b>Create Table Process</b>	<b>Record Definition Parameter</b>	<b>How Used</b>
Drop the table if it already exists.		
Create the application data table.	record definition name	table name (add <i>PS_</i> prefix)
	field name(s)	column name(s)
	field type	column type
	field length	column length
Create Index(es)	key field(s)	1 per table
	alternate search key field(s)	1 per alternate search key field
	additional list box item(s)	1 per table
	custom indexes	0 or more per table

The following procedure covers all of the high-level steps that you will need to successfully complete the Create Table build process. For steps that involve a variety of options you will find links to the area where those options appear in the PeopleBooks.

To create a table

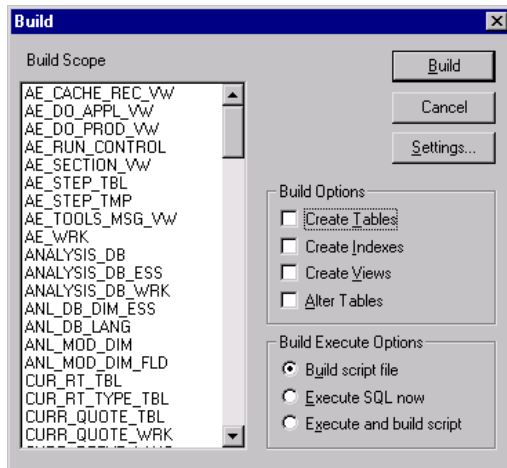
1. Open the project for which you want to build SQL tables.
2. Select Build, Project.



- From the **Build** menu, select the appropriate scope of your build.

You can opt to build the entire project, just the current object open in the Object Workspace, or selected records within an open project. For more information on selecting the appropriate scope, see Build Scope.

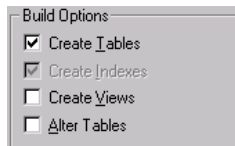
The **Build** dialog box appears.



Build dialog box

- Select Create Tables from the Build Options group.

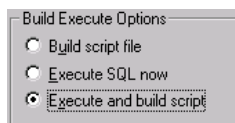
By doing so, PeopleSoft automatically activates the **Create Indexes** option. If you're creating tables, the indexes used to extract information from those tables will also need to be updated.



Build Options

Objects to be built appear in the **Build Scope** list box, which does not allow you to edit, remove, or add objects. See Build Scope for more information.

- Select one of the Build Execute Options.



Build Execute Options

The default execution option builds an SQL script file containing the commands to execute

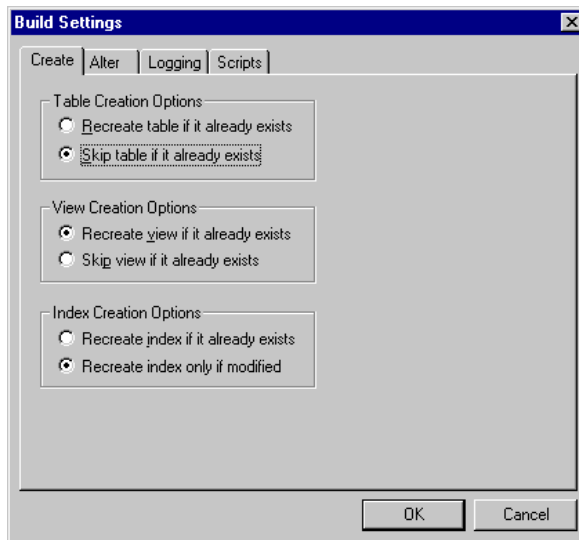


the selected Build Options. For more information refer to Build Execute Options.

6. Click the **Settings** button on the **Build** dialog box to set user-defined defaults.

The first tab is the **Create** tab.

7. Select the appropriate settings from the **Create** tab.



Build Settings – Create tab

These settings determine whether a new table will overwrite an existing table. Recreating an existing table removes the following from the database:

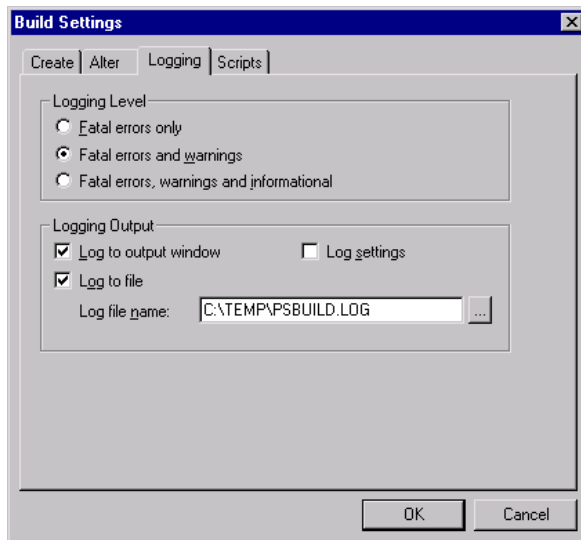
- All data contained in the table
- Views or grants referencing that table

For more information, see Create Tab.

8. Select the **Logging** tab and set your logging levels and associated options.

Settings on the **Logging** tab determine how much information you will get in a log file and how you would like to view that information. For more information about setting attributes see Logging Tab.

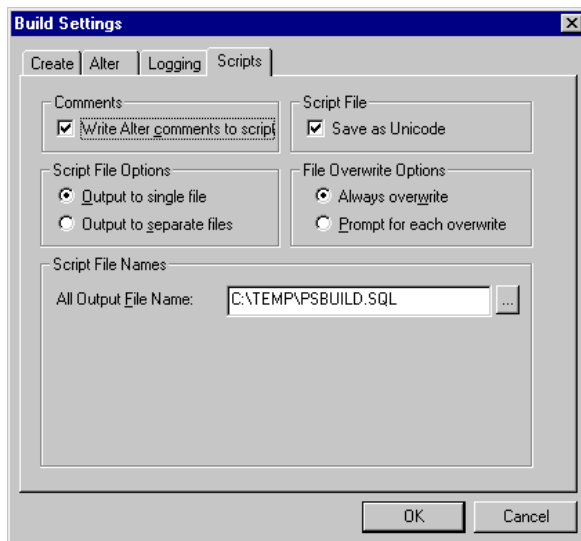




Build Settings – Logging tab

9. Select the **Scripts** tab and specify your script file options.

If you have selected **Execute SQL now** as your Build Option, you can skip the **Scripts** tab since you will be executing the SQL online. Settings on the **Scripts** tab are only relevant if you are going to build a SQL script to run at a later date. For more information see Scripts Tab.



Build Settings – Scripts tab

10. Click **OK** to dismiss the **Build Settings** dialog box
11. On the **Build** dialog box, press **Build** to execute your Build Option.

The length of a build process depends on the number of objects that require building. Watch the **Build Progress** dialog box to monitor the build process. When the process completes



check any errors listed in the log file.

To confirm your table build

1. Review the SQL script generated by the build process.

Use your native SQL command processor to open the SQL script. The script will be located where you specified on the Scripts tab on the Build Settings dialog box.



If you are executing SQL online, you may skip to step 3.

---

2. Run the script against your database.
3. Confirm that the table(s) now exist.

Use your query tool and SQL Select statements to confirm that the Create Table process has created an application table that corresponds to your record definition and has updated the system catalog tables. The SQL statement you use to confirm depends on the table you've just created.

## Creating Online Views

When you create views to use online, you must keep the views synchronized with the database. Like SQL tables, you must have a record definition for online views because the system looks to the record definitions for online processing rules. And you must build the view before you can use or reference it online.

If you use a view as the basis for a page, you select *existing* information to display on the page. So, when you create the record definition for your view, you can clone an existing record definition, delete any fields *not used* in the view, and proceed to define the view. Query views are processed the same way as view text, which is defined as part of the record.

If you're already familiar with creating record definitions and writing SQL queries, you'll find that creating online views is quite similar.

To create online views

1. Clone a record definition.

Open an existing record definition, and then select **File, Save As**. Specify the name of the view you want to create.

2. Delete and add the appropriate fields.

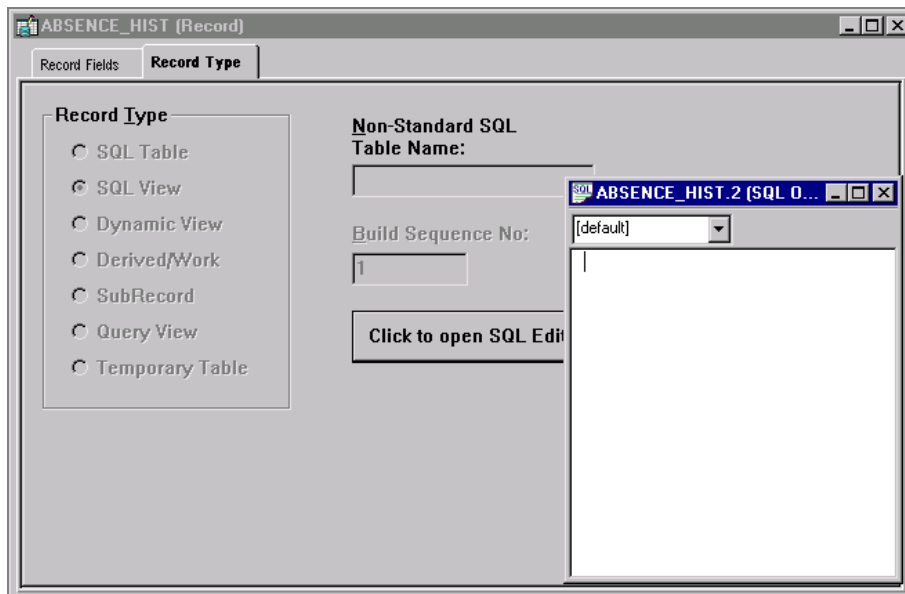
All columns selected in your view should have a corresponding field in the record definition.

3. Set the Record Type to **SQL View**.



Select the **Record Type** tab for the record definition. Select **SQL View** in the **Record Type** group box.

4. Click on the **Click to open SQL Editor** button.



Opening the SQL Editor from the Record Type window

Make sure the order you list the columns in your SQL SELECT statement matches the order specified in the record definition.



For more information about the SQL Editor see Creating SQL View and Dynamic View Select Statements.



The table names need to be prefixed with *PS\_*.

5. Save the record definition.
6. Select **Build, Current Object** to create the view in the database.
7. Select **Create Views** check box under **Build Options**, and press **Build**.

## Using Joins in Views

If you plan to use a particular join on a regular basis, you could save it as a SQL script, or you could create a view—a single virtual table—using the join as the logical representation of the data. Once you create a view, the users never need to know that the data they're viewing is really



stored in multiple tables. To them, the relative complexity of your view is transparent. For example:

```
SELECT A.EMPLID,  
  
       A.NAME,  
  
       B.CONTACT_NAME,  
  
       B.RELATIONSHIP  
  
FROM   PS_PERSONAL_DATA A,  
  
       PS_EMERGENCY_CNTCT B  
  
WHERE  A.EMPLID = B.EMPLID;
```

---

## Cross-Platform Meta-SQL for Dynamic Views

PeopleTools includes functionality to produce *meta-SQL* constructs for dynamic views. This means any dynamic SQL views created using Application Designer can be used on any platform supported by PeopleSoft. The PeopleCode Developer's Guide contains a full list of the Meta-SQL supported in the PeopleSoft Internet Architecture.



For more information on Meta-SQL, refer to Meta-SQL Placement Considerations.

---

## Altering Tables

The Alter feature enables you to make changes to your record definitions at any time without losing the application data that is already housed in the table. In order to ensure that the Alter process produces the desired results, it is important to be aware of when to Alter an existing table and of what types of conversions Application Designer supports. If you want to preserve data stored in tables but need the table to reflect a recent change in the definition, use the alter tables function to make the appropriate changes.

The Alter function greatly simplifies the process of modifying database tables when new data fields are added or existing data fields are modified. It effectively eliminates the need to write SQL statements to perform the same function.

We specifically designed the Alter function not only to automate the tedious task of writing alter scripts, but also to protect the integrity of your database. In essence, it protects your interests by ensuring that you always control data loss. Alter performs tests that verify if data will be lost during the conversion on each column to be altered. Data loss normally would occur when reducing the character width of a column, dropping a column that contains data, or converting a number field to a character field that is too small.

The generated statements for this method are sent to a SQL script file—the alter script. Once the script has completed, you are responsible for re-applying any SQL table DDL you applied outside



of PeopleTools. Typically, this consists of GRANT and REVOKE statements controlling security.

---

## Alter Settings

The Alter tab in the Build Settings dialog box handles the most common types of data conversions, including:

- Increasing the length of character fields.
- Changing a character (CHAR) field to a long character (LONG VARCHAR) field.
- Increasing the size of number or character fields.
- Reducing the decimal positions in number fields. If any column of the table has data that will be lost when truncating, system action is determined by the Change Column Length Options.
- Changing integer-only number fields to character fields, where the character field is formatted with leading zeros. If any column of the table has a number that will not fit in the new character field, system action is determined by the Change Column Length Options. This prevents data from being lost.
- Adding columns to SQL tables.
- Dropping columns from SQL tables.
- Renaming columns in SQL tables.
- Renaming SQL tables.
- Moving tables to a new tablespace.

The following sections describe the types of Alter conversions that you can expect to occur within the Build process.

---

## Data Conversions

When altering tables with existing field data, the Application Designer handles conversions as outlined in the following table. A number in the cell following a “Yes” indicates that there are restrictions involved with the conversion. Refer to the corresponding numbered note following the table for additional information.

<i>Old Format</i>	<i>New Format</i>								
	<i>Character</i>	<i>Long</i>	<i>Image</i>	<i>SmallInt</i>	<i>Integer</i>	<i>Decimal</i>	<i>Date</i>	<i>Time</i>	<i>DateTime</i>
		<i>g</i>	<i>e</i>						
<i>Character</i>	Yes (1)	Yes	No	No	No	No	No	No	No
<i>Long</i>	Yes (1) (2)	Yes	Yes	No	No	No	No	No	No



<b>Image</b>	No	No	No Action	No	No	No	No	No	No
<b>SmallInt</b>	Yes (5)	No	No Action	No	Yes (4)	Yes (4)	No	No	No
<b>Integer</b>	Yes (5)	No	No	Yes (4)	Yes (4)	Yes (4)	No	No	No
<b>Decimal</b>	Yes (7)	No	No	Yes (3)	Yes (3)	Yes (3)	No	No	No
<b>Date</b>	No	No	No	No	No	No	No Action	No	No
<b>Time</b>	No	No	No	No	No	No	No Action	No	No
<b>DateTime</b>	No	No	No	No	No	No	Yes (6)	Yes (6)	No Action



On Oracle, PL/SQL is required to use Application Designer's Build operation.

The following table contains additional information corresponding to the number that appears in some cells in the previous table.

<b>Note #</b>	<b>Restriction</b>
<b>1</b>	If data fits or data truncation is allowed.
<b>2</b>	Not allowed in Oracle.
<b>3</b>	If data fits or data truncation allowed (for decimals portion only).
<b>4</b>	If data fits. No data truncation can occur even if option to allow data truncation.
<b>5</b>	If data fits except for Informix.
<b>6</b>	If data truncation is allowed.
<b>7</b>	If data fits, <i>except</i> if data has decimal values <i>or</i> for Informix.

## Alter Tips

The following sections offer information that you should keep in mind as you create and run the Alter scripts.



## Temporary Tables Used During Alter

When you run the Alter process, the script may create a temporary table. Temporary tables are named PSY%tablename%, and they are created in the altered table's tablespace—the tablespace currently defined in the record definition.

## Altering Tables Containing Logs on Oracle

Oracle does not allow an INSERT or SELECT FROM command if the table contains a LONG VARCHAR or LONG RAW. As a result, we use an Oracle PL/SQL (procedural language) script to do alters on tables in Oracle that contain any type of LONG data type.

## View Dependencies

Application Designer does not keep track of view dependencies. When the structure of a table changes, it is a good idea to recreate all views. Many database environments track this information so you may be able to determine view dependencies by issuing a query directly against the system catalog. However, please be aware that if you are not the DBA, you may not have the authority to successfully run such a query.

The order in which PeopleTools creates views is based on the Build Sequence Number set on the Record Type tab while the record is open. The default for the Build Sequence Number is 1. In order for the dependent views to be created first, the Build Sequence Number should be set to 0. This way all the "0" views will be created first, then the "1"s, and finally the views that are greater than 1. Even though the views are sorted in alphabetical order within the project, they are created based on the Build Sequence Number setting.



For more information see [Creating SQL View and Dynamic View Select Statements](#).

---

## Alter Script

Once you invoke the Alter process, the system uses the default value defined in the record definition to populate the column on the altered table as needed. The alter script generated contains detailed comments (--) to assist you if you need to modify the script manually.

## Oracle Considerations

When you alter a SQL View in the Oracle database platform, dependent views are not dropped nor are they validated. In other database platforms, dependent views are dropped but not recreated.

Also, renaming or dropping a table, view, or column may invalidate view text, dynamic view text, and possibly other stored queries.



## When to Alter Tables

The following record definition changes affect synchronization with the application table and require an Alter process:

- Add or delete a field on the record.
- Modify the length of a field.
- Change the required status of a field that is date, time, datetime, or long.

The Alter Table process is similar to the Create Table process except that it does not drop existing application data tables and the data they contain. The following procedures outline the steps you would take to alter your tables. As far as running the Alter process, it is very similar to the Create Table process except for additional selection on the Alter tab in the Build Settings dialog box.

To determine tables to be altered after a field change

1. Create a new Project
2. Open the altered Field.
3. Select Edit, Find Object References.

The referenced objects will appear in the Output Window.

4. Select all the rows that appear in the Output Window.
5. Right-click the selected rows, and select Insert Into Project from pop-up menu.

To alter a table

1. Open the project for which you need to perform an Alter.
2. From the **Build** menu, select the appropriate scope of your build.

You can opt to build the entire project, the object currently open in the Object Workspace, or selected records within an open project. Upon selection, the **Build** dialog box appears. For more information on selecting the appropriate scope, see Build Scope.

3. Select Alter Tables from the Build Options group.

Selecting the Alter Tables option automatically selects and disables the **Create Indexes** option. In the Build Execute Options, only **Build script file** is enabled.

4. Click the **Settings** button on the **Build** dialog box to set user-defined defaults.

Select the appropriate Alter, Logging, and Scripts settings for the Alter you want to perform.



For more information see Choosing Build Settings.

---



5. On the **Build** dialog box, press **Build** to execute Alter Tables.

The length of a build process depends on the number of objects that require building. Watch the **Build Progress** dialog box to monitor the build process. When the process completes check any errors listed in the log file.

To confirm your table alter

1. Review the SQL script generated by the alter process.

Use your native SQL command processor to open the SQL script. The script will be located where you specified on the **Scripts** tab on the **Build Settings** dialog box.

2. Run the script against your database.
3. Confirm that the alter table(s) altered the tables correctly.

Use your query tool and SQL Select statements to confirm that the Alter Tables process has created an application table that corresponds to your record definition and has updated the system catalog tables.

## Data Administration

Go to **Tools, Data Administration** to access critical dialogs that allow you to define record location, structure and a number of other guidelines for your PeopleTools to extract information from your selected database. Change Record Indexes adds and edits Indexes. You are also able to edit the Record DDL. This lets you examine database parameters and default values for each appropriate database. While discussing Indexes, the elements in this menu group will be discussed frequently

---

### Indexes

Indexes are an important part of your physical database, because they have a huge impact on the efficiency and speed with which your application can store and retrieve data. PeopleSoft application indexes are defined in two ways.

Some indexes are defined for you automatically, based on the key, search key, list box items, and alternate search keys you specified on your record definition. These indexes are used by the Application Processor for quick access when you use the online system.

However, it is sometimes necessary to define additional indexes to improve the performance of demanding queries, reports, or batch programs. These additional indexes are defined and modified using Application Designer's data administration tools.



---

## Creating Indexes

When you SQL Create or SQL Alter a table, the system automatically builds database indexes to the SQL table based on the keys and list items you specify in the record definition. Your database uses indexes to find objects in the database the same way you use indexes to find specific information in a book. As long as there is an index entry for a specific field on a table, it can search and quickly find what it needs to complete your request, otherwise it must search through the contents of the entire table.

Indexes serve to enhance system performance by generating key lists that the application processor uses to extract the data it uses to populate pages and search records. The system automatically creates:

- **Standard Indexes** (key or duplicate order key indexes) if at least one field in the table is a key or duplicate order key. The index contains all key and duplicate order key fields. The system automatically names this index with a prefix of *PS\_*.
- **Alternate search key indexes** for each alternate search key. The system automatically names this index with a prefix of *PSn*, where *n* is a number between 0 and 9.
- **Custom indexes** can be defined with the **Edit Index**, **Edit DLL**, and **Add Index** dialog in the Application Designer Administration Tools. The system automatically names this index with a prefix of *Psa*, where '*a*' can be any letter in 'A' through 'M'.



Custom Indexes are not automatically created.

---

For most database tables (those with unique keys), the Key index defines unique keys for a table. But the Component Processor also uses it to access high-level keys and orders by all keys. The Alternate Search Key indexes support the search record and field prompts. The purpose of all these different indexes is to enable the Component Processor to respond to all system prompts through index-only SQL access, minimizing direct database table access.



If you are using Create Table or Alter, the Create Index option will automatically appear selected. With the Create Table or Alter table option, you can't deselect the Create Index option.

---

The following record definition changes require the creation of new indexes:

- Add, delete, or modify keys, duplicate order keys, alternate search keys, or descending keys.
- Change the order of keys (ascending as opposed to descending).

---

## Customizing Indexes

For performance tuning purposes, you may want to change the order of your index keys from time to time. The Application Designer provides you with direct control over all the indexes



created by PeopleTools. You can inspect, add, or change all defined indexes or delete custom indexes for any given record in the system via the Change Record Indexes dialog.

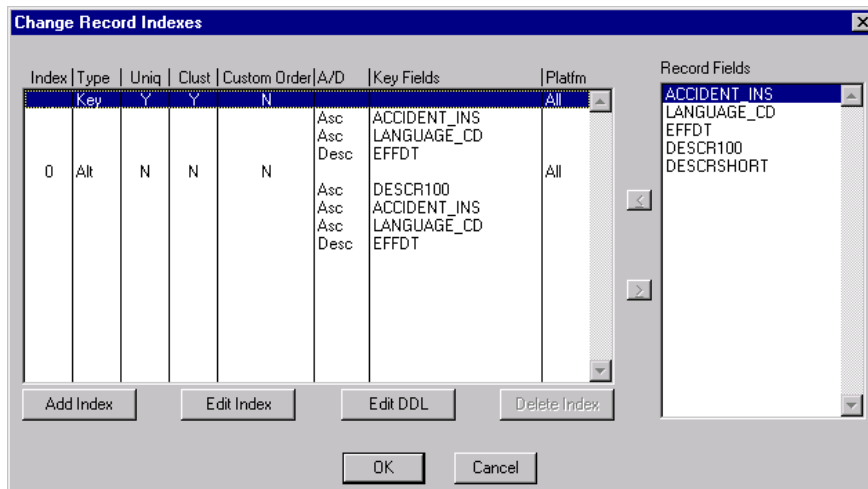
Standard indexes are based on the key, duplicate order key, or alternate search key only. But with the Change Record Indexes dialog box, you can modify those indexes and create additional indexes, which may be required if you do custom processing. Any of the indexes entered can be maintained for all or a specified list of database platforms. All indexes and keys created by PeopleTools are stored in PeopleSoft system tables.

## Change Index Key Order

To edit index key order

1. Open the record definition for which you want to make the custom index.
2. Select Tools, Data Administration, Indexes.

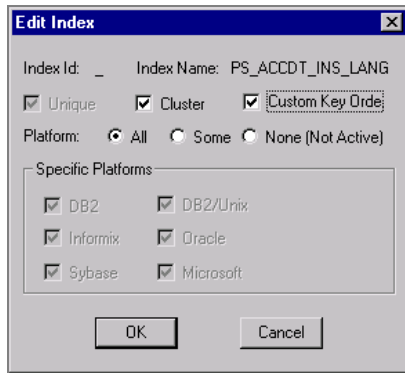
The Change Record Indexes dialog appears. The Custom Order column indicates whether the index keys have been customized. The default selection is 'N' indicating that no customization has been made.



Change Record Indexes

3. Double-click on the N or Y in the Custom Order column for the index you want to alter or click **Edit Index**.
4. Select the **Custom Key Order** and click **OK**.





Edit Index dialog box

Notice the Custom Order entry has changed from an 'N' to a 'Y'.

5. Drag and drop the field you want to move into the desired order.

After customizing the key orders, if you want to reset the key order of the index to the original order as defined in the record definition, deselect the Custom Key Order (Y to N) and click OK. You can notice the orders of the key fields reset to the original position in the "Change Record Indexes" dialog.

6. Check the key order in the Use Display mode of your record definition.

Note that the 'Num' column represents the original order of the keys in your record and the 'Ordr' column reflects the key order in the index.

ACCCTD_INS_LANG [Record]											
Record Fields											Record Type
Num	Field Name	Type	Key	Ordr	Dir	Cur	Srch	List	Sys	Audt	Default
1	ACCIDENT_INS	Char	Key	2	Asc		Yes	Yes	No		
2	LANGUAGE_CD	Char	Key	3	Asc		No	No	No		
3	EFFDT	Date	Key	1	Desc		No	No	No		%date
4	DESCR100	Char	Alt		Asc		No	Yes	No		
5	DESCRSHORT	Char					No	No	No		

Use Display view of record definition

7. Create the indexes.

Select **Build, Current Project**, and select **Create Indexes** in **Build Options**. Also, make sure that you've selected all the desired build settings.

8. Run the build process.

Either generate a script or execute SQL online.



9. Confirm the construction of the new index with your native SQL command processor.



Users may also customize indexes for parent records that contain one or more subrecords without key fields, such as the subrecord ADDRESS\_SBR. However, if the subrecord(s) contains key fields, index key order changes are restricted. The Custom Key Order option is deactivated and cannot be changed from 'N' to 'Y'. Any index key order changes to the parent must be made prior to inserting the subrecord.

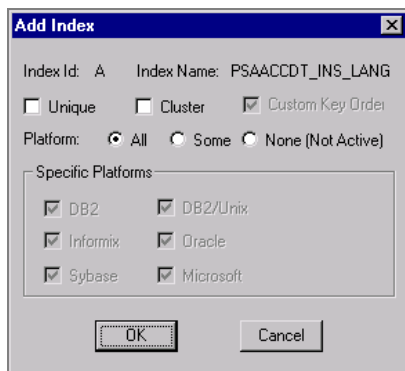
## Add a Custom Index

To add an index

1. Open the record
2. Select Tools, Data Administration, Indexes.

The Change Record Indexes dialog box appears.

3. Click on **Add Index**.




Add Index dialog box

The **Add Index** dialog allows you to determine for which database platforms you would like to define the index if you chose the **Some** option for the **Platform**. Notice that the Custom Key Order function has been checked for you to ensure that the underlying record definition is not adversely impacted by the change to your index.

4. Indicate the database platforms for which you'd like to create the index, and press **OK**.

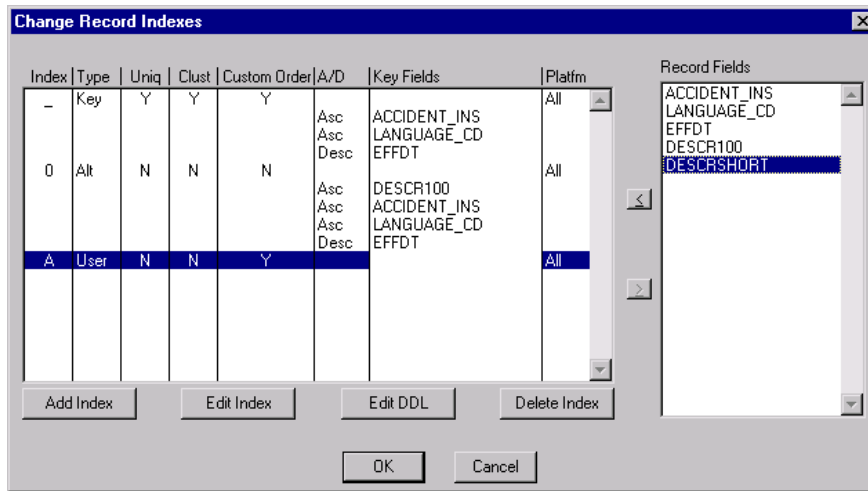
Notice that a row is added to the **Change Record Indexes** dialog and the  and  buttons have been enabled.

5. Move the field under the new index row.

In the **Record Fields** list box, select the field you want indexed and use the  button, or



double-click on the field. Repeat this step for each field you want to add.



Selecting fields for index

6. Click **OK** and save the record definition.
7. Select Build, Current Project, and select Create Indexes under Build Options.  
Also, make sure that you've selected all the desired build settings.
8. Run the build process to either generate a script or execute SQL online.
9. Run the generated SQL script if you opted to generate one.
10. Confirm the construction of the new index with your native SQL command processor.

## Edit DDL

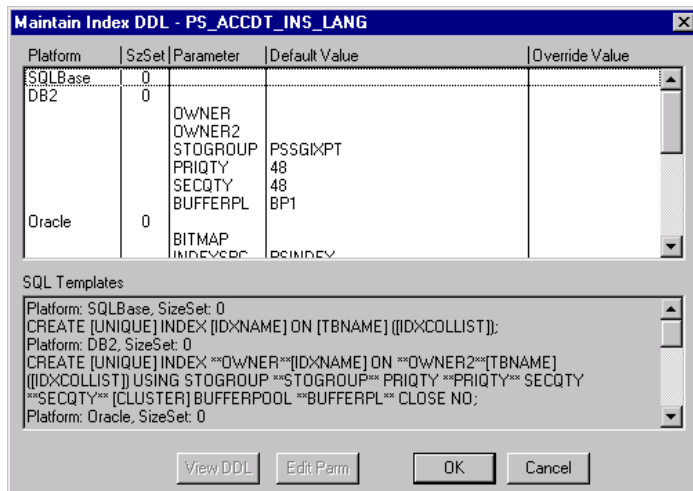
In the Change Record Indexes dialog box, you have the opportunity to edit the DDL. You can view the DDL for the index and override DDL parameters defined in the DDL model for this index.

To edit the DDL

1. In the **Change Record Indexes** dialog box, highlight the index you want to edit.
2. Select the **Edit DDL** button.

The **Maintain Index DDL** dialog box opens.



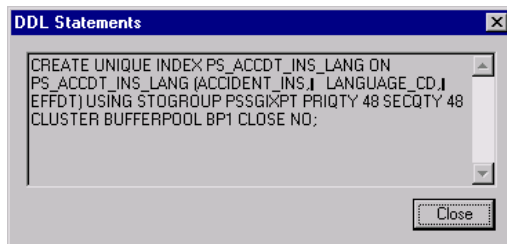


Maintain Index DDL dialog box

The upper list box of this dialog selects the platform and DDL parameter, and the lower list box shows the DDL templates for the various platforms. Your database may have fewer platforms enabled. The sizing set allows different collections of tables to have different model statements and parameters.

3. Select the platform and sizing set, and click **View DDL**.

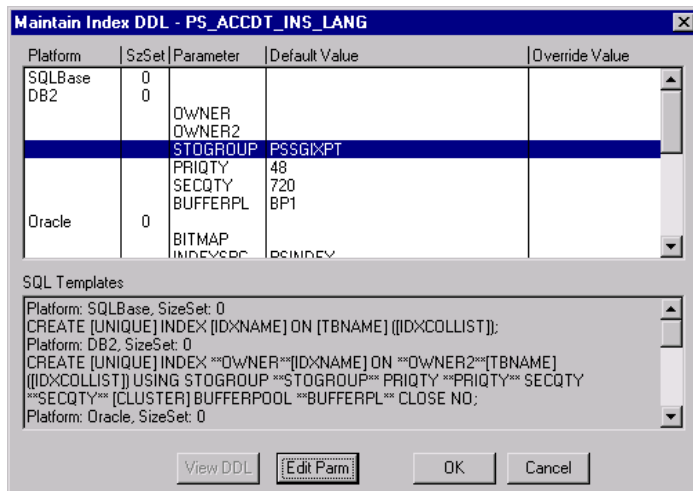
The dialog that appears shows the index DDL for the platform and sizing set you selected. Review this DDL statement.



DDL Statements dialog box

4. Select the **Close** button when finished.
5. Select the parameter in the upper list box you want to edit.





Maintain Index DDL with parameter selected

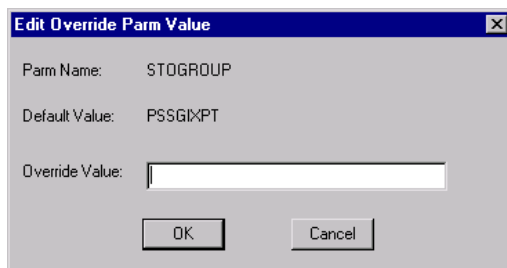
The Default Value is set in the DDL Model Defaults dialog box. You can change this setting by selecting **Go, PeopleTools, Utilities, Use, DDL Model Defaults** in Application Designer or by selecting **PeopleTools, Utilities, Use, DDL Model Defaults** in the browser.



For more information see DDL Model Defaults.

- Click on the **Edit Parm** (Edit Parameter) button.

The **Edit Override Parm Value** dialog box appears.



Edit Override Parm Value dialog box

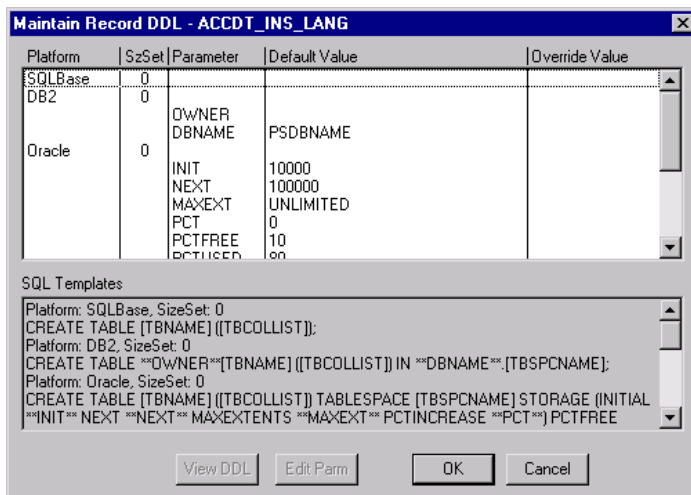
- Enter the **Override Value** for the parameter you selected.
- Select **OK** for both open dialog boxes.

## Record DDL

You use Record DDL to define parameters and default values for the tables in your database. PeopleSoft provides templates for each database platform that we support. The templates contain



the typical parameters for each database platform. The mechanics of editing and viewing record, index, and unique index DDL is the same as space DDL.

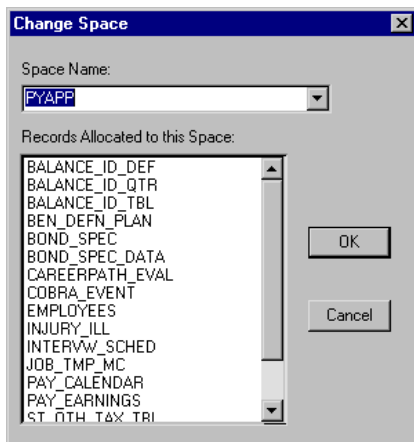


Maintaining Record DDL

The Maintain Record DDL panel shows the platform, parameters, and default values.

## Set Tablespace

The Change Space dialog appears if you select Tools, Data Administration, Set Tablespace. This is an editing tool where you can select the Space Name and view the Records attributed to the named space on the database.



Change Space dialog box

You can create new tablespace names by typing the new name in the Space Name drop-down box.

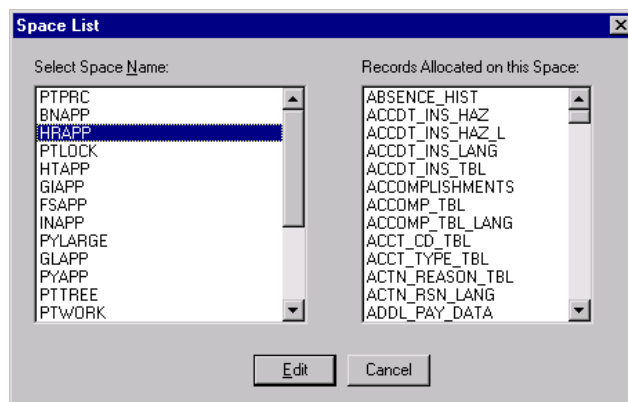


## Tablespace DDL

You use the Space List dialog box, located under Tools, Data Administration, Tablespace DDL to maintain physical table space for records. PeopleSoft provides several tablespace names, PTTBL for PeopleSoft system tables, that you can customize to fit your shop requirements.

- Most application tables go into a space named xxAPP, following the PeopleSoft naming convention, where “xx” is the product code (FS, HR, PT, DS, and so on).
- Any table that has an image data type should be put into the PSIMAGE space. These tables need a larger bufferpool in DB2. Also in this space should be any table with a long character field that is longer than 4K.
- Most PeopleTools tables are in PTTBL. The exceptions are that PTPRC contains several Process Scheduler tables that have concurrency problems in DB2 and need to be separated.
- Tables that will become very large in a common implementation of the product should be identified and put in a separate space called xxLARGE, where the xx is the product code.

Database Administrators may wish to change the space names based on considerations such as high volatility or unusual growth.

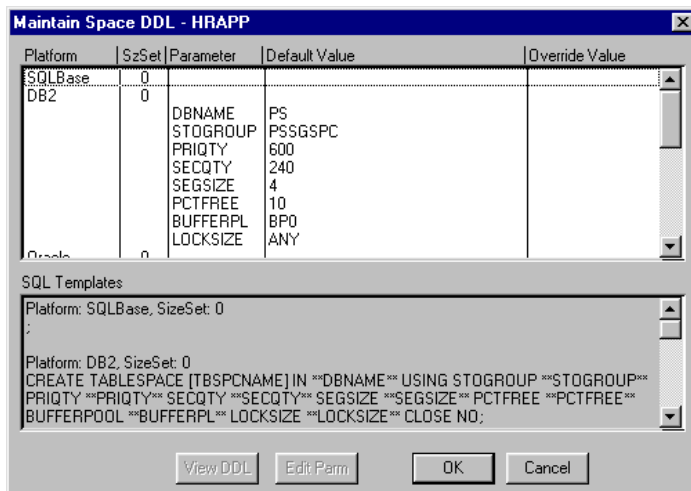


Space List dialog box

By selecting a space name and clicking Edit, the Maintain Space DDL dialog box appears.

A PeopleSoft Tablespace DDL is simply a platform-specific template containing tablespace parameters and default values for each database platform PeopleSoft supports. In some environments, very few parameters are used. In others, you have control over a significant number of parameters. Database Administrators can modify the model templates to use more platform specific features.





The 'Maintain Space DDL - HRAPP' dialog box contains a table with columns: Platform, SzSet, Parameter, Default Value, and Override Value. It lists parameters for DBNAME, STOGROUP, PRIQTY, SECQTY, SEGSIZE, PCTFREE, BUFFERPL, and LOCKSIZE. Below the table is a section for SQL Templates showing the generated DDL for both SQLBase and DB2 platforms. At the bottom are buttons for View DDL, Edit Parm, OK, and Cancel.

Platform	SzSet	Parameter	Default Value	Override Value
SQLBase	0			
DB2	0	DBNAME	PS	
		STOGROUP	PSSGSPC	
		PRIQTY	600	
		SECQTY	240	
		SEGSIZE	4	
		PCTFREE	10	
		BUFFERPL	BP0	
		LOCKSIZE	ANY	

SQL Templates

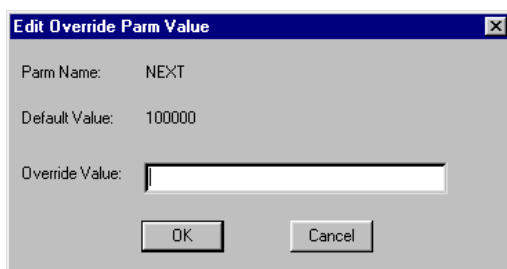
Platform: SQLBase, SizeSet: 0  
;

Platform: DB2, SizeSet: 0  
CREATE TABLESPACE (TBSPCNAME) IN \*\*DBNAME\*\* USING STOGROUP \*\*STOGROUP\*\*  
PRIQTY \*\*PRIQTY\*\* SECQTY \*\*SECQTY\*\* SEGSIZE \*\*SEGSIZE\*\* PCTFREE \*\*PCTFREE\*\*  
BUFFERPOOL \*\*BUFFERPL\*\* LOCKSIZE \*\*LOCKSIZE\*\* CLOSE NO;

View DDL Edit Parm OK Cancel

Maintain Space DDL

For example, in the DB2 environment we provide default values for DBNAME, STOGROUP, PRIQTY, SECQTY, SEGSIZE, PCTFREE, and BUFFERPL. You can use the default values or apply override values by selecting **Edit Parm**.



The 'Edit Override Parm Value' dialog box shows the 'Parm Name' as NEXT and the 'Default Value' as 100000. There is an empty text field for the 'Override Value'. At the bottom are OK and Cancel buttons.

Parm Name: NEXT

Default Value: 100000

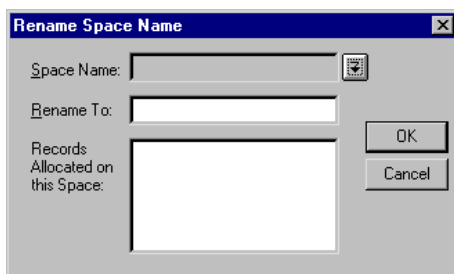
Override Value:

OK Cancel

Overriding a tablespace parameter value

## Rename Tablespace

The Rename Space Name, located under Tools, Data Administration, Rename Tablespace, allows you to change the name of the Tablespace. This is accomplished by selecting the tablespace from the Space Name drop-down list and renaming it in the Rename To edit box. Again, you are able to view the records associated with the tablespace in the Records Allocated on this Space list box.



The 'Rename Space Name' dialog box has a 'Space Name' drop-down list, a 'Rename To' text field, and a list box for 'Records Allocated on this Space'. At the bottom right are OK and Cancel buttons.

Space Name:

Rename To:

Records Allocated on this Space:

OK Cancel

Renaming a space name



## Physical Data Storage

You have control over the physical storage of your data. The DDL for creating tablespaces, indexes and tables can be viewed and edited in the browser. From the Home page of your application, select **PeopleTools, Utilities, Use, DDL Model Defaults**. At the DDL Model Defaults Search page press **Enter** to view Platform Names and select one. The DDL Model Defaults page appears.

DDL Model Defaults

Platform ID: 5 ALLBASE Copy...

Sizing Set: 2

Statement Type: Table

\*Model SQL: CREATE PUBLIC TABLE [TBNAME] ([TBCOLLIST]) IN \*\*FILESET\*\*

Parameter Count: 1

DDL Parm	DDL Parameter Value
FILESET	FILE

Save Return to Search

DDL Model Defaults page

The Model SQL edit box shows the DDL template for the specified platform and sizing set. The items in [] brackets are special parameters that are filled out when instances of SQL are generated. For example, the screen above shows an index model statement for ALLBASE. In this example,

- [TBNAME] is the name of the table, and
- [TBCOLLIST] is replaced by the columns specified in the index definition.

The model statements also contain parameter names enclosed in pairs of “\*\*” characters. A parameter name will be replaced by a value when instances of the SQL are generated. In the example shown above there is one parameter, \*\*FILESET\*\*. When DDL is generated using this model, the FILESET parameter will be replaced by FILE, unless overridden for the specific record or tablespace. The other text in the model statement is copied to the generated SQL.



## CHAPTER 6

# Creating Page Definitions

Pages are the graphical interface between your users and your application database. As a system designer, your mission is to configure or build pages that not only meet the data requirements of the application, but are also easy to use and understand. The intuitive interface of Application Designer's page definition mode enables you to create custom, internet-ready pages that can be immediately available to the user without writing any HTML code.

Using Application Designer you can create, modify, and delete page definitions within your PeopleSoft system. This section describes: the tools at your disposal as you create pages, page design considerations, the controls you'll use to create pages and their property settings, and page production steps.

## Page Development Tools

PeopleSoft equips you with an abundance of helpful tools to create new or modify existing internet pages. These tools can be used to finesse the pages that come with your product or they can be used to create completely new pages and transactions for your system. The tools we provide will make this customization nearly painless and possibly even fun.

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### Menus

As you build pages, you'll rely on the tools and options in the following menus. Most of these tools will seem familiar if you're comfortable with Windows and the elements of PeopleSoft pages. The rest will become familiar as you hone your page development skills.

#### File Menu

Within the File menu, you'll find options for creating new pages, opening existing pages, as well as different options for saving your pages. This is also where you go to print your page definitions and, if necessary, change your printer settings.

You can rename pages in the Rename dialog box, and you can delete pages in the Delete dialog box. You can also access the Object (Page) Properties and the Page Field Properties for the selected control from the File Menu.



## Edit Menu

Here, you'll find the standard Windows options for Cut, Copy, Paste, and Delete. You can also access the Page Field Properties from this menu. There are different options for selecting controls and groups of controls. To find out what other objects reference the active page, you can select Find Object References from this menu. You can also search for a text string in types of PeopleCode or SQL objects.

## View Menu

View Definition enables you to view the underlying definition, such as the subpage or the record, for the selected control. You can view the PeopleCode for the page or the underlying record definition. View Internet Options provides additional options for many of the controls to function or display themselves more appropriately in an internet browser. The default is set to on. To change the default setting, clear the View Internet Options Only check box on the Tools, Options General tab dialog.

Edit Fill Display, Edit Fill All, and Edit Fill None refer to how controls are displayed only during design time. They do not affect the page during runtime. Use the Show Object Inspector tool to precisely position and size controls on your page. Use Show Grid to display or not display a layout grid on the page you are designing (to help you place controls more accurately.) The other items on the View menu control the appearance of Application Designer.

## Insert Menu

Use the Insert menu to insert different types of controls on your page. You can also use it to insert the page you are working on or other objects into a project.

## Tools Menu

The Tools menu gives access to various utilities, such as Data Administration, Change Control, Upgrade, and Translate. You can also control some Application Designer settings using Options.

## Layout Menu

Use the Layout menu to modify the number of pixels between points on the layout grid on the page. Options on this menu will also allow you to align page controls. You can also use this menu to view the processing order of the controls on the page. You'll also find a Test Mode option, which can be helpful if you want to test the tabbing order between fields on your page. The View in Browser function enables you to see the page as your users will in the selected browser. The Generate HTML function creates a text file containing the HTML for your page and places it in the TEMP directory of your local drive.



## Toolbars

The toolbars in Application Designer morph, depending upon what window is currently active. When a page window is active you will see the Page Definition Toolbar and the Page Controls Toolbar.

### Page Definition Toolbar








The page definition toolbar includes buttons for page construction, setting properties, accessing help, and viewing your page in the browser.



Page Definition Toolbar

<i>Icon</i>	<i>Title</i>	<i>Description</i>
	Properties	Same as ALT+ENTER. Opens the Page Properties dialog box.
	Project Workspace	Same as View, Project Workspace or ALT+0. Toggles the display of the Project Workspace to the left of the page.
	Select Group	Same as Edit, Select Group menu item or CTRL+P. For selecting several controls at once.
	Default Ordering	Same as Layout, Default Ordering menu item. Reorders all the fields of the page on the basis of their relative location on the page.
	Test Page	Same as Layout, Test Mode menu item, or CTRL+T. Test Mode is helpful in testing the tabbing order of your page design while still in development.
	View Page in Browser	Same as Layout, View Page in Browser, select browser type. Very important to use frequently throughout the design process of your page. You can also test the tabbing order in the browser view.
	Toggle Inspector	Same as View, Show Object Inspector menu item. Toggles the display of the floating Object Inspector window.
	Auto Size	Automatically sizes a sub-page or secondary page to fit around page controls.
	Toggle Grid	Same as View, Show Grid menu item or CTRL+G. Toggles the display of the page grid.
	Default Label Position	Same as Layout, Default Label Position menu item, or CTRL+D. Places page control label immediately to the left as the default.

























<b>Icon</b>	<b>Title</b>	<b>Description</b>
	Align Left	Aligns the left edge of a selected field to the last field selected on the page.
	Align Center	Centers a selected field horizontally and aligns it to the center of the last field on the page.
	Align Right	Aligns the right edge of a selected field to the last field on the page.
	Align Top	Aligns the top edge of a selected field to the last field on the page.
	Align Middle	Centers the selected fields vertically and aligns the middle in relation to the last field on the page.
	Align Bottom	Aligns the bottom edge of a selected field to the last field on the page.
	Show Help	Page Definition Help. Same as pressing F1 from within a Page Definition.

### Page Control Toolbar

The Page Control Toolbar contains a tool button for each type of page control you insert. The tool buttons display images that look like miniature versions of the type of control you want to insert. You can move this toolbar on your workspace independently of the system toolbar or the other half of the Page Definition Toolbar.



Page Control toolbar

<b>Button</b>	<b>Control Type</b>	<b>Button</b>	<b>Control Type</b>
	Static Text		Frame
	Group Box		Static Image
	Edit Box		Drop Down List
	Long Edit Box		Check Box
	Radio Button		Image
	Scroll Bar		SubPage
	Push Button/Hyperlink		Secondary Page
	Tree *		Grid
	Horizontal Rule		HTML Area
	Scroll Area		Microsoft Chart ActiveX *
	Microsoft ImageList ActiveX *		Microsoft TreeView ActiveX *



\* Not supported in PeopleSoft Internet Architecture

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## Page Layout Grid

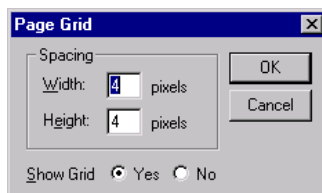
When you first open a page definition, you'll notice evenly-spaced dots in the workspace. This is the page layout grid. Use the page layout grid to align controls when you're building pages. When you're running applications, the grid doesn't display on pages. It only appears as a design aid in the page definition.

The default grid spacing is 4 x 4, which means each row has one dot per every 4 pixels and that the rows are 4 pixels apart on the vertical axis. We've found this to be the most useful grid for building most pages, and we build most of the pages in our standard applications using a 4 x 4 grid.

## Changing Page Layout Grid Settings

To change the grid spacing

1. Select Layout , Grid Settings.



Changing Page Grid settings

2. Enter the values you want for the **Width** and the **Height**, which is the spacing of the dots in pixels.

Note that the smaller the value you enter, the finer the grid; and the finer the grid the more difficult it is to precisely align fields (without using the align functionality). Use the **Show Grid** radio buttons to turn the page grid on and off. You can also toggle the grid on and off by pressing **CTRL+G**.

If you copy an existing page and save it under another name, you also copy the grid settings used to create the original page. For example, if the original page was built with a 5 x 5 grid, your new page will also have a 5 x 5 grid, by default. You can change the grid settings anytime while working on a page. Doing so has no effect on the position of any field.

## Creating New Page Definitions

You can create a new page definition a couple of ways:

- Clone an existing page



- Start from scratch with a blank page

It's much more efficient to clone or copy an existing page, because you don't have to recreate controls common to all pages. You may even want to create a "new page" template that contains only the objects you need. Copying an existing page similar to the desired new one can save you even more time. Starting from scratch is merely more time-consuming.



If you are new to creating pages using Application Designer, see [Page Design Considerations](#).

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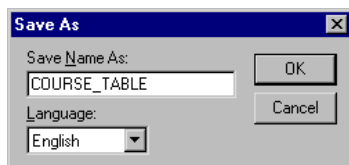
## Cloning Page Definitions

You'll find it much easier to copy an existing, similar page because it saves you the trouble of redrawing frames, group boxes, and page controls. To clone a page, you simply open an existing page definition, save it under a new page name, and then delete the unneeded controls from the new page.

To clone a page definition

1. Select **File, Open** to bring up the Open Object dialog box and specify **Page** for Object Type and locate the page you want to clone. See [Opening Object Definitions](#) for more information.
2. When the system retrieves the page definition, select **File, Save As**.

Resist the temptation to save later—after you've made modifications. A common mistake, both novice and seasoned page designers make, is to accidentally overwrite the old page definition.



Naming your page

3. Enter the new page name and select **OK**.

If you want to create a new page template, name the page so that it appears at the top of your page list.

## Naming Page Definitions

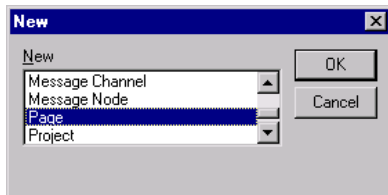
When you're creating record definitions and corresponding pages, keep in mind that record definition names are restricted to a maximum of 15 characters, while page names may have up to 18 characters.



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## Starting from Scratch

If you want to create a new page without copying an existing page, select **File, New, Page**.



Starting a page from scratch

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## Adding Controls to Pages

You can add controls to your page definition by the following:

- dragging and dropping a field definition (or record field in your project workspace) into a page
- using the Page Definition Toolbar
- using the Insert menu.

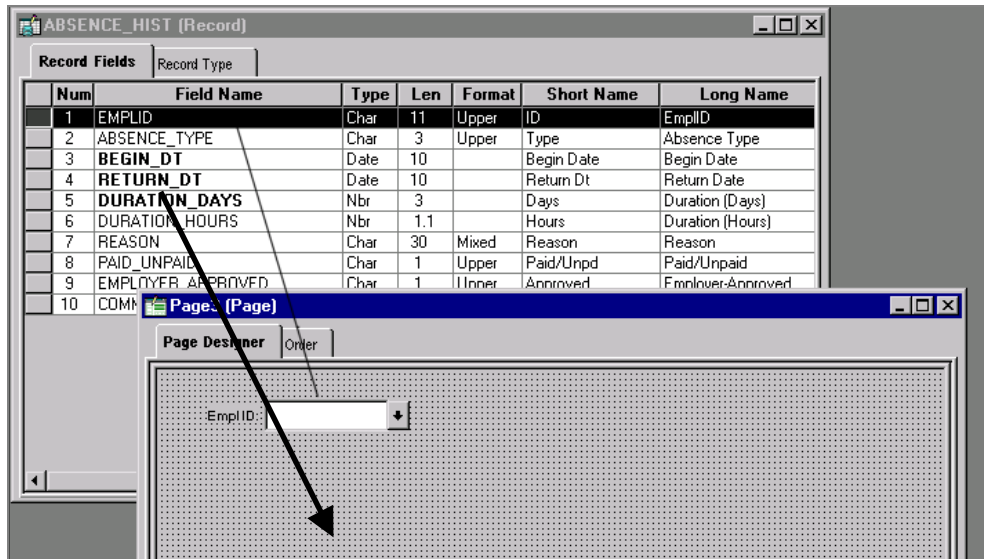
## Dragging and Dropping

You can drag and drop field definitions from records into pages, and you can also drag and drop from the project workspace.

To drag and drop field definitions from a record into a page

1. Open an existing record definition by selecting **File, Open, Record**.
2. Open a new page by selecting **File, New, Page**.
3. Drag field definitions from the record to the page.





Dragging field definitions to a new page

The system will select the page definition control type based upon the record field attributes. In the preceding page, the **EMPLID** field was defined as a Prompt Table edit in the record, so a Prompt button was added for **EmplID** when it was dropped on the page.

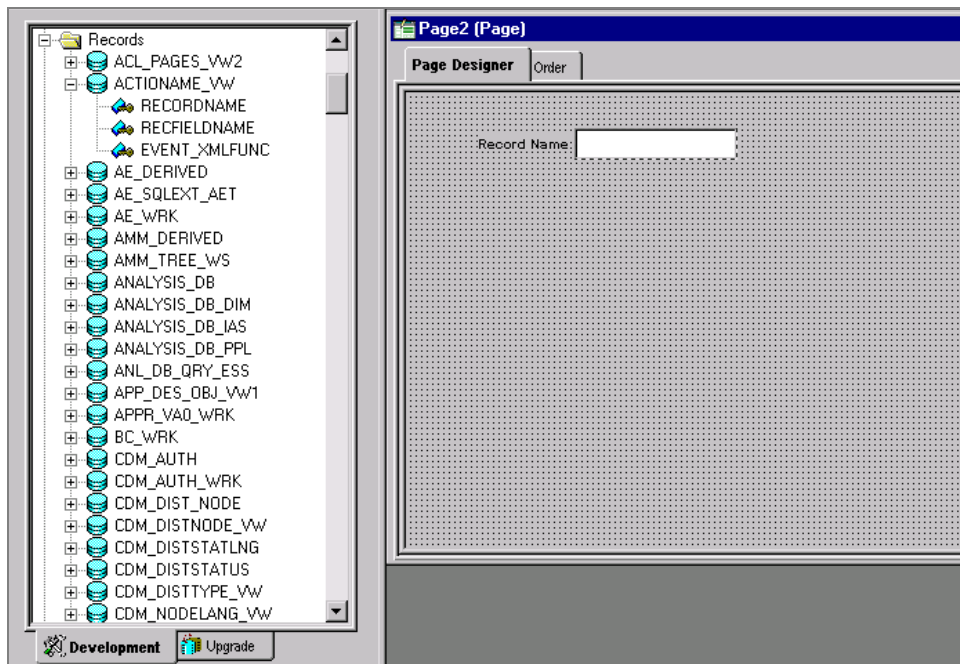
4. Double click on the control to access the Page Field Properties dialog.

When you drag and drop field definitions, the properties from the record definition are used to set page field default properties. You can alter the properties using the Page Field Properties dialog.

To drag and drop record fields from your project workspace onto a page

1. Open your project and your page.
2. Drag **record** fields from the project workspace to the page.





Dragging and dropping from the project workspace to a page



When you drag and drop fields from the project workspace, use fields contained in records, (as in record.fieldname) not field definitions.

## Using the Page Control Toolbar

Another way to insert page controls is by using the page control portion of the Page Definition Toolbar. When you click on the button your cursor will change to a cross-shaped icon or monogrammed hand, depending on which control type you select. You can then move the cursor to where you want to position the control and click once.

If the control is a fixed size during insertion, the cursor will change to a cross-shaped icon. If you need to define the size of the control at the time of insertion, the cursor will change into the monogrammed hand icon.

## Using the Insert menu

The third way you can add controls to your page is by using the Insert menu. We review inserting and setting the properties for each page control type in Choosing Page Controls.

## Manipulating Controls

Once you place a control on the page, you have several choices for manipulating it. You can resize or reposition it, delete it from your page, or move it to another page.



## Selecting Controls

Before you do anything to a control, it must be selected. You can do this by simply clicking on the control or you can use the **Edit** menu. There you will find options to select a control, group of controls, or all controls on the page. A check mark beside the option indicates which mode you're in:


### Select Field

Enables you to select one control on the page at a time. After you select a control, you can delete, move, cut, or copy it to the Windows clipboard, or go to the Page Field Properties menu to change any of its attributes. To deselect a control, point outside the dotted box with the mouse pointer and click once. Select Field is the default mode.

### Select Group

Enables you to select a group of controls by drawing a box around the controls you want selected. In this mode, you can delete a group of controls or move, cut, or copy the controls to the clipboard to move or copy them to another page. Activate Select Group by:

Selecting Edit, Select Group menu,

Clicking , or

Left-clicking and dragging the mouse cursor over the target fields.

### Select All

Selects all the controls on the active page. The result is the same as using the Select Group option to draw a box around all the controls. In this mode, you can delete the entire contents of a page or cut or copy it to the clipboard.



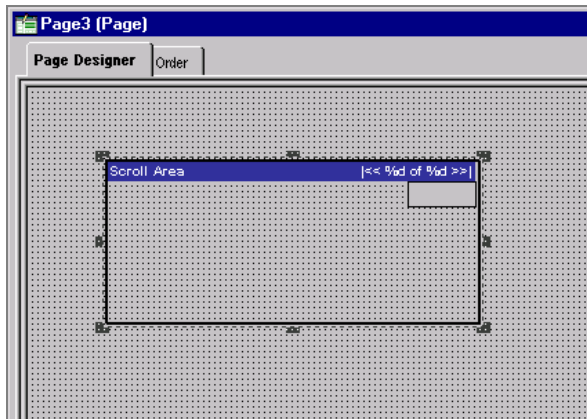
You can tell you are in Select Group mode when the cursor turns into a pointing finger. If the cursor does not change when you select Edit, Select Group, try first selecting an individual control on the page and then choose Edit, Select Group again.

---

## Resizing a Control

You can adjust the size or shape of any page control that displays selection handles when selected.





Control with selection handles



Some browsers do not support the resizing of certain control types to a custom size. See Customer Connection for more specific, up to date information about this feature.

To resize a control

1. Select the control by pointing anywhere within it and left clicking.

Handles will appear around the perimeter of the control. The handles on the left and right sides adjust the width. Handles on the top and bottom adjust the height. Handles in the corners adjust both width and height. (Some control types can only be adjusted in width.)

2. To adjust the shape for width

Point to a handle on the left, right, or corner of the control. Your cursor will change to a double-sided arrow. Press and hold down the left mouse button as you drag the handle—and the edge of the control along with it—to the desired position. Release the mouse button.

3. To adjust the shape for height

Point to a handle on the top, bottom, or corner of the control. Your cursor will change to a double-sided arrow. Press and hold down the mouse button as you drag the edge of the control to the desired position. Release the mouse button.

You can also resize controls with precision control using the keyboard. Hold down the **Shift** key while pressing the **Up Arrow**, **Down Arrow**, **Left Arrow** or **Right Arrow** key, and the frame size will be adjusted one grid unit in the indicated direction. Note that the position of the frame's top left corner does not change; re-sizing with the keyboard occurs by adjusting the position of the bottom right corner.


## Repositioning and Resizing a Control with Object Inspector

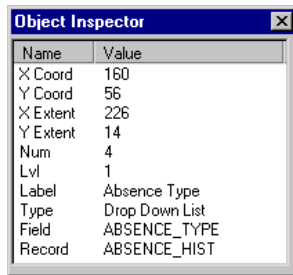
If you want to precisely place and size the controls on your page during design-time, use the Object Inspector on the Page Definition Toolbar. This guide serves as a pixel-by-pixel ruler for selected controls. Object Inspector lists the X and Y coordinates of the upper left-hand corner of



the control (X Coord and Y Coord). For sizable controls, such as frames, group boxes, and long edit boxes, it also lists the right-hand coordinates (X Extent and Y Extent) so you can gauge the height and width of your control. Note that the HTML that is generated for your page uses table layout rather than pixel layout.

To position and size page controls

1. Click the **Toggle Inspector** button  on the toolbar, or specify **View, Show Object Inspector**.



Object inspector page

2. Highlight a control.

As you move the control around on the page, you'll see the X and Y coordinates change to reflect the new position.

3. Resize the control.

The X Extent and Y Extent coordinates will adjust to display the exact pixel size of the control object.

### ***Control Statistics***

The Object Inspector also provides other helpful statistics such as:

<b>Num</b> (Number)	The number of the control. This corresponds to the tabbing order for the page
<b>Lvl</b> (Level)	The Occurs Level the control is located on
<b>Label</b>	The label for the control, designated in the Page Field Properties
<b>Type</b>	The type of control
<b>Field</b>	The field name the control is associated with
<b>Record</b>	The record name the control is associated with



## Deleting and Moving Controls

If you remove a control from a page, be sure to look for other controls related to it such as display controls or invisible controls used by PeopleCode. You may need to delete them as well, or alter their attributes such that they can be stand-alone fields.

You should also check to see if any PeopleCode references this control on the page. You can do that by opening the field definition, then selecting Find Object References in the View menu. If any references exist, they should be modified or deleted because the control no longer exists on the page.

To delete a control

1. Click on the control you want to delete.
2. Press **Delete** or select **Clear** from the **Edit** menu.

To delete a group of controls from a page

1. Select Edit, Select Group.
2. Position the pointer outside the upper left corner of the group of controls you want to delete.
3. Press and hold down the left mouse button as you drag the hand to the lower right corner of the group of controls, creating a dotted box around the controls.
4. Release the mouse button and press **Delete** or select **Edit, Clear**.

To delete all the controls from a page, select **Edit, Select All**, and press **Delete** or select **Edit, Clear**.

To move a control

1. To move a control to another position on the same page, point with the cursor to the control and press and hold down the left mouse button as you drag the control to its new position.
2. Release the mouse button.

You can also move controls using any of the four directional arrow keys on the keyboard. Simply select the control and press the **Up Arrow**, **Down Arrow**, **Left Arrow** or **Right Arrow** key, and the control will move one grid unit in the indicated direction.

3. To move a group of controls together on the same page, use **Edit, Select Group**.

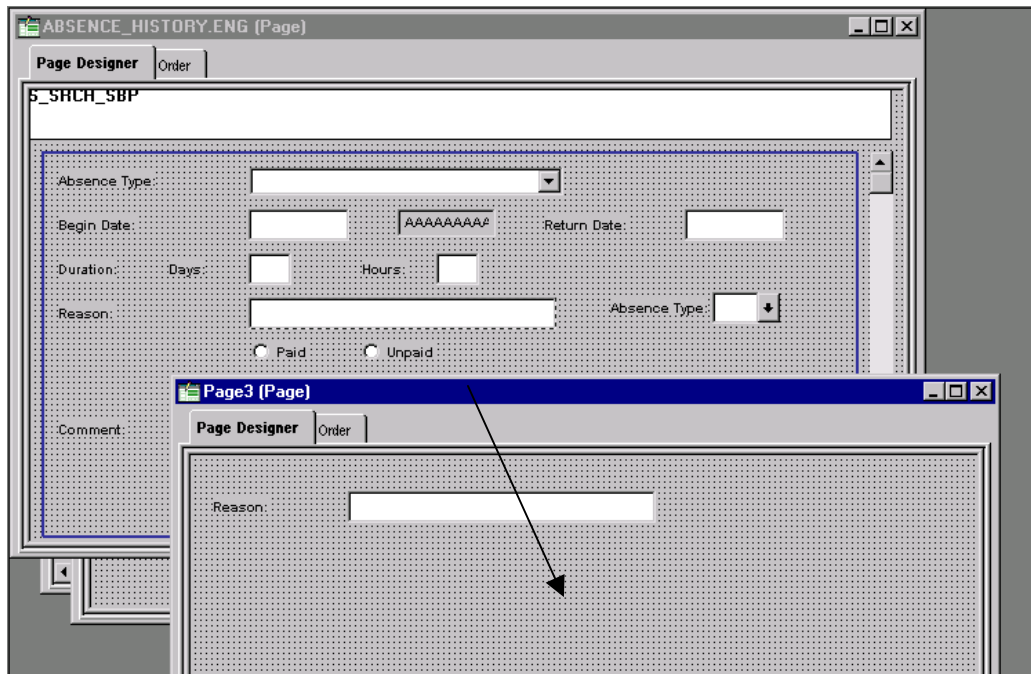
You can also drag controls from one page to another or use the “cut and paste” or “copy and paste” methods.

To copy a single control to another page

1. Open both pages.



2. Select the control and drag it to the new page.



Moving controls between pages using drag and drop

3. You can also copy controls from one page to another by using **Edit**, **Cut** or **Copy** then **Edit**, **Paste** onto the new page.

To move a group of controls to another page

1. Open both pages.
2. Use **Edit**, **Select Group** to select the controls you want to copy.
3. On the page you want to copy to, select **Edit**, **Cut** and **Paste**.

The group of controls should now appear on the new page. You can now move them to the desired location on the page.

## Setting Page Field Properties for Controls

In most cases, you define attributes by selecting the control and double clicking to access the Page Field Properties dialog box. Most of the Page Field Properties dialogs have the following tabs:

<b>Tab Name</b>	<b>Description</b>
Record	Associates the page control with a field in a record definition



Label	Sets the label that you want to appear on the control, if any. This can be the long or short name specified on the record definition, or other text. Here is where you verify the Label ID used as the internal reference.
Use	Defines how you want the control to be used on the page. You can make controls display only, invisible, hidden or use them to manipulate other controls on multiple level pages – those with scroll bars. Here is where you define the display and related control fields as well as the processing of the control.
General	Specifies an optional internal Page Field Name that is referenced by the page.

---

## Setting Record Properties

In general, for most controls you must set Record properties to assign the control to a specific field in a record definition. There's a distinct correlation between the field types in a record definition and controls in a page definition.

Here's a guide to help you select the appropriate page control type to associate with the corresponding field in your record definition:

<b><i>Record Definition Field Type</i></b>	<b><i>Page Definition Control Type</i></b>
Character	Edit Box
Character (Yes/No Table Edit)	Check box
	Edit box
Character (Translate Table Edit)	Radio buttons
	Edit box
	Drop Down list
Long character	Long edit box, HTML area
Number	Edit box
Signed number	Edit box
Date	Edit box
Time	Edit box

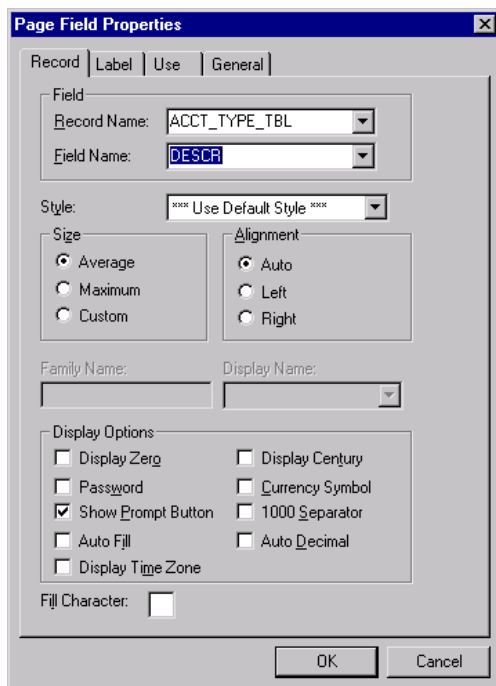


DateTime	Edit box
Subrecord	Not applicable; no direct association to subrecords
Image	Image

The following procedure applies for both edit boxes and long edit boxes. Other controls do not contain all the properties outlined in this procedure, though the terminology used is often similar.

To link a control with a record field

1. Select the control and double-click, or right-click to access the Page Field Properties dialog, **Record** tab.



Setting record properties

2. Select the **Record Name** of the record definition where the field is located.

If you have already added a field to your page and associated it with a record definition, the system defaults to the last record definition name you entered.

3. Select the **Field Name**.

If the field is a related display field that will contain a long name or short name from the Translate Table, use XLATTABLE as the record definition name. The field name is either XLATLONGNAME or XLATSHORTNAME, depending on whether you want to use the



long or short name. XLATLONGNAME is 30 characters long; XLATSHORTNAME is 10 characters long.

4. Set the font and color attributes of your control *data* by selecting a **Style**.

The default style class for an edit box is PSEDITBOX, which controls how the data portion of the edit box displays. You can control the color, font, and other characteristics of an edit box by specifying a different style class. See *Creating Style Sheet Definitions* for more information.



Certain browsers will always display the background of an edit box as white. See *Customer Connection* for more specific information on how your page may display differently at runtime.

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5. Select the Alignment option based on how you want to align the contents of the field, if applicable (as determined by the left edge of the field):

<b>Auto</b>	Left-justifies the contents of character fields and right-justifies the contents of number and signed number fields. This is the default.
<b>Left</b>	Left-justifies the contents of the field.
<b>Right</b>	Right-justifies the contents of the field. This should not be used in the PeopleSoft Internet Architecture for non-display only fields.



**Note.** If the field is *not* Display Only, the alignment will always be left-justified. If the field is Display Only, the alignment you specify will display.

---

6. Resize your control by selecting one of the **Size** options, if applicable.

After you link the control with a record name and field, the system automatically calculates the page control size. The size is based on the length of the field defined in your record definition, the font metrics of the field's style, and any formatting options—currency symbol, 1000 separators, slashes and dashes in dates, telephone numbers, and ZIP/Postal Code—that apply. Because many fonts have variable width characters—for example, a “W” character is much wider than an “l” character—three Size options are available to let you choose how much space to provide.

<b>Average</b>	Provides sufficient space to display the field control length in average-width characters.
<b>Maximum</b>	Allows enough space to display the field control length in maximum-width characters.



**Custom**

This allows you to define a custom size of non-Display only edit boxes. If you set a display only edit box to custom, it displays as its defined length. If your edit box is in a grid, this field will wrap.



Some browsers do not support custom sizing for edit boxes, long edit boxes, drop-down lists, and push buttons. See Customer Connection for more specific information about this limitation.

7. Override the display format associated with a field, if necessary, by using the **Display Name** drop-down list.

If applicable to your control, the Record tab includes a read-only edit field to display the current **Family Name**, which was set when the field was created.

8. Enter the fill character you would like to use, if any, in the **Fill Character** box.

A fill character replaces blank spaces in an edit box when the contents of the field are displayed. For instance, if the length of a Net Pay field is 8.3 and you specify a fill character of \*, then a value of \$1,250 is displayed as:

\*\*\*\*\*\$1,250.000

You can use any character as a fill character.

9. Set the **Display Options** for your control.

You can select any of the following display options:

**1000 Separator**

If the contents of the page control will be numeric and you want to insert thousand separators to make the numbers easier to read, turn on 1000 Separator. The system automatically calculates the number of thousand separators to insert and determines where they should be positioned. This expands the display length of the edit box by one character for each separator.

**Auto Decimal**

This option automatically inserts a decimal point if none is provided in the data entered into the control. Where the system inserts the decimal point depends on how you define the control. For example, in a record definition, if you define a numeric field with a length of 4.2 (allowing 4 characters to the left of the decimal, 2 to the right), and turn on Auto Decimal, the system will insert a decimal at the second digit from the right. This option is only applicable to numeric field controls, and affects the actual value of the field control, not just its visual representation.



**Auto Fill**

Turn on Auto Fill to have the system automatically fill the page control with the specified Fill Character. The direction of the fill depends on the Alignment you select. If a field is Left-aligned, then Auto Fill fills from left to right. If a field is Right-aligned, Auto Fill fills from right to left. For example, if you define a 6 character control as Left-aligned, and specify a fill character of 0, and turn on Auto Fill, when you type 123 in the control online, the system will display 123000. Similarly, if you changed the alignment to Right, the system will return 000123. Note that Auto Fill can affect the actual value of the control, not just its visual representation.

**Currency Symbol**

Displays a currency symbol in the field. Expands the display length of the field by the length of the currency symbol. The currency symbol displayed is based on your Windows Program Manager International Currency setting.

**Display Century**

For date fields, turn on Display Century to enable users to enter a date with a four-digit century, as in 1999. Dates are always stored with the four-digit century on the database, but only the last two digits are displayed unless you turn on Display Century. If this option is not on, the century is automatically set to the century of your system date.

**Display Time Zone**

If you are setting the properties for a time or a datetime field, you can choose to display the related time zone along with the time. This helps users understand whether the time reflects the database's base time zone or some other time zone. This setting does not determine which time zone is actually used, only whether the time zone is displayed; the Record Field properties determine which time zone is used.

**Display Zero**


Select Display Zero if the contents of the page control will be numeric and you want to display a zero value instead of blank. Sometimes it helps users if they see a zero to remind them that the page control isn't really blank. For example, in a tax table, you'd want to show the lowest tax bracket as starting at zero instead of showing it as blank.

**Password**

If, for security reasons, you want to hide the value entered in a page control, turn on Password. This option causes any characters displayed in this control will appear online as \*\*\* (asterisks). The Component Processor still sees the actual value. You'll find Password useful for pages that capture sensitive information, such as PIN numbers, and so forth.



**Show Prompt Button**

Displays a prompt button next to the edit box , which enables the user to look up valid values for that field. See Prompt Fields for more information.

**Sample of Auto Decimal**

Here's how Auto Decimal affects a numeric field control with a length of 4.2, depending on what you enter online:


<b><i>Entered</i></b>	<b><i>Displayed</i></b>
100	1.00
100.	100.00
1	0.01

10. Click **OK** and the control will assume the characteristics assigned in the record definition for that page control.

**Prompt Fields**

At runtime, you may want to give your users the ability to look up the valid values that can be entered into a field. For this, PeopleSoft provides prompts. There are three types of prompts: a drop-down list box, a calendar drop-down prompt, and a prompt button.

A drop-down list prompt is a small list that opens below a field in the current page, as shown by the Job Indicator field in the Work Location page. To use a drop-down list prompt, the user can simply press on the down arrow inside the field. She does not have to exit the page. The drop-down list box is a predefined control that you place on your page. For more information see Drop-Down List Control.

A calendar drop-down prompt  opens a small calendar next to a date field to enable the user to easily scan for the correct date. The Work Location page contains calendar prompts for the Effective Date, Position Entry Date, and the Department Entry Date fields. You place a calendar prompt on a page by associating any date field with an edit box control and selecting the Show Prompt Button in the Display Options of the Record properties of the edit box. See Date Fields for more information.




The calendar prompt feature is not supported on all browsers. See Customer Connection for specific browser-related information regarding this feature.

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Drop-down list and calendar prompts at runtime

A prompt button , unlike a calendar or drop-down list prompt, opens a separate Lookup page in the user's browser. From this page the user can search the database for a value, select the value, and then be returned to the main page. In Application Designer, you associate a prompt with an edit box by selecting the Show Prompt Button check box from the Display Options on the Record tab of the Page Field Properties dialog box. The field that you associate the edit box with, must list values in the translate table in order for the system to display the prompt button. See Using the Translate Table for more information.

## Setting Label Properties

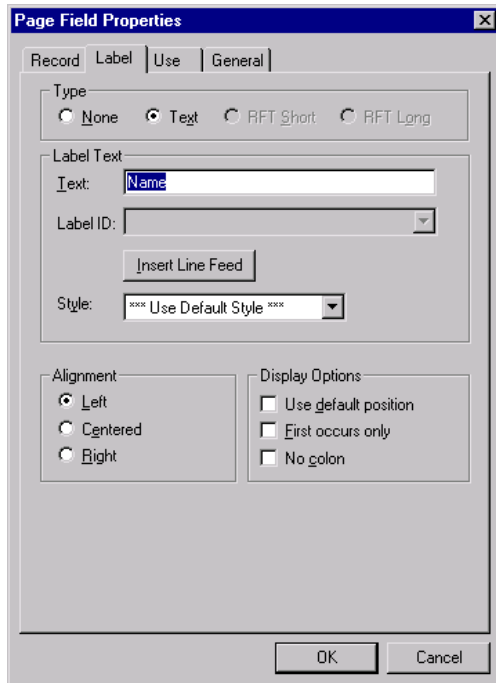
The following controls all use the procedure outlined below for setting Label properties.

- Edit box
- Long edit box
- Check box
- Drop-down list
- Group box
- Radio Button
- Static Text



To set Label properties

1. Double-click on the control or right-click to access the Page Field Properties dialog box, **Label** tab.



Setting Label properties

2. Select the **Type** of label you want.

**None**

Control label does not display on the page. This option is used for controls such as related displays and invisible controls.

**Text**

Displays any text you enter in the Text field. The Default Text is the long name for the field from the associated record definition.

**RFT Short**

Displays the Record Field Table (RFT) Short Name for the field from the associated record definition.

**RFT Long**

Displays the Record Field Table (RFT) Long Name for the field from the associated record definition. This is the default.

If you want the label to remain blank, you must first set up a blank label in the field definition you are using. The blank label will then appear as an option in the Label ID drop down list box. See Using Multiple Labels for additional information.

3. Specify **Label Text** depending on what type of label you selected. If you specified the label



**Type as:****None**

Enter the control name here. This label is informational only—it isn't displayed on the page. The label is useful when you're reordering page controls on the control order list.

**Text**

Enter the text exactly as you want it displayed on the page.

**RFT Short or RFT Long**

Skip this field. The system automatically inserts the long name or short name from the record definition after you specify the record and field name. If you enter text, the system will automatically change the type to text.

**Insert Line Feed**

You can split your control label into multiple lines by positioning the cursor in the Text field where you want the split to occur and pressing **Insert Line Feed**. A thick vertical bar character displays in the Text field, and when you close the Page Field Properties dialog, your label will be split into multiple lines. Note that inserting a line feed into label text has the side effect of changing the label type from RFT Short or RFT Long to Text.

**4. Specify the label Style.**

You can control the color, font, and other characteristics of a label by specifying a style. See Creating Style Sheet Definitions for more information.

**5. Set the horizontal Alignment of your label.****Left**

Aligns the label to the left-of-center horizontally. This is the default.

**Centered**

Centers the label horizontally.

**Right**

Aligns the label to the right-of-center horizontally.

**6. Set the Display Options.****Use default position**

Moves label to its default position (immediately to the left of the field.)

**First occurs only**

Label displays only with the first occurrence of a scroll.

**No colon**

No colon displays at the end of the label text.

**7. Click the OK button.**



## *Moving Labels*

On the page definition in Application Designer, you can move the label you just assigned independent of your control.

To move a label

1. Select a label by clicking on it.

The dotted box surrounding the label text indicates that the label is selected.

2. Press and hold down your mouse button anywhere on the label.
3. Drag the label to reposition it on the page, then release the mouse button.

You can also move the label using any of the four directional arrow keys on the keyboard. Simply press the Up Arrow, Down Arrow, Left Arrow, or Right Arrow key, and the label will move one grid unit in the indicated direction.

## **Return Label to Default Position**

You can also return a label to its default position.



Click the **Default Label Position** button on the toolbar, or select Use Default Position on the Label tab in the Page Field Properties dialog. This returns the label to its default position (immediately to the left of the field.)

## *Special Label Considerations*

If you're adding a related display page control with a label type of **None**, enter an information-only label that identifies the related field, but isn't identical to the label on the control field. A little documentation now can save you time in the future, should you modify this page again. For example:

<b>Control label</b>	<b>Related field label (information-only)</b>
Department	Department Description
Jobcode	Jobcode Description
Regular/Temporary	Regular/Temporary XLAT (XLAT is from the Translate Table)

When defining labels for columnar controls in a multi-occurrence scroll, there are several techniques you can apply. The first technique is to turn on the **First Occurs Only** display option. This limits the display of the label to the control's first scroll occurrence, allowing the label to be used as a column heading. The second technique is to turn on the **No Colon** display option to omit the colon from the label, because column headings typically do not need a colon.



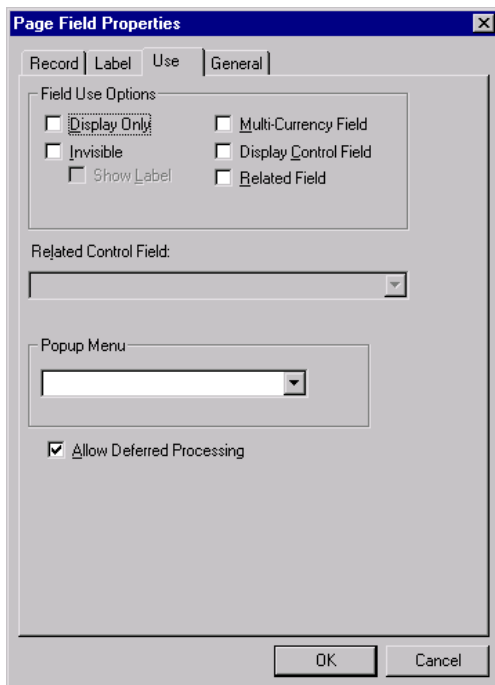
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## Setting Use Properties

The use properties affect the way your control is operated and viewed by the user on a page in the browser. The following controls contain the same or very similar use properties.

- Edit box
- Drop-down box
- Check box
- Image
- Long edit box
- Radio button

You set use properties for these controls in the Page Field Properties, Use tab as shown below.



Page Field Properties, Use tab

The Use tab dialog box contains three primary types of settings that require further explanation: **Field Use Options**, **Pop-up Menu**, and **Allow Deferred Processing**.

### Field Use Options

You may select from the following Field Use Options for your control.

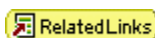


<b>Display Only</b>	Prevents users from modifying the contents of the control during application data entry. The system automatically turns on Display Only when you select Related Field. You can't turn it off until you turn off Related Field.
<b>Invisible</b>	Allows the control to be physically present on a page, but invisible to users. Typically, you add an invisible control because it's required for a PeopleCode program associated with the page. An invisible control can also be used as a display control field.
<b>Show Label</b>	Allows the control label to be visible while the control itself is invisible. This option is useful if you add an invisible display control field to a page in order to show its related description.
<b>Multi-Currency Field</b>	Identifies the control as associated with multi-currency processing. This causes the field to be shown at runtime only if the Multi-Currency switch on the PeopleTools Options page is selected.
<b>Display Control Field</b>	Indicates the field controls displayed in another field on the same page level. The controlled field is a Related Field. For example, on many pages the Department ID is the display control field and Department Name is the related field. The system uses Department ID to retrieve Department Name from the Department Table to display on the page.
<b>Related Field</b>	Specifies that the contents of this control are ruled by another control on the same page level, one that you selected as a Display Control Field. When you select this check box, the system automatically turns on the Display Only and No Delete options. It also enables the Related Control Field drop-down list box to allow you to choose the correct Related Control Field.

## Pop-up Menus

Pop-up menus are miniature menus that you can associate with a field on a page. At runtime the menu actually appears on a separate page as a list of links to related pages. You designate these links when creating a pop-up menu definition. See *Defining Pop-up Menus* for more information. You can then associate the newly created pop-up menu with a field on your page in the Page Field Properties dialog box, Use tab for most controls.

A pop-up menu can be identified by any one of three buttons on a page:





## Page Processing

There are two modes a transaction can run in—standard and deferred.

### *Standard Processing Mode*

Standard mode processing causes a trip to the application server whenever logic needs to run during a transaction. When a user triggers an event by tabbing out of a field that has a field level event or by clicking a hyperlink or push button, a trip to the application server is performed to execute that field level event and redisplay the page.

The following events cause the PeopleTools run time environment to take a trip to the server when the component is running in standard mode:

- Entering data in fields with PeopleCode associated with them
- Entering data in fields that have prompt table edits
- Entering data in fields that have related displays
- Inserting or deleting a row from a grid/scroll
- Using the grid/scroll controls to move forward or back
- Selecting another page or grid tab
- Expanding or collapsing a collapsible section
- Clicking on any push button/icon on the page
- Clicking any hyperlink on the page

There are also a small number of edits, such as data type validation that are performed via javascript on the client. These edits do not require a trip to the application server.

### *Deferred Processing Mode*

PeopleSoft created the deferred processing mode to limit trips to the server and thereby increase the efficiency and speed of processing transactions. Deferred processing also improves the user's data entry experience, particularly for power users who do heads-down data entry. In deferred mode, when a user tabs out of a field that has a field level event, that event is postponed and is not processed until the next trip to the application server. On the next trip to the server, such as when a user clicks on another page tab or Saves the page, the processing logic occurs based on the tab order of the page. Any push button, toolbar button, or hyperlink automatically causes a trip to the application server.

When developing transactions, you can set deferred processing at three levels: the page field, the page, and the component levels. To maximize online performance, we have set the default for both page fields and pages to allow for deferred processing. The default at the component level is standard processing with the option to change to deferred. You can also configure a component to allow expert users to control the processing of the page at runtime on their own. For more



information on deferred processing and the expert entry setting at the component level see Processing Mode.

Whenever standard processing is set at the page field level, that field will always carry standard processing, regardless of the setting at the page and component levels. The deferred processing setting for page controls is on the Use tab of the Page Field Properties dialog box. By deselecting the Allow Deferred Processing check box, you enable standard processing for that field on the page.

For a quick view of the deferred processing settings for all fields on a page, the last column of the Order tab contains check boxes indicating which fields are assigned to process in deferred mode. To set a field setting to run in standard mode, deselect the Allow Deferred Processing check box.



**For information** on PeopleCode and deferred processing see Deferred Processing Mode.

---

To set the use properties for your control

1. Open the Page Field Properties dialog, **Use** tab.
2. Set the **Field Use Options**.

Set the appropriate Field Use Options.



Long edit boxes have slightly different Field Use Options. See Setting Long Edit Box Properties.

---

3. Select a **Pop-up Menu** if desired.

Use the drop-down box to select the appropriate pop-up menu for your control. To set a pop-up menu see Defining Pop-up Menus.

4. Clear the **Allow Deferred Processing** check box if desired.

## Display Control Fields and Related Fields

A related field is for display purposes only—it always references a row that's not being updated from the current page. The display control field and related field must both be at the same level. In the Payroll page below, Pay Group, Employee Type, Tax Location Code, and Holiday Schedule all show related display fields to their right. Search level fields, such as those shown above the horizontal rule, are display only fields.



Work Location Job Information Job Labor Payroll Salary Plan Compensation

Sawyer, Tom Employee ID: TZ173 Empl Rcd#: 0

View All First 1 of 1 Last

Effective Date: 05/03/1995 Effective Sequence: 0 Job Indicator: Primary

Action / Reason: Hire

\*Payroll System: North American Payroll

Pay Group

Pay Group: T1B Bi-weekly all employees Holiday Schedule: NONE No Holiday

Employee Type: H Hourly

Tax Location Code: TCA1 Tst CA FICA Status: Subject

GL Pay Type:

Account Code:

Related Display Fields in the Browser

When you select Related Field in the Page Field Properties dialog, you need to relate it to the appropriate control. A list of all controls on the page marked as display control fields shows in the Related Control Field drop-down list box. Select the field to which this particular related display is related. You must define the use of the initial control field before it will appear as an option in the Related Control Field drop-down list box. For example, once the Pay Group field is designated as a Display Control Field, it will appear in the Related Control Field drop-down list box on the Page Field Properties dialog box, Use tab, for the control you set as the Related Field, as shown below.

Page Field Properties

Record Label Use General

Field Use Options

☒ Display Only ☐ Multi-Currency Field

☐ Invisible ☐ Display Control Field

☐ Show Label ☒ Related Field

Related Control Field:

5 | Pay Group

Popup Menu:

☒ Allow Deferred Processing

OK Cancel

Setting Pay Group as the Related Control Field



Because of the nature of control fields and related fields, we recommend you place them side by side on a page, to indicate their relationship. Make sure you provide adequate space between the fields. Do not overlap them, otherwise, they will appear skewed when viewed through the browser. Change the related field Label Type to **None**, so it doesn't appear on the page—and be sure to enter a text description to document the purpose of the field.



The display control and related fields must be in the correct order in the order page. The display control field must be positioned before the associated related field, otherwise a warning dialog displays when you save the page. Also, be aware that fetching the related field after the control field is entered, requires a trip to the server at runtime.

When you select Related Field, Display Only is automatically turned on. If the related field is located on a record definition with multiple keys, relate the display field to the lowest-order key field (that both record definitions have in common—with the exception of EFFDT and EFFSEQ) on the control record definition. The system searches for the higher order keys by matching field control names on the current level and all higher levels for the other keys.

If the related display field contains a long name or short name from the Translate Table, use XLATTABLE as the record definition name. The field name is either XLATLONGNAME or XLATSHORTNAME, depending on whether you want to use the long or short name. XLATLONGNAME is 30 characters long; XLATSHORTNAME is 10 characters long.

### ***Adding Invisible Control Fields***

Your page design may require an invisible control field. For example, if users are only interested in the contents of the related display field, then make the control field invisible. Unlike visible control fields, you *can* overlap an invisible control field and its related display field.



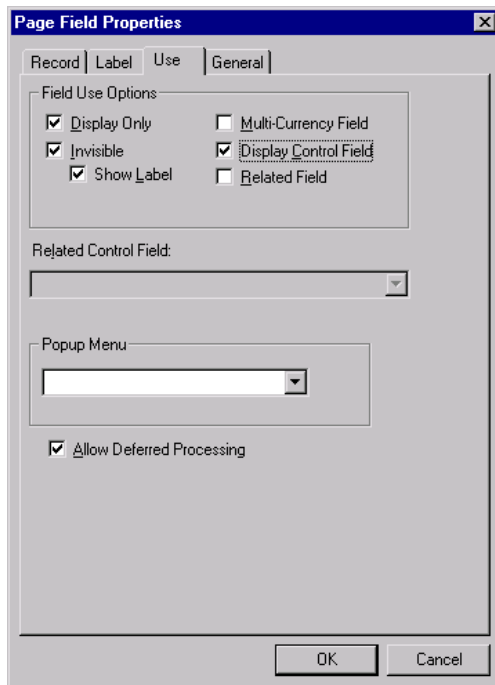
**Note.** If you specify a field as Invisible in Application Designer, you cannot make it visible using the UnHide property in PeopleCode.

To add an invisible control field

1. Open the Page Field Properties dialog, **Use** tab for the invisible control whose label you want to appear.
2. Set the appropriate **Field Use Options**.

Select **Display Only**, **Invisible**, and **Show Label** options to make the field invisible and its label visible. Select **Display Control Field**.





Setting an Invisible Display Control Field

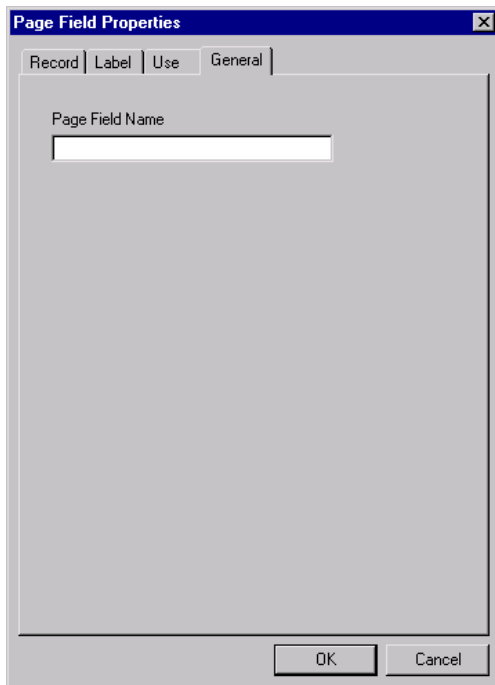
3. Select **OK**.
4. Add an edit box to your page.  
Place this edit box directly to the right of the display control field you just set.
5. Open the **Page Field Properties** dialog, **Use** for the new edit box.
6. Select **Related Field**.
7. Select the appropriate control field from the **Related Control Field** drop-down list box.
8. Select **OK**.

---

## Setting General Properties

Perhaps the simplest of all properties tabs to set, the General tab provides an optional internal Page Field Name setting. You can specify a name for any page control. Some controls, such as scroll areas and grids, have additional settings on the General tab that are described in detail in the procedures for those controls.





Page Field Properties, General tab

## Page Design Considerations

Page design hinges on the type of data you plan to access and maintain. In some cases, a page references a single record definition; in others, you may want to reference multiple records. To accommodate a variety of page designs, PeopleSoft created *level-based controls*. The three level-based controls are grids, scroll areas, and scroll bars.

---

### Understanding Level-Based Controls

There are four levels allowed in level-based controls: Level 0, Level 1, Level 2, and Level 3. These levels are referenced as Occurs Levels in the Page Field Properties, Record tab for the level-based control that you are setting.

- **Level 0.** This is the non-scrolling area that directly relates to the underlying record's key information. Level 0 information is usually display-only with data the user entered on the initial search page.
- **Level 1-3.** These levels include the scrolling data related to the Level 0, non-scrolling data. Level 1 is subordinate to Level 0; Level 2 is subordinate to and nested in Level 1; and Level 3 is subordinate to and nested in Level 2. You can nest level-based controls up to 3 levels.

The first Occurs Level on a page is Level 0. In general, this Level is reserved for the primary key fields that are used to search for pages. It is possible to have a page that contains no level-based controls, making all fields set to the Level 0. This is particularly true for secondary or subpages that contain few data entry fields. For example, the ADDRESS2\_SBP is a simple page that is



used in many page definitions. The first column, Lvl (Level), of the Order grid indicates that all fields on the page are at Level 0.

	Lvl	Label	Type	Field	Record
1	0	Address 1	Edit Box	ADDRESS1	ADDRESSH_SB
2	0	Address 2	Edit Box	ADDRESS2	ADDRESSH_SB
3	0	Address 3	Edit Box	ADDRESS3	ADDRESSH_SB
4	0	City	Edit Box	CITY	ADDRESSH_SB
5	0	County	Edit Box	COUNTY	ADDRESSH_SB
6	0	State	Edit Box	STATE	ADDRESSH_SB
7	0	Zip	Edit Box	ZIP	ADDRESSH_SB
8	0	View Resume	Push Button/Hyp	VIEW_RESUME	DERIVED_HR
9	0	Country	Edit Box	COUNTRY	ADDRESSH_SB
10	0	Country Subdi	Edit Box	SUBDIVISION_L	COUNTRY_TBL

Order Grid for a Page Definition

Once you add a level-based control to your page, such as a scroll area, the default Occurs Level for that control is set to 1 in the properties dialog box. If you place a field within or below that scroll area, it will also be set to Level 1 on the Order grid, even if it is another level-based control. If necessary, you can use the Set to Level 0 feature of the horizontal rule control to restart the occurs level count on your page.

You can also add any number of level-based controls at the same level. For example, the Benefit Program Participation page shown below contains a scroll area and a grid, both at Occurs Level 1.

Benefit Program Participation

Smith, Mary Employee ID: TC015

Benefit Record Number:  Deductions Taken:  Deduction

**Benefit Eligibility** [View All](#) First 1 of 1 Last

Effective Date: 02/01/1990 Effective Sequence: 0 Job Indicator: Primary Job

Action / Reason: Hire

\*Benefits System:  Benefits Employee Status: Active

BAS Group ID:

Elig Fld 1:  Elig Fld 2:  Elig Fld 3:

Elig Fld 4:  Elig Fld 5:  Elig Fld 6:

Elig Fld 7:  Elig Fld 8:  Elig Fld 9:

**Benefit Program Participation** [View All](#) First 1 of 1 Last

\*Effective Date: 02/01/1990 Benefit Program: TCW Total Comp Warehouse Currency Code: USD

[Job Data](#) [Employment Data](#) [Earnings Distribution](#) [Benefits Program Participation](#)

Two level-based controls at occurs level 1



## Nesting Level-Based Controls

Nesting controls is when you have two or more level-based controls on a page, such as two scroll areas, where the second scroll area has an Occurs Level set to 2. You nest controls when the new data you want to add is a repeating set of data for each entry within your first level-based control. In doing so, you create a hierarchical, or parent/child relationship between the controls and the processing of the record definitions. The Level 2 control is the child of, and is subordinate to, the Level 1 control.

For example, on the Compensation page, the Level 2 grid is nested within the Level 1 scroll area. On the Amounts tab of the grid, there are two Rate Codes for each compensation action in the Level 1 scroll area.

Work Location Job Information Job Labor Payroll Salary Plan Compensation

Albion, Charles Employee ID: Z1000 Empl Rcd#: 0

**Compensation** View All First 1 of 1 Last

Effective Date: 12/01/1997 Effective Sequence: 0 Job Indicator: Primary Job

Action / Reason: Hire

Compensation Rate: 6,176.78 USD

\*Compensation Frequency: M Monthly

Change Amount:

Change Percent:

Compa-Ratio:

Annual Benefits Base Rate:

**Pay Rates**

Hourly Rate: 35.64 USD

Daily Rate: 285.08 USD

Monthly Rate: 6,176.78 USD

Annual Rate: 74,121.39 USD

**Pay Components** First 1-2 of 2 Last

Amounts Changes

*Rate Code	Seq	Details	Comp Rate	Currency	Frequency	Points	Percent	Rate Code Group
1 NAANNL	0	Details	6000.000000	USD	M			
2 BLMAL1	0	Details	1316.000000	BEF	W			

Job Data Employment Data Earnings Distribution Benefits Program Participation

Save Return to Search Next in List Previous in List Previous tab Next tab Update/Display Include History Correct History

Work Location Job Information Job Labor Payroll Salary Plan Compensation

Nested grid in a scroll area

You can nest up to three levels of scrolls or grids on your page. For example, the Additional Pay page below shows three levels of enterable data, two of which are nesting scroll areas within the Earnings scroll area.



Additional Pay 1 | Additional Pay 2 | Additional Pay 3

Albion, Charles      Employee      ID: Z1000      Empl Rcd#: 0

**Earnings**      Find | View All      First 1 of 1 Last

\*Code: [ ] [Q]

**Eff Date and Default Job Data**      Find | View All      First 1 of 1 Last

Effective Date: [07/05/2000] [C] [D] [E] [F] [G] [H] [I] [J] [K] [L] [M] [N] [O] [P] [Q] [R] [S] [T] [U] [V] [W] [X] [Y] [Z] [ ] [Q]

Compensation Rate/Frequency: \$6,000.000000 Monthly

Standard Hours: 40.00      Employee Type: Salaried

**Or Overrides to Job Data**      Find | View All      First 1 of 1 Last

\*Addl Seq #: [ ]      Earnings End Date: [ ] [C] [D] [E] [F] [G] [H] [I] [J] [K] [L] [M] [N] [O] [P] [Q] [R] [S] [T] [U] [V] [W] [X] [Y] [Z] [ ] [Q]

Rate Code: [ ] [Q]      Reason: Not Specif [V] [W] [X] [Y] [Z] [ ] [Q]

Earnings: [ ]      Hours: [ ]      Hourly Rate: [ ]

Goal Amt: [ ]      Goal Bal: [ ]

Seq Chk #: [ ]      ☐ Disable Direct Deposit      ☐ Prorate Additional Pay      ☐ OK to Pay

Applies to Pay Periods: ☒ First      ☐ Second      ☐ Third      ☐ Fourth      ☐ Fifth

[Save] [Return to Search] [Next in List] [Previous in List] [Update/Display] [Include History] [Correct History]

Additional Pay 1 | Additional Pay 2 | Additional Pay 3

Example of nested scrolls on a page

In this case, we want to be able to maintain information on the compensation history for a single employee, and, for each change or override in compensation status, enter the details about that change. The first scroll area, **Earnings**, ties the earning code with the second, subordinate scroll, **Eff Date and Default Job Data** (Effective Date and Default Job Data), which enables the user to enter the effective date for the status change. The third scroll area, **Or Overrides to Job Data**, which is subordinate to the second, enables the user to enter the overrides to the default job data that appears in the second scroll area.

For each of the three scroll areas you can have several rows of data. While you won't see actual scroll bars on your page, the navigation buttons and links in the navigation bars for each scroll area allow you to navigate or "scroll" through the rows.

### *Nesting Grids within Scrolls*

As shown previously, you can nest a grid within a scroll or scroll area. The rather complex looking page below shows the Other Earnings grid at Level 3 nested within the Earnings scroll area at Level 2, which is nested within the Paysheet Details scroll area at Level 1. A nested grid serves the same function as a nested scroll area. It can offer a more compact way of viewing many fields of data, particularly if you use a tabbed grid.



**Note.** While you can nest a grid in a scroll area, you cannot nest a scroll area within a grid or a grid within another grid.



Example of a nested grid in a nested scroll area

## Levels and Runtime Processing

Levels play an important role in runtime processing. The Component Processor relies on the level at which you place a field on a page to determine how to process any PeopleCode attached to the field in the record definition.



For more information about using PeopleCode to scroll levels and runtime processing, refer to Referencing Data in the Component Buffer.

## Keys for Accessing Pages

No matter how much time and effort you invest in defining and refining your page, it's useless unless the user can access it. This means adding it to a component, then adding that component to a menu. When you add a page to a component, you determine what actions the user must perform to access the page, and the keys required to retrieve rows of information.

The search record you define for a component determines the key list; that is, those keys a user is prompted for when they select a page and an action. A search record can either be a view that concatenates information stored in several tables or the underlying table itself. You should select the search record that contains all the key items for the primary record underlying the page.

The keys prompted for by the search dialog should populate the high-level (level 0 in the page definition) key controls on a page. These key controls always appear above any level-based



control on the page and are typically display only. A search record may differ from a primary record definition, but it must contain all the level 0 keys that you have placed on the page.



For more information about keys, search records, and prompts, please refer to *Creating Record Definitions* and *Creating Component Definitions*.

## Multiple Occurrences of Data

On some pages, you may want a few of the field controls to display multiple rows or occurrences of data. To do this, you can add a level-based control—a scroll area, a grid, or a scroll bar. Users can then add, edit, delete, find, and “scroll” through multiple occurrences of data within a page control or group of controls using action buttons, links, or the browsers scroll bar, depending on what you set the occurs count to. Using a scroll area or a grid, rather than a scroll bar, is the preferred page design to show multiple occurrences of data.

For example, the Checklist Table page below contains the Assignment Checklist Item grid with an occurs count of 5. The Checklist Item scroll area in which it is nested contains an occurs count of 1, because we can see only one row of data in the scroll area. If the occurs count were set for a higher number, we would see the first scroll area with the grid inside, followed by a second scroll area with another grid inside of it.

*Sequence	*Item Code	Description	Buttons
1	K00014	Briefing with Human Resources	+ -
2	K00029	Apply for Visas/Work Permits	+ -
3	K00008	Reconfirm Relocation Package	+ -
4	K00001	Select moving/storage company	+ -
5	K00010	Confirm move date with movers	+ -

Grid with an occurs count set to 3

To see the next set of 5 rows in the **Assignment Checklist Item** grid, a user can click the button. To see all rows of data at once, in either the grid or scroll area, the user can select the **View All** link in the navigation bar.

In Application Designer, you set the occurs count for a level-based control on the General tab of the properties dialog box. You can set the occurs count to any number. You also have the option



of selecting Unlimited Occurs Count so that the user sees all rows of data. If there are more options than can be seen in the window at runtime, the browser displays a scroll bar enabling the user to scroll to the bottom of the page.

## Page Control Order and Other Considerations

The order of the controls on your new page is important to both how your users interacts with the page and how the Component Processor interprets the underlying record and field relationships.

Two types of control order are important on pages:

- The order in which you visually arrange controls on the page
- The logical processing order—governed by levels—that the system requires to correctly process the page data

As you add controls to a page, the system automatically builds a processing control order list. This order is usually not the one you want to preserve for processing. So you'll want to reorder your controls to tell the system how to process your page.

---

### Ordering Controls Visually

Organize fields from top left to bottom right in a page. Include most important information at top. Use group boxes to group related fields and indicate the hierarchy of information on a page. The following are some guidelines for grouping information.

- Keys - Group all key fields at the top of a page (such as Business Unit, Employee ID, and SetID).
- Level 1-3 - Controls at these levels must be enclosed by a scroll area or grid. At design time, these levels can be stacked. At runtime, they will appear nested.

---

### Ordering Controls Logically

Tab ordering through a page at runtime is strictly defined by page field ordering. When you add a control to a page, Application Designer automatically inserts it in the order list based on where you positioned it on the page. You can manipulate the ordering of fields on your page by moving them up or down on the Order tab in page designer. For example, on the EMPLOYEE\_CHECKLIST page, if you added a new control between Checklist Date and Checklist, the control would be inserted in the order list between these two controls.



EMPLOYEE\_CHECKLIST.ENG (Page)

Page Designer Order

AA ID: NNNNNNNNNNN 22/22/2222 12

Checklist Date: [ ] Checklist: [ ] AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Responsible ID: [ ] AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Comment: [ ]

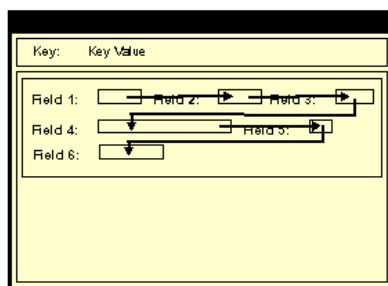
Chklist Seq	Chklist Item	Briefing Status	Status Date
[ ]	[ ] AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	[ ]	[ ]
[ ]	[ ] AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	[ ]	[ ]
[ ]	[ ] AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	[ ]	[ ]
[ ]	[ ] AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	[ ]	[ ]

EMPLOYEE\_CHECKLIST page

However, if you later moved this control next to the Comment long edit box, the placement of the new control in the order list would *not* change. Therefore, if a user tabbed out of the Checklist Date field, instead of going to the Checklist field, they would first go to the new field, then back up. This could be very annoying and confusing for the user.

In general, field tab order should flow from top left to bottom right on a page. The flow should reflect the way the eye naturally scans information.

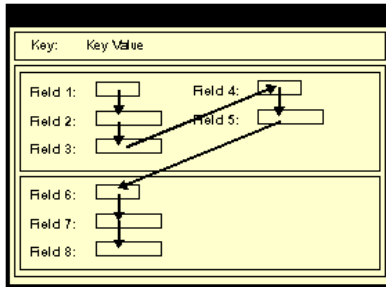
- On a page with multiple scroll levels, the tab order should follow the scroll level order, from Level 0 to Level 1, and so on.
- In a non-columnar page, the tab order should go from left to right on each line from top to bottom.



Example flow of non-columnar page

- In a columnar page, the tab order should go from the top to the bottom of the first column, then from the top to the bottom of the second column, and so on.





Example flow of columnar page

Fields that share the same label should follow consecutively in the tab order from left to right.

---

## Testing Page Control Order

After you have placed all the controls on your page, you should test the tabbing order. You can do this using either the test mode or by viewing the page in the browser. Using the View Page in Browser mode is more useful because you can also check the placement of controls and subfields on your page. While in these testing modes you can type data in edit boxes and select radio buttons and check boxes. However, you cannot save any data you enter, and push buttons and links do not function.



The tab order you establish at design-time may not apply for all browsers. For more specific information about browser differences, see Customer Connection.

---

To test tab flow using View Page in Browser

1. Open the page in Application Designer that you want to test.
2. Click the **View Page in Browser** button on the toolbar, or select **Layout, View in Browser**.
3. Select the appropriate browser from the drop down list.



The screenshot shows a web browser window displaying a form titled "View Page in Browser feature". The form contains the following fields and controls:

- Short Name:** A text field containing "AAAAAAAAAAAAAAAAAAAAA".
- Long Name:** A text field.
- Address 1:** A text field.
- Address 2:** A text field.
- Address 3:** A text field.
- City:** A text field.
- County:** A text field.
- Deposit Medium:** A dropdown menu.
- Zip:** A text field.
- Country:** A text field.
- Building Society:** A checkbox.
- Sort Code:** A text field.
- Account Number:** A text field.
- Account Name:** A text field.

There are also several search buttons (magnifying glass icons) next to the "County", "Zip", and "Sort Code" fields.

View Page in Browser feature

4. Use the **Tab** key to move from one field to the next.

**Shift+Tab** moves the cursor to the previous field as listed in the order list.

## Applying Control Order Rules

The basic rules for building an order list are simple. If you're working with a complex page or you're new to order lists, you'll probably want to print out a page definition and work on hard copy. The sequence number of each control is reflected in the Num column on the page report. You can easily mark where you need to move a control to make your page function properly. Or you can look at the Lvl (Level) column on the Order tab of the Page Definition. Follow these rules to order your controls:

### Radio Buttons

Radio buttons associated with a single field definition should always be grouped together, usually within a group box. The only controls you should place between related radio buttons are text controls that extend radio button labels. Put the text immediately after the radio button it relates to.

### Level-Based Controls

Level-based controls (scroll areas, grids, and scroll bars) should be listed immediately before the first control they govern, followed by the rest of the controls directly governed by that control. Level-based controls directly govern all controls listed below them on the order list until they encounter another level-based control at the same or lower level (higher occurs level number).



## Display Controls

A Display Control must precede any related display it governs. The related display controls don't have to immediately follow the display control, but they must be within the same scroll area or scroll. However, if you have more than one related display control, placing each immediately following its display control makes the order page easier to read and understand.

---

## Changing Control Order Using the Order List

The Order view displays the page fields in their field order and is displayed by clicking on the Order tab. In the Order view, page fields can be re-ordered by dragging and dropping in the same view. Changing the order list doesn't change the physical location of controls on the page. It only changes the logical order or tab order in which controls are processed. When you've added and arranged all your controls, you might want to print your page definition to get a global picture of how you may need to reorder your controls.

The order list also governs processing rules for scrolls and record/field relationships. You'll need to consider which controls are associated with which scroll area or scroll bar and which secondary relationships are important to page processing.

To change the order list

1. Open the page.
2. Click the **Order** tab on the open page.

The Order Page is displayed.

	Lv	Label	Type	Field	Record	Display Control	Related Field	Contr
1	0	SubPanel	SubPage					
2	0	Frame	Frame					
3	1	Scroll Bar	Scroll Bar					
4	1	Absence Type	Drop Down List	ABSENCE_TYPE	ABSENCE_HIST			
5	1	Begin Date	Edit Box	BEGIN_DT	ABSENCE_HIST			
6	1	Day of Week	Edit Box	DAY_OF_WEEK	DERIVED_HR			
7	1	Return Date	Edit Box	RETURN_DT	ABSENCE_HIST			
8	1	Duration:	Text					
9	1	Days	Edit Box	DURATION_DAY	ABSENCE_HIST			
10	1	Hours	Edit Box	DURATION_HOU	ABSENCE_HIST			
11	1	Absence Type	Edit Box	ABSENCE_TYPE	ABSENCE_HIST			
12	1	Reason	Edit Box	REASON	ABSENCE_HIST			
13	1	Paid	Radio Button	PAID_UNPAID	ABSENCE_HIST			
14	1	Unpaid	Radio Button	PAID_UNPAID	ABSENCE_HIST			
15	1	Employer-Approve	Check Box	EMPLOYER_APP	ABSENCE_HIST			
16	1	Comment	Long Edit Box	COMMENTS	ABSENCE_HIST			

Reordering controls on a page

Use this page to change the logical processing order of fields on your page.



3. To move a control to another position in the control order list: highlight the control you want to move.

If you want to move more than one control at a time, use shift-click.


4. Click and drag the highlighted control to where you want to move it in the order page.
5. Let go of the mouse to place the control in the new position.

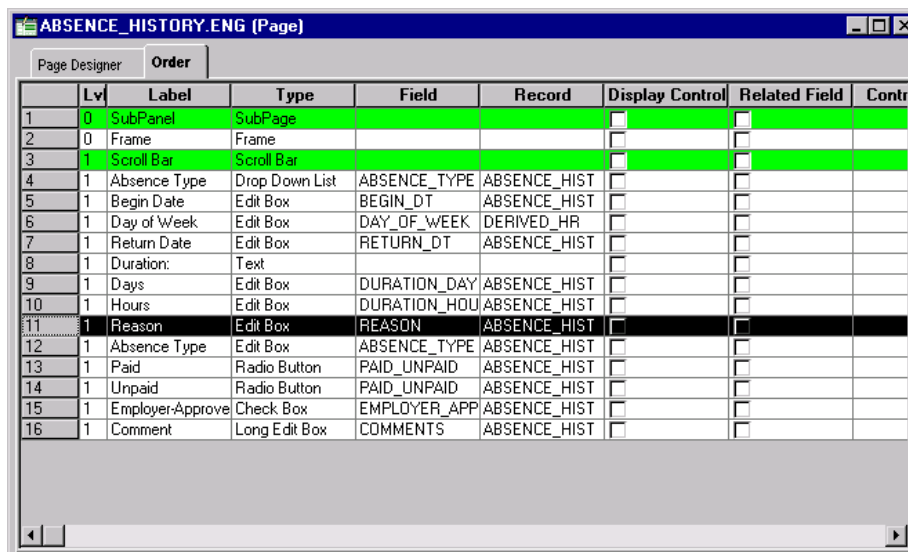
The system will move the control to the new location and automatically re-sequence the control numbers. Remember, the visual display of the page still looks the same—changing the order list doesn't move the control on the page, only the logical processing order of the control.

## Using Default Order

You can rearrange the order list so the logical control order reflects the physical control order.

To use the default order

1. Open your page and click the **Order** tab.
2. Click the  Default Ordering button on the toolbar, or select Layout, Default Page Field Ordering.



	Lv	Label	Type	Field	Record	Display Control	Related Field	Contr
1	0	SubPanel	SubPage			<input type="checkbox"/>		
2	0	Frame	Frame			<input type="checkbox"/>		
3	1	Scroll Bar	Scroll Bar			<input type="checkbox"/>		
4	1	Absence Type	Drop Down List	ABSENCE_TYPE	ABSENCE_HIST	<input type="checkbox"/>		
5	1	Begin Date	Edit Box	BEGIN_DT	ABSENCE_HIST	<input type="checkbox"/>		
6	1	Day of Week	Edit Box	DAY_OF_WEEK	DERIVED_HR	<input type="checkbox"/>		
7	1	Return Date	Edit Box	RETURN_DT	ABSENCE_HIST	<input type="checkbox"/>		
8	1	Duration:	Text			<input type="checkbox"/>		
9	1	Days	Edit Box	DURATION_DAY	ABSENCE_HIST	<input type="checkbox"/>		
10	1	Hours	Edit Box	DURATION_HOU	ABSENCE_HIST	<input type="checkbox"/>		
11	1	Reason	Edit Box	REASON	ABSENCE_HIST	<input type="checkbox"/>		
12	1	Absence Type	Edit Box	ABSENCE_TYPE	ABSENCE_HIST	<input type="checkbox"/>		
13	1	Paid	Radio Button	PAID_UNPAID	ABSENCE_HIST	<input type="checkbox"/>		
14	1	Unpaid	Radio Button	PAID_UNPAID	ABSENCE_HIST	<input type="checkbox"/>		
15	1	Employer-Approve	Check Box	EMPLOYER_APP	ABSENCE_HIST	<input type="checkbox"/>		
16	1	Comment	Long Edit Box	COMMENTS	ABSENCE_HIST	<input type="checkbox"/>		

Default ordering selection

The system creates the default order by reading the page as though it were on a pixel by pixel grid, from top to bottom, left to right.





---

Use the Default Ordering option sparingly on existing pages! It may offset any previous order created. However, on new pages, you may find default ordering a useful starting point for your control order list.

---

---

## Spacing Controls on Pages

Make sure that you give adequate space between controls on a page. This means that fields and their labels should not touch or overlap other controls or labels in Application Designer. If they do, then when your page appears in the browser, the label will be offset automatically and the overlapped control may shrink.

### Overlapping Fields

You may only layer or overlap fields if the one you are overlapping is set to Invisible in the Use properties tab of the Page Field Properties for that control. So when you tab through the data entry controls on a page, the Component Processor recognizes only the visible or unhidden field as enterable.

You can layer multiple invisible fields. However, you must set up your “stacks” of edit boxes so that all but one field in the stack are invisible or hidden at RowInit time.



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For more information about hiding and unhiding fields, refer to FieldClass.

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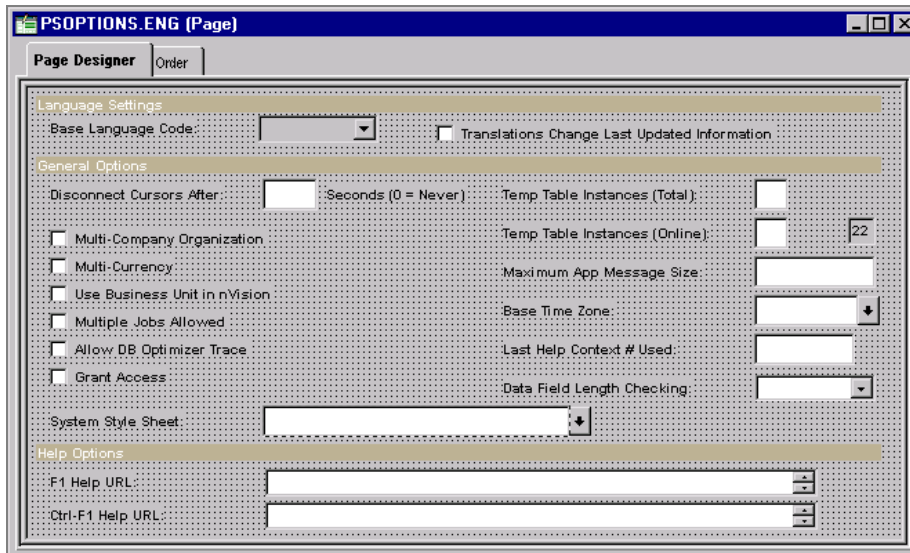
## Viewing your Page in the Browser

During the page design process you should periodically view how your page will look in the browser. How you design your page in Application Designer may look different when viewed online, particularly if you are using subpages that contain multiple fields.



A quick and easy way to do this is to select the View Page in Browser button or Layout, View in Browser from the Page Definition Toolbar. This feature is particularly helpful if you are changing any of the style characteristics of the page or aligning and spacing controls, such as scroll areas.





Sample page in Application Designer

<b>Language Settings</b>	
Base Language Code:	<input type="checkbox"/> Translations Change Last Updated Information
<b>General Options</b>	
Disconnect Cursors After: <input type="checkbox"/> Seconds (0 = Never)	Temp Table Instances (Total): <input type="checkbox"/>
<input type="checkbox"/> Multi-Company Organization	Temp Table Instances (Online): <input type="checkbox"/> 22
<input type="checkbox"/> Multi-Currency	*Maximum App Message Size: <input type="text"/>
<input type="checkbox"/> Use Business Unit in nVision	Base Time Zone: <input type="text"/>
<input type="checkbox"/> Multiple Jobs Allowed	Last Help Context # Used: <input type="text"/>
<input type="checkbox"/> Allow DB Optimizer Trace	*Data Field Length Checking: <input type="text"/>
<input type="checkbox"/> Grant Access	
System Style Sheet: <input type="text"/>	
<b>Help Options</b>	
F1 Help URL:	<input type="text"/>
Ctrl-F1 Help URL:	<input type="text"/>

Same sample page viewed in internet explorer

The View in Browser feature will only give you a very rough idea of how your page might look. To get a more complete view of the page at runtime, complete with breadcrumbs and the navigation header, you will need to assign your page to a component and add it to the existing menu structure. See [Creating Component Definitions](#) and [Creating Menu Definitions](#). Once you've assigned your page to a component and menu, you can open up the URL for that page in the browser window.



---

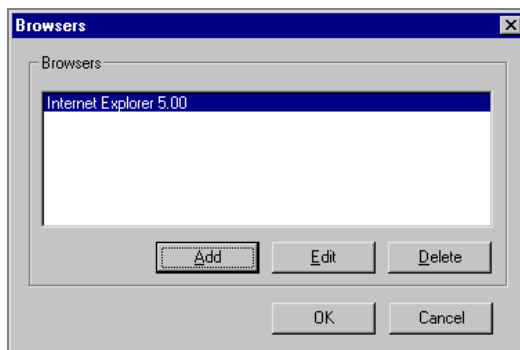
## Changing the Default Browser

You can test your page in any browser. You simply need to change the default browser to one other than Microsoft's Internet Explorer. Once you set up a new browser, you can select in which browser you would like to view your pages.

To change the default browser

1. Open a page in Application Designer.
2. Select Layout, View in Browser, Edit Browser List.

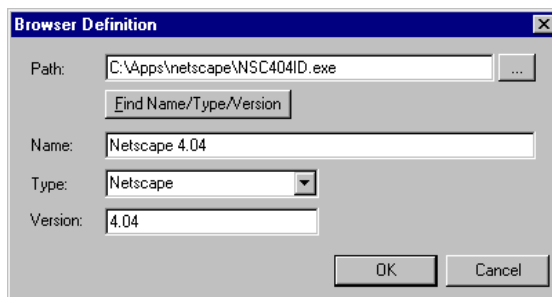
The Browsers dialog box appears.



Editing the Browsers list

3. Click the **Add** button.
4. Select the browse button to locate the browser you want to add.

It is critical that you select the right path and browser application for the new browser to function properly.



Selecting a new browser

5. Enter the **Name**, **Type**, and **Version** of the browser.

The name you enter will appear in the **Layout, View in Browser** menu.



## Generating HTML

The PeopleSoft Internet Architecture system automatically writes HTML forms or tags for all the page controls you add to a page. You do not need to know how to write HTML code to create pages in Application Designer and then view them in the browser. The following table shows this conversion.

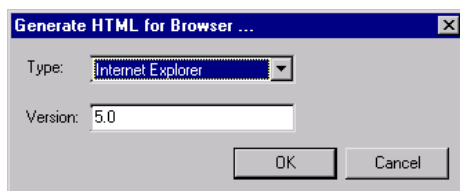
### Page Controls as HTML

<b>Page Controls</b>	<b>HTML Forms</b>	<b>Static HTML Tags</b>
Edit Box (editable)	<INPUT TYPE=TEXT>	
Long Edit Box	<TEXTAREA>	
Drop-down List	<SELECT><OPTION><OPTION>.....</SELECT>	
Radio Button	<INPUT TYPE=RADIO>	
Check Box	<INPUT TYPE=CHECKBOX>	
Push Button/Hyperlink	<INPUT TYPE=BUTTON> <INPUT TYPE=HYPERLINK>	
Static Text		HTML text
Static Image		<IMG>
Grid		HTML <TABLE>

You can view the HTML that is created for your page by using the Generate HTML feature. Like the View in Browser feature, the Generate HTML feature writes the HTML code to a file on the local drive. This feature is mainly used for debugging purposes and is not needed for the creation of pages.

To generate HTML for a page

1. Open the page for which you want to generate the HTML.
2. Select Layout, Generate HTML.



Generate HTML for Browser dialog box



### 3. Select the browser **Type** and **Version**.

Application Designer generates the HTML to the c:\TEMP\pshtml directory. The file is named according to the page name and the browser you select. For example, the Absence History page would be named ABSENCE\_HISTORY IE5.00.html.

To view the HTML for your page

#### 1. Open the generated HTML file.

The selected browser will open, showing how your page will appear at runtime.

#### 2. Select **View, Source** in your browser window or right-click on your page while you are in the browser window and select **View Source**.

Notepad or another text-based application will appear with the HTML used to create your page, as shown below.



Different browsers may have different methods for viewing the HTML for your page.

```

h800r22b[2] - Notepad
File Edit Search Help
<HTML>
<HEAD>
<meta HTTP-EQUIV='Refresh' CONTENT='14400; URL=http://rtntsb11/servlets/iclientservlet/h800r22b[2]';>
<BASE HREF='http://rtntsb11/h800r22b/cache/images/'>
<LINK REL='stylesheet' TYPE='text/css' HREF='http://rtntsb11/h800r22b/cache/CSS/PSSTYLEDEF_ENG_...>
<!-- Copyright (c) 2000 PeopleSoft, Inc. All Rights Reserved.
      IE/5.0 DB:H800R22B ToolsRel:8.10-N6 Page:JOB_DATA1 Component:JOB_DATA Menu:ADMINISTER W...
<SCRIPT LANGUAGE='javascript' SRC='http://rtntsb11/h800r22b/cache/js/PT_SCRIPTIE500_ENG_main...>
</SCRIPT>
<SCRIPT LANGUAGE='javascript' SRC='http://rtntsb11/h800r22b/cache/js/PT_PAGESCRIPT_ENG_main...>
</SCRIPT>
<SCRIPT LANGUAGE='JavaScript'>
function submitAction_main(form, name)
{
  if (isLoading_main()) return;
  form.ICAction.value=name;
  form.ICXPos.value=getScrollX();
  form.ICYPos.value=getScrollY();
  processing_main(true);
  form.submit();
}
</SCRIPT>
<SCRIPT LANGUAGE='javascript' SRC='http://rtntsb11/h800r22b/cache/js/PT_DATE1_ENG_main_5.js'>
</SCRIPT>
<SCRIPT LANGUAGE='javascript' SRC='http://rtntsb11/h800r22b/cache/js/PT_DATE2_ENG_main_5.js'>
</SCRIPT>
<SCRIPT LANGUAGE='javascript'>
function dateitemrefs()
{
  this.datescripts = "<SCRIPT LANGUAGE='\" + "javascript\"' SRC='\" + "http://rtntsb11/h800r22b/cache/js/PT_DATE1_ENG_main_5.js\"'>";
  this.base = "<BASE HREF='\" + "http://rtntsb11/h800r22b/cache/images/\"'>\n";
}
  
```

Sample HTML as viewed in Notepad





**Note.** If you want to adjust the look or function of how your page looks in the browser, do so in Application Designer. If you make changes directly to the HTML in Notepad, your changes will not be saved to the system. Each time you open the page in the browser it will revert back to the settings of the original page definition.

## Identifying Page Definitions Online

In some cases, the page name online differs from the actual name of the page definition in Application Designer. While viewing a page in the browser, locate the page definition name by right-clicking on the page and selecting View Source from the drop-down menu. The HTML code will appear for your page in a text application, such as Notepad. In most cases, you'll find the page name in the sixth or so line of code after "Page:" as highlighted in the screen shot shown below. You can also identify the component and menu definitions for your page next to the page definition name.

```

peoplesoft8[6] - Notepad
File Edit Search Help
<HTML>
<HEAD>
<meta HTTP-EQUIV='Refresh' Target='_top' CONTENT='1200; URL=/iclientservlet.jrun/peoplesoft8'
<BASE HREF='http://MLEE2021800/peoplesoft8/cache/images/'>
<LINK REL='STYLESHEET' TYPE='TEXT/CSS' HREF='http://MLEE2021800/peoplesoft8/cache/CSS/PSSTYLEDI
<!-- Copyright (c) 2000 PeopleSoft, Inc. All Rights Reserved.
IE/5.0 DB:PT81K5A ToolsRel:8.10-K5 Page:BUS_EXP_IC_R2 Component:BUS_EXP_IC_R Menu:BUS_E
<SCRIPT LANGUAGE='JavaScript'>
var bSubmitted=false;
function submitAction_main(form, name)
{
form.ICAction.value=name;
form.ICXPos.value=self.document.body.scrollTop;
form.ICYPos.value=self.document.body.scrollTop;
document.processing_main.src = 'PT_PROCESSING_ON_ENG_131.gif';
bSubmitted=true;
form.submit();
return ;
}
</SCRIPT>
<SCRIPT LANGUAGE='javascript' SRC='http://MLEE2021800/peoplesoft8/cache/js/PT_DATE1_ENG_main
</SCRIPT>
<SCRIPT LANGUAGE='javascript' SRC='http://MLEE2021800/peoplesoft8/cache/js/PT_DATE2_ENG_main
</SCRIPT>
<SCRIPT LANGUAGE='javascript'>
function dateitemrefs()
{
this.datescripts = "<SCRIPT LANGUAGE='\\javascript\\' SRC='\\http://MLEE2021800/peoplesoft8/cac
this.base = "<BASE HREF='\\http://MLEE2021800/peoplesoft8/cache/images/'>\n";
this.pt_dateheader = "PT_DATE_HEADER_ENG_241.gif";
this.pt_daystitle = "PT_DATE_TITLE_ENG_191.gif";

```

Page definition name identified in HTML code

## Choosing Page Controls

PeopleSoft Internet Architecture provides numerous controls to help you design new pages in your system or to reconfigure existing pages. Designing pages using Application Designer is as



easy as dragging and dropping controls onto a page. You can then set the properties for that control to direct its display and function.

There are three categories of controls that you use in page design and development.

- Aesthetic Controls
- Data Entry Controls
- Function and Data Processing Controls

You determine which types of controls you want to add to your page definition by considering how you want to organize information on a page as well as how your users will enter data. Your options include aesthetic controls, data entry controls, and functional or data processing controls.

## Aesthetic Controls

Use aesthetic controls to help organize, display, or emphasize information on the page. In most cases, aesthetic controls are not associated with a particular record field defined in a record definition and maintained in the database. With the exception of the image control, these controls never update data in the database. Aesthetic controls include:

<b>Frame</b>	Draws a frame, a display-only box of variable size, to visually group together a set of controls on a page.
<b>Group box</b>	Draws a group box, a display-only box of variable size with a text label, to visually group and identify related controls, such as radio buttons.
<b>Horizontal rule</b>	Draws a horizontal line that you can use for separating parts of your page.
<b>Image</b>	Draws a frame that you can associate with a variable image that is pulled out of a record field in the database. Can be used as an aesthetic control or a data entry control.
<b>Static image</b>	Draws a frame that you can associate with an image definition.
<b>Static text</b>	Adds a static text item, a display-only alphanumeric field with a maximum length of 60 characters, to describe a page, control, or group of controls.


---

### Frame Control

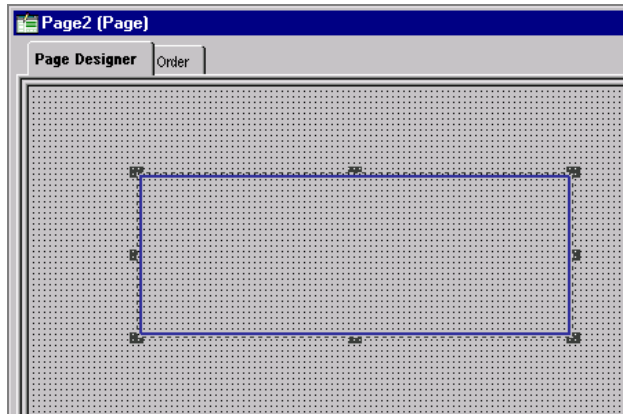
Frames are used to visually organize information on the page. A frame can be dragged around almost any control. You can isolate controls, such as HTML areas, from other controls on the page and then hide the frame.



To insert a frame

1. Click the  **Frame** button on the toolbar, or select **Insert, Frame**.
2. Position the index finger where you want the upper left corner of the frame to be located.

When a hand-shaped icon displays, press and hold the left mouse button as you drag the hand diagonally downward to where you want the lower right corner of the frame. Release the mouse button.



Adding a frame

If the frame isn't exactly right the first time you draw it, you can easily adjust it. The dotted box and black boxes or handles surrounding the frame indicate that the frame field is selected. You can move the frame using any of the four directional arrow keys on the keyboard. Press the Up Arrow, Down Arrow, Left Arrow, or Right Arrow key, and the frame will move one grid unit in the indicated direction.

3. To deselect the frame, click anywhere outside of the frame on your page workspace.

To adjust frame size and shape

1. Select the frame.

Point anywhere within the frame and left-click. Handles display on the perimeter of the frame. The handles on the left and right sides adjust the width. Handles on the top and bottom adjust the height. Handles in the corners adjust both width and height.

2. Adjust the size and shape.

Click and drag any of the handles to adjust the width or height to the desired position. You can also adjust the size of the frame by pressing the shift key and any of the four directional arrow keys on the keyboard.



## Setting Frame Label and Display Options

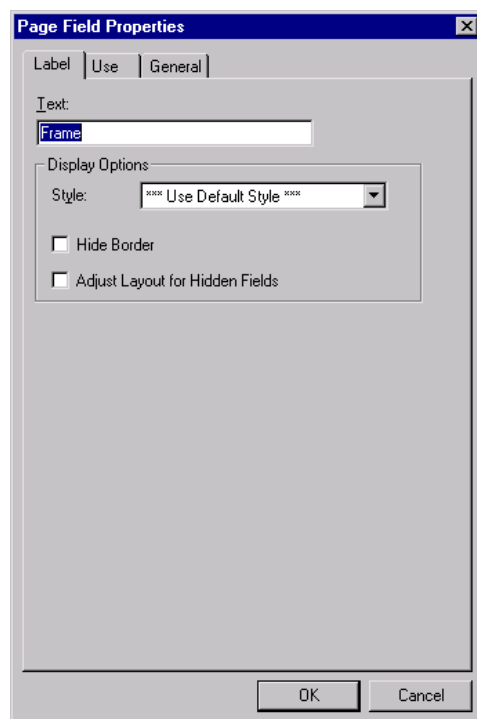
Document the purpose of the frame by changing the informational label of the frame. The default frame label is *Frame*. Any label you attach to a frame is for information only—it doesn't display on your page, but it does show on the page definition print out and in the control order list. Use labels to differentiate among multiple frames on your page.

You can also use the frame properties to change how a frame displays.

To change frame labels and display options

1. Access the **Page Field Properties** dialog box, **Label** tab.

Select the frame and double-click, or right-click on the frame and select Page Field Properties from the pop-up menu.



Specifying a frame label

Enter a brief **Text** description of the function of the controls within the frame. For example, if you're enclosing address controls, you might want to use the label *Address Frame*.

2. Select the **Style** for the frame.

You can control the color and line thickness in addition to the background color of a frame by specifying a style. See Creating Style Sheet Definitions.

3. Select the **Hide Border** check box if you want to hide the frame's border.



Use this option if you want to use the style to shade only the background of the framed area or to apply other styles. If you select **Hide Border**, it will override any border options specified in a style.

A frame with a hidden **border** may also be used to facilitate HTML generation. When a frame is inserted in a page section, the system knows to generate that section as a table in HTML. This is useful to ensure correct layout. However, in some browsers, adding more HTML tables can result in performance degradation. See Maximizing Performance for information on optimizing the performance of your pages.

4. Select the **Adjust Layout for Hidden Fields** check box if desired.

This option enables automatic vertical adjustments to the frame size when hidden fields are present. As long as visible fields are not present to the right or left of the hidden field(s) within a frame, the frame will collapse to surround the remaining fields.

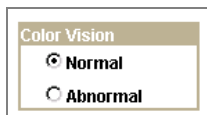
## Setting Frame Use Properties

If the field is associated with multi-currency processing, indicate this by turning on the Multi-Currency Field option on the Page Field Properties dialog box, Use tab. This causes the field to be shown at runtime only if the Multi-Currency switch on the PeopleTools Options page is selected.

---

## Group Box Control

Use group boxes to arrange related fields on a page. Like a frame, you can resize a group box to any length or width. However, with a group box you can assign a visible label. Typically, you'll use a group box to surround and identify a group of related radio buttons like those shown below. Like frames, group boxes generate HTML tables for viewing in the browser.



Group box at runtime

To insert and move a group box

1. Click the **Group Box** button on the toolbar or select **Insert, Group Box**.

When a hand-shaped icon monogrammed with a **G** appears, position the index finger where you want the upper left corner of the frame to be located. Press and hold down the left mouse button as you drag the hand diagonally downward to where you want the lower right corner of the box. Release the mouse button.

You'll see the default label, Group Box, displayed in the top left corner of the tan outlined box until you change the label. When you select the group box field, the dotted box and black handles surrounding the group box display.



2. Move the group box if desired.

To move the group box, press and hold down your mouse anywhere on the box and your cursor will display a small rectangle. Drag the group box to reposition it on the page, and then release the mouse button. Alternatively, you can press the Up Arrow, Down Arrow, Left Arrow, or Right Arrow key to move the group box one grid unit in the indicated direction.

3. Deselect the group box by clicking anywhere outside of the group box on your page workspace.

### **Adjusting Group Box Size and Shape**

Use group box handles to adjust the size or shape of the group box with your mouse. Or, as with frames, you can adjust the size of the group box by pressing the Shift key and any of the four directional arrow keys on the keyboard.

### **Setting Group Box Record and Label Properties**

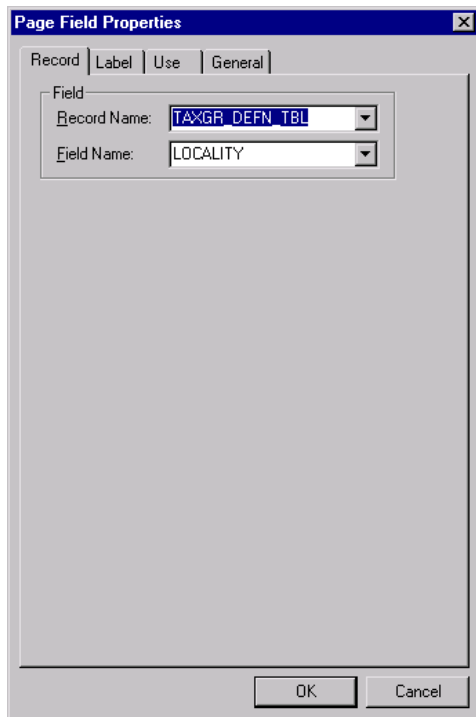
The label of your group box should reflect how the fields are related. However, if for visual reasons, the group box surrounds a variety of disparate controls, you may just want to change the label, rather than tie it to any one record definition and field.

If you are organizing a group of radio buttons with translate values, you could label your group box by associating it with the record definition and field, and selecting either the long name or short name as the label. If neither the long or short name is appropriate, create a text label.

To link group boxes to record definitions

1. Open the Page Field Properties dialog, Record tab.





Associating a group box with a record

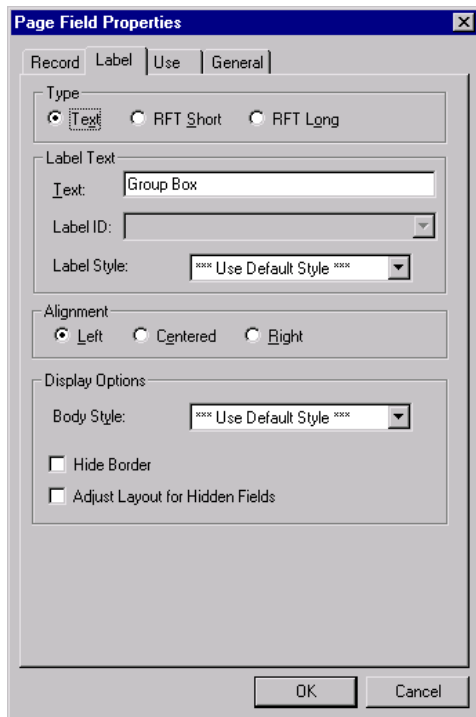
2. Select a Record Name and a Field Name.

Linking a record field with your group box allows you to control hiding and un-hiding of the group box.

To change the label of your group box on the page

1. Open the Page Field Properties dialog, Label tab.





Specifying group box labels

2. Under **Display Options**, select the **Body Style** for the group box border.

You can control the color, line thickness, and the background of the body section of a group box by specifying a style. See *Creating Style Sheet Definitions* for more information.

3. Select the **Hide Border** check box if you want to hide the border.

This will override any border options specified in a style.

4. Select **Adjust Layout for Hidden Fields** if desired.

If there are hidden fields, the group box will adjust its borders to accommodate them if this feature is selected.



**Note.** In order for the group box to adjust automatically, the hidden fields inside the group box must be surrounded by open space or have other hidden fields to the right or left.

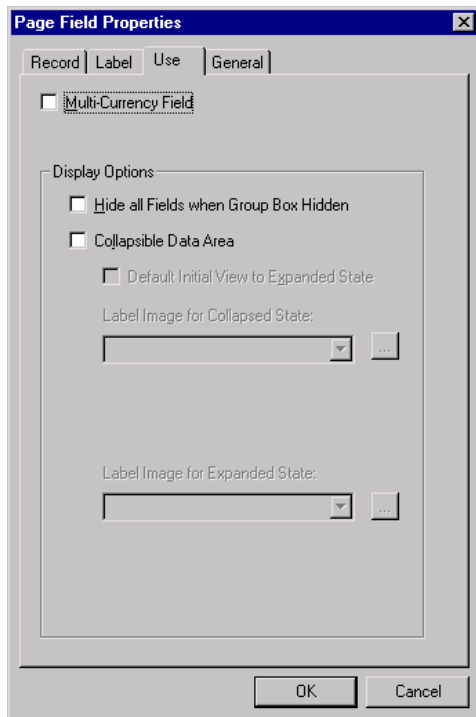
5. For help in setting the remaining group box label properties, see *Setting Label Properties*.

## Setting Group Box Use Properties

To specify group box use

1. Open the Page Field Properties, Use tab.





Setting group box Use tab properties

2. Select the **Multi-Currency Field** check box if necessary.

If the field is associated with multi-currency processing select this feature. If the Multi-Currency switch on the PeopleTools Options page is selected, the field displays at runtime only.

3. Select the appropriate **Display Options**.

The **Hide all Fields when Group Box Hidden** check box enables you to hide all visible and hidden fields when the group box is hidden. Hide a group box by associating it with a record/filed and invoking the PeopleCode field class Visible property. To hide a group box see Field Class Visible property.

Check the **Collapsible Data Area** if you want to collapse the group box into a small image that the user must click to expand. This enables the **Default Initial View to Expanded State** check box and allows you to choose label images for both the expanded and collapsed states, typically small triangles.



The screenshot shows a web browser interface with a collapsible group box for 'Spain' expanded. The expanded box contains the following fields:

- Union Code: [text box]
- Union Date: [calendar icon]
- ☐ Pay Union Fee
- Union Fee Amt.: [text box]
- Fee Start Dt: [calendar icon]
- Fee End Dt: [calendar icon]
- WrkCncl Funct.: [dropdown menu]
- InterCtr Funct.: [dropdown menu]
- ☐ Exempted

Below the expanded box, there are three collapsed group boxes for 'France', 'Italy', and 'USA', each with a small triangle icon to its left.

Example of collapsible group boxes in the browser

In the example above, the first group box, **Spain**, is expanded while the group boxes for **France**, **Italy** and **USA** are collapsed.

Each time a user opens or closes a collapsible section, a trip to the application server is required. Therefore, the initial state of whether the collapsible section is open or closed is important. You should carefully evaluate the performance and usability aspects of using collapsible sections versus designing a long page that displays all the data using deferred processing mode instead.

## Horizontal Rule Control

Use the Horizontal Rule control to add horizontal lines to your page. A horizontal rule is useful as a visual break between controls, as shown below between the Salary Administration Plan and Rating Scale groupings in the scroll area.

The screenshot shows a web browser interface with a form titled 'Salary Plan' for employee 'Sawyer, Tom'. The form is divided into several sections by horizontal rules. The 'Salary Administration Plan' section includes fields for 'Effective Date' (05/03/1995), 'Effective Sequence' (0), 'Job Indicator' (Primary Job), 'Action / Reason' (Hire), 'Salary Administration Plan', 'Grade', 'Grade Entry Date', 'Step', 'Step Entry Date', 'Rating Scale', 'Review Rating', 'Review Date', 'Rating Model', and 'Matrix'. A horizontal rule separates this section from the 'Rating Scale' section below it. The 'Rating Scale' section includes fields for 'Rating Scale', 'Review Rating', 'Review Date', 'Rating Model', and 'Matrix'. At the bottom of the form, there are tabs for 'Job Data', 'Employment Data', 'Earnings Distribution', and 'Benefits Program Participation'. Below the tabs are buttons for 'Save', 'Return to Search', 'Previous tab', 'Next tab', 'Update/Display', 'Include History', and 'Correct History'. The bottom of the page shows a navigation bar with links for 'Work Location', 'Job Information', 'Job Labor', 'Payroll', 'Salary Plan', and 'Compensation'.

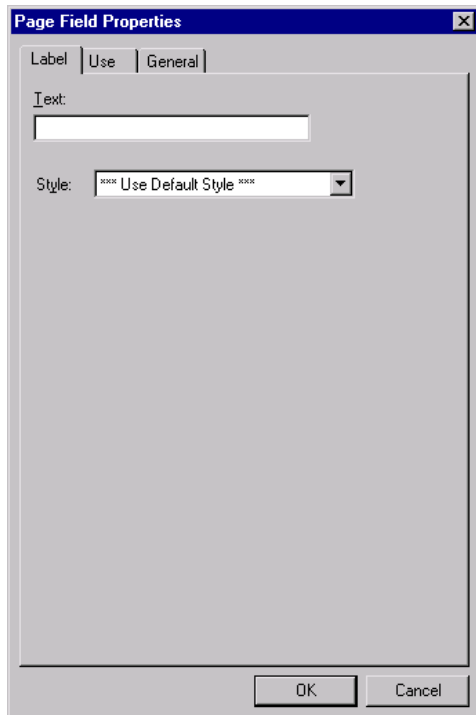
Example of horizontal rule at runtime



To draw a horizontal rule and set label properties

1. Click the **Horizontal Rule** button on the toolbar, or select **Insert, Horizontal Rule**.
2. Draw a horizontal line to the desired length on the page.
3. Open the **Page Field Properties** dialog box, **Label** tab.

Enter an information-only label to differentiate the line from other frames and lines on your field order list.



Page Field Properties for horizontal rule

4. Select the **Style** for the line.

You can control the color and line thickness of a horizontal rule by specifying a style.



---

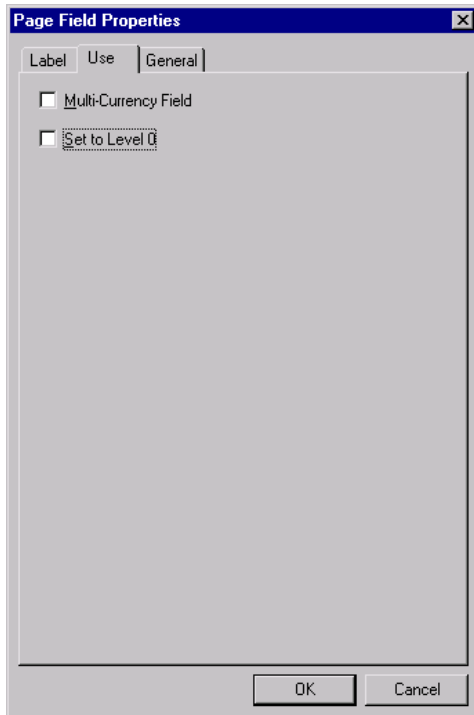
For more information see [Creating Style Sheet Definitions](#).

---

### Setting Horizontal Rule Use

There are only two settings on the horizontal rule Page Field Properties dialog, Use tab. The second of these settings, Set to Level 0, enables you to manipulate the Occurs Level of your controls on the page while still preserving the physical tabbing order at runtime. Remember that if you adjust the sequence of fields on the Order tab, the tabbing order for the user at runtime will be adjusted to that new order.





Page Field Properties – horizontal rule, Use tab

This feature is useful if you want to specify a scroll level organization that differs from the order of page fields in the Order tab. For example, you may want to create a page that contains multiple collapsing group boxes where each contains one or more level-based controls. By placing a horizontal rule between each of the collapsing sections with **Set to Level 0** checked, you are returning the occurs level to 0 so that you can add additional levels, if necessary, without having to alter the order of controls on the Order tab. In doing so, you can maintain a consistent tab order.

To change horizontal rule use

1. Select the Page Field Properties, Use tab.
2. Select the **Multi-Currency Field** option if the field is associated with multi-currency processing.

This causes the field to be shown at runtime only if the Multi-Currency switch on the PeopleTools Options page is selected.

3. Select **Set Level to 0** to force the horizontal rule to be listed at level 0 in the Order tab.

All fields below the horizontal rule, until the next level-based control, will also be set to 0. Setting this attribute makes the horizontal rule invisible at runtime.



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## Image Controls

There are two types of image controls: static images and images. Both are forms of aesthetic controls, and both can be displayed anywhere on your page. The difference is that a static image is not associated with a record field, but instead with a pre-defined image definition. A static image does not change at runtime.

An image control, on the other hand, *can* change at runtime and *is* associated with a record and field definition. It is therefore also considered a data entry control in addition to being an aesthetic control. The field you associate with your image can either be a standard image type field or an ImageReference type field, where one or more images may be associated with it depending on user input.




For more information see Image Field and ImageReference Field.

---

### Static Image Control

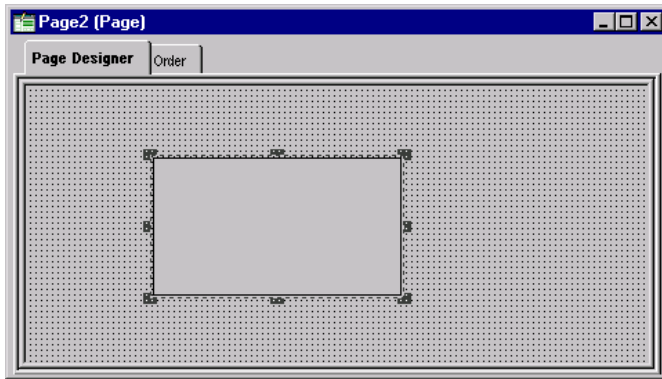
A static image is an aesthetic element, much like a text label, frame, or group box. It can help organize or identify information displayed on a page. It is not associated with a record field, but rather is associated with a pre-defined image definition. For example, you might select a static image, such as the yellow Clear button, from the image catalog and place it on top of a push button control so the user knows to hit that button when they want to clear the contents of the page. To see a table of image definitions and their purpose, see Catalog of Image Definitions.

To insert a static image control on a page

1. Click the  **Static Image** button on the toolbar, or select **Insert, Static Image**.
2. Insert the Static Image on your page.

When a hand-shaped icon monogrammed with an **M** appears, position the index finger where you want the upper left corner of the image to be located. Press and hold down the left mouse button as you drag the hand diagonally downward to where you want the lower right corner of the image. Release the mouse button.





Inserting static images

## Adjusting Static Image Size and Shape

You adjust the size and shape of static images as you would a frame or group box. Or you can adjust the size in the Label Page Field Properties by changing the width and height in pixels.

## Setting Static Image Properties


You can select your image and set its format and size using the Page Field Properties dialog box.

To associate a static image with an image definition

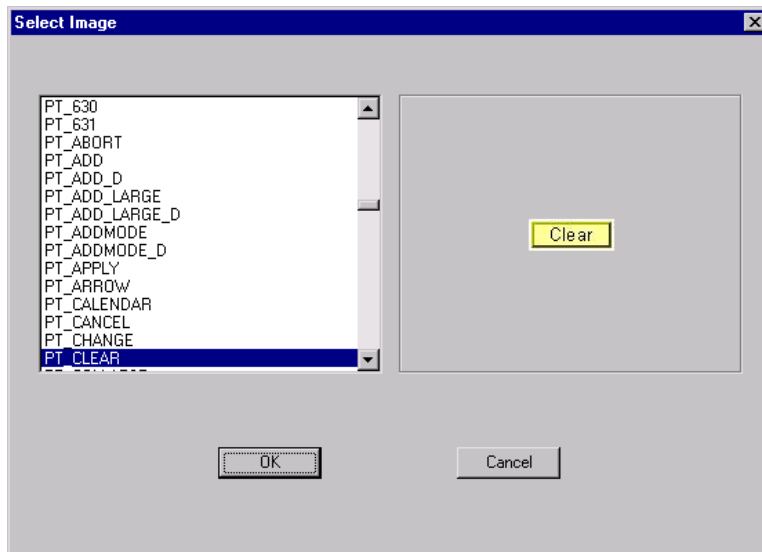
1. Open the Page Field Properties dialog, Label tab.
2. Enter a **Text** label to identify the static image.

The label will not appear on your page at runtime. It is simply for keeping track of your images in your scroll order list box and on page definition reports.

3. Select an **Image ID**.

To insert an image, either click on the **Image ID:** drop-down menu to select a pre-defined image definition; or you can preview the list of available images by clicking on the **Browse** button  next to it. The **Select Image** dialog appears with a list of all the image components available. To the right of the image list box is a display of the image you have selected.



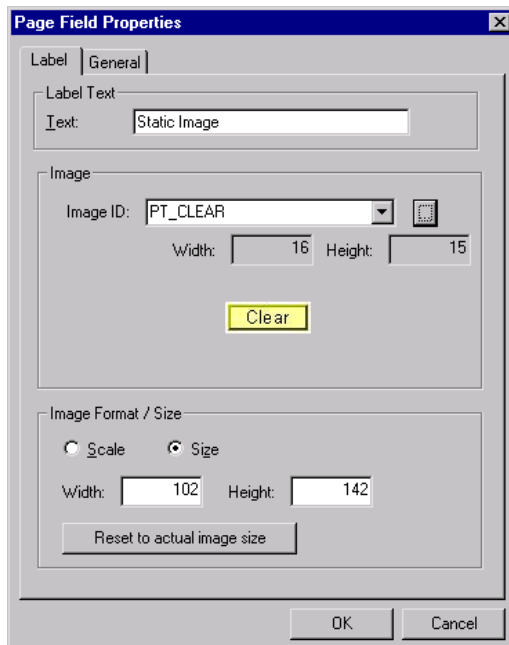


Select Image dialog



**Note.** If an image definition is stored as a .GIF file, with no alternate format selected, it will not display in Page Designer. A warning dialog will appear telling you to convert the image. If you are not concerned about viewing the image during the design process, you can ignore the message since the image will display as intended on your page in the browser at runtime.

4. Click **OK** to return to the **Page Field Properties** dialog.



Changing static image label



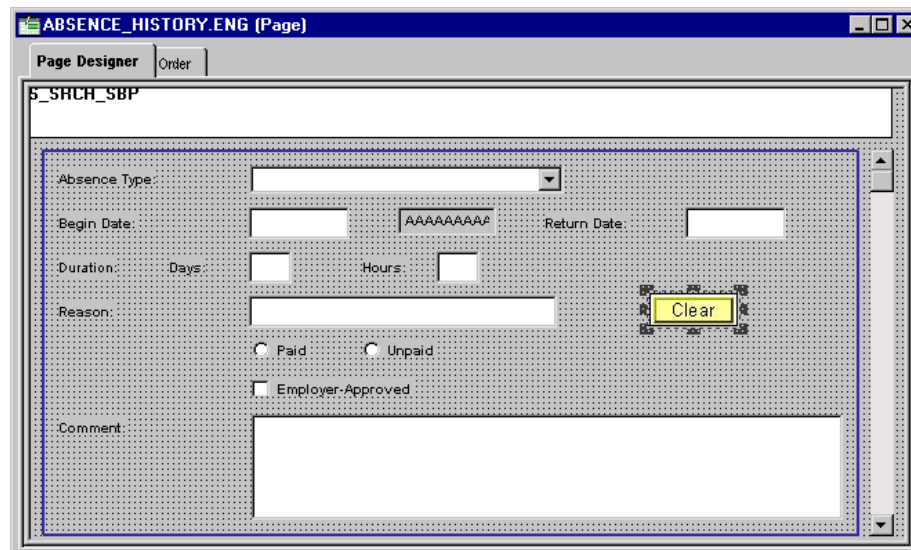
The image you selected appears in the image area with its width and height displayed in pixels in the grayed out fields.

5. Set the Image Format/Size as desired.

If you select **Scale**, the image will scale to the size of the frame you set by the control selection handles when you view your page in the browser or by the width and height you enter. Click the **Reset to Actual Image Size** button if you want your control to resize to the image you selected. If you select **Size**, the image will display as is regardless of the control size on your page.

6. Click **OK**.

You can now position the static image anywhere on the page.



Adding static image to page definition

You can define your own static images on pages, such as your company logo by creating a new image definition. See *Creating Image Definitions* for more information. Once you have created the image definition, you can then add your logo to a page using a static image control as shown above.

## Image Control

An image control is a page control that you associate with a record field. The record field stores a graphic in the format you defined in the record definition. You associate image page controls with image record fields that store graphics, such as scanned images of employees or pictures of assets, in your database.

The image control can be associated with a field type called ImageReference. This field type is a pointer to an image definition, which allows you to display images dynamically. An example of this is referencing a red, yellow, or green light image definition on a page, depending on the context when the page executes.





For more information about ImageReference field, see ImageReference Field or the PeopleCode Developer's Guide.

To insert an image

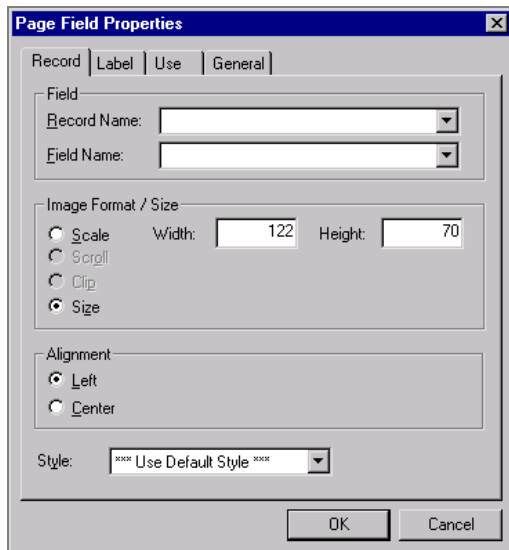
1. Click the **Image** button on the toolbar, or select **Insert, Image**.
2. Position the image control on the page.

Click the mouse where you want the upper left corner of the image to be located. Press and hold down the left mouse button as you drag the hand diagonally downward to where you want the lower right corner of the image. Release the mouse button. You adjust the size and shape of images as you would a static image, frame, or group box—by dragging the selection handles.

### *Setting Image Record Properties*

To change the record definition associated with an image

1. Open the Page Field Properties dialog, Record tab.



Setting image Record tab properties

2. Select the **Record Name** and **Field Name** to which this image field is associated.
3. Set the **Image Format / Size** attributes.

If you select **Scale**, the image will scale to the size of the frame you set by the control selection handles when you view your page in the browser or by the width and height you



enter. If you select **Size**, the image will display as is regardless of the control size on your page. The Scroll and Clip options are only enabled if View Internet Options is turned off.

4. Specify the **Alignment** of your image.
5. Select a **Style** for the image if desired.

### *Setting Image Label Properties*

To document the control with an informational label

1. Open the Page Field Properties dialog, Label tab.
2. Enter a **Text** description of the Image to document the purpose of the field.

This will give you a reference point in the scroll order list and page definition report.

### *Setting Image Use Properties*


To change the use of an image, see Setting Use Properties.

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## **Static Text Control**

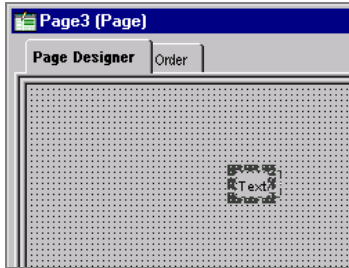
You can add text to a page using the static text control. This control adds a display-only alphanumeric field with a maximum length of 30 characters, to describe a page, control, or group of controls. You may want to use Text for a static note, an extension of a control label, and occasionally a control label itself. We try to avoid using Text items because they make it more difficult to translate pages to other languages. Instead we encourage that you reference message catalog text to facilitate translation and other maintenance issues. Other methods of displaying text on a page are display-only edit boxes, field labels, or a display-only long edit boxes.

To insert a static text field

1. Click the  **Static Text** button on the toolbar, or select **Insert, Static Text**.
2. Position the text field on the page.

When a cross-shaped icon displays, you can either just click the left mouse button to place your text item on the page or drag the control to the size you need. You'll notice a small extension of the dotted rectangle on the right side of your text control. This is a guide to indicate the minimum amount of extra space needed for translations.





Adding a static text control

The default label **Text** displays until you specify the text for your field in the Page Field Properties, Label tab.

## Setting Static Text Label Properties

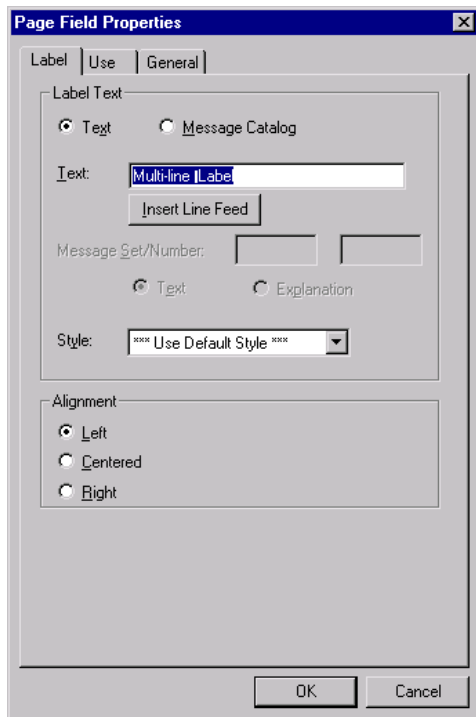
To change static text labels

1. Open the Page Field Properties dialog, Label tab.
2. In the **Label Text** region, select **Text** or **Message Catalog**.

If you select **Text**, you can use either uppercase or lowercase characters. The text label is limited to 60 characters long. You can also split your text item into multiple lines. To do this, position the cursor in the Text field where you want the split to occur and click on the **Insert Line Feed** button.

A thick vertical bar character displays in the Text field, and when you close the dialog box, your text item will be split into multiple lines.





Inserting a line feed

If you select **Message Catalog**, enter the appropriate Message Set/Number. As with a text label, you are limited to message catalog text of 60 characters.

3. Select the **Style** for the label.

You can control the color, font, size, and other characteristics of the text by specifying a style. See Creating Style Sheet Definitions.

4. Select the horizontal **Alignment** of your text control (as determined by the left edge of the field):

<b>Left</b>	Aligns the control to the left-of-center horizontally.
<b>Centered</b>	Centers the control horizontally.
<b>Right</b>	Aligns the control to the right-of-center horizontally.

### Setting Static Text Use

If a text item is associated with multi-currency processing, indicate this by clicking the Multi-Currency Field option on the Page Field Properties dialog, Use tab. This causes the text item to be shown at runtime only if the Multi-Currency switch on the PeopleTools Options page is selected.



## Data Entry Controls

Use data entry controls to offer different ways to enter and maintain information. These types of controls are always associated with a record field defined in a record definition and maintained in the database:

<b>Check Box</b>	Adds a check box, a small square box that operates as a toggle switch—On and Off—for data controls that can have one of two values, Yes or No.
<b>Drop-down List</b>	Adds a drop-down list that provides for the selection of a single value from a list of valid values.
<b>Edit Box</b>	Adds an edit box, which is a control used for data entry. Edit boxes are also used for displaying fields and translatable text.
<b>Image</b>	Adds an image control, which you size and position as you would a frame or other aesthetic element. You associate Image page controls with Image record fields that store graphics, such as scanned images of employees or pictures of assets, in your database.
<b>Long Edit Box</b>	Adds a long edit box which is a variable-length alphanumeric control used for data entry of long textual items such as comments. The length of the control is determined by its contents rather than the physical size of the box on the page.
<b>Radio Button</b>	Adds a radio button, a small round button that represents one value for a control with multiple defined values.
<b>Subpage</b>	Adds a predefined, pre-sized group of controls, such as address controls, defined on a separate Subpage definition.

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### Check Box Control

Use a check box for data entry fields that can have one of two values, enabled or disabled (yes or no). When a user enables or selects a check box, an X appears in the box. The "yes" value for the check box, typically *Y*, is then written to the database. When the check box is empty (no X), it's disabled, and the "no" value for the check box, typically *N*, is written to the database.


During data entry, when the page is saved, the enabled or disabled value (whichever represents the current state of the check box) is written to the database. If values are specified in the page definition, the fields are left blank on the database, but you can still enable or disable the check box on the page. In other words, you won't know the database fields are blank until you run a query or report on the field.





Example of check boxes at runtime

To insert a check box

1. Select the  **Check Box** button on the toolbar, or select **Insert, Check Box**.
2. Position the check box as desired on the page.

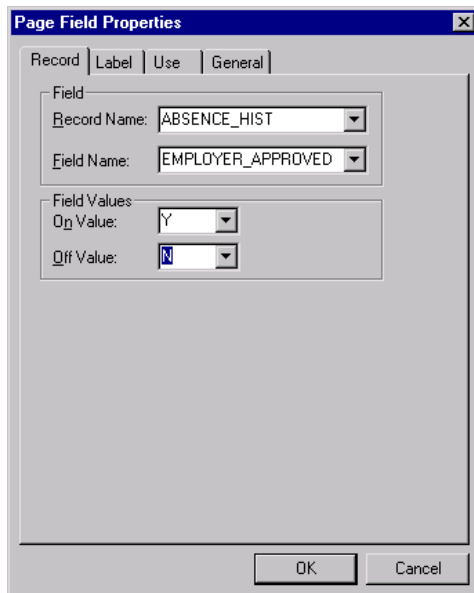
When a cross-shaped icon appears, position it where you want the check box to appear. Then left-click to add the field. The check box displays with a default label, *Dummy Name*, until you specify a record definition name and field name, or a text label.

## Setting Check Box Record Properties

Once you add the check box control, you need to link it to the appropriate field in your record definition.

To link check boxes with associated record definitions

1. Open the Page Field Properties dialog, Record tab.



Check box Page Field Properties - Record tab

2. Select the **Record Name** and **Field Name** from the drop-down boxes.



### 3. Enter the **On Value** and **Off Value** for the check box.

For example, if the enabled value of the check box is *Y* for Yes, and the check box is enabled when the user saves the row, the Y value will be written to the database. Similarly if the disabled value of the check box is *N* for No, and the check box is disabled when the user saves, the N value will be written to the database.

The Yes and No values you enter validate against the Translate Table. If a value isn't found, the system displays a warning message but will allow the value to remain. You may find this useful when prototyping pages prior to defining record definitions.

## Setting Check Box Label Properties

Once you link the check box to a record definition and field, the check box label defaults to the field long name. To set check box label properties see Setting Label Properties.



**Note.** The location of the label always displays to the right of the check box.

## Setting Check Box Use Properties

You may want to change the way a check box is used on a page. See Setting Use Properties for assistance.

## Drop-Down List Control

Use drop-down lists to allow data selection from a list of three or more possible choices. In its closed state, the control displays the current value for the control. The user opens the list to change the value.

Example of a drop-down list at runtime

In the example above, both the **Prefix** and **Suffix** fields are drop down list boxes.

To insert a drop-down list

### 1. Select the **Drop Down** list button on the toolbar or select **Insert, Drop Down List**.



2. Associate the drop-down list with a field.

Use the Page Field Properties dialog, **Record** tab to associate the drop-down list with a field.

Drop-down list Record tab properties

3. Select a **Style**.

Set the font and color attributes of your drop-down list *data*. See Creating Style Sheet Definitions for more information about changing style characteristics.

4. Choose the **Displayed Text** setting.

Select either the **Xlat Short** or **Xlat Long** description or a **Prompt Table Field** as the display setting. If you check the Prompt Table Field, then enter the field name in the Prompt Table Field section.

5. Set the field size for the drop-down list.

### Setting Drop-down List Label and Use Properties

Once you link the drop-down list to a record definition and field, the drop-down list label defaults to the long field name. See Setting Label Properties for assistance in setting the label properties for the drop-down list.

You may want to change the way a drop-down list is used on a page. See Setting Use Properties for more information.




## Edit Box Control

Use an edit box for text data entry—for example, a record field defined as character, number, signed number, or date. Edit boxes are also used for displaying fields and translatable text. The Address page below shows edit boxes in the Home Address group box.

The screenshot shows a web-based form for an employee named Sawyer, Tom (ID: TZ173). The 'Personal Data' tab is selected, and the 'Home Address' section is expanded. It contains several text input fields: Country (set to USA), Address 1 (9802 White Wash), Address 2, Address 3, City (Markham), Country (set to CA), State (set to California), and Postal (94098). At the bottom of the form, there are navigation buttons: Save, Return to Search, Previous tab, Next tab, Update/Display, Include History, and Correct History. The page also has a breadcrumb trail: Name | Address | Personal Profile | Eligibility/Identity.

Edit boxes on a page

To insert an edit box

1. Click the  **Edit Box** button on the controls toolbar, or select **Insert, Edit Box**.
2. Insert the edit box on your page.

Position the cross-shaped icon where you want the top left-hand corner of the edit box—not the label—to appear on the page. Click the mouse button to finish inserting the edit box. The edit box displays with the default label *Dummy Name*, until you specify a record and field for the edit box or specify a Text type field Label. It is selected when a dotted box appears around it. You can select the edit box by clicking anywhere within the edit box itself—not on the edit box label.

## Setting Edit Box Properties

Link the edit box to the appropriate field on a record definition by entering the record in the Record tab on the Page Field Properties dialog. Do this before you enter information in the Label tab. The system will then retrieve the default label text, RFT Long, for you. See Setting Record Properties for more information on how to set record properties for your edit box.

Once you have set the record and field properties for your edit box, the edit box label defaults to the Field Long Name. You can change the label text or how it displays by adjusting the



properties on the Label tab of the Page Field Properties dialog box. See [Setting Label Properties](#) for the specific information on how to do so.

You may want to change the way an edit box is used on a page. Some edit boxes should be display-only. You may want a page control to govern what is displayed in another control. In some cases, you may want the control to be invisible because it is required by PeopleCode, but is not a field that is accessible by a user. See [Setting Use Properties](#) for more information on control fields and related display fields, as well as specific steps on how to set the Use properties for your edit box.

## Long Edit Box Control


Use long edit boxes to display long translatable text. Each long edit box has a built-in scroll bar to allow users to enter and display more data than can be shown at one time on the page. The scroll bar on the long edit box is used only to scroll through the text in the long edit box.

Unlike edit boxes, which are limited to the field size defined in your record definition, long edit boxes may contain a relatively unlimited number of characters-up to a theoretical maximum of 64K. This space, however, is shared by a number of other programming elements, so the true size may be closer to 15-25K depending on the location of the field within your application and the "state" of the application. Typically, long edit boxes are used for comments or descriptions, as shown below.

The screenshot shows a window titled "General Comments" with a blue header bar. In the top right corner of the header bar are the labels "View All", "First", "1 of 1", and "Last". Below the header, there are three input fields: "Comments By:" with the text "Steven Lee", "Comment Date:" with the date "06/28/2000" and a calendar icon, and "Comment:". The "Comment:" field is a large text area containing the text "This is a long edit box. Use the scroll bar to the right if the text in this area is so long that you cannot see the entire string in the available space." A vertical scroll bar is visible on the right side of the text area. To the right of the "Comments By:" and "Comment Date:" fields are two small yellow buttons with "+" and "-" signs.

Example of long edit box at runtime

To insert a long edit box

1. Click the  **Long Edit Box** button on the toolbar, or select **Insert, Long Edit Box**.
2. Insert the long edit box onto your page.

When a hand-shaped icon monogrammed with an **L** appears, position the index finger where you want the upper left corner of the long edit box to begin. Press and hold down the left mouse button, as you drag the hand diagonally downward to where you want the lower right corner of the long edit box. Release the mouse button.



Just like a frame or group box, the long edit box has a dotted box and handles that indicate that it is selected. You adjust the size and shape of **Long Edit Boxes** the same way as you do frames, group boxes, and static images.

3. Press and hold down your mouse button anywhere within the long edit box and your cursor will change to a four-way arrow.

If necessary, you can drag the long edit box to reposition it on the page, then release the mouse.

4. To de-select the long edit box, click anywhere outside of it on your page workspace.

### Setting Long Edit Box Properties

After inserting a long edit box, link it to the appropriate field in a record definition. See Setting Record Properties for detailed instructions on associating records and fields with your long edit box. To set or change the label for a long edit box, see Setting Label Properties.

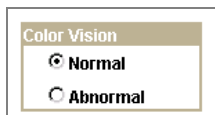
For instructions on setting most of the use properties for long edit boxes, you can refer to Setting Use Properties. However, if you designate the long edit box as Display Only, you should select Expand Field When Display Only to hide the scroll and automatically expand the size of the box as necessary.

---

## Radio Button Control


A small round button that represents one value for a control with multiple defined values. You add radio buttons in groups. Only one radio button in a group can be turned on at one time, like station buttons on a radio—hence the name. Use radio buttons to allow selection of one out of two possible choices. If you have three or more choices, we recommend using a drop-down list.

To save time, make a point of adding all radio buttons in a set one after the other. After you've added the first radio button, the system remembers the record definition name and field name for all subsequent radio buttons—you need only fill in the database value for each. You can then place a group box around all of your radio buttons to keep them together and labeled.



Example of radio buttons at runtime

To insert a radio button

1. Click on the  **Radio Button** control on the toolbar, or select **Insert, Radio Button**.
2. Position the cross-shaped icon where you want the radio button to display on the page.

Then, left-click to add the radio button control. The radio button displays with the default label Dummy Name, until you specify a record definition name and value for the radio



button.

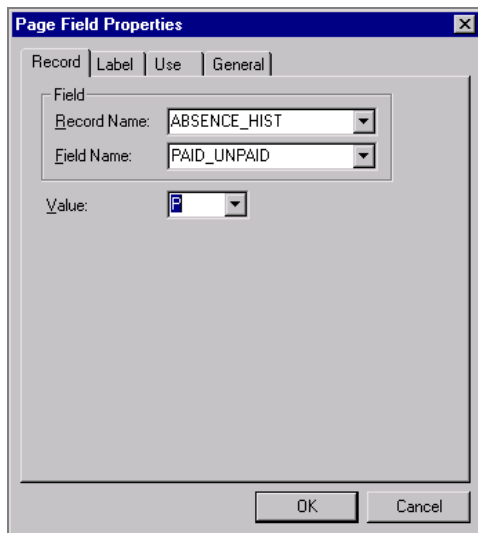
As with edit box labels, radio buttons have a dotted box around the “20% extra space” area in addition to the box around the radio button label itself. You can select the radio button by clicking anywhere within the radio button or label.

## Setting Radio Button Record Properties

After inserting a radio button, link the radio button to the appropriate field on your record definition. Enter information on the Record tab before the Label tab on the Page Field Properties dialog to save time. The system will retrieve the default label text if you enter the record or field.

To link a record with radio buttons

1. Open the Page Field Properties dialog, Record tab.



Setting radio button Record tab properties

2. Select the Record Name and Field Name.
3. Enter the database translate **Value** for this radio button.

In the example above, P is for “Paid”. If you select the drop-down list for the Value you will see the translate value that was assigned to the field you choose. When the user selects this radio button, it will indicate a Paid value.

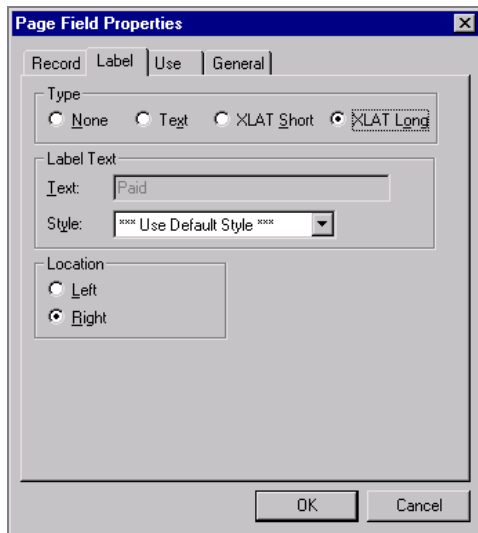
4. Add the remaining radio buttons in the set if appropriate.

## Setting Radio Button Label Properties

To change the label of your radio button



1. Open the Page Field Properties dialog, Label tab.



Specifying radio button labels

2. Select the **Type** of label desired if other than the default of **XLAT Long**.
3. Select the **Location** of the label for your radio button: to the left or right.

See Setting Label Properties for assistance in setting the remaining radio button label properties.

### Setting Radio Button Use

You may want to change the way a radio button is used on a page. For example, you may want the selected value of a radio button to control what displays in another control. See Setting Use Properties for assistance in setting use properties for your radio button.

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## Subpage Control

A subpage control is a predefined, presized group of controls, such as address controls, defined on a separate subpage definition that you might use on many different pages. In design time, you only need to add the subpage control to represent all controls in the subpage, and you have only one place—the subpage definition—to maintain those controls. At runtime, you will see all controls defined in the subpage in your page.

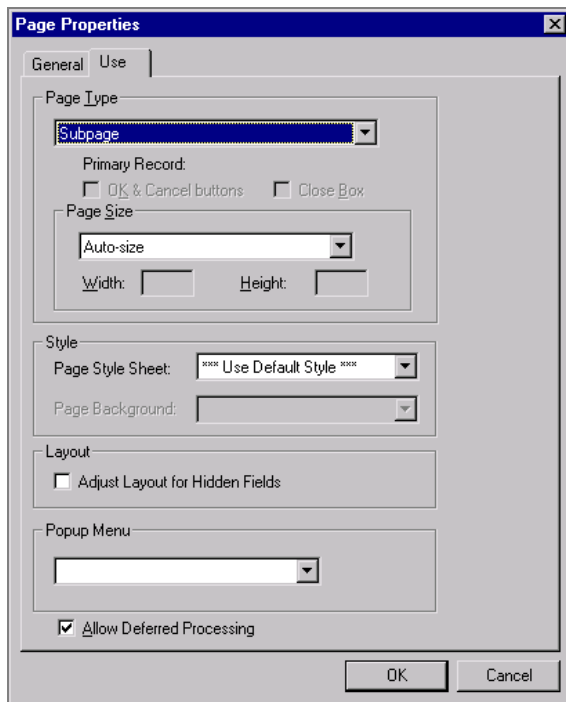
Create subpages as you would other page definitions, linking them with the record fields within a corresponding subrecord or record definition. Add the page controls that make up the group, ordering them physically and logically, as you want them to work on page definitions; or copy the controls from an existing page definition.



## Defining a Subpage

To define a subpage

1. Select File, New, Page.
2. Select **File, Object Properties** or press Alt-Enter to access the **Page Properties** dialog.



Defining a subpage in Page Properties

Use this dialog box to define the type, size, and layout of the page you want.

3. Select **SubPage** in the **Page Type** drop-down list.
4. Select the **Size** of the page.

See Changing Page Use Information for a description of the available page sizes.

5. Set the Adjust Layout for Hidden Fields if necessary.
6. Set the Deferred Processing Mode if desired.

See Deferred Processing Mode for more information about this feature.

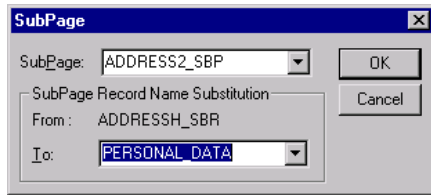
## Inserting a Subpage into a Page

After you've created the subpage definition, you'll want to insert it into your primary page in order to access it.



To insert a subpage into a page

1. Open the page into which you want to insert the subpage.
2. Click the **SubPage** button on the toolbar, or select **Insert, SubPage**.



Inserting a subpage into another page

Use this dialog to specify the name of the subpage that you want to insert into the active page definition. Also, use this dialog box to specify the record definition to which the fields in the subpage should be written.

3. Select a subpage definition.

Specify the name of the subpage that you want to put into the open page definition.

4. Select the appropriate record definition for **SubPage Record Name Substitution**.

The subpage writes its fields to a generic record. You need to specify the application-specific record name to which you want the information in the subpage written.




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All the fields in a subpage must be associated with fields of a subrecord in the specified record definition.

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When you click **OK**, the subpage displays on the page, sized to reflect the size of the page control group, and identified by the subpage definition name.

## Specifying Informational Subpage Labels

You can document the purpose of the subpage by changing the informational label of the subpage. The default subpage label is *Subpage*. Any label you attach to a subpage is for information only—it doesn't display on your page, but it does show on the page definition print out and in the control order list. Use labels to differentiate among multiple subpages on your page.

To change informational subpage labels

1. Open the Page Field Properties dialog, Label tab.
2. Enter your informational text label.



## Function and Data Processing Controls

Use function and data processing controls to provide a mechanism for executing commands and maintain levels of information on your page:

<b>Grid</b>	Use instead of a single-level scroll. The Grid looks and behaves like a spreadsheet embedded in a page: it has column headings and cells, and uses push buttons, hyperlinks and tabs to navigate through the data. It is analogous to a scroll area on a page. Each row in the grid corresponds to a set of controls in a scroll occurrence.
<b>HTML Area</b>	Adds an area where you can write your own HTML. The HTML code is inserted into the dynamically generated code at runtime.
<b>Push Button/Hyperlink</b>	Adds a push button or hyperlink that can represent an internal or external link, a PeopleCode Command, a process by way of Process Scheduler, a prompt action, a scroll action, a secondary page or a toolbar action.
<b>Scroll Area</b>	A developer-friendly means of grouping and/or repeating multiple fields of data in a defined area. Like a grid, users can easily navigate through the rows using hyperlinks and buttons in a navigation bar and add or delete rows using push buttons. These features are automatically placed in the navigation bar.
<b>Scroll Bar</b>	Like the scroll area, scroll bars also contain push buttons and hyperlinks for navigation, but not in the form of navigation bars. Developers must manually position all navigation items. The scroll bar is not visible at runtime.
<b>Secondary Page</b>	Adds an invisible control that associates a secondary page with the primary page. Secondary pages gather or display supplemental information that is related to the data in a primary page but less frequently referenced or updated.

---

### Grid Control

Grids are tables consisting of navigation bars, columns, column headings, rows, and row headings. You can use a grid instead of a scroll area or scroll bar to manage multi-row sets of data. Each row in a grid corresponds to a set of controls in a scroll occurrence. Navigation hyperlinks and push buttons replace the actual visual scroll bar, and add and delete push buttons enable a user to insert and delete rows.

### Scope of Grid Controls

You can insert the following page controls into a grid:



- Check box
- Drop-down list
- Edit box
- Long edit box
- Push button/hyperlink
- Image
- HTML area
- Secondary page




The user cannot resize, rearrange, or sort grid columns at PeopleSoft Internet Architecture runtime.

---

### Multiple Grids on a Page

You can place as many grids on a page as you like, provided they are at the same occurs level. They can be one above the other or they can be side by side, such as the example below. This is helpful in cases when you need to transfer data from one grid to another without having to switch between pages.

Using the  button, you can transfer data from the Source Competencies grid on the right to the Assigned Competencies grid on the left. The pushbutton has been associated with a PeopleCode program, enabling it to transfer the data between the two grids.



Competency Evaluation | Competency Assignment | Competency Rating | Competency Verification

Smith, John Employee ID: FG7025 [Link to Career Planning](#)

**Competency Assignment** View All First 1 of 1 Last

Evaluation ID/Type: 01 Customer

[Populate from Job](#)

**Assigned Competencies** View All First 1-5 of 5 Last

Description	Category
Ability to listen & respond	Ability
Set & achieve goals	Ability
Debates issues unabrasively	Ability
Conceptual thinking	Ability
Abstract thinking	Ability

Search by: Category: Ability Type: Cust Serv

**Source Competencies** View All First 1-3 of 3 Last

Description
<input type="checkbox"/> Service Orientation
<input type="checkbox"/> Relationship Building
<input type="checkbox"/> Develop & implement solutions

Save Return to Search Next in List Previous in List Update/Display Include History Correct History

[Competency Evaluation](#) | [Competency Assignment](#) | [Competency Rating](#) | [Competency Verification](#)

Grids side by side on a page

Like other level-based controls, you can nest a grid in a scroll area or scroll. However, you cannot nest a grid within another grid.



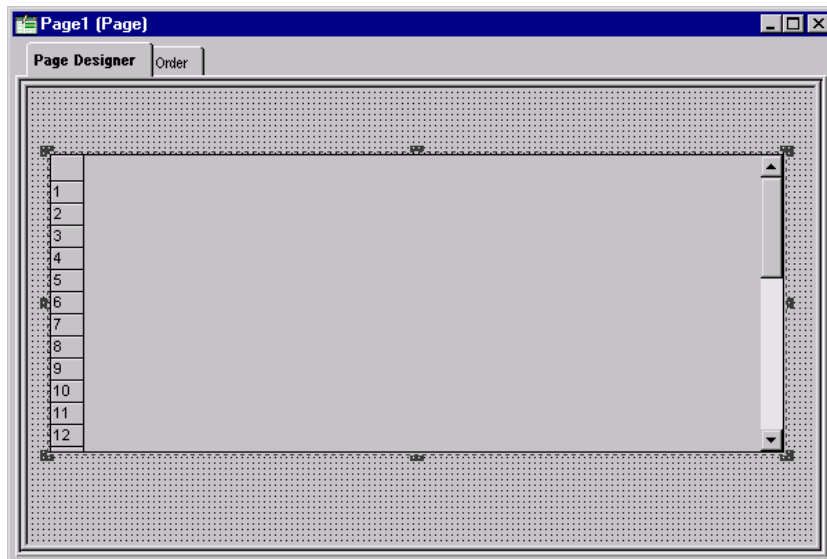
For more information on nesting and Occurs Levels see Page Design Considerations.

To insert a grid control on a page

1. Click the **Grid** button on the toolbar, or select **Insert, Grid**.
2. Insert the grid on your page.

When a hand-shaped icon monogrammed with a **G** appears, position the index finger where you want the upper left corner of the Grid to begin. Press and hold down the left mouse button as you drag the hand diagonally downward to where you want the lower right corner of the Grid. Release the mouse button.





Inserting a grid

Like the frame, the grid has a dotted box and handles that indicate it is selected. You can move the grid by dragging it with the mouse or by the arrow keys. You can resize the grid by dragging the handles on the right or bottom of the grid. You can also resize it by holding the SHIFT key and the arrow keys at the same time.

## Default Grid Properties

The default grid displays the following characteristics:

- **The data navigation bar** at the top of the table enables the user to page through additional rows of data.
- **Delete** and **Add buttons** at the end of each row enable the user to insert and delete rows in your grid. The inserted row appears under the current row. These buttons display automatically as determined by the grid properties, display-only, no row insert, and no row delete.
- **Occurs Count** is set to **1**. You can set the grid to be any size at design time, and then set the Occurs Count to control the maximum number of rows to display at runtime.

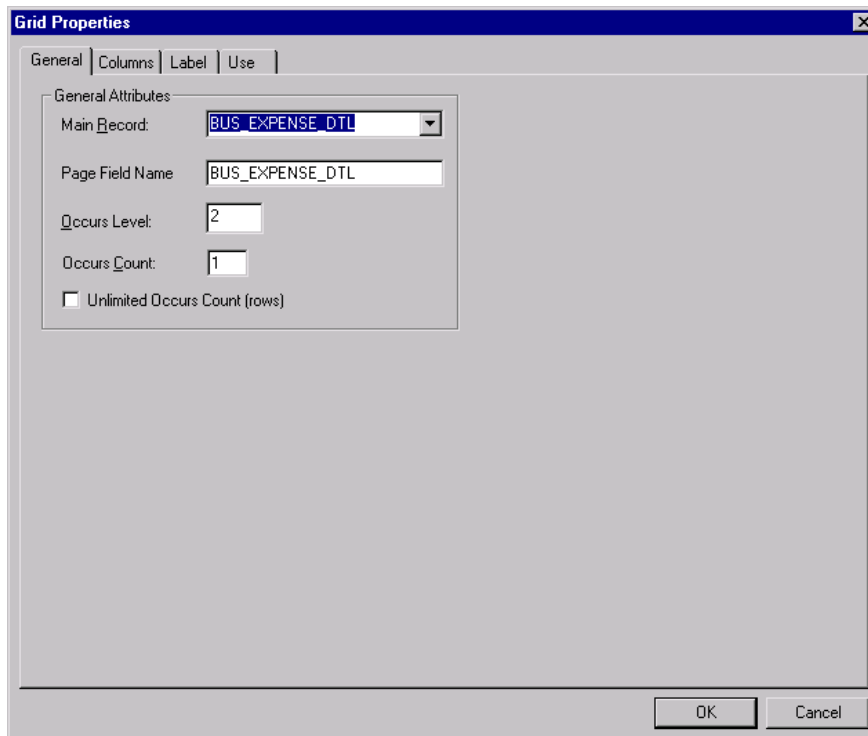
## Grid General Properties

To set general grid properties

1. Open the **Grid Properties** dialog box.

To access the properties, select the grid and double-click, or right-click to access the **Grid Properties** dialog, **General** tab. Use this dialog to associate the record containing most of the fields you will use in the grid and the **Occurs Level**. See Page Design Considerations for more information.





Setting Grid Properties -- General tab

2. Enter the **Main Record** associated with the grid control.

The **Main Record** is the record that contains most of the fields that you want to use in the grid. Any fields you display in the grid that are not from the **Main Record** should be display only or related fields, which can be set in the Use tab of the Page Field Properties for that column.

3. Enter the Page Field Name.

This field defaults to the main record for the grid. You can rename the grid as long as it is a *unique* name for the page or component. The Page Field Name is the name used by the PeopleCode **GetGrid** function to create a grid object. See Grid Class and GetGrid function for more information.

4. Enter the **Occurs Level**.

Having an occurs level for the grid enables you to designate the hierarchical parent-child relationship. Entering **1** specifies that the grid is at the first level. Entering **2** specifies that a grid is at the second level and is a child of, or nested in, the first level of data, and so on up to **3**. A grid can be nested within another level-based control, but it cannot be nested within another grid.

5. Set the **Occurs Count** value to control the number of rows to display to the user.

Enter the number of rows that you would like to appear at one time on the grid at runtime.

6. Select the **Unlimited Occurs Count** check box, if desired.



If you check this instead of setting an occurs count, the system displays all rows of data in the buffer for this grid. In that case, navigation hyperlinks do not display and the size of the grid will depend on the number of rows in the buffer.

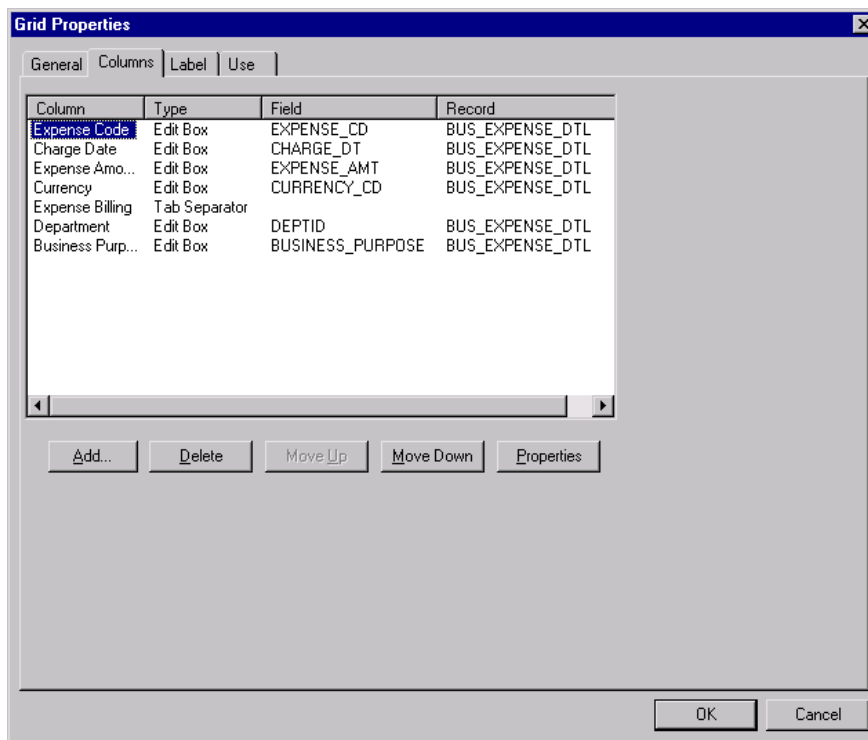


For more information on occurs count see Multiple Occurrences of Data.

## Grid Column Properties

To add or change grid columns

1. Open Grid Properties, Columns tab.

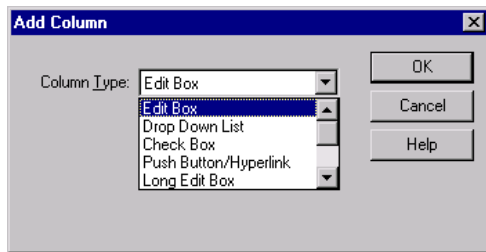


Columns properties dialog

Use this dialog to add, remove, or move columns in the grid. You can also access the properties of any field associated with a column.

2. Click the **Add** button to add a column to the grid.
3. Select the **Column Type** from the **Add Column** dialog box.



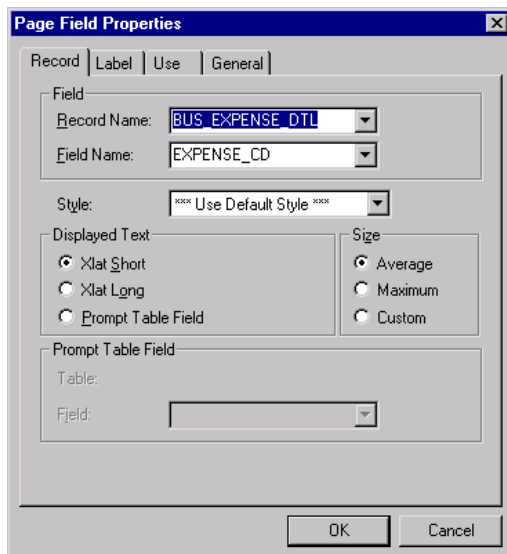


Selecting the Column Type

Use this dialog to specify the type of column you want to add.

4. Enter the **Page Field Properties** for each column.

Depending on the Column Type chosen, the appropriate Page Field Properties dialog displays. Or you can access the properties by double-clicking on any column to enter the field properties for that column or by clicking the **Properties** button.



Page Field Properties dialog box for a drop-down list box

For most types of controls, you can refer to Setting Page Field Properties for Controls for more information on how to set the specific properties. For information about freezing grid columns, see Freezing Grid Columns. For column headings, use the following guidelines for label alignment and do not use colons in column labels:

<b>Type of Field</b>	<b>Label Alignment</b>
Push button	Center Align
Hyperlink	Left Align
Character	Left Align
Numeric	Right Align



Check box                      Center Align  
Field data                      "Auto"

5. Change the order of or delete columns, if necessary.



At the Columns tab of the **Grid Properties** dialog box, select **Delete** to delete a column. Select **Move Up** or **Move Down** to move the column up or down in the list.

### *Tabbed Grid Design*

You can choose to display the grid with folder tabs instead of the default property of the browser's horizontal scroll for viewing additional columns of data. We recommend using the tabbed grid design if your grid contains many columns running off the right side of the page. If you add separator tabs to the grid in the page definition, these tabs display wherever you insert them in the column list in the grid properties.

Defined Personalizations					
First 1-25 of 25 Last					
Personalization Options Explanation Setup					
User Option	Description	Field Format	Format Length	Record (Table) Name	Field Name
ADBTN	Tab over Add/Del Buttons (+/-)			XLATABLE	PSYESNO
ADES	Afternoon designator (PM, pm)	Uppercase	5	XLATABLE	PSYESNO
CALBTN	Tab over Calendar Button			XLATABLE	PSYESNO
CSYM	Currency Symbol	Mixedcase	1	XLATABLE	PSYESNO
CSYMP	Currency Symbol Position			XLATABLE	CUR_SYMBOL_POS
DCSP	Decimal Separator	Mixedcase	1	XLATABLE	PSYESNO
DFRMT	Date Format			XLATABLE	PT_DATE_FORMAT

Example of a tabbed grid

For power users who may find tabs cumbersome, you can give them the option of expanding all the columns to the right so they are visible when using the browser's horizontal scroll bar. You do this by selecting the Show Tab Control Button in the Display Options of the Grid Properties – Use tab. The button  appears to the right of the grid tabs, as shown above. Once the grid is expanded, the show tabs  button displays to enable the user to collapse the grid so the tabs appear again.



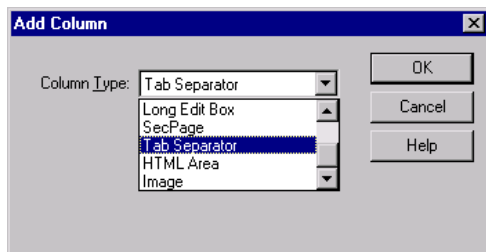
Each time the user moves to a new tab results in a trip to the web server to display the next page.

To insert a tab separator into a grid

1. Open the **Grid Properties** dialog box, **Columns** tab.
2. Highlight the column heading above where you want to place the tab separator.
3. Click **Add...**



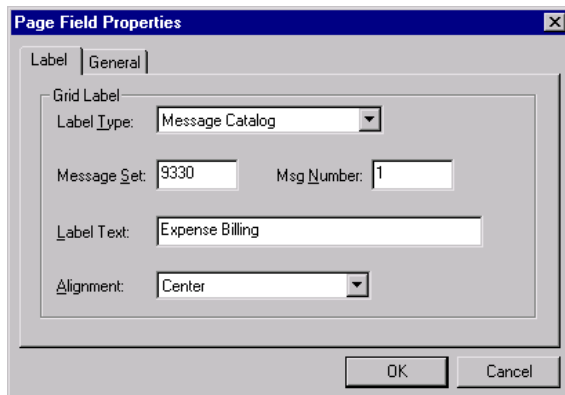
4. Select **Tab Separator** from the drop-down list.



Insert a tab separator

5. Set the properties for the tab separator.

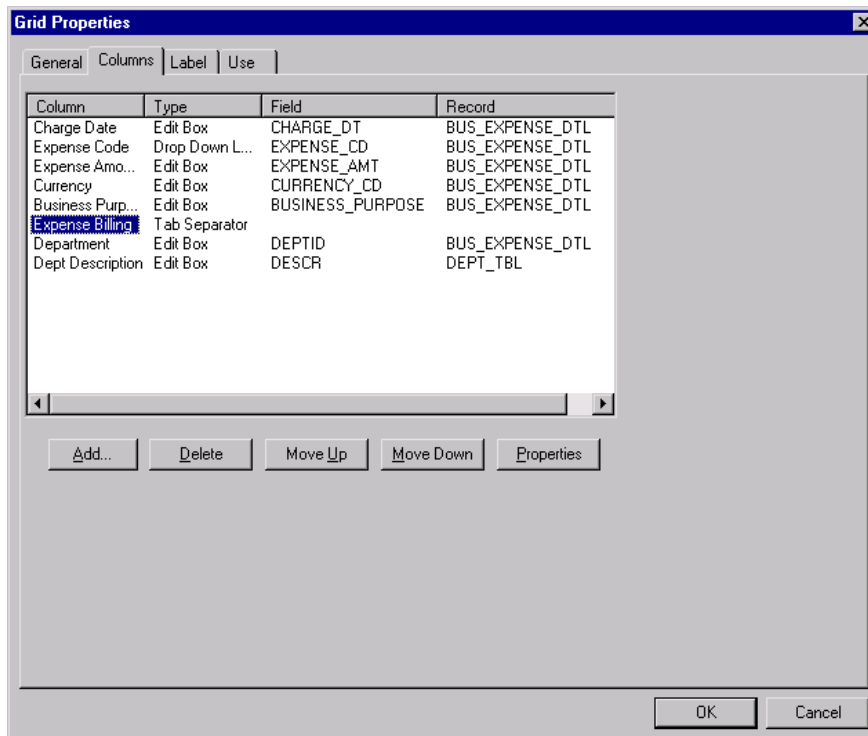
The only properties that need to be set for the tab separator are label attributes. The labels for the tab separators should be set up like the label for the grid as a whole. Label type options include **None**, **Text**, and **Message Catalog**. The last option will enable **Message Set** and **Message Number** to be activated. We recommend using the **Message Catalog** to facilitate translation.



Adding labels

The following dialog box shows how the tab separator displays in the list of grid columns once it has been defined. Multiple tabs can be defined by simply adding them in front of designated columns.





Tab separator as a grid column

### *Freezing Grid Columns*

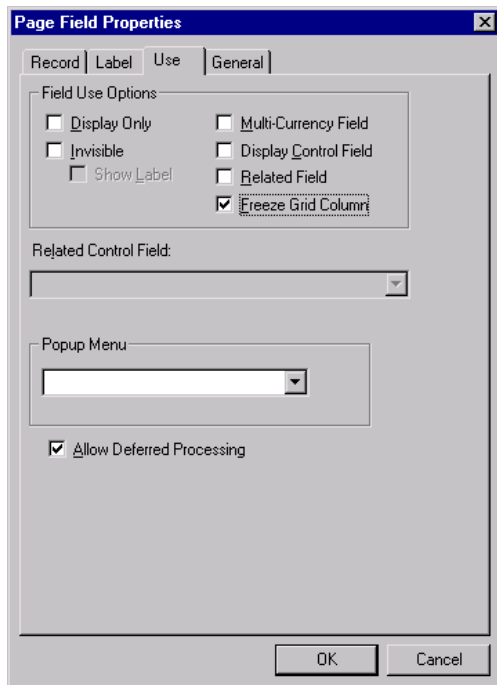
You can freeze the first column or the first several columns in your grid so that they stay frozen while the user scrolls to the right or, on a tabbed grid, they appear on subsequent tabs. If you want to freeze more than one column, select the freeze option for each column that you want to remain stationary or appear on the following tab. Note that freezing grid columns impacts the horizontal scrolling ability of the grid, both at runtime and at design time. If you freeze a grid column that is not visible within the boundaries of the grid at design time, you or your user will not be able to view all columns in your grid.

To freeze a grid column

1. Open the **Page Field Properties** dialog box, **Use** tab, for the column you want to freeze.

On the Columns tab of the Grid Properties dialog double-click on the column you want to freeze to access the Page Field Properties dialog box for that column. Click on the **Use** tab.





Freezing a grid column

2. Select **Freeze Grid Column** in the Field Use Options region.

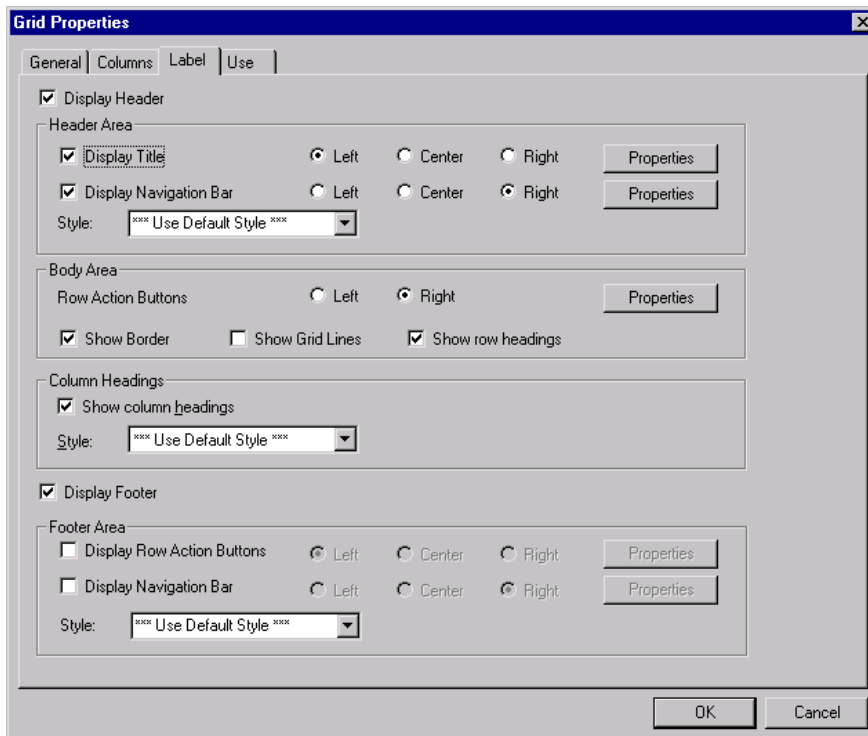
A column that is frozen will remain at the front of each tabbed section.

### Grid Label Properties

There are three areas on a grid to which you can apply labels or image buttons to help the user navigate through the data in the grid:

- Header Area
- Body Area
- Footer Area





Grid Properties – Label tab

### Setting Header Area Properties

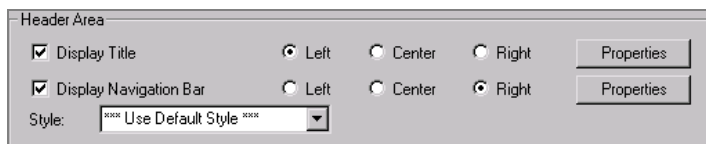
Choose to display the title of the grid as well as a navigation bar where users can access controls for viewing a previous, next, top, or bottom row. You can also set a Find feature and a View All feature by selecting the **Display Navigation Bar, Properties** button. These features might appear as follows:



Navigation bar in a grid

To set the Header Area label properties for the grid

1. Click the **Label** tab or select the Grid and double-click to access the **Grid Properties** dialog, **Label** tab.



Grid Properties - Header Area region

2. In the Header Area, select the **Display Title** check box.



- Click on the **Properties** button to designate a title for the Header Area.

Label Text properties for grid title

- Select either **Static Text** or **Message Catalog** from the **Type** drop-down box.

In order to facilitate translations, you should refrain from using the Text option. Add a message to the Message Catalog instead.

- Set navigation bar properties.

In the Header area of the Grid Properties dialog, click on the **Display Navigation Bar, Properties** button to determine the features on the navigation bar.

Navigation bar properties

Each tab in the **Page Field Properties** dialog box for the navigation bar displays the same options. You can select to display each of the navigation bar functions as either text or an image and then select the corresponding text or image to display for that function.

... The Browse button enables you to scroll through and view the Image options.

To facilitate translations, if you select Text as your display Type, do not use the Text option for grid label text. Add a message to the Message Catalog instead.



6. Select the **Style** for the header area.

You can control the color, font, size, and other characteristics of a label by specifying a style. See Creating Style Sheet Definitions.

### *Setting Body Area Properties*

You can choose to display Insert and/or Delete action buttons on each row of data. You can also select to show a grid border, grid lines and row headings. The body of your grid may look something like the following:

	*Absence Type	*Begin Date	Duration (Days)		
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input style="background-color: yellow;" type="button" value="+"/>	<input style="background-color: yellow;" type="button" value="-"/>

Body area of grid viewed in the browser

To set the Body Area label properties for the grid

1. Open the **Grid Properties** dialog, **Label** tab.

Body Area

Row Action Buttons ☐ Left ☒ Right Properties

☒ Show Border ☒ Show Grid Lines ☒ Show row headings

Grid Properties - Body Area region

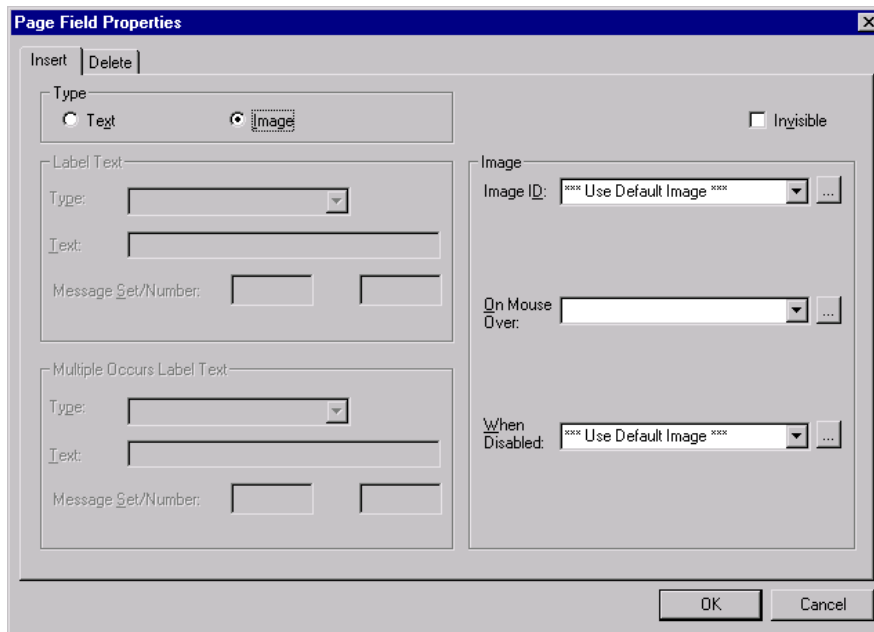
2. Set the position of the **Row Action Buttons**.

Your Row Action Buttons can display on either the right or left side of the row.

3. Select the type of **Row Action Buttons** to display.

Click on the **Properties** button in the **Body Area**.





Body area properties

The default image for the **Insert** button is a yellow plus sign. The default image for the **Delete** button is a yellow minus sign. You can override that default with your own image or text if desired.

4. Set the remaining **Body Area** properties.

You have the option of showing the border, showing grid lines and showing row headings.

### ***Setting Column Heading Properties***

You may set the grid to display column headings and select the style in which to display them.

To set the column headings properties

1. Deselect the **Column Headings** check box if you do not want column headings to display.
2. Set the heading style for the columns.

Select a pre-defined column heading style from the list or use the default. Changing styles alters the foreground, background, and font in the column headings, making it different from the data rows.

### ***Setting Footer Area Properties***

The Display Footer check box is not selected by default. However, you can choose to set row action buttons and a navigation bar for the footer area of the grid. This can be done in addition to or instead of the same elements in the header and body areas. The footer area of your grid will appear in the browser as follows:

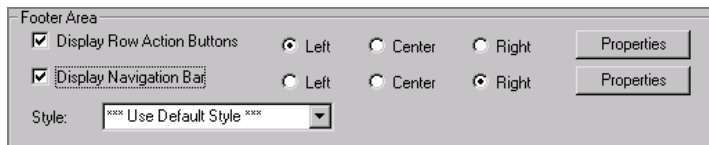




## Footer area in a grid

To set the footer properties for your grid

1. Check the **Display Footer** check box to activate the **Footer Area** of the Grid Properties dialog box.



### Grid Properties - Footer Area region

2. Select **Display Row Action Buttons** if you would like Insert and/or Delete row buttons to appear in the footer.

The properties for this setting are the same as those for the Body Area. For more information see Setting Body Area Properties.

3. Set Navigation Bar properties.

Select **Display Navigation Bar** if you would like one to appear in your footer area. Click on the **Properties** button to set the specific navigation bar properties. The navigation bar properties for the footer are the same as those for the Header of a grid. For more information see Setting Header Area Properties.

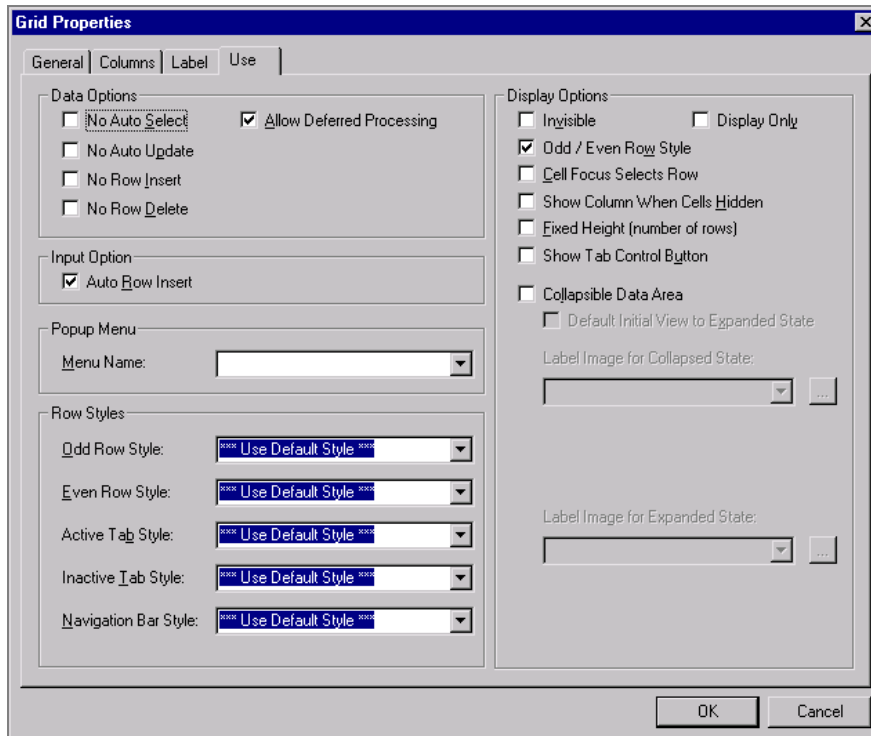
## Grid Use Properties

You can set various optional grid properties, such as data options, Odd/Even Row Styles, and collapsible data areas.

To set grid use properties

1. Open the **Grid Properties** dialog box, **Use** tab.





Grid Properties – Use tab

2. Select the appropriate **Data Options**.
3. **Auto Row Insert** is not supported in the PeopleSoft Internet Architecture.
4. Set the **Display Options**.

#### Invisible

Check this if you want to make the grid and its associated fields and records invisible. Use this option for “work grids” where you want the underlying processing to be transparent to users. Typically, you associate invisible work grids with PeopleCode Scroll functions that enable you to further control application processing.



#### Display Only

In some cases, you may want to design grids that allow users to view but not change any information. Turn on Display Only if you do not want the user to be able to enter any data into any of the fields on any of the rows.

#### Odd/Even Row Style

Check this if you want your grid to display with contrasting colors by row. If you select this display option, the Odd and Even Row Style drop-down menu choices display instead of the single Row Style option in the Row Styles section.



<b>Cell Focus Selects Row</b>	Select this option to have the row you select and highlight internally referenced by PeopleCode. With this function on, you cannot shift-click to select more than one row at a time. Not supported in PeopleSoft Internet Architecture
<b>Show Column When Cells Hidden</b>	Check this option if you want the columns to display even if all the cells in a column are hidden. Columns will not collapse. See Grids for information on PeopleCode changes to remove empty rows.
<b>Fixed Height</b>	Set this option if you want your grid to be set to a height corresponding to the number of rows in the Occurs Count attribute; and, fixed at that height even if the actual number of data rows varies from that number. If the Fixed Height property is not used, the size of the grid will dynamically adjust based on the Occurs Count and the number of data rows retrieved.
<b>Show Tab Control Button</b>	Displays an expand all button  to the right of a tabbed grid, enabling the user to view all columns of the grid by scrolling to the right using the browser's horizontal scroll bar instead of clicking the grid tabs. The show grid tab button  appears when columns are expanded to enable the user to view the tabs again.
<b>Collapsible Data Area</b>	Check this box to collapse the data area into a header bar with a small image that the user must click on to activate or expand. This enables the Default Initial View to Expanded State check box. You may then select the desired label image to represent the collapsed and expanded states.

5. Select a **Menu Name** from the drop-down list in the Popup Menu region if desired.

To set a pop-up menu see Defining Pop-up Menus.

6. Set the attributes of the **Row Styles**.

You can control the color, font, and other characteristics of a row, active tab, inactive tab, and navigation bar by specifying a style in the drop-down list of each of the Row Styles options.

## Grid Column Format

You can adjust the column width only in Application Designer. Do this by clicking and dragging the column border to the desired position. The user cannot adjust the width at runtime. Likewise, the user cannot sort rows in a grid at runtime.



## HTML Area Control

You can insert an HTML area control onto any PeopleSoft page. It can be inserted at any level on a page, and can even be placed within a grid control. This control is rectangular shaped and can be easily resized.

You can populate the HTML area control in one of the following ways:

- Statically, in the page field property sheet
- Dynamically, by associating the control with a record field

If the control is linked to a record field, the value of the record field is what will be displayed in the HTML Area. You can also use PeopleCode to associate the HTML area control with a predefined HTML definition.



For more information see Using HTML Definitions and the GetHTMLText Function.

The HTML Area control is different than other page controls in that you can write your own HTML. With other controls, the PeopleSoft system automatically generates the HTML code for you. The HTML code is then inserted into the dynamically generated code at runtime.

### Generate Trees in HTML Areas

You can use the Generate Tree PeopleCode function with HTML Areas. In the PeopleSoft Internet Architecture, this is the only way to display data in a tree format on your page. The example below shows the Generate Tree PeopleCode function next to a grid in a frame.



Example of a tree in an HTML area



For more information see Using the GenerateTree Function.



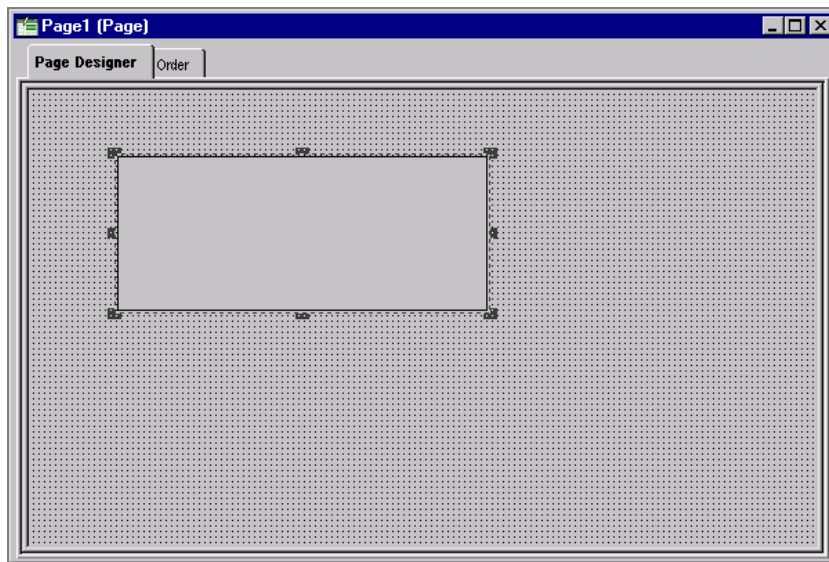
To insert an HTML area on a page

1. Click the **HTML Area** button on the toolbar, or select **Insert, HTML area**.

When a hand-shaped icon monogrammed with an H appears, position the index finger where you want the upper left corner of the HTML area to begin.

2. Draw the HTML area on your page.

Press and hold down the left mouse button as you drag the hand diagonally downward to where you want the lower right corner of the HTML area. Release the mouse button.



Inserting an HTML area

The HTML area has a dotted box and handles that indicate it is selected. You can move the HTML area control by dragging it with the mouse or by the arrow keys. Resize the HTML area by dragging the handles on the right or bottom of the grid. You can also resize it by holding the SHIFT key and the arrow keys at the same time.

## Populating an HTML Area

You can populate an HTML area either statically, using the page field properties, or dynamically, by associating the control with a record field. Because the HTML you write is included in the HTML dynamically generated by the system at runtime, there are certain considerations and restrictions to keep in mind.

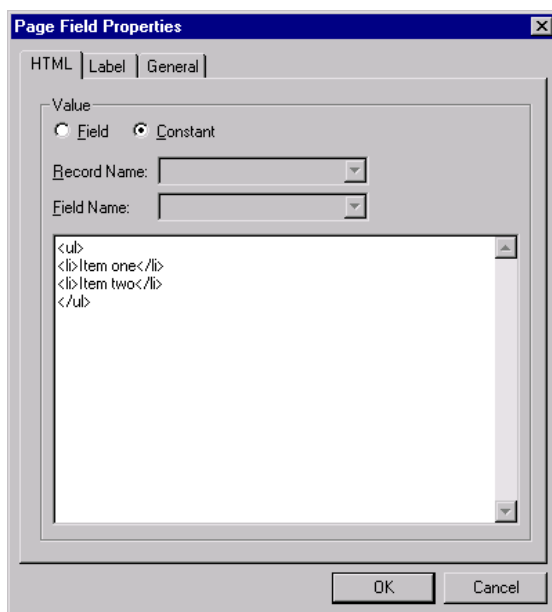
- **Considerations.** You need to consider the affect the HTML you include could have on the layout of the page. Being true to the design time sizing of the HTML area is the best way to ensure that you do not affect the layout of the other page field controls. Adding an invisible frame around the HTML area control can help ensure you don't affect other page fields.
- **Restrictions.** You can only use certain types of HTML tags. The following tags are **not** supported by the HTML area control:



- <body>
- <frame>
- <frameset>
- <form>
- <head>
- <html>
- <meta>
- <title>

To statically populate an HTML area

1. Open the Page Field Properties dialog, HTML tab.
2. Select **Constant** as the value type.
3. Type the HTML code you want displayed in the HTML area in the long edit box.



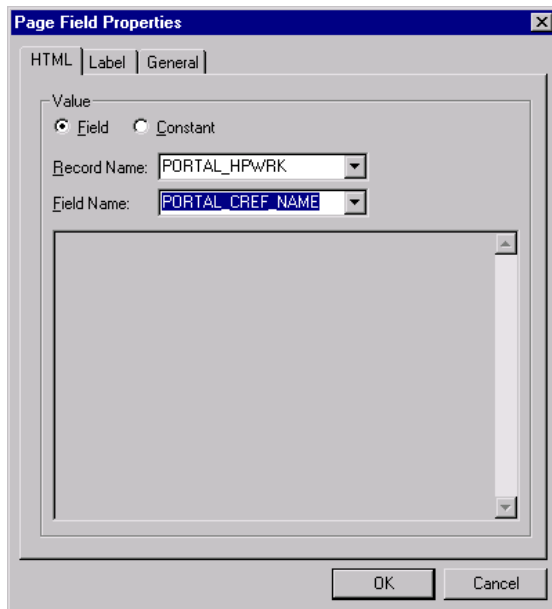
HTML area with constant text

To dynamically populate an HTML area

1. Open the **Page Field Properties** dialog, **HTML** tab.
2. Select **Field** as the value type.



3. Specify the record and field to which you want to associate the HTML area control.



HTML Area properties

The value of the record field will generate the HTML code included at runtime in the HTML Area.



**Note.** When you associate an HTML area control with a field, make sure the field is long enough to contain the data you want to pass to it. For example, if you associate an HTML area control with a field that is only 10 characters long, only the first 10 characters of your text will be displayed. We recommend using long character fields for record fields associated with an HTML Area control.

To change an HTML area label

1. Open the Page Field Properties, Label tab.
2. Enter a brief **Text** description of the HTML area.

This label will not display at runtime; however, it displays in the Order tab of the page.

## Push Button/Hyperlink Control

Use the push button/hyperlink control to allow users to navigate to other locations in your site or to the web, schedule processes, and execute PeopleCode commands. You can specify whether the control will display as a traditional push button, or as a hyperlink (highlighted, underlined text).





Sample push button




Sample hyperlink

PeopleSoft Internet Architecture supports the following features for this control:

- Selecting hyperlink style
- Selecting the following types of push buttons/hyperlinks:
  - External Link
  - Internal Link
  - Prompt Action
  - Scroll Action
  - Toolbar Action
- Selecting the following image options:
  - On Mouse Over
  - When Disabled

To insert push buttons or hyperlinks

1. Click the  **Push Button** on the toolbar, or select **Insert, Push Button/Hyperlink**.

When a hand-shaped icon monogrammed with a *P* displays,

2. Position the pointer where you want the upper left corner of the push button/hyperlink to begin, and left-click.
3. A push button of “small image” size displays where you clicked the mouse.
4. Open the **Page Field Properties** for the push button.

Select the push button and double-click, or right-click and select **Page Field Properties** from the pop-up menu. Here you can set the attributes of your push button or hyperlink.

5. Select how you want the control to display on the Type tab: either as a push button or as a hyperlink.
6. Click the **Destination** drop-down list to choose one of the destination types.



**Page Field Properties**

Type | Label | General

Type  
☒ Push Button ☐ Hyperlink

Destination: PeopleCode Command

Record Name: External Link

Field Name: PeopleCode Command

☐ Enable When

☐ Open in New

Alignment  
☐ Left ☐ Centered ☐ Right

Actions  
 Action Type:

Related Control:

Secondary Page  
 Page:

External Link  
☐ Dynamic ☐ Static  
 URL ID:

Internal Link  
 Menu:

Component:

Page:

Action:

☐ Use data from current page in search

Process  
 Type:

Name:

OK Cancel

Page Field Properties – Type Tab, Destination field

## Specifying Destination Types

You can specify one of several destination types for your push button or hyperlink:

### External Link

This launches a URL (Uniform Resource Locator). You can choose a value from the URL table or use the value of a record field to define the destination.

### Internal Link

This launches a PeopleSoft page. Parameters include the menu path to the page as well as a check box to specify whether data from the current page should be used in the search dialog.

### PeopleCode Command

This type is associated with a field on a record, so when the user clicks the push button, the system executes any FieldChange PeopleCode associated with that page control.

### Process

This type can run processes. The process can be any that you have previously setup within the Process Scheduler.

### Prompt Action

Use the prompt action type to display a prompt dialog for a specific control field.



**Scroll Action**

There are several actions a user can perform on a grid, scroll area and a scroll, such as bottom, top, insert row, and so on. Use a scroll action type to display these actions to the user.

**Secondary Page**

This push button or link launches an existing secondary page.

**Toolbar Action**

There are several actions a user can perform on a page, such as Save, Display next page in Group, Correction mode, and so on. Use this type to display these actions to the user.

***External Links***

Applies an external link to your page in the form of a push button or hyperlink which launches a new page, taking the user to the external website you designate. To return to the primary page, the user closes the new page.

To specify an External Link

1. Choose **External Link** in Destination drop-down box.

The screenshot shows the 'Page Field Properties' dialog box with the 'General' tab selected. The 'Type' section has 'Push Button' selected. The 'Destination' dropdown is set to 'External Link'. The 'Record Name' and 'Field Name' dropdowns are empty. There are checkboxes for 'Enable When Page is Display Only' and 'Open in New Window'. The 'Alignment' section has 'Left' selected. The 'Actions' section has 'Action Type' and 'Related Control' dropdowns. The 'Secondary Page' section has a 'Page' dropdown. The 'External Link' section has 'Static' selected and a 'URL ID' dropdown. The 'Internal Link' section has 'Menu', 'Component', 'Page', and 'Action' dropdowns, and a checkbox for 'Use data from current page in search'. The 'Process' section has 'Type' and 'Name' dropdowns. 'OK' and 'Cancel' buttons are at the bottom right.

External link options

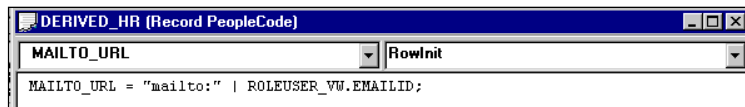
2. Enter Record Name and Field Name.



- If you specify a dynamic external link, you must enter a record name and field name. The system uses the value of the record and field specified as the value of the hyperlink.
  - Whether the external link is static or dynamic, you may use the specified record name and field name to control the pagefield in PeopleCode; for example, when you want to dynamically hide the hyperlink with PeopleCode
3. Select **Enable When Page is Display Only**, if desired.  
  
Check the **Enable When Page is Display Only** check box to make the push button/hyperlink available to users who have display only access to this page. Display Only access is set per operator/operator class in Maintain Security.
  4. Select **Open in New Window**, if desired.  
  
If you want the page displayed by the URL to open in a new window, as opposed to replacing the existing window, check this option.
  5. In the External Link group, specify **Dynamic** or **Static** and the **URL ID**, if necessary.

Choose a value from the URL Maintenance table of a record field to define the destination.

For example, a derived record field might be used to dynamically set the destination value at runtime. The value of the derived record field is what is placed in the HREF tag of the HTML.



Example of URL value in derived record field

### ***Internal Link***

Adds an internal link in the form of a push button or hyperlink that you can use to launch another page from within the system.

To specify an Internal Link

1. Select **Internal Link** from the **Destination** drop-down list.
2. If you want to control the push button/hyperlink in PeopleCode, enter **Record Name** and **Field Name**.
3. In the **Internal Link** group, specify the Menu, Component, Page, and Action.



Internal link options

4. Select the option **Use data from current page in search**, if you want data from the current page to be used in the search dialog.

Selecting this option insures that the new page inherits the proper keys from the context of the current page. The process is almost identical to the Transfer() PeopleCode function, and it performs a similar function.

- If this option is checked, the system discards the existing keylist. A new keylist gets built from the current Component Buffer, using the field's context (when there's a choice between rows in a scroll). This keylist is then used to start the new component.
- If this option is not checked, the system uses the existing keylist in the normal manner.

### ***PeopleCode Command***

You can designate a PeopleCode command as the destination for your push button or hyperlink, such as FileAttach. When users press the button on your page they will see a replacement page that gives them the option to download a file off their system, such as a resume. See FileAttach in the PeopleCode Reference source for more information.

To specify a PeopleCode command

1. Select **PeopleCode Command** from Destination drop-down list.
2. Enter or select **Record Name** and **Field Name**.

This field should have PeopleCode in the FieldChange event.



## Process Command

Represents an action that runs a process or job by way of Process Scheduler. You associate process push buttons with a specific process definition; the process is run each time a user presses the button. See Process Scheduler Development for more information on process definitions.

To specify a Process

1. Select **Process** from **Destination** drop-down list.
2. Enter or select **Record Name** and **Field Name**.
3. In Process group, specify the process **Type** and **Name**.

The screenshot shows the 'Page Field Properties' dialog box with the 'General' tab selected. The 'Type' section has 'Push Button' selected. The 'Destination' is 'Process', 'Record Name' is 'ABSENCE\_HIST', and 'Field Name' is 'ABSENCE\_TYPE'. The 'External Link' section has 'Dynamic' selected. The 'Internal Link' section has 'Menu', 'Component', 'Page', and 'Action' dropdowns. The 'Process' section has 'Type' set to 'Database Agent' and 'Name' set to 'Database Agent'. The 'Secondary Page' section has a 'Page' dropdown. The 'OK' and 'Cancel' buttons are at the bottom right.

Process options

## Prompt Action

Add a customized prompt button or hyperlink next to a field on your page in place of the standard prompt associated with that field. For example, you may want your prompt to read “Find an Airport Code”. Set text label properties for your hyperlink on the Label tab.

To specify a Prompt Action

1. Select **Prompt Action** from **Destination** drop-down list.
2. Enter or select a **Record Name** and **Field Name**.



Select record and field names if you want to control the push button/hyperlink in PeopleCode.

3. Select the **Related Control** field that you want to associate with your prompt.

In the Actions group, **Prompt** is selected as the **Action Type** for you.

The screenshot shows the 'Page Field Properties' dialog box with the 'General' tab selected. The 'Type' section has 'Hyperlink' selected. The 'Destination' dropdown is set to 'Prompt Action', 'Record Name' is 'ABSENCE\_HIST', and 'Field Name' is 'ABSENCE\_TYPE'. There are checkboxes for 'Enable When Page is Display Only' and 'Open in New Window'. The 'Alignment' section has radio buttons for 'Left', 'Centered', and 'Right'. The 'Actions' section has 'Action Type' set to 'Prompt' and 'Related Control' set to '4 | Absence Type'. The 'External Link' section has 'Dynamic' and 'Static' options, with 'Static' selected and a 'URLID' field. The 'Internal Link' section has dropdowns for 'Menu', 'Component', 'Page', and 'Action', with a checkbox for 'Use data from current page in search'. The 'Process' section has dropdowns for 'Type' and 'Name'. At the bottom are 'OK' and 'Cancel' buttons.

Prompt action options

### ***Scroll Action***

Use the scroll action push button or hyperlink if you want to provide action buttons for your grid, scroll area or scroll in areas outside of that control, such as at the bottom of the page or outside the borders of the control.

To specify a Scroll Action

1. Select **Scroll Action** from the **Destination** drop-down list.
2. Enter or select a **Record Name** and **Field Name**.

Select record and field names if you want to control the push button/hyperlink in PeopleCode.

3. In the **Actions** group, specify the **Action Type** and the **Related Control** field.

The **Action Type** field allows you to select the action to be performed in the specific level. The level is specified in the **Related Control** field. Specify one of the following scroll actions: **Bottom**, **Next**, **Previous**, **Row Delete**, **Row Insert**, and **Top**.



For example, if you want a user to be able to move through a page at runtime, set the Action Type to Next or Previous and specify which scroll area you want those actions to control.

The screenshot shows the 'Page Field Properties' dialog box with the 'General' tab selected. The 'Type' section has 'Hyperlink' selected. The 'Destination' is 'Scroll Action'. The 'Record Name' and 'Field Name' are empty. The 'Enable When Page is Display Only' and 'Open in New Window' checkboxes are unchecked. The 'Alignment' section has 'Left', 'Centered', and 'Right' radio buttons, all of which are unselected. The 'Actions' section has 'Action Type' set to 'Next' and 'Related Control' set to '4 | Scroll Area'. The 'Secondary Page' section has 'Page' set to an empty dropdown. The 'External Link' section has 'Dynamic' and 'Static' radio buttons, both unselected, and 'URL ID' is an empty dropdown. The 'Internal Link' section has 'Menu', 'Component', 'Page', and 'Action' dropdowns, all empty, and a 'Use data from current page in search' checkbox that is unchecked. The 'Process' section has 'Type' and 'Name' dropdowns, both empty. The 'OK' and 'Cancel' buttons are at the bottom right.

Scroll action options

## Secondary Page

Once you have designed a secondary page, you must associate it with a control on your primary page. The secondary page push button or hyperlink is the launching point for the user for that secondary page.

To specify a Secondary Page

1. Select **Secondary Page** from the **Destination** drop-down list
2. Enter or select a **Record Name** and **Field Name**.

Select record and field names if you want to control the push button/hyperlink in PeopleCode.

3. Specify the page name of your secondary page in the **Secondary Page** region.



Secondary page options

### ***Toolbar Action***

Use the Toolbar Action type of push button or hyperlink for placing Save, Next in List, or other types of toolbar functions on your page.

To specify a Toolbar Action

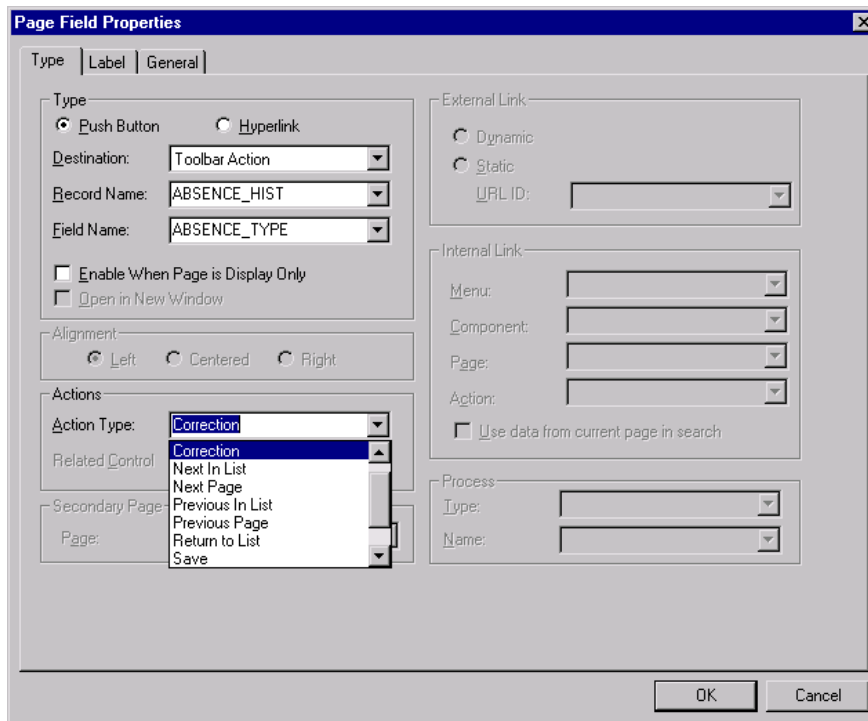
1. Select **Toolbar Action** from Destination drop-down list.
2. Enter or select a **Record Name** and **Field Name**.

Select record and field names if you want to control the push button/hyperlink in PeopleCode.

3. In the **Actions** group, specify the **Action Type**.

Select one of the following toolbar functions: Add, Correction, Next in List, Next Page, Previous in List, Previous Page, Return to List, Save, Update/Display, and Update/Display All.





Toolbar action options

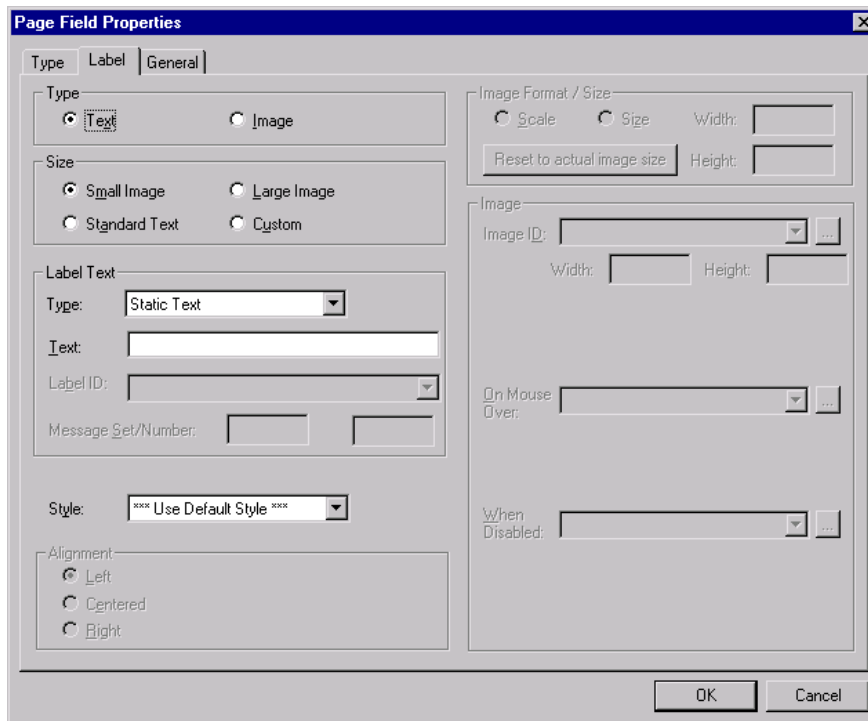
## Specifying Push Button or Hyperlink Labels

You can specify either text or an image for your push button/hyperlink label.

To specify a text label for your push button/hyperlink

1. Select the **Label** tab in the Page Field Properties dialog.





Page Field Properties – Label tab

## 2. Specify the type of Label Text you want.

Depending on the Destination Type you selected, your Type choices in the drop down box will differ.

- Choose **Message Catalog** to reference a message that exists in the Message Catalog and enter the Message Set/Number in the dialog. Message Catalog items are all translatable.
- Choose **RFT Short** if you want to label the push button with the short name for the field from a record definition. RFT is an abbreviation of Record Field Table, the table where we store attributes for fields on a record definition. Use this option only if you've specified a record definition and field name in the Page Field Properties dialog, Record tab. The RFT Short Name will appear on the push button when you press OK and return to your page. Select the Label ID if you do not want the default label.
- Select **RFT Long** if you want to label the push button with the long name for the field from a record definition. Use this option only if you've specified a record definition and field name in the Page Field Properties dialog, Record tab. The RFT Long Name will appear on the push button when you press OK and return to your page. Select the Label ID if you do not want the default label.
- Choose **Static Text** if you want to enter the text to appear on the label in the dialog box.
- Choose **URL Description** if you have selected External Link as the destination for your push button/hyperlink in the Type tab. Select the **Style** from the drop-down list. For more information see Creating Style Sheet Definitions.

## 3. Select the **Alignment**.



This option is only available if you chose hyperlink for the push button type. Push button text is automatically centered for controls that display as push buttons.

4. Select the **Size**.

There are three standard push button **Sizes** to choose from, depending on what kind of text or image you want to display on the button face. **Small image** size creates “toolbar size” buttons that handle small 16x16 pixel images. **Large image** size handles 32x32 pixel images. **Standard Text** size matches Microsoft’s standard dimensions for text push buttons.

If none of the three standard sizes meets your needs, you can set the push button size to **Custom**. When you press **OK**, the push button will have selection handles that you can use to resize it as you desire.



Some browsers do not support custom push buttons. See Customer Connection for more specific and up-to-date browser information related to this feature.

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To specify an image label for your push button/hyperlink

1. Select the **Label** tab in the Page Field Properties dialog.
2. Specify **Image** as Type.

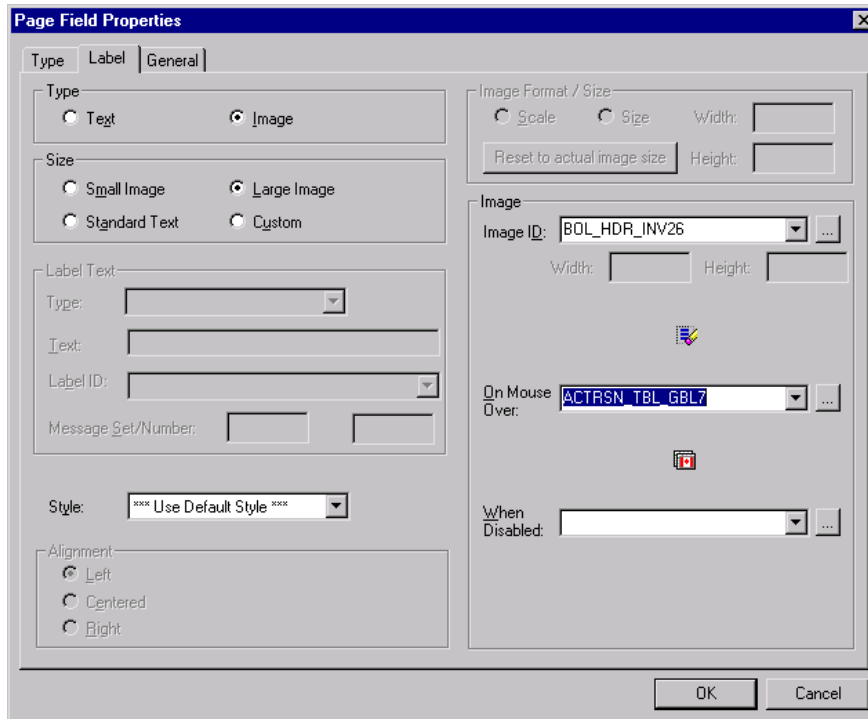
This enables the image region of the Label tab.

3. Specify the **Size**.


If you select Custom for size, the **Image/Format Size** region enables in the upper right corner of the Label tab. You can set the image size by altering the width and height in pixels if you select the **Size** radio button. If you select the **Scale** radio button, the width and height will display in percentage. Alternatively, you can press the **Reset to actual image size button**.

4. Specify the **Image ID**.





Page Field Properties – Label tab

Choosing **Image** causes the **Image ID:** drop-down menu to become active. Select one of the pre-defined image definitions or push the browse button  to browse push button images. See Image Controls for more information.

5. Select the **On Mouse Over** image, if desired.

Select an image for this option if you want an image to look different when a mouse moves over it. For example, you may want to highlight an image so the user can easily see which option they're choosing.

6. Select the **When Disabled** image, if desired.

Select an image for this option if you want an image to look different when it's disabled.

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## Scroll Controls

Scroll controls include scroll areas and scroll bars. Scroll areas are the preferred control over scroll bars for representing multiple rows of data from a table, because they are easier to use in design time and offer a wider array of features. The final product at runtime appears more contained since the default setting places a border around the data.

## Scrolls, Record Relationships, and Page Processing

A page must reflect the underlying table structures so the system knows where to store data on the database. When you have more than one underlying record definition on a page, the role of



scroll areas and scroll bars in page processing is very important. Your scrolls define parent/child record definition relationships on a page.

You assign an Occurs Level to each scroll on your page to indicate the relationship among the record definitions and controls therein and to determine how the data is processed. The primary record on a page at Level 0 has no scroll or Occurs Level associated with it. If the page contains a record subordinate to the primary table, it has a scroll with an Occurs Level of 1. A table subordinate to the Level 2 record has a scroll area with an Occurs Level of 2. PeopleTools does not support nesting beyond three levels.



For more information on Occurs Levels and nesting of level-based controls see [Understanding Level-Based Controls](#).

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Application Designer automatically nests the scroll area or scroll for you once you set the Occurs Levels sequentially. Each field you place on the page after each scroll area is automatically placed within the scroll area preceding it until the next level-based control is placed on the page.

## Scroll Area Control

The scroll area control, like a grid, is a way of grouping multiple fields of data. The fields in your scroll area can be placed randomly, one on top of the other as well as side by side. Unlike a grid, you are not limited to the type of controls you can place in your scroll area. You can even place a grid inside a scroll area.

A scroll area in some ways looks like a group box filled with various controls. The title bar in a scroll area, however, can also serve as a navigation bar. You can display push buttons and hyperlinks in the navigation bar to help the user move through the rows of data in your scroll area. The navigation bar also provides several other settings, such as a 'Find' feature that allows the user to search all fields and rows for specific data and a View All option so the user can see all rows of data at once.

The example below shows mainly edit boxes with prompts and related display fields spaced vertically throughout. There is also a horizontal rule dividing the top section from the bottom section of the scroll area that identifies the data below it as "Current". The plus and the minus buttons enable the user to add and delete rows of data.



Work Location | Job Information | Job Labor | Payroll | Salary Plan | Compensation

Smith, Mary Employee ID: TC015 Empl Rcd#: 0

Work Location View All First 1 of 2 Last

Employee Status: Active Date Created: 07/27/2000

\*Effective Date: 07/27/2000 Effective Sequence: 0 \*Job Indicator: Primary Job

Action / Reason: Hire

Position Number: Position Entry Date: Position Data Override Position Management Record

\*Regulatory Region: USA United States

\*Company: RCB ST - Test Company 1

\*Business Unit: BNGEN Benefit Administration

\*Department: T001 ST - HR Department Department Entry Date: 02/01/1990

Location: 001 Corp HQ

Supervisor ID:

Job Data Employment Data Earnings Distribution Benefits Program Participation

Save Return to Search Next in List Previous in List Previous tab Next tab Update/Display Include History Correct History

Work Location | Job Information | Job Labor | Payroll | Salary Plan | Compensation

Sample scroll area

### Default Scroll Area

The default scroll area contains a navigation bar with navigation buttons to move between rows and a View All hyperlink. Inside the scroll area are push buttons that enable the user to insert or delete rows. Without setting any specific properties, the default scroll area looks like the display below after fields have been added.

Scroll Area << 1 of 1 >> View All

\*Absence Type: + -

\*Begin Date:

Comment:

Default scroll area at runtime

To insert a scroll area

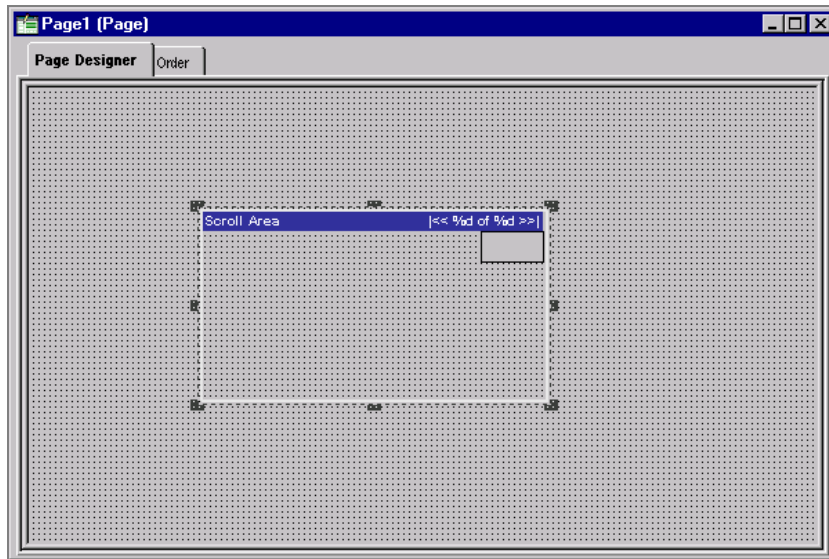
1. Click the **Scroll Area** button on the toolbar or select **Insert, Scroll Area**

When a hand-shaped icon monogrammed with a **J** appears, position the index finger where you want the upper left corner of the frame to be located. Press and hold down the left mouse button as you drag the hand diagonally downward to where you want the lower right corner



of the frame. Release the mouse button.

The default label, Scroll Area, displays in the top left corner of the blue outlined scroll area until you change the label.



Adding a scroll area

When you select the scroll area field, the dotted box and black handles surrounding the scroll area display.

2. Drag the scroll area to reposition it on the page as desired.

Do this by pressing and holding down your mouse anywhere on the scroll area until your cursor displays a small rectangle. Release the mouse button when at the desired position. Alternatively, you can press the Up Arrow, Down Arrow, Left Arrow, or Right Arrow key to move the scroll area one grid unit in the indicated direction. As with frames, you can adjust the size of the scroll area using any of the four directional arrow keys on the keyboard.

3. To deselect the scroll area, click anywhere outside of the scroll area on your page workspace.

## Scroll Area Size and Shape

Use scroll area handles to adjust the size or shape of the scroll area.

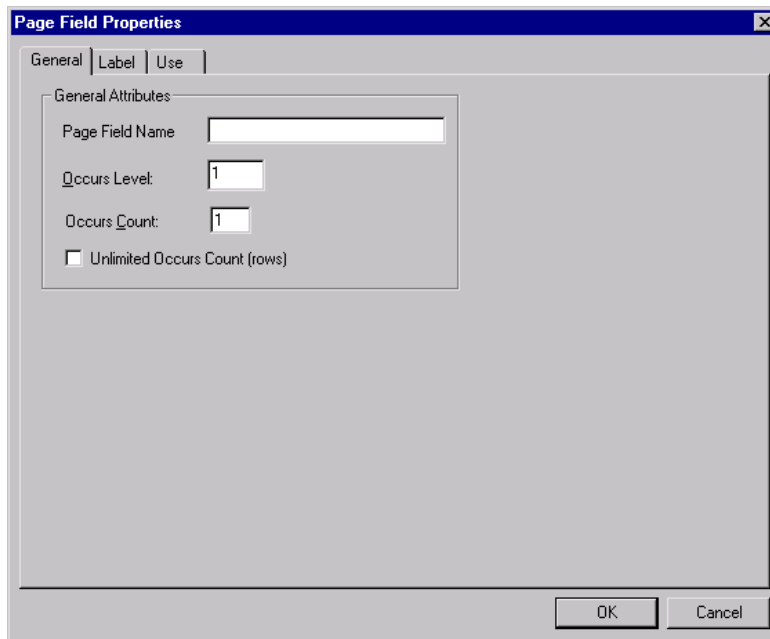
## Scroll Area General Attributes

Assign the general attributes of the scroll area: page field name, occurs count and occurs level.

To assign general properties to a scroll area

1. Double-click on the scroll area, or right-click to access the Page Field Properties dialog box, **General** tab.





Specifying General properties for scroll area

2. Type in the **Page Field Name** of the page in which you have placed the scroll area.
3. Set the **Occurs Level** for the scroll area.

The occurs level indicates the relationship among the record definitions and the controls on the page and determines how the data is processed. This option specifies the level of a scroll area relative to any other scroll on a page. If you have only one scroll on a page, your occurs level is 1. If you have two scrolls, your secondary scroll or scroll area has an occurs level of 2. See Page Design Considerations for more information.

4. Set the **Occurs Count** or select **Unlimited Occurs Count** if desired.

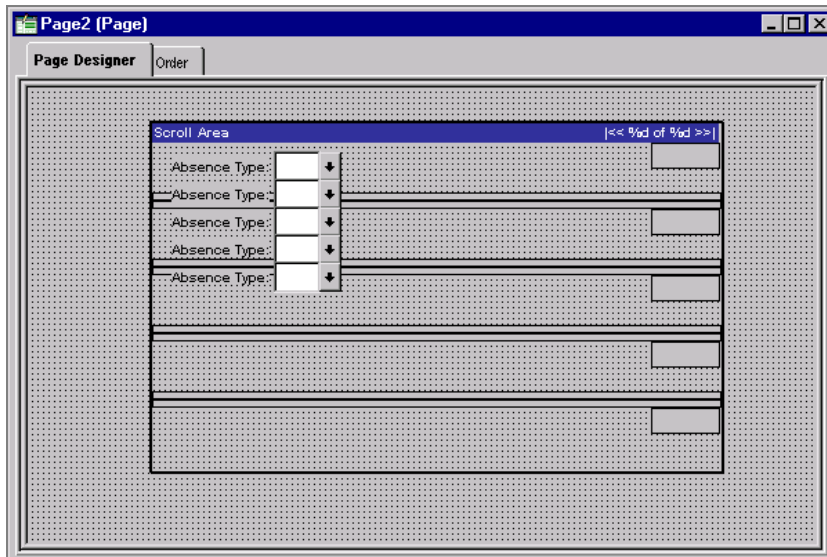
The Occurs Count sets the number of rows of data to show on the page for that scroll area. Checking **Unlimited Occurs Count** will display all rows of data in the scroll area. The browser will display a scroll bar if the page does not fit in the active window. See Multiple Occurrences of Data for more information.

### ***Manipulating Fields After the Occurs Count is Set***

If you have set the occurs count to a number greater than one, you will need to reposition the fields in your scroll area. You'll notice that if you changed the occurs count after placing fields in the scroll area, they will appear one on top of the other, very close together. You might also notice that, unless you indicate otherwise (in the Body Area of the Label tab in the Page Field Properties), row separator lines will appear to distinguish one row from the next.

In the example below, the occurs count has been set to five after placing one field, Absence Type, in the scroll area. You'll want to reposition the fields so that they are evenly spaced within the row separator lines.





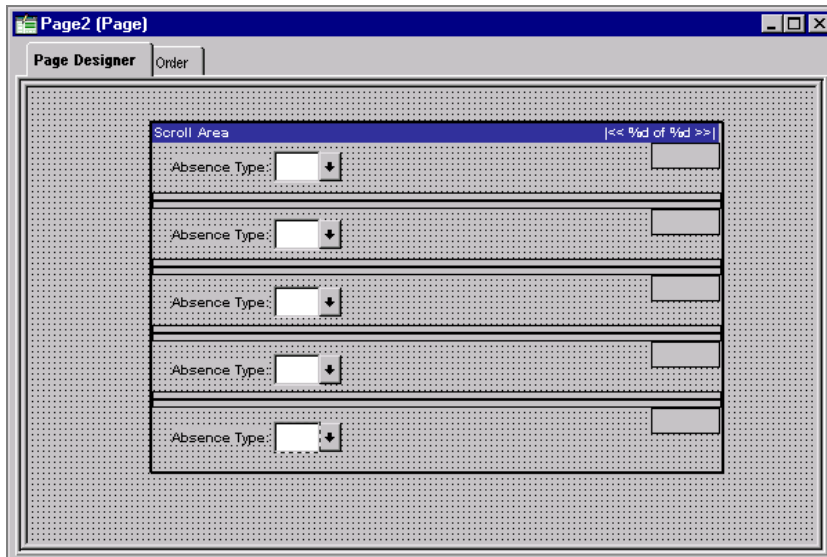
Multiple occurs count in a scroll area

Before you do so, it would be helpful to know a few rules about how these fields can be moved in relationship to one another. For example, you do not need to move each individual field to its proper destination. For the sake of this discussion we will call the first field in the column of fields, or the original field you placed in the scroll area, the head field. The fields following the head field we'll call the other occurrences.

- The head field controls the horizontal movement of all other occurrences below it.
- You cannot move the other occurrences horizontally.
- To evenly space the occurrences vertically, drag the last occurrence in the column to the desired position between the bottom edge of the scroll area and the last row separator. All occurrences above it will reposition themselves equidistant from the others.
- The add/delete push buttons (represented by the gray boxes on the right side of the scroll area) cannot be moved horizontally on the page. They can only be moved vertically in the same manner as the fields

Once you move the lowest field, your scroll area should appear like the following:





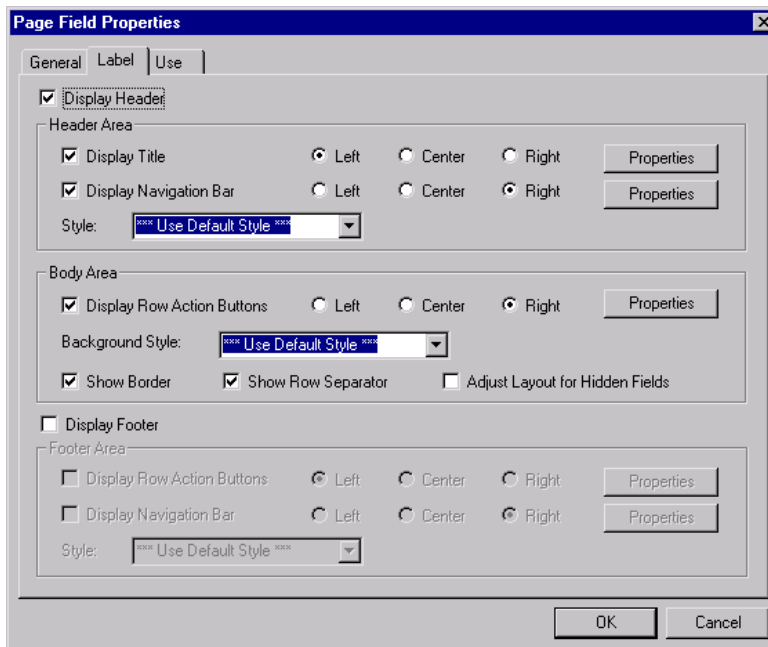
Fields moved to accommodate multiple occurs count

### Setting Scroll Area Label Properties

There are three places on a scroll area to which you can apply hyperlinks or push buttons to help the user navigate through multiple rows of data contained in the scroll area:

- Header
- Body
- Footer





Scroll area label properties

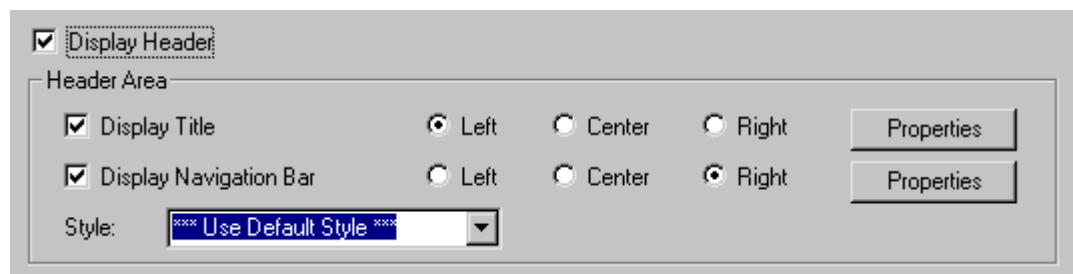
### *Specifying Header Area Properties*

You have the option to display the title of the scroll area as well as a navigation bar where users can access hyperlinks for viewing a previous, next, top or bottom row. You can also set a Find feature and a View All feature in the navigation bar of your scroll area.

To set or change the Header Area label properties of a scroll area

1. Click the **Label** tab or select the scroll area and double-click to access the **Page Field Properties** dialog box, **Label** tab.

The Display Header check box is selected by default.

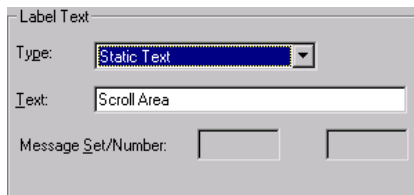


Specifying Header Area properties

2. Check **Display Title** to view the title of the scroll area in the header bar.  
You can control the display of the title by setting the alignment.
3. Click the **Properties** button to add a title to the Label Text group of the Page Field Properties



dialog box.



The dialog box is titled "Label Text". It contains a "Type:" dropdown menu with "Static Text" selected. Below it is a "Text:" text box containing "Scroll Area". At the bottom, there are two empty text boxes labeled "Message Set/Number:".

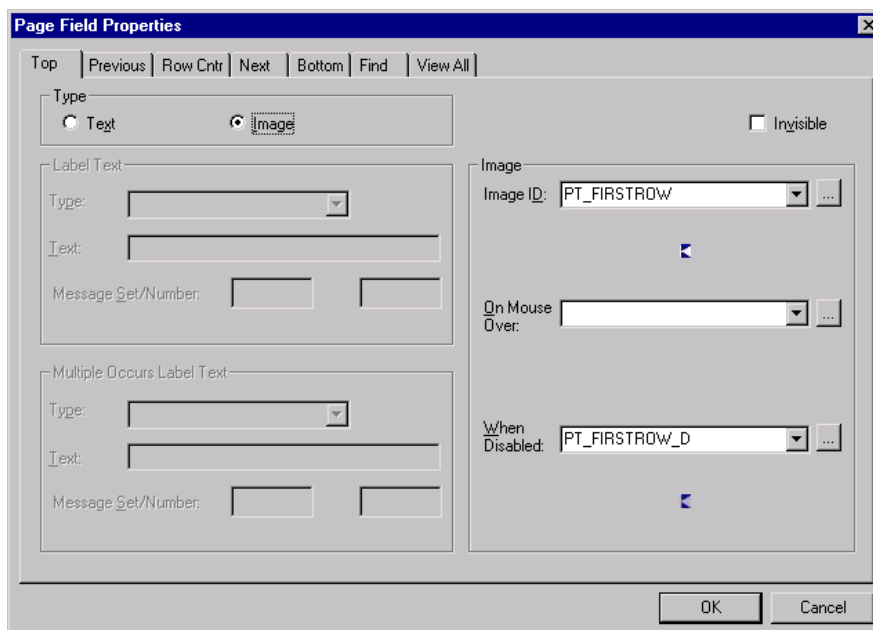
Label Text group dialog box

Select **Static Text** from the **Type** drop-down box if you want to enter your own text in the **Text** area. Select **Message Catalog** to add a cataloged text message to the header bar of your scroll area. Selecting the **Message Catalog** option facilitates translation.

4. Check **Display Navigation Bar** to add a navigation bar to the header row of your scroll area.

As with the title, you can control the alignment of the navigation bar by selecting left, center or right.

5. Click the **Properties** button to set navigation bar properties.



The dialog box is titled "Page Field Properties". It has tabs at the top: "Top", "Previous", "Row Cntr", "Next", "Bottom", "Find", and "View All". The "Type" section has two radio buttons: "Text" and "Image", with "Image" selected. There is an "Invisible" checkbox. The "Label Text" section has a "Type:" dropdown, a "Text:" text box, and two "Message Set/Number:" text boxes. The "Image" section has an "Image ID:" dropdown with "PT\_FIRSTROW" selected, a "On Mouse Over:" dropdown, and a "When Disabled:" dropdown with "PT\_FIRSTROW\_D" selected. There are "OK" and "Cancel" buttons at the bottom.

Setting navigation bar properties

Each tab displays the same options, with some regions enabled and others disabled. You can select to display each of the navigation bar functions as either text or an image.



The **Browse** button enables you to scroll through and view the image options. The default setting for the **Find** and **View All** tabs is set to invisible.



The **Multiple Occurs Label Text** group is only enabled on the Row Cntr (Counter) tab. Select the **Type** of label, either **Message Catalog** or **Static Text** and the corresponding **Text** or **Message Set/Number**.

Multiple Occurs Label Text

Type: Message Catalog

Text: %d-%d of %d

Message Set/Number: 126 2

Setting multiple occurs label text



To facilitate translations, if you select Text as your display **Type**, choose a **Message Catalog** entry instead of **Static Text**.

#### 6. Select the Style for the header area.

You can control the color, font, size, and other characteristics of a label by specifying a style.



For more information see Creating Style Sheet Definitions.

### *Specifying Body Area Properties*

You can choose to display Insert and Delete action buttons on each row of data. You can also control the display of the scroll area border and row headings.

To set the Body Area label properties for the scroll area

#### 1. Open the Page Field Properties dialog, Label tab.

Body Area

☒ Display Row Action Buttons    ☐ Left    ☐ Center    ☒ Right    Properties

Background Style: Use Default Style

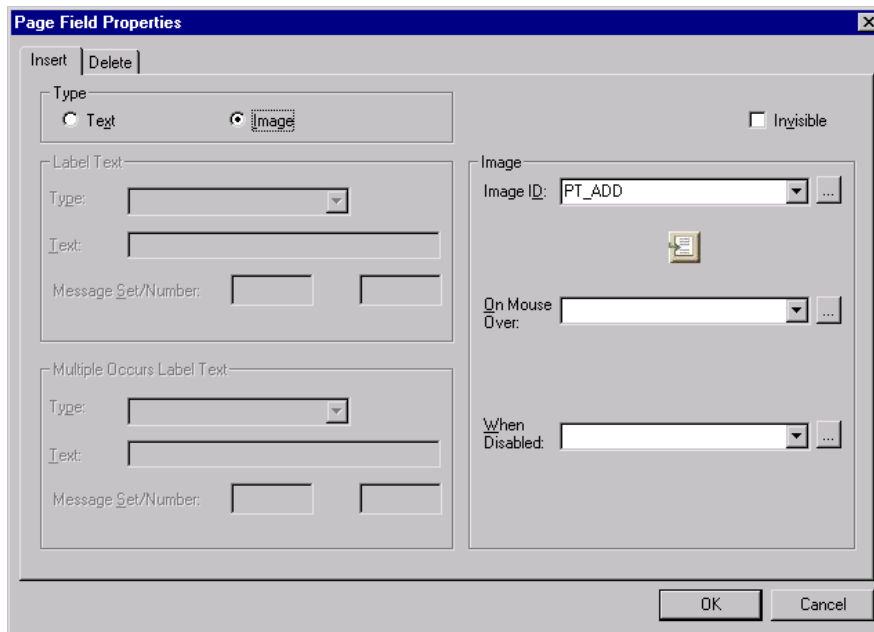
☒ Show Border    ☒ Show Row Separator    ☐ Adjust Layout for Hidden Fields

Specifying Body Area properties

The default selection is **Display Row Action Buttons** with a **Right** alignment. This will display buttons in the right side of the body of your scroll area. Unless you specify otherwise, a border and row separator will also appear. The row separator displays only if you selected **Unlimited Occurs Count** or set the occurs count to greater than 1 in General Attributes.

#### 2. Select the type of row action buttons to display by pressing the **Properties** button.





Body area properties

You can choose to display text or an image for your insert and delete actions in the body of your scroll area. Or, you can check off Invisible on both tabs so that no action buttons appear.

3. Select the Background Style for the scroll area.

You can control the background color, border, and other attributes of the scroll area.

4. Deselect **Show Border** if you do not want a border to appear around your scroll area.

The default border is blue if you did not alter the Background Style.

5. Deselect **Show Row Separator** if you do not want a horizontal rule to appear automatically as a visual division between rows of data.
6. Check **Adjust Layout for Hidden Fields** if you want the scroll area to adjust its border to only those fields that are active if hidden fields are present.

### *Specifying Footer Area Properties*

If you would like a footer row to appear in your scroll area you can add Insert and Delete row action buttons, a navigation bar where users can access controls for viewing a previous, next, top or bottom row, and a Find and View All option.

To set Footer Area properties for your scroll area

1. Check the **Display Footer** check box to activate the Footer Area of the Page Field Properties dialog box.



☒ Display Footer  
 Footer Area  
☒ Display Row Action Buttons    ☒ Left    ☐ Center    ☐ Right    Properties  
☒ Display Navigation Bar    ☐ Left    ☐ Center    ☒ Right    Properties  
 Style: Use Default Style

Specifying Footer Area properties for scroll area

2. Select **Display Row Action Buttons** if you would like Insert and/or Delete functionality in your footer.
3. Click on the **Properties** button to set the specific text or buttons for your Insert/Delete command.

The row action button properties are the same as those for the body. See Step 2 of Specifying Body Area Properties.

4. Select **Display Navigation Bar** for a navigation bar to appear in the footer.
5. Press the **Properties** button to determine the settings for the navigation bar.

The navigation bar properties are the same as those for the header. See Step 5 of Specifying Header Area Properties for more information.

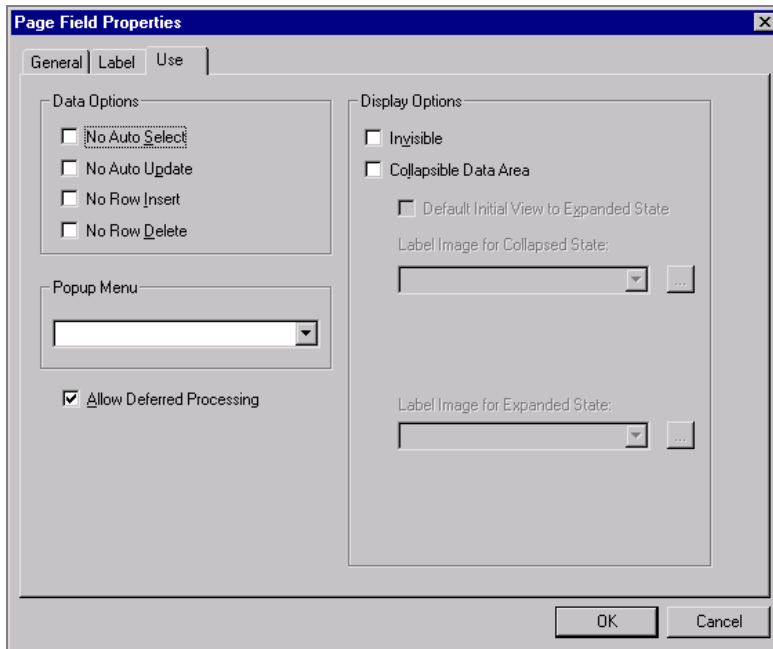
6. Choose a Style for the footer area or use the default style as selected.

You can set the background colors, font, and border of your footer area by selecting a preset style.

## Setting Scroll Area Use Properties

There are several options you can select to determine how users will use your scroll area.





Scroll area properties – Use tab

To set Use properties

1. Open the Page Field Properties dialog, Use tab.
2. Set the Data Options.

**No Auto Select**

Suppresses the system from automatically retrieving data from the database. Select this attribute when you want to fill the scroll with data using the ScrollSelect PeopleCode functions. See Using the GenerateTree Function for more information.

**No Auto Update**

Suppresses the system from automatically updating data based upon the existing key list. Select this attribute when the scroll contains “work” field controls which should affect only a page and not the underlying database.

**No Row Insert**

Suppresses the Insert button in the body area so the user cannot insert rows.

**No Row Delete**

Suppresses the Delete button in the body area so the user cannot delete rows.

3. Select a **Popup Menu** if desired.

To set a pop-up menu see Defining Pop-up Menus.

4. Deselect Allow Deferred Processing if desired.




Deferred processing mode is set by default. See Deferred Processing Mode for more information.

## 5. Set the **Display Options**.

Select Invisible to make the scroll area invisible. Select Collapsible Data Area if you want the user to have the ability to collapse and expand the scroll area with a mouse click.

Scroll area properties – Use tab, Display Options

If you select Collapsible Data Area, you can set the **Default Initial View to Expanded State**. Select the images to use for both the collapsed and expanded state of the scroll area.

 Use the browse button to view label image options.

Country	National ID Type	Description	National ID	Primary ID
USA	PR	Social Security Number	434-55-6666	<input checked="" type="checkbox"/>

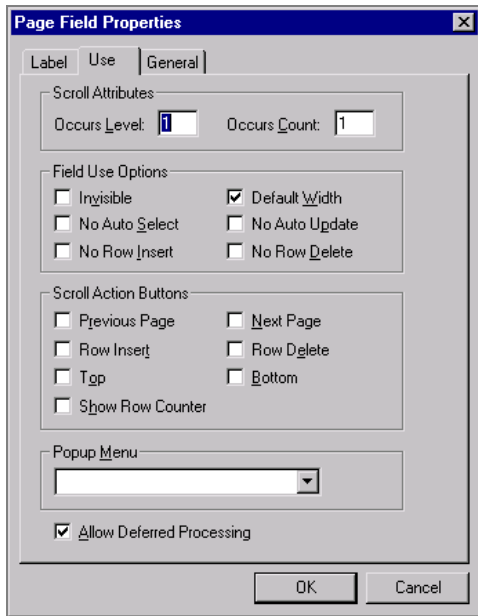
Example of expanded and collapsed scroll areas at runtime

## Scroll Bar Controls

As with grids and scroll areas, the actual scroll you see in Application Designer when working with scroll bars in page definitions does not display when run on the browser. Instead the scroll bar control has scroll action buttons to replace the visual rendering of the scroll bar as push buttons and hyperlinks on the Web.

You set the scroll action buttons on the Use tab of the Page Field Properties for the scroll bar, as shown below:






Scroll bar properties

When you select any of the scroll action buttons, they display on your page next to the scroll bar. You have to move them to where you want them on the page definition.

To insert a scroll bar

1. Click the  **Scroll Bar** button on the toolbar, or select **Insert, Scroll Bar**.
2. When a hand-shaped icon monogrammed with an **S** appears, position the pointer where you want the upper left corner of the scroll bar to begin.
3. Press and hold down the left mouse button as you drag the hand diagonally downward to where the lower right corner of the scroll bar should be.
4. Release the mouse button.
5. Position and size the length of your scroll bar so that all the fields controlled by the scroll bar are located to the left of it.

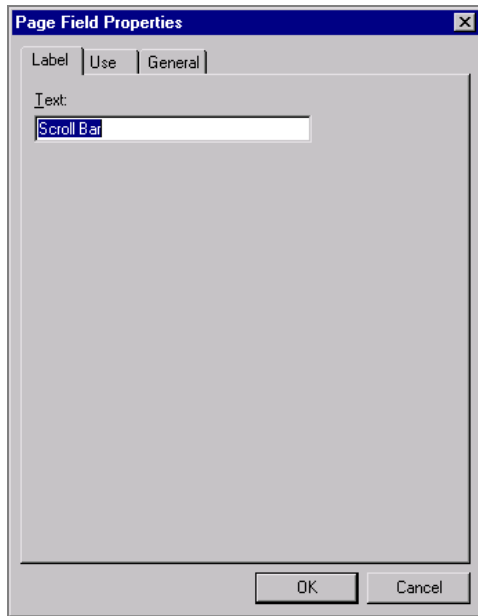
### Specifying Scroll Bar Labels

To help identify scroll bars on your page definition, document the purpose of each as an informational field label.

To change the label of a scroll bar

1. Open the Page Field Properties dialog, Label tab.





Specifying scroll bar labels

2. In the **Text** field, enter the text label.

This label is for information only—it doesn't appear on the page. However, you'll find this label useful when reordering page controls on the order list. It is helpful if you include a meaningful identifier in the label, such as the primary record definition for the scroll. For example, you might want to label it "ABSENCE\_HIST\_SCROLL".

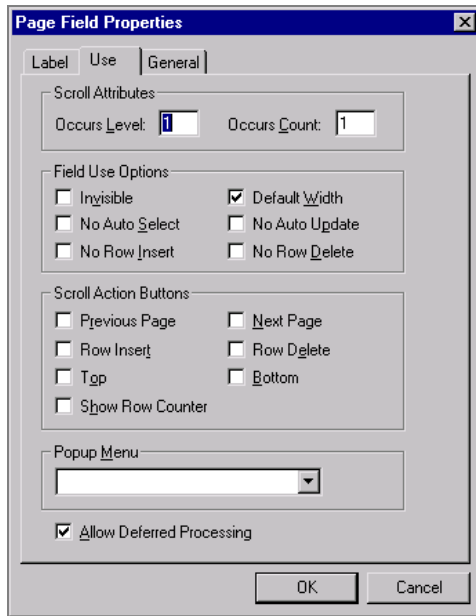
### Specifying Scroll Bar Use

Adjust the use of the scroll as necessary.

To change the use properties of a scroll bar

1. Click the **Use** tab or select the scroll bar and double-click to access the Page Field Properties dialog, **Use** tab.





Specifying scroll bar Use

## 2. Set the **Scroll Attributes**.

Set the Occurs Level and the Occurs Count. In the page control order list, controls beneath the scroll bar will repeat as many times as the Occurs Count on the scroll bar above them. When the Application Processor encounters another scroll area, scroll bar, or push button, it stops repeating the controls. See *Reordering Page Controls and Other Considerations*.



You should always reorder your controls, if necessary, before you enter an Occurs Count.

## 3. Select the appropriate **Field Use Options**.

### **Invisible**

Select this if you want to make the scroll bar invisible.

### **Default Width**

Does not apply since the scroll bar does not display on the PeopleSoft Internet Architecture page.

### **No Auto Select**

This suppresses the system from automatically retrieving data from the database. Select this attribute when you want to fill the scroll with data using the ScrollSelect PeopleCode functions. See *Using the GenerateTree Function* for more information.

### **No Auto Update**

Suppresses the system from automatically updating data based upon the existing key list. Select this attribute when the scroll contains “work” field controls which should affect only a page and not the underlying database.



<b>No Row Insert</b>	Suppresses the row insert function so the user cannot insert new rows.
<b>No Row Delete</b>	Suppresses the delete function so the user cannot delete rows.

4. Select the appropriate **Scroll Action** buttons.

<b>Previous Page</b>	Displays a hyperlink that allows the user to move to the previous row or set of rows in the scroll buffer.
<b>Row Insert</b>	Displays a button that allows the user to add a row.
<b>Top</b>	Displays a hyperlink that allows the user to go to the first row of the scroll,.
<b>Show Row Counter</b>	Displays a counter showing the user what row(s) he is viewing as well as the total number of rows in the scroll, for example: <1 of 3>.
<b>Next Page</b>	Displays a hyperlink that allows the user to move to the next row or set of rows in the scroll buffer.
<b>Row Delete</b>	Displays a button that allows the user to delete a row.
<b>Bottom</b>	Displays a hyperlink that allows the user to go to the last row of the scroll, that is, > .
<b>Enable Find</b>	Displays a hyperlink that allows the user to search any field within the scroll or scroll area. The 'Find' hyperlink displays to the right of the Previous/Next and View All hyperlinks. The user may click on the hyperlink or press Alt F. The Find dialog box appears. Users can match case and search up or down.



**Note.** Find will not match on column headers, field labels, text values in icons, static hyperlinks, or hidden fields.

---

5. Select the desired **Popup Menu** from the drop-down list.

To set a pop-up menu see Defining Pop-up Menus.

## Controlling Scrollable Data

You can control scrollable data using the PeopleCode Data Buffer Access Classes.

The rowset class is the equivalent of a scroll at runtime. In addition to rowset, there are the row, record and field classes. Use the following ways to read multiple rows of data from the database:



- SQLExec function to read a single row of data
- SelectByKey record class to select into a record
- Select or SelectNew method to select into a rowset
- SQL object to select into a record or rowset

We recommend that you use the data buffer access classes to manage data in scrolls.



For more information see Data Buffer Classes.

---

### Scroll-To-Grid Conversion Utility

You can convert a single-level scroll bar to a grid control. Application Designer provides a handy utility that automates what can sometimes be a tedious process. The Convert Scroll to Grid function does the following:

- Designates the size and position of the grid as set to the area covered by the left-most label to the scroll bar.
- Issues warnings before deleting controls that are not supported by the grid.
- Converts radio buttons to dropdown lists.
- Sets label alignment of check boxes to center.

The conversion utility gives warnings for scroll bars that can't be converted to grids due to grid control limitations. You'll find that some scroll bars, by the nature of their design or the setup of the page, cannot be converted to grids. The conversion utility will do validations to the following limitations:

- No more than one grid can exist on a page.
- The scroll to be converted must not have any nested scrolls under it.
- The grid control must be the last control on the page.
- Radio buttons are not supported in grids and must be replaced with dropdown lists.

To convert a scroll to a grid

1. Select the desired scroll bar and right-click to see the pop-up menu.
2. Select the Convert Scroll To Grid option.

Only scrolls that can be converted will have the menu option available. This utility looks for all page fields defined in the field order after the selected scroll bar control up until the next scroll bar or scroll area control. It does the following for each field:



- Confirms that the scrolls control type can be displayed in a grid control
- Creates a grid column of the appropriate type
- Fills in the attributes

If any of the page fields cannot be displayed in a grid or if other problems are found, the utility displays an error message explaining why the scroll cannot be converted to a grid. If no problems are found, the Grid Properties dialog box appears listing all the fields that will be converted to columns. You may change any grid or field properties at this time.

3. Click **OK** to display your new grid or click **Cancel** to halt the conversion.

### Scroll Area or Scroll Bar

Overall, a scroll area provides you with a wider range of functionality than a scroll bar. There are several options you can choose for a scroll area that you cannot use for a scroll bar. Also, some of the scroll areas enhanced features make designing pages easier for you and the runtime product more intuitive for the user.

- The navigation tools you select for a scroll area are automatically positioned on the navigation bar or footer bar. With scroll bars, you have to place these buttons and links manually on the page.
- Scroll areas give you the option of showing or hiding a border around your data.
- Scroll areas provide the option of a View All button and a Find feature.
- Scroll areas allow you to determine the text or image that displays for the action items in the navigation bars.
- Scroll areas provide a row separator when you select multiple occurrences of data.

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### Secondary Page Control

Use secondary pages to gather or display information related to the data that displays in the primary page. The secondary page control adds an invisible control that associates a secondary page with the primary page. You then associate the secondary page with either a command push button/hyperlink or a pop-up menu. Primary pages are used to gather or display the essential data of a business transaction, while secondary pages gather or display supplemental information that is related to the data in a primary window, but less frequently referenced or updated. Secondary pages are displayed using the DoModal PeopleCode function.

In the following screen, the Address page contains an Email hyperlink at the bottom of the scroll area. This hyperlink opens the Email Addresses page, allowing the user to enter email address information.



Primary page

### Primary page

Once the user enters the email information in the **Email** grid, she can then return to the Address page by clicking the **OK** button.

Secondary page

### Secondary page

While a secondary page is just another page to the user at runtime, there are differences between them and the primary pages in how they look and behave. For example:

- You can view a secondary page from its primary page only.
- A primary page is used to gather or display essential data, while a secondary page gathers or displays supplemental information that is related to the data on a primary page, but is less frequently referenced or updated.
- A secondary page should have OK and Cancel buttons so the user may dismiss the page (accepting or canceling input) and return to the primary page. If you want to offer the user alternative buttons to dismiss the page, disable the default OK and Cancel buttons in the Page Properties dialog.

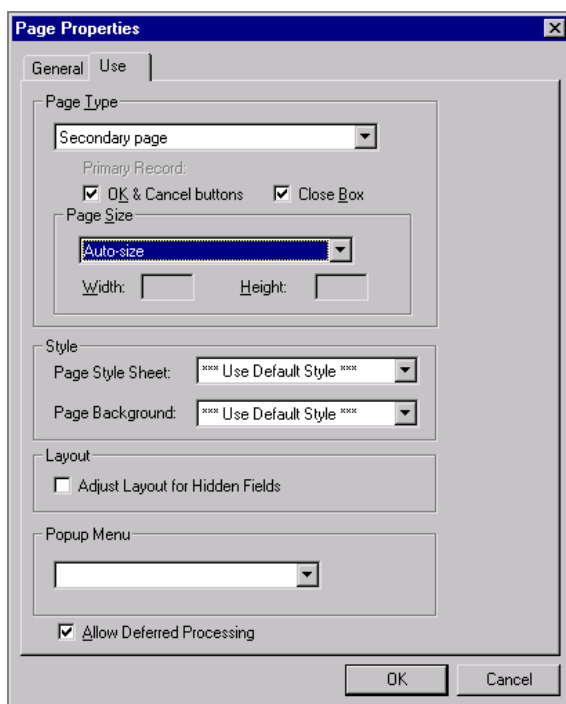


## Defining Secondary Pages

Determine which data in your primary component is appropriate for a secondary page. Typically, this would be supplemental information or information that is accessed from more than one main page.

To create a secondary page

1. Select **File, New** to create a new page.
2. Select **File, Object Properties** (or press **Alt+Enter** ) to open the **Page Properties** dialog, **Use** tab.



Page Properties dialog box

3. Select **Secondary Page** from the drop-down list in the **Page Type** group box.
4. Define the page size from the **Page Size** drop-down list box.

### Auto-Size

This means the page is automatically sized to fit the fields defined on it.

### Custom Size

This option lets you size the secondary page by dragging the edge or by typing in the width and height in pixels.

5. Select the **Page Style Sheet** to be associated with the secondary page.



If you want to override the default style sheet associated with the application, select a different style sheet from the drop-down list. The style sheet you select will only be available for the controls on the secondary page.



For more information see [Creating Style Sheet Definitions](#).

---

**6. Select the Page Background.**

You can control the background of the page and any controls that don't have a style sheet associated with them by specifying a style in the page style. You can only use this option if you've also specified a style sheet for the secondary page.

**7. Select *Adjust Layout for Hidden Fields* if desired.**

**8. *Allow Deferred Processing* is selected by default. Deselect if you want processing to occur each time the user tabs through a field.**

**9. Click *OK* and save your secondary page.**

If you selected Auto-Size, your page will automatically size to fit the fields defined on it upon save.

## **A Secondary Page Control or a Push Button Control?**

There are two ways to associate a secondary page with a primary page:

- Insert a push button control and associate it with your secondary page. This automatically displays the secondary page when the user presses the button and is the preferred method.
- Insert a secondary page control. This control looks like a command push button, but it is invisible at run time. When you use a secondary page control, you must also insert a command push button on the page and call the DoModal PeopleCode function from the push button's FieldChange event in order to display the secondary page.

The rule of thumb is to use the page push button control and associate it with a secondary page when:


- No procedural PeopleCode logic is necessary before the secondary page is displayed (PeopleCode can be used on the secondary page just like any other page)
- You want to control the formatting of the information (therefore you want to use a page, and not use the Prompt function)
- The secondary page will be used more than once.

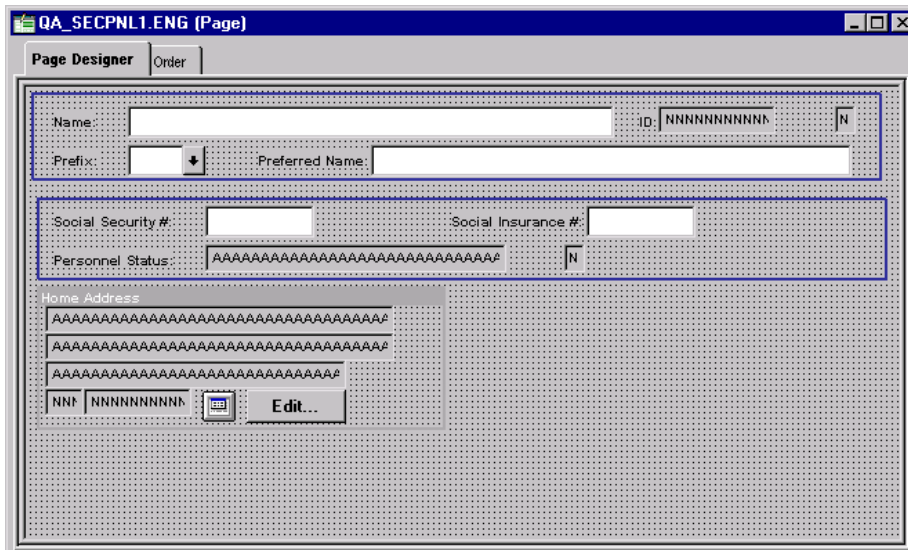
## **Inserting a Secondary Page Control**

Once you have defined your secondary page, you can place a secondary page control on your primary page and associate it with the secondary page you just created.



To insert a secondary page control into a primary page

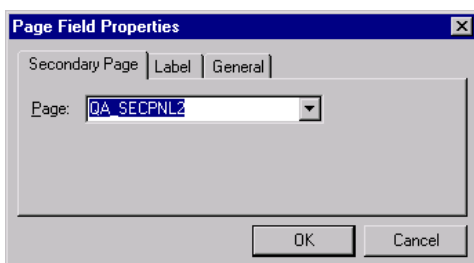
1. Click the  **Secondary Page** button on the toolbar or select **Insert, Secondary Page**.
2. Click on the primary page where you want to display the secondary page control.



Secondary page control in primary page

The secondary page control appears like a small push button with the secondary page icon on it. This control will be invisible at runtime.

3. Double-click on the control or right click to access the Page Field Properties dialog, Secondary Page tab.



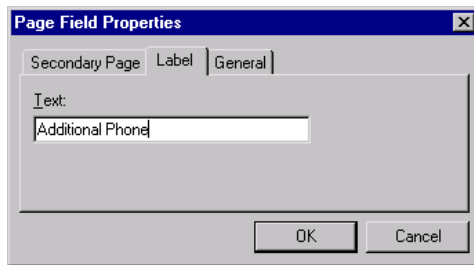
Associating a secondary page

Use this dialog to choose the name of the secondary page you want associated with the secondary page control on the active page. Only secondary pages can be associated with secondary page controls. In other words, you cannot associate a standard page or subpage with the secondary page control.

4. Click the **Label** tab.

This label is for informational purposes only. It displays in the **Layout, Order** dialog, and in the page description printout.





Secondary page properties – Label tab

- Position the secondary page control at the proper scroll level on the **Order** tab.

	Lvl	Label	Type	Field	Record	Display Control	Related Field	Co
1	0	Frame	Frame					
2	0	Frame	Frame					
3	0	pc-derived_hr.up	Edit Box	UPDATE_PAYRO	DERIVED_HR			
4	0	Name	Edit Box	NAME	PERSONAL_DAT			
5	0	ID	Edit Box	EMPLID	PERSONAL_DAT			
6	0	Prefix	Edit Box	NAME_PREFIX	PERSONAL_DAT			
7	0	Preferred Name	Edit Box	PREFERRED_NAME	NAMES			
8	0	Social Security #	Edit Box	SSN	PERSONAL_DAT			
9	0	Social Insurance	Edit Box	SIN	PERSONAL_DAT			
10	0	Personnel Status	Edit Box	PER_STATUS	PERSONAL_DAT	<input checked="" type="checkbox"/>		
11	0	Personnel Status	Edit Box	XLATLONGNAME	XLATTABLE		<input checked="" type="checkbox"/>	10
12	0	Home Address	Group Box		PERSONAL_DAT			
13	0	Edit...	Push Button/Type	SHOW_ADDR_PB	QA_FNC_LIB2			
14	0		Edit Box	ADDRESS2	PERSONAL_DAT			
15	0		Edit Box	CITY	PERSONAL_DAT			
16	0		Edit Box	STATE	PERSONAL_DAT			
17	0		Edit Box	ZIP	PERSONAL_DAT			
18	0		SecPage					
19	0		Edit Box	ADDRESS1	PERSONAL_DAT			

Positioning a secondary page control in Order tab dialog

You can also insert a secondary page using a regular push button and associating it with a secondary page. See [Inserting a Secondary Page](#).

## Other Page Design Considerations

There are several additional page design considerations, such as sensitive data and performance that you should keep in mind as you design your pages.

---

### Designing Inquiry Pages

You can design pages for inquiry purposes only. Inquiry pages are usually based on search records that extract specific information from different tables to display different views of your database, such as a summary of expenses by department.

To create an effective inquiry page:



- Make all the fields display-only
- Build in sufficient Display Control/Related Field relationships to show relevant descriptions
- When using level-based controls, disable the row action buttons so the user cannot add or delete rows

Job Information								
General	Job Information	Work Location	Compensation					
Eff Date	Sequence	Jobcode	Empl Type	Empl Status	Full/Part Time	Reg/Temp	Standard Hours	Work Period
01/01/1990	0	Bfts Mgr	Salaried	Active	Full-Time	Regular	40.00	Weekly

Job Summary inquiry page

## Aligning Page Controls

Page design mode in Application Designer provides handy control alignment tools to help you ensure that your controls are aligned evenly, both horizontally and vertically. Once you place all controls on the page, use the six alignment buttons on the page definition toolbar to properly align your controls with one another. The toolbar will only be enabled when two or more controls on the page are selected.



Page control alignment tools

To align controls on a page

1. Select the controls you want to align.

Select the desired controls by dragging your mouse around them or clicking on each one individually while holding down the SHIFT or CTRL key. See [Selecting Controls](#) for additional information.

2. Click on the appropriate control alignment button.

See [Page Definition Toolbar](#) for a description of each of the alignment buttons.

## Derived/Work Fields

You can use a field definition from a derived/work record to store a temporary value that PeopleCode uses to determine the values of other field controls on the page.



For example, for a budgeting transaction in General Ledger, assume you have an annual amount you must spread to multiple accounting periods. You can create a page that includes both a field control from a Derived record for the annual amount, and an amount control for each accounting period. You then write PeopleCode to derive the amount per accounting period from the annual amount. When a user enters the annual amount in the Derived field control, PeopleCode calculates the amount per accounting period and inserts it into each accounting period field control. The annual amount isn't stored on the database, but the period amounts are.



For more information about creating derived/work records, see [Creating a New Record](#).

---

## Sensitive Data

You can allocate sensitive data to a single page. Then you can limit access to that page to the operators who need to update it. Alternatively, you can enter PeopleCode to hide certain fields on pages based on whatever criteria are appropriate. The page approach is simpler, however, and can be used in most situations.



For more information about hiding fields using PeopleCode, see [Hide](#).

---

## Hidden Pages

Hidden pages are work pages that are associated with derived/work records and are often used in work groups. You can store all your work field controls there. Create these pages when you want calculations to be performed in the background by PeopleCode that the user does not need to see. As a convention, PeopleSoft assigns work pages delivered with your application names that end with the suffix, “\_WRK”. We suggest you follow the same naming convention. For example,

MC\_TYPE\_WRK

You can hide a page by selecting the Hidden check box in the component grid as you set up the component definition.



For more information about hiding pages in a Component, see [Hidden](#) under Page Item Attributes.

---

## Maximizing Performance

Page definitions permit controlled access to application data. The system can validate the data, write it to the database, and then retrieve and display it upon request. Behind the scenes, the



Component Processor—the PeopleTools runtime processor—builds SQL statements based on the actions you perform on pages. The Component Processor manages the flow of data processing as users enter information on pages. The Component Processor issues INSERT, DELETE, and UPDATE statements to maintain data on the database and SELECT statements to retrieve data.



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For more information on how the Component Processor works see PeopleCode and the Component Processor.

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As you design your pages, you'll find that some features can adversely affect page performance. There's always a tradeoff between eliminating a useful feature and speeding up page processing. Here are some guidelines when trying to improve page performance.

1. Be judicious about references to record definitions other than the primary record definition under each scroll. References to other record definitions can include:
  - Related display controls
  - PeopleCode references (such as edits and defaults) to other records
  - Defaults to fields on other record definitions
  - Field controls on derived/work records
2. Put the field control on the appropriate derived/work record rather than on a regular data record definition to derive its value. For example, FTE (Full-Time Equivalent), on the JOB record definition would be moved to the DERIVED\_HR derived/work record, because its value is derived by the system.
3. Use as few record definitions as possible in a component. When you call up a page in a component, the system loads all record buffers from the entire component into buffers.
4. Do not remove table edits to improve performance, even though an edit against another table causes a short pause. Eliminating them may compromise data integrity.
5. Frames, scroll areas, scroll bars, grids, and group boxes all create HTML tables, which, in some browsers, may slightly degrade the performance of your system. Be judicious about the number of these types of controls that you use on a page.
6. Apply Deferred Processing Mode when possible to fields, pages and components.

---

## Effective Dates and Level-Based Controls

EFFDT must be the *only* key field controlled by level-based controls that you create to help users maintain multiple occurrences of data keyed by Effective Date. Otherwise the effective date processing for update actions will not function correctly.



## Upgrade Considerations

If you customize a PeopleSoft application, you may affect your use of future PeopleSoft releases. The closer your PeopleSoft system is to the standard product, the easier your upgrades will be. Avoid superfluous or cosmetic changes to data structures in the standard product. Document all your changes in the comment area on the General tab of the Page Properties.

## Accessing PeopleCode within Page Definitions

Page fields are associated with a specific record field. You can access the PeopleCode for that record field from the page field in the page definition. You might add PeopleCode to a field to achieve a variety of tasks, ranging from real-time editing of fields to altering the appearance of fields on a page. You can also associate PeopleCode with a component, a component record, and a component record field. For more information, see Understanding PeopleCode and Events.

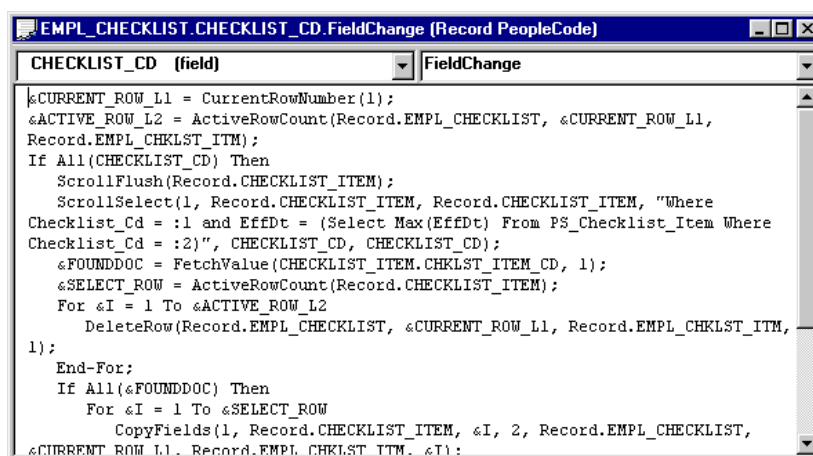
To edit or add record field PeopleCode through a page definition

1. Open the page to edit.

Select **File, Open** to open the page definition through which you want to access PeopleCode.

2. Edit or add PeopleCode for the page.

Right-click on a page field and choose **View Record PeopleCode** from the pop-up menu, or select **View, View Record PeopleCode**. The PeopleCode Editor opens, giving you access to all the PeopleCode for the record that owns that field.

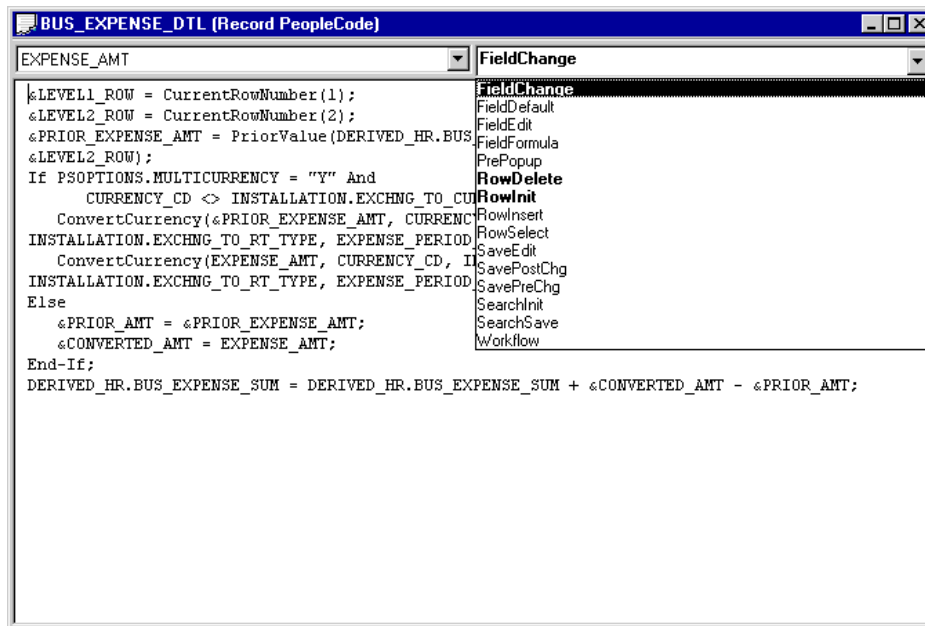


Editing PeopleCode

3. Select the PeopleCode **Event Type** from the drop-down list in the PeopleCode Editor.

You can also select other fields in the primary record from that drop-down list.





Adding PeopleCode

#### 4. Save your changes.

Click the **Save** toolbar button or **Select File, Save**. This action closes the PeopleCode Editor and returns to the page. See Using the PeopleCode Editor for more information.

## Page Production Steps

If you are making changes to pages or deleting controls in the page definition use the tools in the Edit and File drop-down menus. To avoid making changes that might adversely affect your application database, review your plans with your Database Administrator. Together you can evaluate the impact your actions might have on your system database as a whole.

There are several additional steps in the page design process that will help make future editing of page definitions easier.

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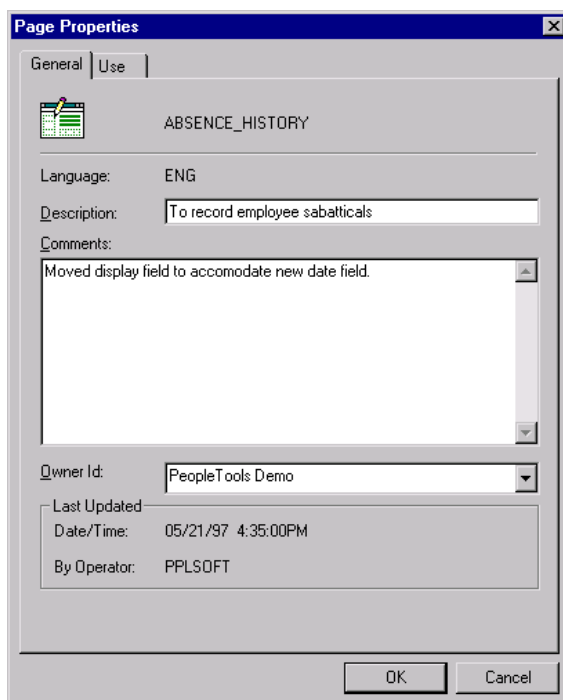
### Setting Page Properties

Once you have designed your page, you'll need to set the attributes for how your page will function. You'll also want to make sure you have the proper documentation to enable future ease of use and assist you when performing upgrades.

### Changing General Page Information

Use the General tab on the Page Properties dialog to document the page. Enter both short and long descriptions of the page here. You can also document what changes have been made, or need to be made, to a page. In page definition mode, simply select File, Object Properties, or press ALT+ENTER.





Page Properties – General tab

## Changing Page Use Information

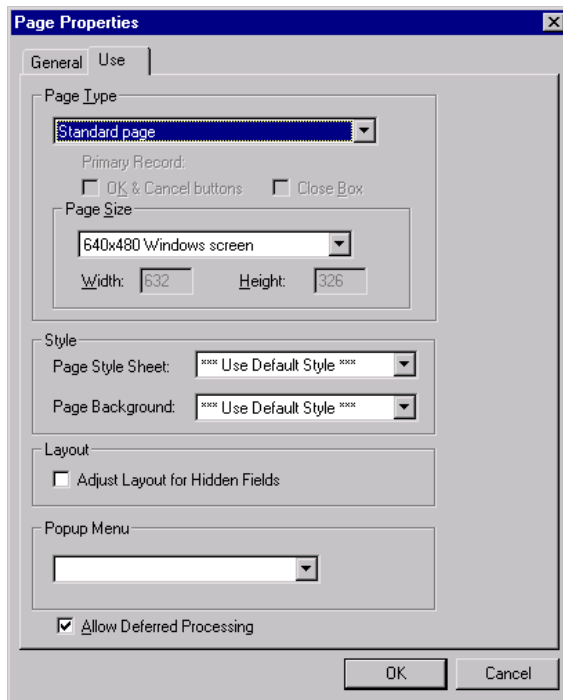
Depending on how you plan to use the page in your system, you might want to define page Use attributes in addition to individual page controls. You might also want to change the default page size and style.

To change page type, size, or style

1. Select File, Object Properties, or press ALT+ENTER.

Use this dialog to change the page type, size, or style.





Page Properties - Use tab

## 2. Select a **Page Type**.

Use the standard page, or select a subpage or a secondary page from the drop-down menu. See Subpage Control or Secondary Page Control for more information.

## 3. Select the appropriate **Page Size**.

To accommodate different types of workstation monitors, you can adjust the page size. The default Page Size setting is **800x600 page inside portal**. This is the standard page size that you would most frequently use for creating standard pages in Application Designer.

### **800x600 page inside portal**

The standard option for viewing pages in the portal, making room for the Universal Navigation Header and the breadcrumbs. It gives you a default page size of 570x330 in Application Designer.

### **800x600 page without portal**

The standard option for viewing pages in menu navigation mode, making room for the navigation header and the breadcrumbs. This option gives you a default page size of 760x330 in Application Designer.

### **1024x768 page without portal**

For the power user, this is a hi-resolution option. It gives you a default page size of 984x498 in Application Designer.



<b>240xVar portal home page comp.</b>	Use only for creating pagelets for the portal. This size is most usable because it can be viewed in both the narrow area and the wide area of the portal. While the width is set to 240, you can set the height. For more information see Developing Pagelets.
<b>490xVar portal home page comp.</b>	Use only for creating pagelets for the portal. This size can only be displayed in the wide area of the portal. While the width is set to 490, you can set the height. For more information see Developing Pagelets.
<b>640x480 Windows screen</b>	Only for windows client users. Designed for VGA resolution. The pages are actually less than 640x480 pixels in size in Application Designer, because they allow space for various windows items, such as the window title, menu bar, and toolbar.
<b>800x600 Windows screen</b>	Only for windows client users. Designed for Super VGA resolution. These pages also allow space for the window title, menu bar, toolbar, folder tabs, and status line, as well as space at the bottom for the taskbar.
<b>Custom size</b>	If you want to set a specific page size other than those listed above, choose custom size and set the width and height manually.

4. Select a **Page Style Sheet** and a **Page Background** from the drop-down menus.

**Page Style Sheet:** Select a style sheet from the dropdown list. Choosing a different style sheet for a specific page will override the style sheet selected for the application. If you do not choose a different page style sheet (keeping **\*\*\*Use Default Style\*\*\***), the system uses the style sheet specified on the PeopleTools Options page.

**Page Background:** Choosing a different Page Background style class for a specific page will override the background style of the Page Style Sheet you just specified. If you keep the **\*\*\*Use Default Style\*\*\*** in Page Background, the background of this page will be determined by the default background of the Page Style Sheet you just specified.



For more information about Style Sheets and page backgrounds see Creating Style Sheet Definitions.

---

5. Select Adjust Layout for Hidden Fields in the Layout area.

This will set the page to resize automatically when hidden fields are present.

6. Select a **Popup Menu** from the drop-down menu.



To set a pop-up menu see Defining Pop-up Menus.

7. Clear **Allow Deferred Processing** if you want the page and all its fields to follow standard processing.

Deferred Processing is the default. For more information see Deferred Processing Mode.

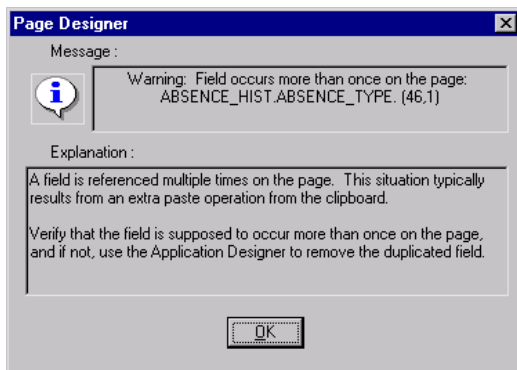
---

## Saving, Renaming, and Deleting Pages

### Saving Pages

To save your work, select **File, Save** or **File, Save As**.

When you save your page, the system performs various edits and issues warning messages as appropriate. The warning explains any errors associated with each control. You can disregard these messages and save your work anyway, but you won't be able to view the page in the browser until all the errors are corrected.



Invalid page warning box

Access the Explanation of an error message by clicking the **Explain** button in the Page Designer dialog box. You can fix the problem immediately or save the page and return later to correct it.

### Renaming and Deleting Pages

If you rename a page, the change ripples throughout the system, including PeopleCode, so you don't have to change the name anywhere else.

If you want to delete a page, particularly a subpage or a secondary page, first use Find Object References to determine which page, component, and menu definitions refer to or use the page you want to delete. You must adjust those definitions accordingly.



For more information, see Finding Object Definitions.

---



To rename a page

1. Select **File, Rename**.
2. Select the file you want to rename.

To do this select **Page** from **Object Type**. Type the first several letters of the page you want to rename in the **Name** edit box, under **Selection Criteria**.

3. Click the **Rename** button.

The **Page Name** will appear in the **Objects matching selection criteria** list box.

**Rename Object**

Object Type:

Selection Criteria

Name:  Project:

Description:  Language:

Type:

Objects matching selection criteria:

Name	Type	Description	Language
ABSENCE_HISTORY	Standard ...		ENG

1 object(s) found

Rename Object dialog box

4. Enter a new page name.

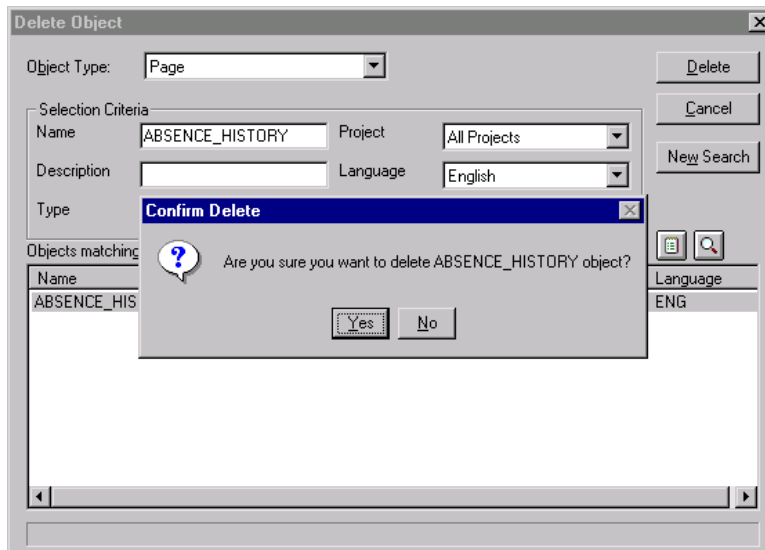
Your page name should begin with a letter and contain no more than 18 characters.

To delete a page

1. Select **File, Delete**.
2. Delete your page.

Enter the page to be deleted, and click the **Delete** button. The **Confirm Delete** dialog box will appear. Now, click the **Yes** button.





Confirm Delete prompt


---

## Printing Page Definitions

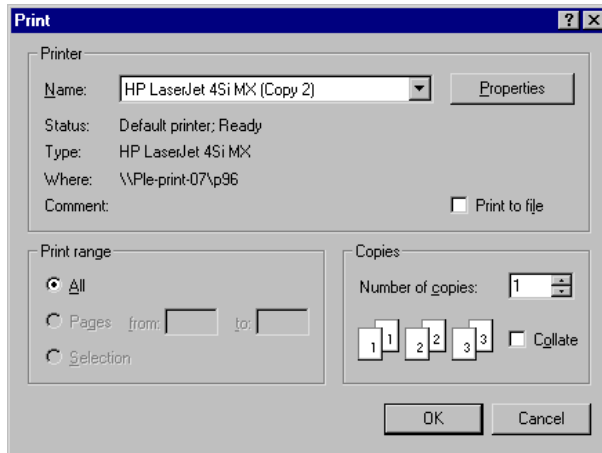
To keep track of your application definitions and refinements, it's a good idea to print your page definitions and keep a log or binder with your new and revised pages as you reconfigure your applications. You might want a reference for each page that includes both the onscreen image and the page control information (the record definitions and special uses or edits you've applied).

Printing page definitions also helps you debug during testing. Each report includes a unique identifier that's automatically incremented by the system each time you make a change to the page.

To print a page definition

1. Open the desired page.
2. Click the  **Print** button on the toolbar, or select **File, Print**.



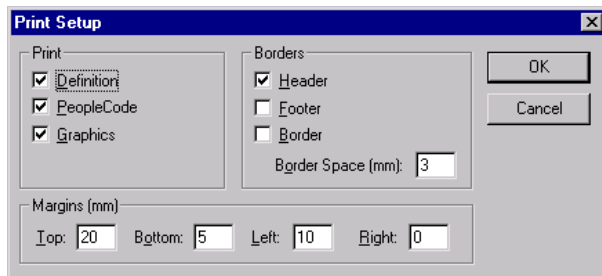


Printing page definitions

To alter the page setup

### 1. Select **File, Print Setup**

The **Print Setup** dialog box appears.



Print Setup dialog box

### 2. Select the desired print options and click **OK**.

The default is “On” for all the Print options. The **Definition** option prints the list of fields on the page and all the parameters you’ve set for each one. If you use PeopleCode to design your page, select the **PeopleCode** option. The **Graphics** choice provides a snapshot of your page design. Graphics generally take longer to print than page descriptions or PeopleCode reports.

Use the remaining fields to change the print parameters. PeopleSoft has selected the HP LaserJet as the default printer.

#### **Border**

Prints a border or box around a page report. The default is off.



<b>Header</b>	Prints a header at the top of the report indicating the date and time you printed the report, database name, page name, version number, and page number. The default is on.
<b>Footer</b>	Prints a footer at the bottom of the report indicating the date and time you printed the report, database name, page name, version number, and page number. The default is off.
<b>Border Space(mm)</b>	Inserts a set amount of space between a graphical border around the page report and the margins of the report. Turn off this option to print in character mode (faster) rather than in graphics mode (slower). The default space is 3mm, but can be changed.
<b>Margins(mm)</b>	Sets the distance from the edge of the page to the Left, Right, Top, and Bottom edges of the page image or report. The defaults are: Top 20mm, Bottom 5mm, Left 10mm, and Right 0mm.

## Reading Your Page Definition Report

The following table lists the columns on the page definition report and describes their contents.

<b>Column</b>	<b>Contents</b>																
Num	A sequential number that shows the relative position of the field in the page's field order list.																
Field Type	The field type, such as Edit Box.																
Label Text	The label that's associated with the field—regardless of whether the label is actually displayed on the page.																
Label Type	<table> <tr> <th><u>Label type</u></th><th><u>Description</u></th></tr> <tr> <td>None</td><td>Label is not displayed on the page.</td></tr> <tr> <td>Text</td><td>Text label.</td></tr> <tr> <td>RFT Long</td><td>Long name for the field (from record definition).</td></tr> <tr> <td>RFT Short</td><td>Short name for the field (from record definition).</td></tr> <tr> <td>XLAT Long</td><td>Long name for the value (from the Translate Table).</td></tr> <tr> <td>XLAT Short</td><td>Short name for the value (from the Translate Table).</td></tr> <tr> <td>Bitmap</td><td>Bitmap displays on button face.</td></tr> </table>	<u>Label type</u>	<u>Description</u>	None	Label is not displayed on the page.	Text	Text label.	RFT Long	Long name for the field (from record definition).	RFT Short	Short name for the field (from record definition).	XLAT Long	Long name for the value (from the Translate Table).	XLAT Short	Short name for the value (from the Translate Table).	Bitmap	Bitmap displays on button face.
<u>Label type</u>	<u>Description</u>																
None	Label is not displayed on the page.																
Text	Text label.																
RFT Long	Long name for the field (from record definition).																
RFT Short	Short name for the field (from record definition).																
XLAT Long	Long name for the value (from the Translate Table).																
XLAT Short	Short name for the value (from the Translate Table).																
Bitmap	Bitmap displays on button face.																
Record Name	The record name where the field is located.																



<b>Column</b>	<b>Contents</b>
Field Name	The field name on the record definition with which the page field is associated.
Siz	Field Size (custom, minimum, or maximum)
Alg	Alignment (left, right)
On	The value of the radio button or the on value of the check box (typically Y).
Off	The value of the radio button or the off value of the check box (typically N).
DSP	Yes indicates a Display Only field.
INV	Yes indicates an Invisible field.
CTL	Yes indicates a Display Control field.
REL	Yes indicates a Related Display field.
RelNum	The number (Num column) of the display control field for this related display field.
CUR	Yes indicates a Multi-Currency field that will not display unless the user is operating in multi-currency mode.
DER	Yes indicates a field from a derived/work record.
OccLvl	The Occurs Level of scroll bar that governs this field.

You might see additional reference lines below each field or at the end of the report:

<b>Reference</b>	<b>Description</b>
Page Help Context: nnn	Indicates the page has been assigned a page help context number, linking it to a help file that describes how the field is used, wherever it appears in the database.
Field Help Context: nnn	Indicates this field as used on this page has been assigned a record field help context number, linking it to a help file that describes how the field is used, only as it appears in this record definition.



## CHAPTER 7

# Creating Component Definitions

Components are the bridge between pages and menus. Once you have created your pages, you must add them to one or more components in order to use them on menus or in business processes. In this section you'll learn how to use Application Designer to create components in PeopleSoft applications.

## Understanding Component Definitions

A component represents a complete business transaction. It can be composed of either a single page or a set of pages that should be processed as they were one. Think of it as working through a transaction in several displays.

Component definitions control:

- The grouping of pages and their associated tab labels.
- The search record used to retrieve data into the page.
- Access keys for folder tab navigation.
- Hyperlinks at bottom of page.
- Toolbar

The component definition and the menu definition combine to create a pathway to and data context for your page. After you have created a page, you must always add it to a component before you can associate it with a menu.



Display of Component at Runtime

If a component contains more than one page, you can choose which page will appear first by the order that you set within Application Designer. By clicking on the **Folder Tabs** you can go directly to the page of your choice. You can click on the Folder Tabs at the top, the **Hyperlinks** at the bottom of the page, or the specified **Access Keys** to navigate between the pages of a component.



For more information about menu definitions see Creating Menu Definitions.

## Understanding Components and the Component Buffer

When you're running an application and you open any page in a component, the system retrieves all data records for the entire component and stores them together in the same set of record buffers, organized by scroll level, then by page level. This *component buffer* consists of rows of buffer fields that hold data for the various records associated with *page* controls, including the primary records, related display records, derived/work records, and translate table records.

The records in memory can be changed either through the user actions on the *page* or through PeopleCode associated with different *page* controls. Because all the information in a component goes together, it is stored as a single unit of work. At runtime, you are opening and saving the entire component, not individual *pages*. When you save any page in the component, you automatically save the whole component.



For more information about scroll levels and buffers, see Referencing Data in the Component Buffer.



## Setting Up Components

When you are designing pages of a component, remember that the pages should share the same basic key structure—as they will all share the same search record.

Depending on the complexity of the component, the system may take longer to initially display its first page than it will take to display other pages in the component (or even redisplay the first page) because it is loading records for the entire component. For instance, if the system must retrieve records from several large tables as well as numerous records for related display fields and fields used in PeopleCode, it could take a few moments.

Here's how a component is displayed at runtime:

Component Example with Two Pages

The component appears as a page with folder tabs (**Emergency Contact 1** and **Emergency Contact 2**). This component may also contain hidden (invisible to the user) pages, used for PeopleCode calculations. Note that each page in the component can be accessed using the folder tabs (with its name) at the top, or hyperlinks at the bottom.

To create a new component definition

1. With a new or existing project open in Application Designer, select **File, New** and double-click **component** in the **New** dialog.

The new **component** definition appears in the object workspace.

To open an existing component definition

1. Select **File, Open** to bring up the Open Object dialog box. Select **Component** as the Object Type and specify the selection criteria.



The **component** definition appears in the object workspace.



For more information about using the Open Object dialog box, see Opening Object Definitions.

## Component Definition Window

The component definition window has two tabs, Definition and Structure, which provide two distinct and different views of a component.

### Definition Tab

The default component definition view displays the page items and corresponding attributes that make up a component definition.

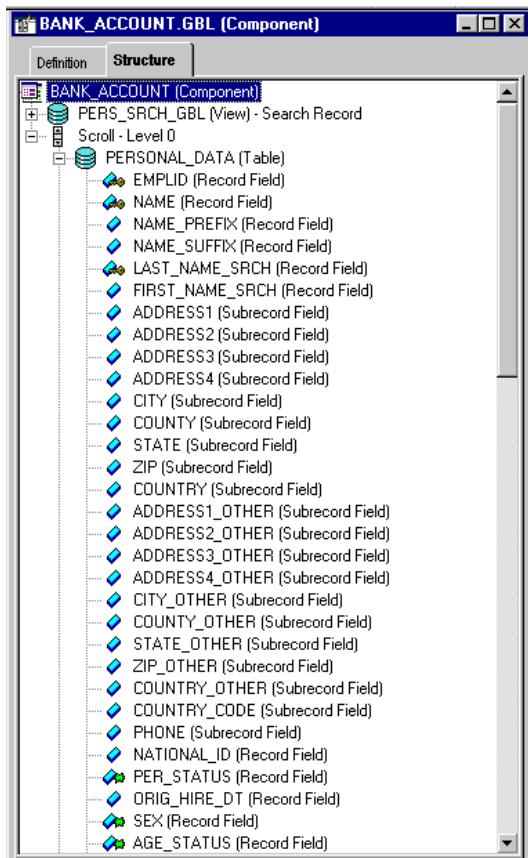
	Page Name	Item Name	Hidden	Item Label	Folder Tab Label	Allow Deferred Processing
1	BANK_ACCOUNT	BANK_ACCOUNT	<input type="checkbox"/>	Bank Account		<input checked="" type="checkbox"/>
2	BANK_ACCOUNT_	BANK_ACCOUNT_FRA	<input type="checkbox"/>	Bank Account FR	France	<input checked="" type="checkbox"/>
3	BANK_ACCOUNT_	BANK_ACCOUNT_UK	<input type="checkbox"/>	Bank Account UK	UK	<input checked="" type="checkbox"/>

Component Definition View

### Structure Tab

Clicking on the Structure tab reveals the component definition Structure View. This display shows records and scrolls in a tree representation. Like the Development View tree in the Project Workspace, you can double-click on the components in this view and open their definitions.





Component Structure View

You can view the PeopleCode attached to any of the components by right-clicking and selecting the **View PeopleCode** menu option. The PeopleCode Editor will open directly into the Object Workspace, displaying the related PeopleCode.

A **Key Icon**  appears next to all **Key and Alternative Search Key** fields within the component structure view. Likewise, an **Asterisks Icon**  appears next to all fields that are **Required**.


---

## Adding Pages to Components

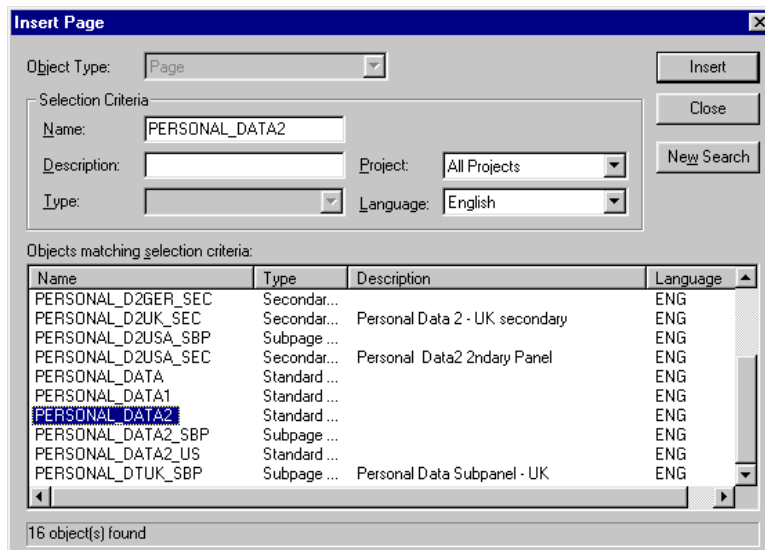
There are two ways to insert a page into a component

- Using the Insert menu
- Dragging and dropping a page definition

To add a page to a Component using the Insert menu

1. Open a new or existing component in the **object workspace** and make the **Definition** active.
2. Click the **Insert Page** button  on the toolbar, or select **Insert, Page into Component**.





Insert Page Dialog

- To narrow your search, enter selection criteria such as **Name**, **Description**, **Project**, and click **Select**.

A list of available pages matching your search criteria appears.

- Select the page you want to add to the component and click **Select**.

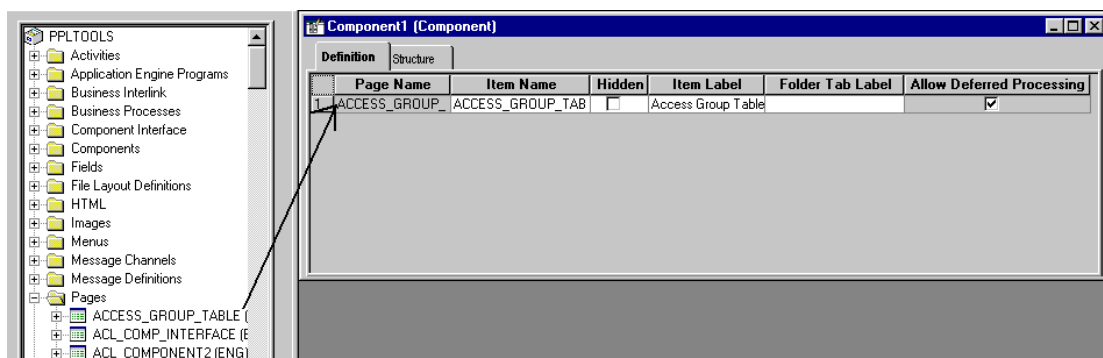
The page you selected appears in the component in the object workspace.

- When you are finished adding pages to your component, click **Close** in the **Select Page** dialog, then save your component.

Component names can be up to 18 characters in length.

To add a page to a component using drag and drop

- Open your project and your component.
- Drag pages from the project workspace to the component.



Dragging and Dropping from the Project Workspace to a Component



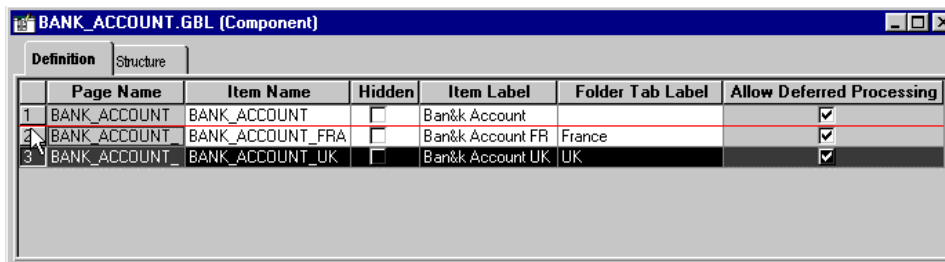
## Reordering Pages within a Component

After you have added pages to your component, you may want to change the order in which they appear in the component by using drag and drop.

To reorder pages in a component using drag and drop

1. Click on a row number on the far left side of the component definition.
2. Click that line again and hold the left mouse button to drag the rectangle to the correct position.

A page being dragged will be inserted immediately below the red line. In the following example, the third page (UK) will become the second.



	Page Name	Item Name	Hidden	Item Label	Folder Tab Label	Allow Deferred Processing
1	BANK_ACCOUNT	BANK_ACCOUNT	<input type="checkbox"/>	Bank Account		<input checked="" type="checkbox"/>
2	BANK_ACCOUNT	BANK_ACCOUNT_FRA	<input type="checkbox"/>	Bank Account FR	France	<input checked="" type="checkbox"/>
3	BANK_ACCOUNT	BANK_ACCOUNT_UK	<input type="checkbox"/>	Bank Account UK	UK	<input checked="" type="checkbox"/>

Example of Moving a Page within a Component

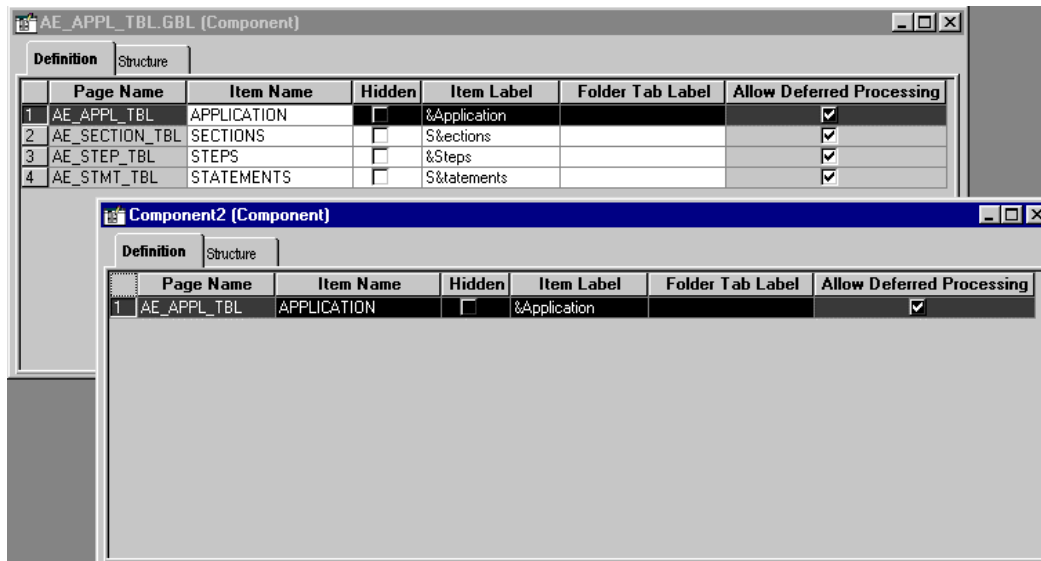
## Copying or Moving Pages from one Component to Another

After you have created a component, you may decide to copy some of the pages from one component to the other; or, you may decide to move a page.

To copy a page from one component to another

1. Open both components.
2. Select the page item you want to copy by clicking on the number of the item.
3. Either select **Edit, Copy** or press **Ctrl+C**.
4. Click on the other component.
5. Either select **Edit, Paste** or press **Ctrl+V**.





Copying Page Items from one Component to Another

To move a page from one component to another

1. Open both components.
2. Select the page item you want to by clicking on the number of the item.
3. Either select **Edit, Cut** or press **Ctrl+X**.
4. Click on the other component.
5. Either select **Edit, Paste** or press **Ctrl+V**.

---

## Page Item Attributes

Each page (or item) in a component has different attributes. Each attribute is represented by a column in the component definition.

### Page Name

This column contains the name of the page definition. It is read-only. If you rename the page, this column will be updated automatically.

When you are creating your page definitions, you may want to give them similar names to make them easily recognizable as a “group” of pages. For example, if you create three pages to hold all the information for your Personal Data Table, your page names could be:

PERSONAL\_DATA1

PERSONAL\_DATA2

PERSONAL\_DATA3



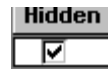
## Item Name

This column contains a name for each item (page) in the component. This name must be unique within the component. The default value is the page name. This name is for informational purposes only. If you use the same page on more than one component, you might want to change the Item Name to more closely reflect the purpose of the page within the component.

## Hidden

This column specifies whether the page can be viewed by the user at runtime. Pages are usually hidden when used in work groups, or associated with derived/work records. The page's information needs to be loaded into the buffer in order for PeopleCode to perform calculations, but the user does not need to see it.

To hide pages from the user's view



1. Click the hidden checkbox in the component definition

PERSONAL_DATA1.GBL (Component)						
Definition		Structure				
	Page Name	Item Name	Hidden	Item Label	Folder Tab Label	Allow Deferred Processing
1	PERSONAL_DATA	PERSONAL_DATA_1	<input type="checkbox"/>	&Personal Data 1		<input checked="" type="checkbox"/>
2	PERSONAL_DATA	PERSONAL_DATA_2	<input type="checkbox"/>	&Personal Data 2		<input checked="" type="checkbox"/>
3	SCRTY_TBL_GBL_	SCRTY_TBL_GBL_WR	<input checked="" type="checkbox"/>	ScrtY Tbl Gbl Wik		<input checked="" type="checkbox"/>

Component Containing Three Pages

In the above example, only the first two pages will display to the user. The third page will be hidden.

## item labels

The **Item Label** serves as the default folder tab label unless a different **Folder Tab Label** is specified. The Item Label should be unique for each page within a single component menu. The Folder Tab Label is usually used when shorter names are needed to keep the display down to one row of folder tabs.

In the following example, for the first page in the component, the same text will appear on both the Folder Tab and the component menu. The second and third pages will have different menu names and folder tabs.

BANK_ACCOUNT.GBL (Component)						
Definition		Structure				
	Page Name	Item Name	Hidden	Item Label	Folder Tab Label	Allow Deferred Processing
1	BANK_ACCOUNT	BANK_ACCOUNT	<input type="checkbox"/>	&Bank Account		<input checked="" type="checkbox"/>
2	BANK_ACCOUNT_	BANK_ACCOUNT_FRA	<input type="checkbox"/>	Bank Account &FR		<input checked="" type="checkbox"/>
3	BANK_ACCOUNT_	BANK_ACCOUNT_UK	<input type="checkbox"/>	Bank Account &UK		<input checked="" type="checkbox"/>

Component Item Label and Folder Tab Label



At runtime, the user can navigate from page to page by pressing the **Alt** key, plus the letter that is underlined, and **Enter**.

## Allow Deferred Processing

The Allowed Deferred Processing column status indicates whether deferred processing has been turned off or on at the Page Properties level. It is read-only.



For more information on deferred processing, see Deferred Processing Mode in Creating Page Definitions and Deferred Processing Mode in PeopleCode.

## Folder Tab Label

This column contains the text that will appear on the folder tab label. If no text is specified, the text of the Item Label will be used on the folder tabs.

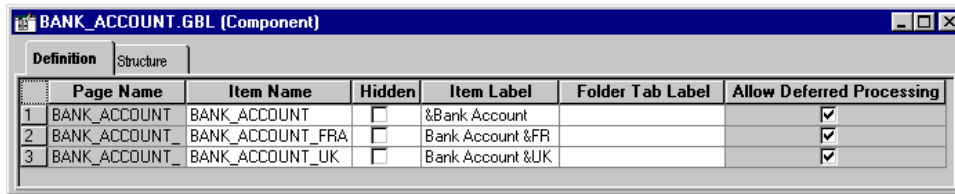
In the following example, the Item Label has been set to **Bank Account &FR**, while the Folder Tab has been set to **France**

Component with Three Folder Tabs and Item Label

## Access Keys

Access keys, designed for folder tab navigation, can be specified by placing an ampersand (&) in the text of each item label. The ampersand is put in front of the letter that you want to have underlined at runtime on the folder tab and that may be used as the access key.

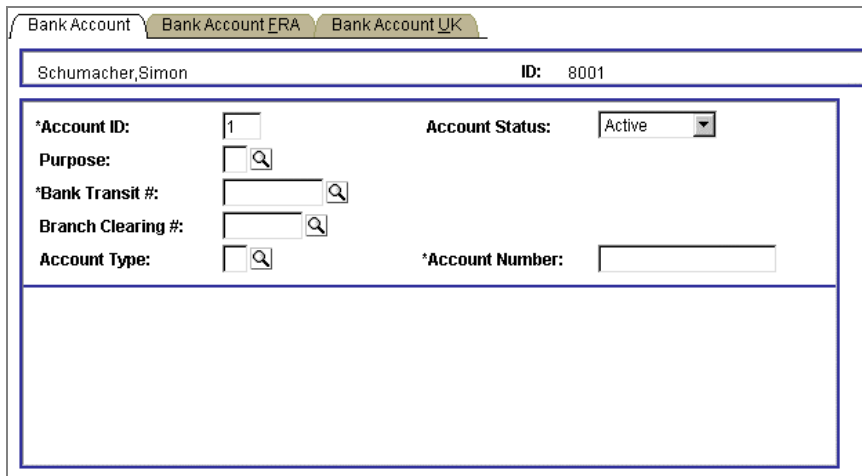




	Page Name	Item Name	Hidden	Item Label	Folder Tab Label	Allow Deferred Processing
1	BANK_ACCOUNT	BANK_ACCOUNT	<input type="checkbox"/>	&Bank Account		<input checked="" type="checkbox"/>
2	BANK_ACCOUNT_	BANK_ACCOUNT_FRA	<input type="checkbox"/>	Bank Account &FR		<input checked="" type="checkbox"/>
3	BANK_ACCOUNT_	BANK_ACCOUNT_UK	<input type="checkbox"/>	Bank Account &UK		<input checked="" type="checkbox"/>

Example of Ampersands (&) placed in Item Label text

At runtime, the user can navigate from page to page by pressing **Alt**, plus the letter that is underlined, and then **Enter**.



Bank Account    Bank Account &FRA    Bank Account &UK

Schumacher, Simon      ID: 8001

\*Account ID:       Account Status:

Purpose:

\*Bank Transit #:

Branch Clearing #:

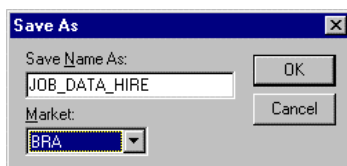
Account Type:       \*Account Number:

Underlined Access Keys on Folder Tabs

## Market-Specific Components

There may be times when you want to add custom functionality to a component that is specific to an international market or region.

For example, suppose that a page is used as part of a procedure for hiring new employees, and that the procedure includes special transactions that are required only when an employee is hired in Brazil. You can create a custom component, using the same component name as the component from which it is derived, and save it using a Market setting of **BRA**.



Save As

Save Name As:     OK

Market:     Cancel

Component Saved with BRA Market Setting

Market-specific components are independent of system-side language settings, and are accessible to any operator who has security access to the component. This makes it possible for an English-



speaking operator in New York, for example, to perform a procedure for hiring an employee in Brazil.

The Market setting of a component can be accessed using the PeopleCode **%Market** system variable. This makes it possible to maintain a single set of PeopleCode programs for a set of market-specific components, and build conditional logic into the PeopleCode programs that executes only in components that have specific Market settings.



For more information see %Market.

---

## Finding Where a Component Is Used

The Find Object References feature lets you generate a list of all the menus in the database that reference a specific component; that is, a list of all the menus where the component is used. You can invoke this feature from either the project workspace or the object workspace.



For more information about Find Object References, see Finding Object Definitions


---

## Setting Component Properties

The properties for the component object is accessed through the component Properties dialog. Here you will specify update and data entry actions, and search records information on the Use tab. You can also save notes about the functionality of the component on the General tab.

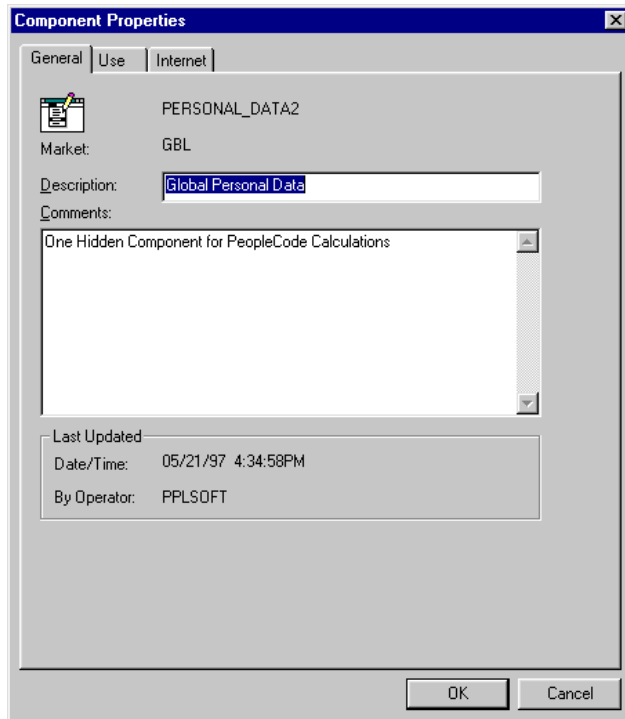
To open the Component Properties dialog

1. Open the component definition you are interested in.
2. Open the **Component Properties** dialog using one of the following methods:

- Click on the **Properties** button  on the toolbar,
- Right-click the component definition and select **Component Properties** from the pop-up menu,
- Select File, Object Properties, or
- Press Alt+Enter.

The **Component Properties** dialog appears, with the **General** tab active.





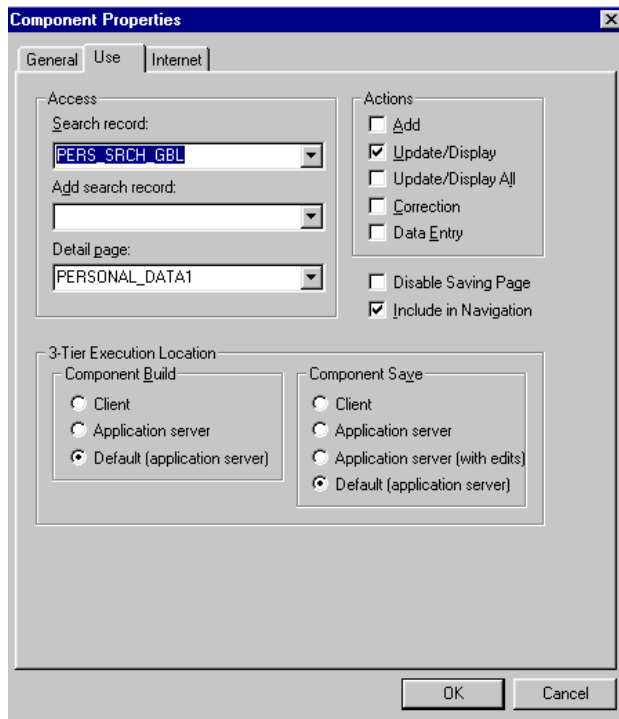
Component Properties Dialog, General Tab

On the General page you can enter a narrative description of the component. You can also add notes regarding functionality and any modifications you've made in **Comments**. The **Last Updated** section shows the date and time of the last modification made to the component, as well as the name of the operator (User ID) who made the modification. The **Description** edit box is an optional title reference for yourself.

3. Click the Use tab to see the Use page of the Component Properties dialog.

The **Use** tab appears.





Component Properties Dialog, Use Tab

The **Use** page is where you'll choose actions, specify search records and detail pages for this component. **Include in Navigation** is set **On** by default; to set whether the component is included in the **Menu Navigation** at runtime, or not.

The **Disable Saving Page** check box can be set **On** for when you want to hide the Save button in the Toolbar. This prevents the user from being prompted to save when exiting a page. It doesn't prevent using PeopleCode to save a page (by way of the DoSave() or DoSaveNow() functions). This can be helpful for applications where the user isn't making any database changes, and therefore doesn't need to be prompted to Save.

4. Click the **Internet** tab to see the **Internet** page of the **Component Properties** dialog.

The **Internet** tab appears.



Component Properties, Internet Tab

The Internet Tab is where you set the various attributes that affect how the component will display in the browser at runtime.

---

## Search Page

### Primary Action

Primary Action set to Search

The **Primary Action** controls the mode by which the associated page is accessed. If set to **New**, the user will default into Add mode. If set to **Search**, the user will default into the action specified in the **Default Search Action** drop down list.



Search Page for Job Data Component

Setting the **Primary Action** radio button to **New** is for adding information only. As in this example of adding a new Hire:

Add Page for Hire Component

## Default Search Action

The **Default Search Action** drop down provides the choices that you set in the **Actions** box on the **Use, Components Properties** tab. If you only checked one action, then the drop down will only give you that choice as the default. The Default Search Action determines what the user will automatically be presented with, but they are free to choose another from the toolbar at runtime.

## Default Search/Lookup Type

The **Default Search/Lookup Type** radio buttons can be set to the default of **Basic** or **Advanced**. If you set the radio button to **Advanced**, then the Advanced search page will be the default page that initially displays instead of Basic. The Basic Search page searches on Primary Key(s) only, whereas the Advanced search page can be set to search on a combination of primary keys and alternate search keys.

## Allow Action Mode Selection

**Allow Action Mode Selection**, which is on by default, enables the display of **Include History** and **Show Correction** selections on a search page. If the default search mode on a search page is set to **Update/Display**, then both **Include History** and **Show Correction** checkboxes will automatically be off. If **View History** is selected on a search page, you will enter in **Update/Display All** mode. If **Include History** is selected, you will enter in correction mode. It is important to note that if **Include History** is checked then **View History** will automatically be checked. Both of these checkboxes only appear if **Update/Display All** and **Correction** are valid modes for the component.



Turning off **Allow Action Mode Selection** disables this behavior.

Search Page with Include History and Correct History

## Instructional Messages

Instructional messages for the Search and Add pages are specified on the **Component Properties, Internet** tab. The Link To Access Add Page, Link To Access Search Page, and Instructional Text can all be set from here.

Link To Access Add Page --	Message Set/Nbr:	124	62
Link To Access Search Page --	Message Set/Nbr:	124	63
Instructional Text --	Message Set/Nbr:	124	50

Message Set/Nbr Settings

Message Sets and Number settings are pulled from the PeopleTools Message Set Catalog.

To access the Message Set Catalog

1. Go to PeopleTools, Utilities, Use, Message Catalog.
2. Select Message Catalog.
3. From the Search Page, enter the **Message Set Number** you want to access.
4. Press **Search** to access a **Message Catalog** page.

For example, this Message Catalog shows “**Find an Existing Value**” as the message for Message Set “124” and Message Number “50”.



Message Set Number 124/50 from Message Set Catalog

If you want to display the message “Find an Existing Value” for a Search page,

- Put in the Message Set/Nbr: **124** and **50** on the **Component Properties, Internet** tab, in order to get the following search page message to display.

Find an Existing Value message on Search Page

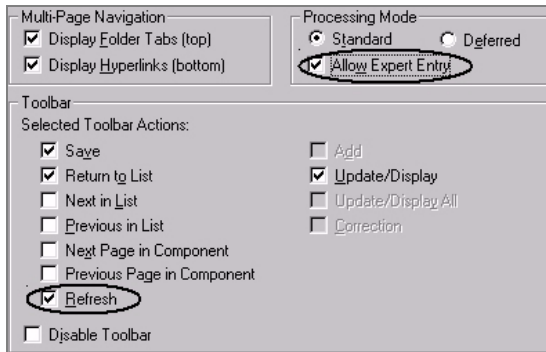
## Processing Mode

You have the ability to set the Processing Mode for the component to be in either standard processing mode, the default, or deferred. In standard mode, a trip to the application server happens whenever logic needs to run during a transaction from the component. Whereas Deferred Processing Mode limits the trips to the server, thereby increasing the efficiency and speed of processing transactions. For more information on processing modes, see Page Processing in Creating Page Definitions.

### *Standard Processing Mode*

Standard processing mode in the Components Internet Properties dialog is the default. In standard processing mode, server trips occur whenever logic needs to run, plus other events like clicking on a push button, icon, or a hyperlink. In standard mode, when the user tabs out of a field level event, a trip to the app server is performed to execute that field level event and the page is redisplayed.





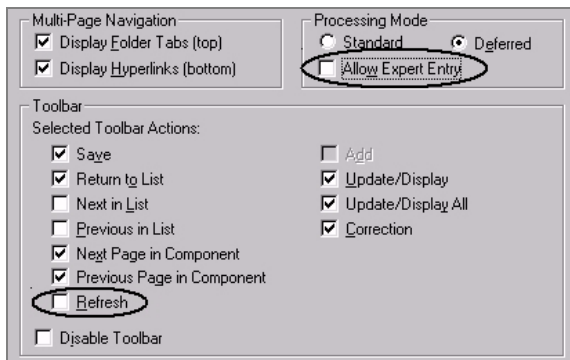
Default Standard Processing Mode

In both processing modes, the **Allow Expert Entry** checkbox is available. If selected, it will cause an Expert Entry checkbox to appear on the bottom of all the pages in the component at runtime. This is only available for users who have security enabled for this mode. If the Expert Entry checkbox is clicked on by the user, it will turn off all automatic server trips, except buttons and hyperlinks. Expert Entry makes data entry go faster because all server trips are eliminated. However it can result in a less user friendly experience, because errors won't be reported until the user actually saves the page (or causes a server trip by pushing a button). One way for the user to cause a server trip without saving or doing an unwanted action is by clicking the Refresh button.

If Allow Expert Entry is selected, the **Refresh** toolbar check box then becomes enabled. The Refresh checkbox is intended for expert users that want to manually update their transactions at specific intervals.

### *Deferred Processing*

The alternative to standard processing is Deferred. Running in deferred mode reduces trips to the server, which improves online performance, and results in a more native web experience by processing data one page at a time. In Deferred mode, the Allow Expert Entry and Refresh checkboxes are both enabled.



Deferred Processing Mode

If the Allow Expert Entry checkbox is selected in Deferred mode, it will turn off all automatic server trips, except buttons and hyperlinks that initiate saves to the database.



## Expert Entry and Refresh

Below is an example of a component at runtime with Expert Entry selected and the Refresh button available to the user.

## Enabling Expert Entry through Security

In order to be able to get the **Expert Entry** check box to appear on the component at runtime, the Security administrator must enable it first in Maintain Security. Since Expert Entry can make a component more challenging to use, it is a good idea to leave it disabled for casual or inexperienced users.

Enabling Expert Entry through Maintain Security

1. Sign on to your PeopleSoft system in your browser.
2. Navigate from Home to PeopleTools, Maintain Security, Use, User Profiles.
3. Select the General Tab with the User ID that you logged in with.
4. Click on the Enable Expert Entry radio button, under General Attributes.
5. Press Save.



Home > PeopleTools > Maintain Security > Use > User Profiles [New Window](#)

General ID Roles Workflow Audit Administrator Links

User ID: PTDMO  
Description: Unger,Annette ☐ Account Locked Out?

**Logon Information**

Symbolic Id: sa1  
\*Password: \*\*\*\*\*  
\*Confirm Password: \*\*\*\*\*

**General Attributes**

Email ID:   
Language Code: English ☐ Multi Language Enabled?  
Currency Code:   
☒ Enable Expert Entry

**Permission Lists**

Navigator Homepage: ALLPANLS  [Explain](#) Primary: ALLPANLS  [Explain](#)  
Process Profile: ALLPANLS  [Explain](#) Row Security:  [Explain](#)

[General](#) | [ID](#) | [Roles](#) | [Workflow](#) | [Audit](#) | [Administrator](#) | [Links](#)

### Enable Expert Entry Checkbox in Maintain Security

This enables the Expert Entry button to appear on any components that you set the Allow Expert Entry on from the component properties, Internet tab.



For more information on deferred processing for components, see Allow Deferred Processing.

## Multi-Page Navigation

The display of Folder Tabs and Hyperlinks on the component page can be toggled off here by clicking on **Display Folder Tabs (top)** and **Display Hyperlinks (bottom)**.

## Toolbar

All of the component toolbar actions can be clicked on or off here. As in **Save**, **Return to List**, **Next in List**, and so on. If Update/Display is click on, the other actions of Add, Update/Display All, and Correction are grayed out. The entire Toolbar can be disabled by clicking off **Disable Toolbar**.



## Determining Access


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### Specifying Search Records

The Search Record controls access to rows of data in a table. The keys and alternate search keys from the Search Record will be presented to the user on the search page as choices of fields to search by. In addition, the Search Record might also contain logic to further refine the search as a way of securing rows of data. Row level security is implemented in this way.

The Search Record field populates the high-level key fields on a page (level 0 in a page definition). These key fields usually appear above a scroll or on the page, and are typically display only. The search record for a component may differ from any given page's primary record definition, and may contain any number of search keys, but it must contain all the keys for each page's main level 0 record.

To specify a new search record

1. Open or create a new component definition.
2. Click on the **Properties** button  on the toolbar or press **Alt+Enter**.

The **Component Properties** dialog appears.

3. Click the **Use** tab.
4. In the **Access** section, click the **Search record** drop-down list to see a list of all record definitions for SQL tables and views in your database.



**Tip:** To get a subset of search records, type a few characters first. The drop down list will then be populated with a list of all record definitions whose name begin with those typed characters. This will reduce access time and allow you to find specific records sooner.

---

5. Highlight the search record name to be used for this component.

All fields designated as search keys and alternate search keys in the search record are displayed in the dialog box that precedes the page when you run the application.

Several PeopleSoft applications are delivered with SQL views specifically set up to act as search records, or you can create your own.

When you're adding page items that are based on derived/work records, do not select that record definition as the search record. Instead, select a record definition that stores the primary key, or a SQL view that searches for the criteria that best enables users to identify the row they want to retrieve.

If you're customizing menus within an existing PeopleSoft application, the easiest way to decide which search record to use is to look at the other search records used on the same menu. Look for pages with similar key structures and then evaluate the search records to see



if any are suitable. You may want to print the PeopleTools Menu Listing cross-reference report XRFMENU to review which search records are used for pages, and gain a better understanding of how search records are assigned in your application.



For more information about PeopleTools cross-reference reports, see PeopleTools Cross Reference Reports.

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## Specifying Search Records for Add Actions

In some cases, you may want to specify a different search record specifically for Add actions. For example, if you have turned on the auto-numbering option for Employee IDs, you wouldn't want to include EMPLID in your search record. Likewise, you may want to create special security views for add actions that limit the rows operators can add based on specific search criteria.

To specify a search record for Add actions

1. Highlight the appropriate search record in the **Add Search Record** drop down list box to select a different search record for use with Add actions.

The system default will cause Application Designer to use the Standard Search Record you selected for the Add Search Record if you don't specify an Add Search Record.

---

## Overriding the Search Record

There are times when you may want to reuse a component, changing only its search record.

You can accomplish this by *overriding* the component search record at the time that the component is invoked from a menu. To override a component search record, you specify a different search record in the properties of the menu item that invokes the component. The component uses the override search record when it is invoked from that specific menu item; the search record set in the component properties remains unchanged.

By reusing components in this way you can limit redundancy, keeping your application smaller and easier to maintain.



For more information on overriding component search records see Overriding the Component Search Record and SetSearchDialogBehavior.

---



## Choosing Actions

There are several types of actions available for a component. You may choose to update data on a SQL table, and, in some cases, enable you to “add” a new row of data for an existing key. For example, when you add education data for an employee, you’re not adding a new employee ID—it already exists on the database. So you use an Update action to add a row for an existing employee ID.

### Update Action Types

There are five update action types:

<b>Action Type</b>	<b>Description</b>
Add	Used to add a new high level key, such as a new employee ID or a new customer. Except in the case of effective dating; Add is used to insert new current row or update future rows.
Update/Display	Used to update existing rows only.
Update/Display All	Used to update current and future rows in an effective dated record. Only used with effective dated records.
Correction	Used to update any rows (history, current and future) in an effective dated record. Only used with effective dated records.
Data Entry	Not supported in PeopleSoft Internet Architecture.


If you need to add a new high level key, such as a new employee number or a new customer, select both Add or Add and Update/Display. If you are adding information to an existing high level key, such as adding education data for an employee, select only Update/Display. You're not adding a new employee ID—it already exists on the database.

Update Display All and Correction are only valid for records with effective dated rows. Do not use these actions unless the main record associated with the page definitions is effective dated.

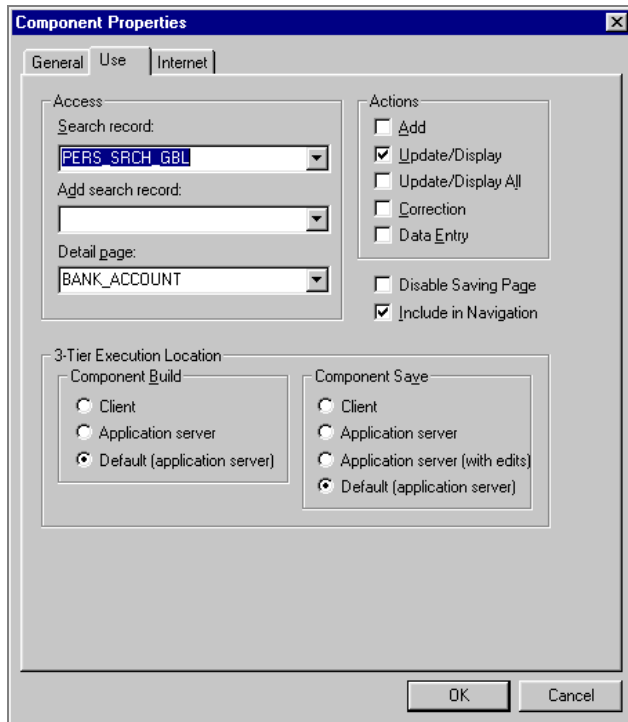


Note: Update/Display All and Correction are translated into Include History and Correct History at runtime.

To set user actions for a component

1. Click on the **Properties** button  on the toolbar or press **Alt+Enter**.
2. When the Component Properties dialog appears, click the Use tab.





Component Properties Dialog, Use Tab

3. In the **Actions** section, add or remove appropriate checkmarks from the available action list and click **OK**.

---

## Execution Location

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This section applies to Windows Client applications only.

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In order to partition application processing between the client and the application server, it is necessary to define units that, as a whole, run in one location or the other. We call these units **processing groups**.

Processing groups can encompass one or more PeopleCode events. Some processing groups can run either on the client or on the application server, such as Component Build and Component Save.

You can change the location of where the Component Build and the Component Save processing group executes on the Component Properties dialog, Use tab. The locations for Component Build and Component Save are set for the Component as a whole.

### Component Build

The Component Build processing group includes all processing done after the key list of a page is selected and before the user can interact with the page. This includes building component buffers



and running many types of PeopleCode. By default, all Component Build processing happens on the application server.

### **Component Save**

The Component Save processing group involves all processing after the operator has saved the component and SaveEdit PeopleCode validations have succeeded. It includes SavePreChange, WorkFlow, and SavePostChange PeopleCode, as well as updates to the database. By default, all Component Save processing happens on the application server.



For more information about three-tier execution, see PeopleCode and PeopleSoft Internet Architecture.

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## CHAPTER 8

# Creating Style Sheet Definitions

A *style sheet* is an object definition, like a record or field definition, that you create in the Application Designer. It is a collection of formatting styles, each of which can be applied to page controls. A style sheet is a standalone object that can be upgraded, deleted, renamed and so on.

Style sheets are useful because they allow developers to change the formatting of a many page attributes across multiple pages quickly and easily.

## Style Sheets and Classes

Each style sheet comprises individual *classes*, which affect the formatting of each page control. Classes control a broad range of characteristics including font size, spacing, and alignment, border width, weight, and color.

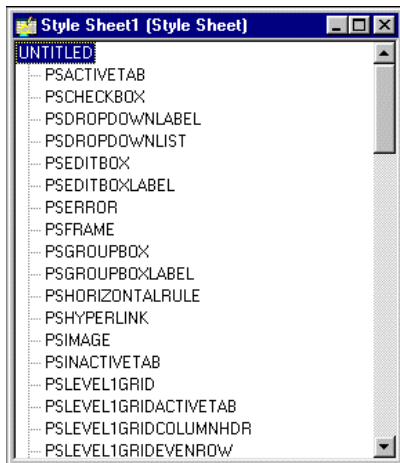


**Note.** Style classes are *not* the same as the PeopleCode classes. You cannot instantiate an object from a style sheet class.

---

Style sheets have two different types of classes, default and custom. When you create a new style sheet, a series of default classes, are included in the definition. All of these default classes have names with a prefix of “PS,” as shown in the following screen. For example, PScheckbox controls the formatting of checkbox labels and PSFRAME controls how frames appear and so on. The attributes of each class are not specified, however, so that you can customize each according to your requirements.





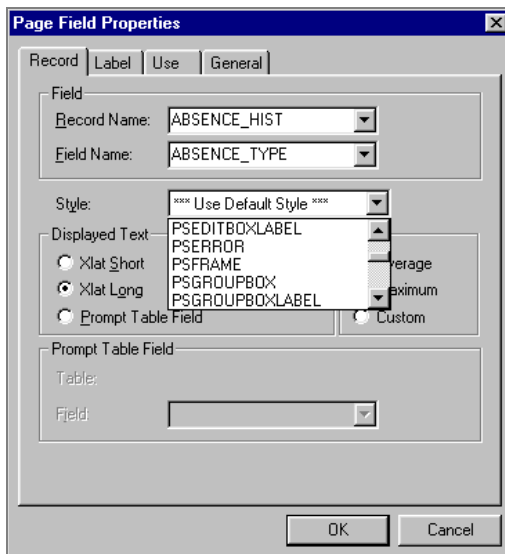
New style sheet showing default classes



**Note.** If you change a style attribute for any of the above default classes, you will change *every* occurrence of that control throughout a given application (unless that control is overridden in the **Page Field Properties** dialog).

## Default Classes

Each type of page control specifies an explicit default class. If the Style dropdown box of a given page element shows “Use Default Style,” the default class will control the formatting of that element on that page. You can override these classes by using the Page Field Properties dialog.



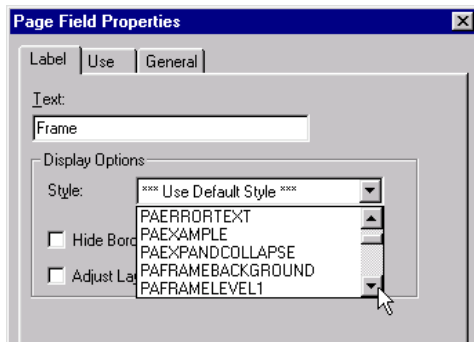
Page Field Properties showing PSSTYLEDEF Classes



## Custom Classes

Individual page controls do not have to be associated with the default class. By creating new custom classes and overriding the default style, you can have unique pages within a given application.

When you click the Style dropdown in the Page Field Properties, all the classes contained within that page's style sheet display.



Page Field Properties showing Style Classes

## Overriding Page Styles in a Field

Many page field controls have a style field in their field properties. Using this field property, you can specify a style class other than the default. You can also specify a different style class for a field at runtime using the **Style** property in PeopleCode.



**Note.** You can only specify a single style sheet for a page or an application. You can specify different style classes within that style sheet for a control. You cannot specify a page-field control class from a style sheet that is not associated with the page.

Depending on the page control, you can assign a style sheet class either to the label or the control itself. For example, for an edit box, you could specify what color displays in the edit box *and* the color of the label and its text.

### *Associating a Style Class with a Field at Runtime*

To set a style class to a field at runtime, use PeopleCode to define the Style property for a field object. The following example sets a different style class to a field, depending on the value of the field.

```
Local Field &field;

&field = GetField();
```



```
If TESTFIELD1 = 1 Then;  
  
    &field.Style = "PSHYPERLINK";  
  
End-If;
```

```
If TESTFIELD1 = 2 Then;  
  
    &field.Style = "PSIMAGE";  
  
End-If;
```

***Runtime result:***

TESTFIELD1: 

TESTFIELD1: 



---

For more information about PeopleCode Style property, see Objects and Classes.

---

## Specifying Style Sheets

You can specify a style sheet for an entire application on the **PeopleTools Options** page. All PeopleSoft applications reference the PSSTYLEDEF style sheet by default.

To specify a style sheet for an application

1. From your browser, select PeopleTools, Utilities, Use, PeopleTools Options.



PeopleTools Options

Language Settings

Base Language Code: English ☐ Translations Change Last Updated Information

General Options

Disconnect Cursors After: 30 Seconds (0 = Never) Temp Table Instances (Total): ☐

☐ Multi-Company Organization Temp Table Instances (Online): ☐

☒ Multi-Currency \*Maximum App Message Size: 10,000,000

☐ Use Business Unit in nVision Base Time Zone: PST

☐ Multiple Jobs Allowed Last Help Context # Used: 100222

☒ Allow DB Optimizer Trace \*Data Field Length Checking: Others

☒ Grant Access

System Style Sheet: PSSTYLEDEF

Help Options

F1 Help URL:

Ctrl-F1 Help URL:

PeopleTools Options page showing PSSTYLEDEF

- Click  to display the **Lookup System Style Sheet** list. Select the system style sheet you want from the list.

#### PeopleTools Options

#### Lookup System Style Sheet

#### Search Results

View All First 1-6 of 6 Last

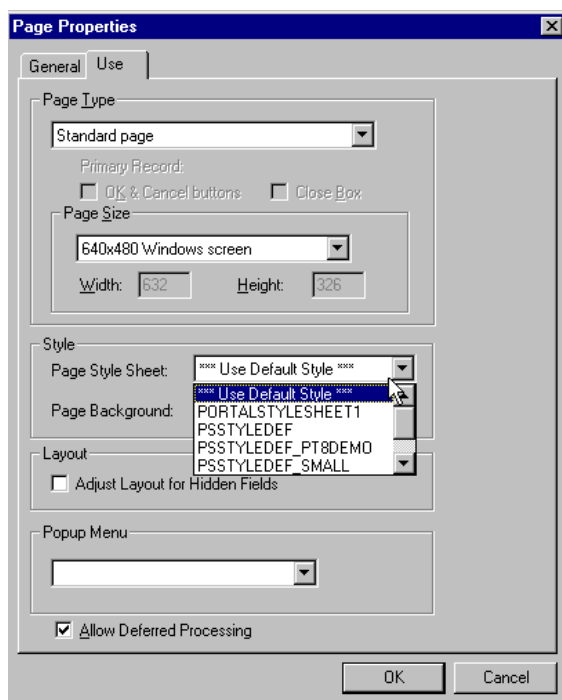
Style Sheet Name
<a href="#">PORTALSTYLESHEET1</a>
<a href="#">PSSTYLEDEF</a>
<a href="#">PSSTYLEDEF_PT8DEMO</a>
<a href="#">PSSTYLEDEF_SMALL</a>
<a href="#">QE_IC_STYLESHEET1</a>
<a href="#">QE_IC_STYLESHEET3</a>

Selecting a Style Sheet for an application

To specify styles for a page

- Open the page in Application Designer.
- Go to the **Page Properties** dialog, **Use** tab.
- Select a Style Sheet from the **Page Style Sheet** dropdown list.



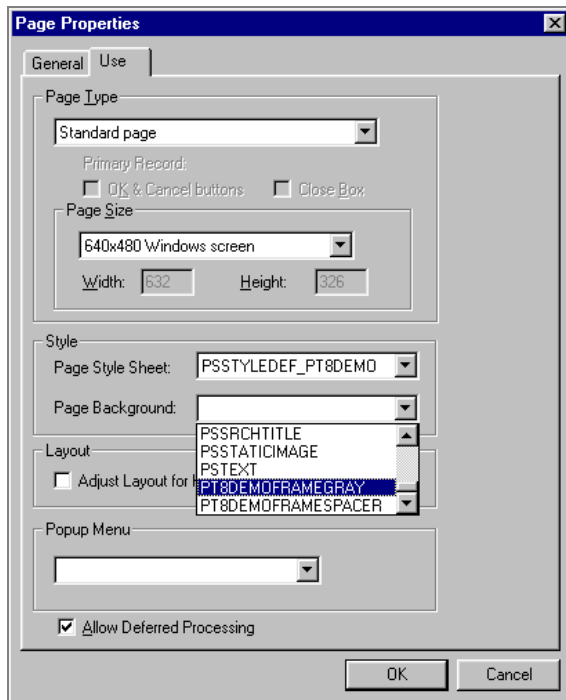


Selecting a Page Style Sheet

Choosing a different **Page Style Sheet** for a specific page will override the style sheet selected for the application. If you do not choose a different page style sheet (keeping **\*\*\*Use Default Style\*\*\***), the system uses the style sheet specified on the PeopleTools Options page.

4. Select a **Page Background** from the dropdown list.





Selecting a Page Background style

Choosing a different **Page Background** style class for a specific page will override the background style of the Page Style Sheet you just specified. If you keep the **\*\*\*Use Default Style\*\*\*** in Page Background, the background of this page will be determined by the default background of the Page Style Sheet you just specified.

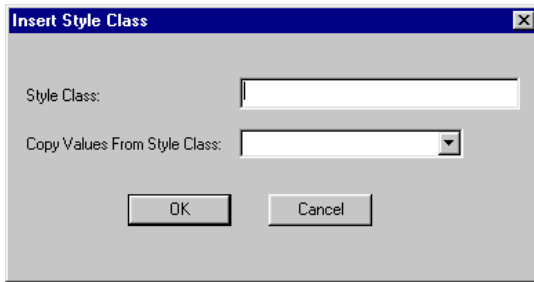
## Adding a New Class

You can add a new style class to a style sheet, name it, save it, then use it just like you would use any other class.

To add a new class

1. Open (or create) the style sheet to which you want to add a class.
2. Select **Insert, Insert Style Class** from the Application Designer menu.
3. Enter the name of the new class.





Insert Style Class Dialog

4. If you want to copy the class attribute from another style class, select that class from the **Copy Values From Style Class** dropdown list.
5. Click **OK** when you're finished.

## Class Attributes

Class attributes are grouped into categories and are displayed in a tabbed dialog for each class.



**Note.** Application Designer does not always reflect the formatting attributes specified for a control. You may only be able to see an attribute at runtime. Also, not all browsers support every attribute.

PeopleSoft Internet Architecture supports the attributes listed in the World Wide Web Consortium (W3), Cascading Style Sheets, Level 1.



For more information see <http://www.w3.org/TR/REC-CSS1>.

Every class has each of the following major attributes, which correspond to a tab in the Class Attribute definition:



Class Attribute tabs

<b>Tab</b>	<b>Description</b>
Font	The font that will be displayed for text. If more than one font is specified, the browser will try to display the first font, but if it cannot find it, it will try to display the next font.
Spacing/Alignment	The spacing that will be used in addition to the default spacing. You can specify spacing for between words and between letters,



	and the alignment, height, indent and white space.
Background	The background colors for the page control. If the background is an image, you can select how the image displays.
Border	The border displayed around the element; specifies width, color and style.
Margins	The margins and padding on each side of the element.
Miscellaneous	The display of list-item markers, URLs, and cursor formats.

To access class attributes

1. Open a style sheet.

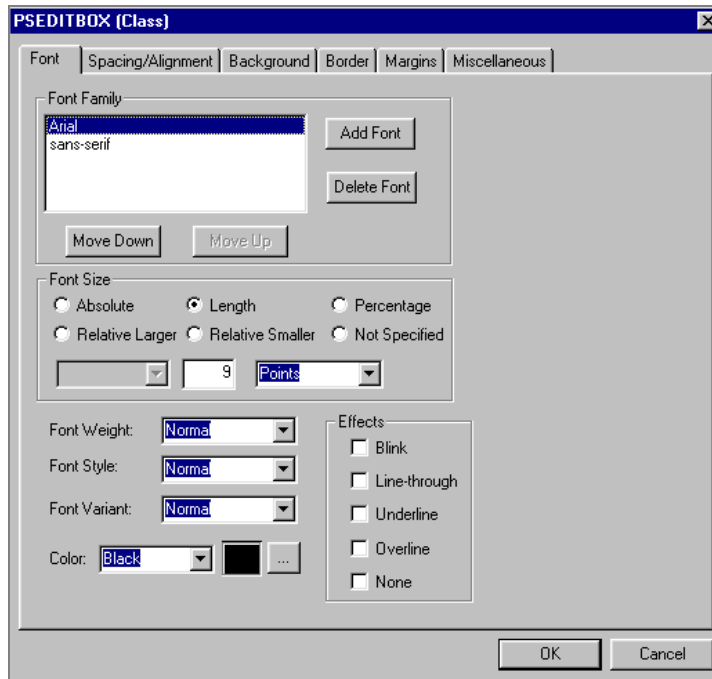
From the Application Designer toolbar, select **File, Open, Style Sheet**. Select the style sheet you want to access from the **Object Type** dropdown list.

2. Double-click on the class name.



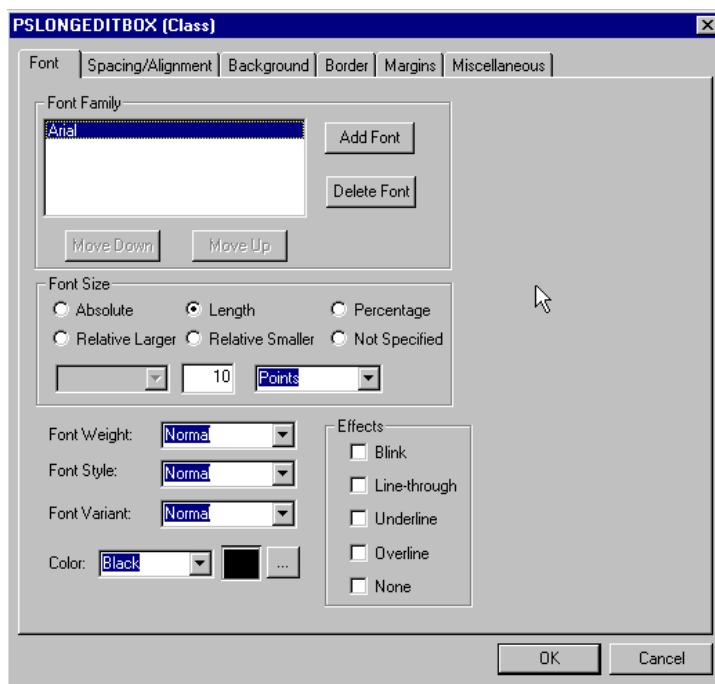
Accessing class attributes for PSEditBox





Class Attributes for PSEDITBOX

## Specifying Fonts



Fonts for PSLONGEDITBOX



## Font Family

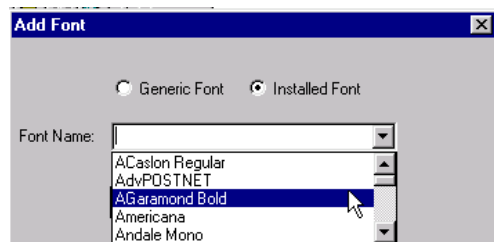
Specify the font in which you want the text to display. You can specify more than one font, so that if the browser cannot display the first font, it will try to display the next font, and so on until it finds a font it can use.

When you add a font, the dialog gives you a choice between generic fonts and installed fonts.

*Generic* fonts can be displayed on all browsers.

<b>Generic Font</b>	<b>Example of Font</b>
Cursive	Zapf-Chancery
Fantasy	Western
Monospace	Courier
Sans-serif	Helvetica
Serif	Times Roman

*Installed* fonts are those installed on your computer.



Add Font dialog showing Installed Fonts

## Using Installed Fonts

If you use an installed font for a style class, we recommend you do the following:

- Verify that all users of your application have the same installed font
- Specify the installed font first, followed by a generic font. This way, if the installed font is not available to the user of your application, the generic font can be used.

## Font Size

Select one of the following for font size:



<b>Absolute Size</b>	The system keeps a table of font sizes. Choosing Absolute Size means the font should use a size selected from the dropdown list (xx-small, x-small, small, medium, and so on.) There is a scaling factor of 1.5 between adjacent sizes.
<b>Length</b>	Specify the size with a number, and the measurement type from the drop down (pixels, inches, millimeters, and so on)
<b>Percentage</b>	Specify a number, followed by a percent sign (%). Percentage values are always relative to the parent element.
<b>Relative Larger or Smaller</b>	The font is interpreted relative to the table of font sizes and the font size of the parent element. For example, if the parent element has a font size of "medium", and you chose "Relative Larger" this font would display as "large".

## Font Weight, Style, Variant and Color

Select one from each of the following:

<b>Font Weight</b>	Select the weight of the font. The values 100 to 900 form an ordered sequence, where each number indicates a weight that is at least as dark as its predecessor. The value <i>Normal</i> is synonymous with 400, and <i>Bold</i> is synonymous with 700.
<b>Font Style</b>	Select the style of the font. Possible values are <i>Normal</i> , <i>Italic</i> and <i>Oblique</i> , which are matched to existing fonts with those names.
<b>Font Variant</b>	Select a variant, either <i>Normal</i> or <i>Small Caps</i> . In a small caps font the lower case letters look similar to the uppercase ones, but in a smaller size and with slightly different proportions.
<b>Color</b>	Specify the color or choose the color from a color palette.

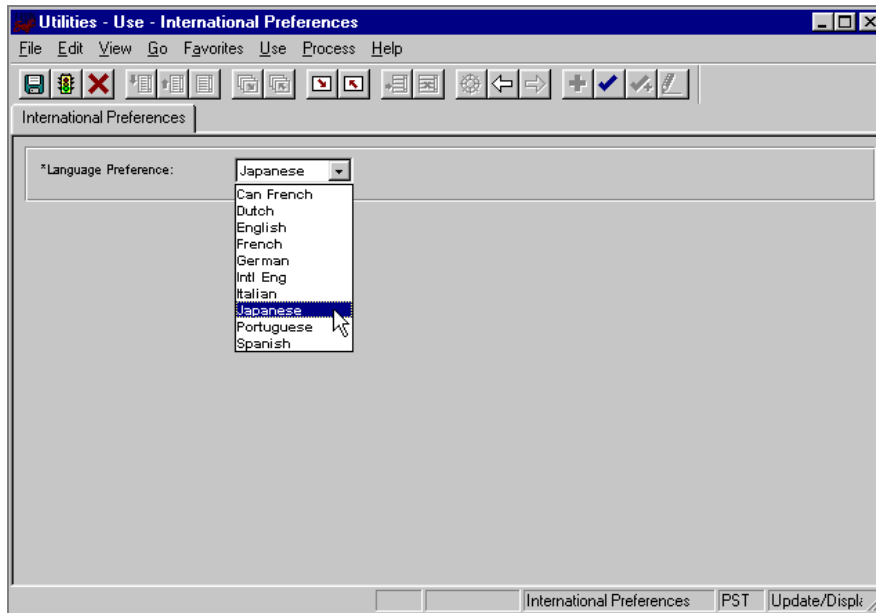
## Language Sensitivity

You can change the fonts available, based on the base language settings. These settings are set in PeopleTools, Utilities. The default for the base language is English, providing generic fonts. If the fonts provided are not appropriate for a particular language, the language preference must be set prior to opening a stylesheet. You can then set the font name list, font size or font weight for the selected language.



To set font attributes for a specific language

1. Navigate to **Go, PeopleTools, Utilities** from within Application Designer.
2. Go to Use, International Preferences.
3. Select the appropriate language needed for the style sheet.
4. Save the new selected language as the base language.



Selecting Japanese as Base Language

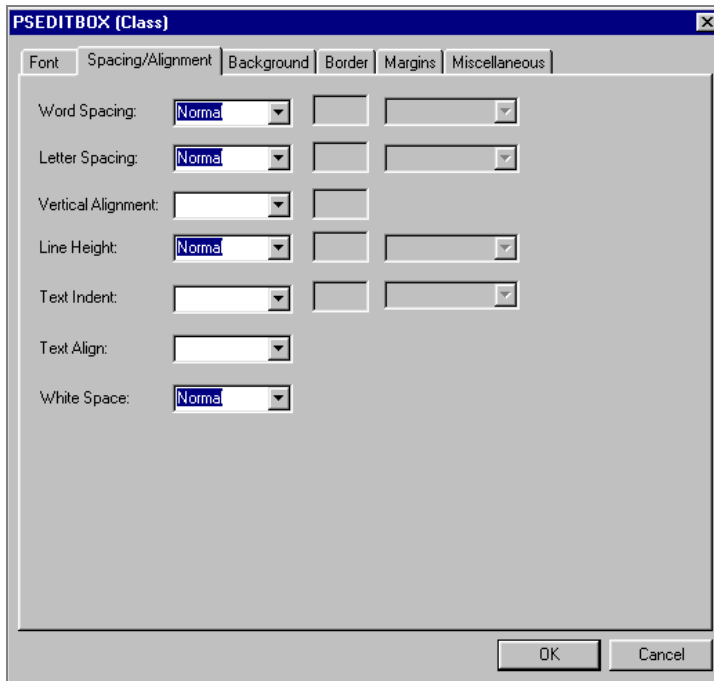
5. Open the style sheet definition you want to save the font name list, font size, or font weight for the selected language.

---

## Specifying Spacing and Alignment

Use the Spacing/Alignment tab to specify attributes such as word and letter spacing and text alignment.





Spacing/Alignment for PSEDITBOX

## Options for Spacing/Alignment

### Word Spacing

Select *Normal* or *Length*. If you select *Length*, specify a number to indicate an addition to the default space between words. Values can be negative, but there may be implementation-specific limits.

### Letter Spacing

Select *Normal* or *Length*. If you select *Length*, specify a number to indicate an addition to the default space between words. Values can be negative, but there may be implementation-specific limits.

### Vertical Alignment

Affects the vertical positioning of the element. See the following table for values relative to the parent element.

### Line Height

Sets the distance between two adjacent lines' baselines. When a numerical value is specified, the line height is given by the font size of the current element multiplied with the numerical value. This differs from a percentage value in the way it inherits: when a numerical value is specified, child elements will inherit the factor itself, not the resultant value (as is the case with percentage and other units). Negative values are not allowed.



**Text Indent**

Specifies the indentation that appears before the first formatted line. The value of Text Indent may be negative, but there may be implementation-specific limits. An indentation is not inserted in the middle of an element that was broken by another.

**Text Align**

Describes how text is aligned within the element. Since Text align inherits, all block-level elements inside the 'DIV' element with 'CLASS=center' will be centered. Note that alignments are relative to the width of the element, not the canvas.

**White Space**

This property declares how white space inside the element is handled: *Normal*: white space is collapsed; *Pre*: behaves like the PRE element in HTML; *Nowrap*: wrapping is done only through elements having a line break.

***Values for Vertical Alignment***

<b>Values</b>	<b>Effect</b>
Baseline	Aligns the baseline of the element (or the bottom, if the element doesn't have a baseline) with the baseline of the parent
Sub	Subscript the element
Super	Superscript the element
Top	Aligns the top of the element with the tallest element on the line
Text Top	Aligns the top of the element with the top of the parent elements font
Middle	Aligns the vertical midpoint of the element (typically an image) with the baseline plus half the x-height of the parent
Bottom	Aligns the bottom of the element with the lowest element on the line
Text Bottom	Aligns the bottom of the element with the bottom of the parent elements font
Percentage	Refers to the value of the line-height property of the element itself. It raises the baseline of the element (or the bottom, if it has no baseline) to the specified amount above the baseline of the parent. Negative



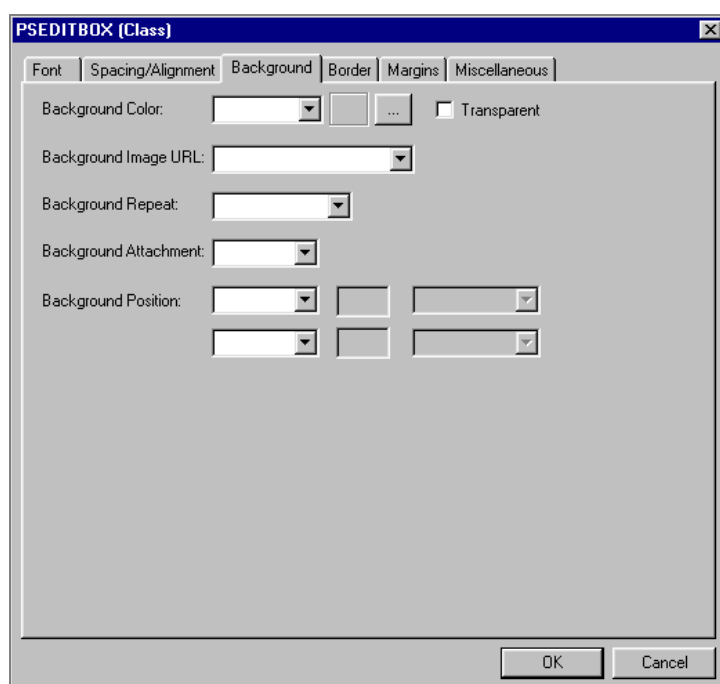
	values are possible. For example, a value of -100% will lower the element so that the baseline of the element ends up where the baseline of the next line should have been. This allows precise control over the vertical position of elements (such as images that are used in place of letters) that don't have a baseline.
--	---



**Note.** Using the top and bottom alignment could cause a loop where there are element dependencies.

## Specifying Background

Use the Background tab to select background attributes of the page control.



Background for PSEDITBOX

## Options for Background

**Background Color** Specifies the background color of an element.



<b>Background Image URL</b>	Sets the background image of an element. When you set a background image, you should also set a background color to be used when the image is unavailable. When the image <i>is</i> available, it displays on top of the background color.
<b>Background Repeat</b>	If you specify a background image, this property determines if the image is repeated, and if it is, how many times.
<b>Background Attachment</b>	If you specify a background image, this property determines if it is fixed to the canvas or if it scrolls along with the content.
<b>Background Position</b>	If you specify a background image, this property sets its initial position. Use the values in the following table.

### *Values for Background Position*

<b>Values</b>	<b>Effect</b>
Top	Aligns the background to the top of the element.
Left	Aligns the background to the left of the element.
Center	Aligns the background to the midpoint of the element (typically an image).
Bottom	Aligns the background to the bottom of the element.
Right	Aligns the background to the right of the element.
Length	Specify the length of the background and the unit of measure.
Percentage	Refers to the value of the line-height property of the background itself. It raises the baseline of the element (or the bottom, if it has no baseline) the specified amount above the baseline of the parent. Negative values are possible. For example, a value of -100% will lower the element so that the baseline of the element ends up where the baseline of the next line should have been. This allows precise control over the vertical position of elements without a baseline, such as images used in place of letters. Note the value pairs in the following table.



***Examples of Percentage and Length Value Pairs and Keywords***

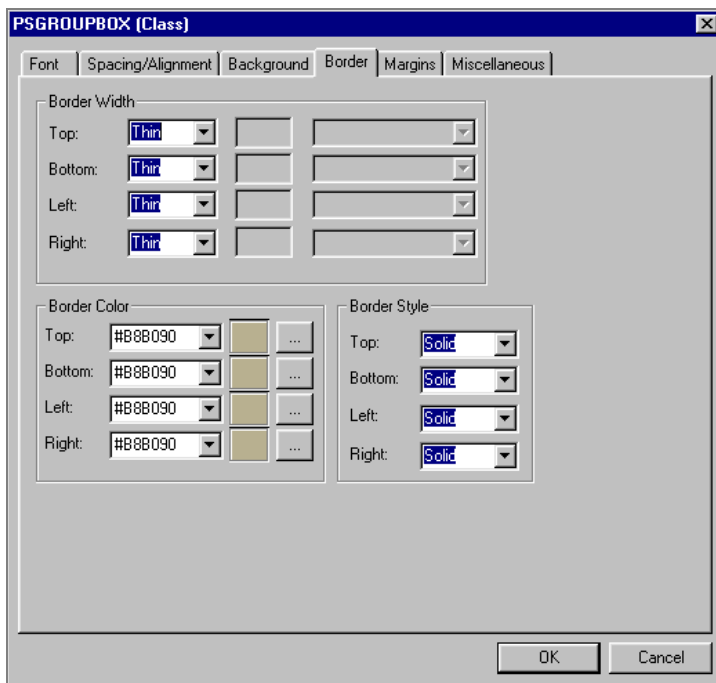
<b>Background Position</b>	<b>Value Pairs</b>	<b>Effect</b>
Percentage	0 and 0	The upper left corner of the image is placed in the upper left corner of the box that surrounds the content of the element (that is, not the box that surrounds the padding, border or margin)
Percentage	100 and 100	This places the lower right corner of the image in the lower right corner of the element
Percentage	14 and 84	The point 14% across and 84% down the image is to be placed at the point 14% across and 84% down the element
Length	2cm and 2cm	The upper left corner of the image is placed 2cm to the right and 2cm below the upper left corner of the element
Top Left or Left Top		The same as 0% and 0%.
Top Center or Center Top		The same as 50% and 0%.
Right Top or Top Right		The same as 100% and 0%.
Left Center or Center Left		The same as 0% and 50%.
Center and Center		The same as 50% and 50%.
Right Center or Center Right		The same as 100% and 50%
Bottom Left or Left Bottom		The same as 0% and 100%.
Bottom Center or Center Bottom		The same as 50% and 100%.
Bottom Right or Right Bottom		The same as 100% and 100%.



**Note.** If you set only *one* percentage or length value, the system sets the horizontal position only and the vertical position defaults to 50%. If you set two values, the first one is the horizontal position. You can set negative positions and combinations of length and percentage values, for example 50% and 2cm.



## Specifying Border



Border tab for PSGROUPBOX class

### Options for Border

#### Border Width

Specify the width of each line in the border. You can specify either Thin, Medium or Thick, or you can specify length, which will allow you to specify a font size (with a number) and the measurement type from the drop down (pixels, inches, millimeters, and so on).

#### Border Color

Specify the color of each line in the border. You can specify both a hexadecimal value for the color or chose the color from a color palette.

#### Border Style

Specify the style of line in the border. Valid values are listed in the following table:

#### *Values for Border Style*

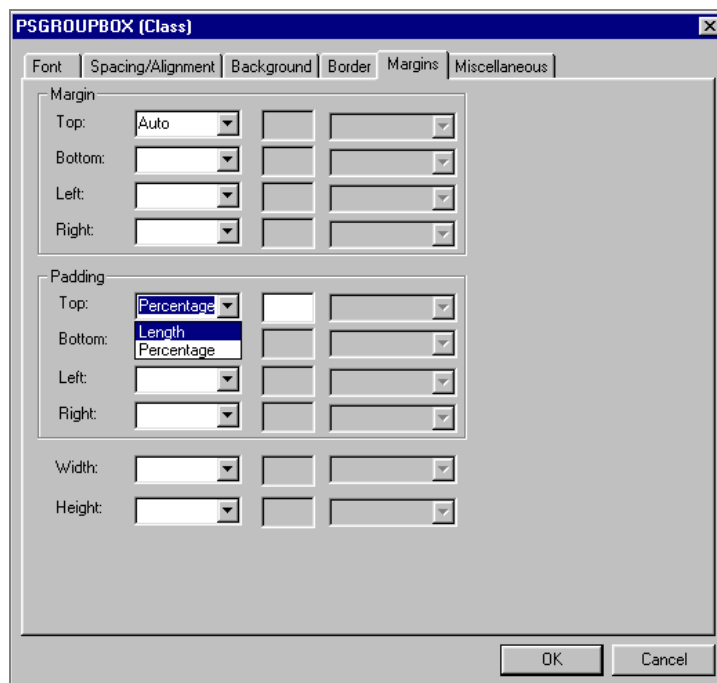
<b>Line Style</b>	<b>Effect</b>
None	No border is drawn (regardless of the 'border-width' value).



Dotted	Border is a dotted line drawn on top of the background of the element.
Dashed	Border is a dashed line drawn on top of the background of the element.
Solid	Border is a solid line.
Double	Border is a double line drawn on top of the background of the element. The sum of the two single lines and the space between equals the <border-width> value.
Groove	Border is a three-dimensional groove drawn in colors based on the <color> value.
Ridge	Border is a three-dimensional ridge drawn in colors based on the <color> value.
Inset	Border is a three-dimensional inset drawn in colors based on the <color> value.
Outset	Border is a three-dimensional outset is drawn in colors based on the <color> value.

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## Specifying Margins



Margins tab of PSGROUPBOX class



## Options for Margins

### Margin

Specify the margin of each side of the element. If you select **Length**, you can specify a font size and the measurement type from the drop down (pixels, inches, millimeters, and so on). If you select **Percentage**, you specify a number, followed by a percent sign (%). The percentage value is relative to the parent element. If you select **Auto**, the system calculates the width.

### Padding

Specify the padding of each side of the element. If you select **Length**, you can specify a font size and the measurement type from the drop down (pixels, inches, millimeters, and so on). If you select **Percentage**, you specify a number, followed by a percent sign (%). The percentage value is relative to the parent element. If you select **Auto**, the system calculates the width. Do not use negative values.

### Width

You can set width of text elements, but this property is most useful with replaced elements such as images. The system scales the image to fit the value you set here. If you set the **Height** property to **Auto**, and the image needs scaling, the system preserves the aspect ratio of the image. Do not use negative values.

### Height

You can set height of text elements, but this property is most useful with replaced elements such as images. The system scales the image to fit the value you set here. If you set the **Width** property to **Auto**, and the image needs scaling, the system preserves the aspect ratio of the image. Do not use negative values.

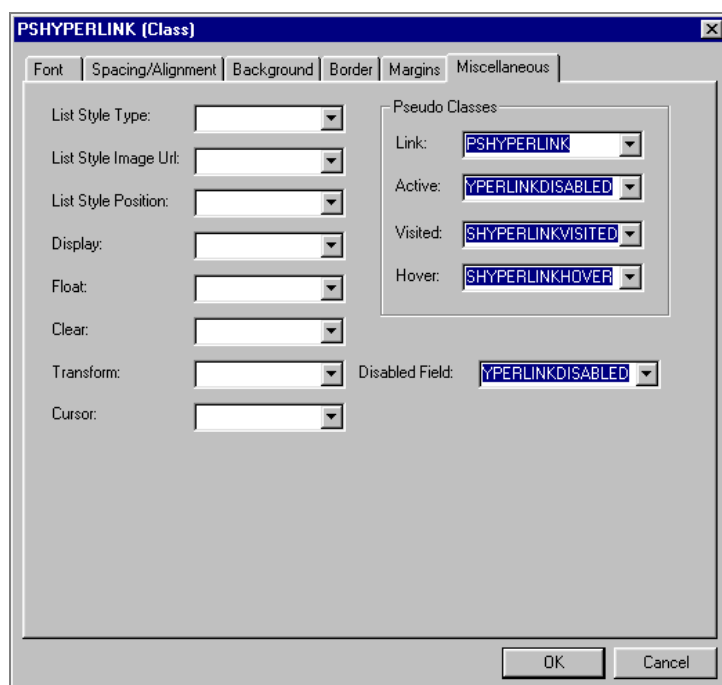


**Note.** If the **Width** and **Height** of a replaced element are both set to **Auto**, the system sets these properties to the intrinsic dimensions of the element.

---



## Specifying Miscellaneous



Miscellaneous tab of PSHYPERLINK class

### Options for Miscellaneous

<b>List Style Type</b>	Determines the appearance of the list-item marker if List Style Image URL is blank, or if the system cannot display the image pointed to by the URL.
<b>List Style Image URL</b>	Specify the URL containing the image displayed as the list-item marker.
<b>List Style Position</b>	Determines how the list-item marker is drawn relative to the content (Inside or Outside).
<b>Display</b>	Specify how an element is displayed on the canvas (which may be on a printed page or a computer display) The valid values are listed in the following table.



**Float**

Specify how the element floats with the text. **None** causes the element to display where it appears in the text. **Left** or **Right** causes the element to be moved to the left or right, and the text wraps on the right or left side of the element, respectively. With a **Left** or **Right** value, the element is treated as block-level and the **Display** property is ignored.

**Clear**

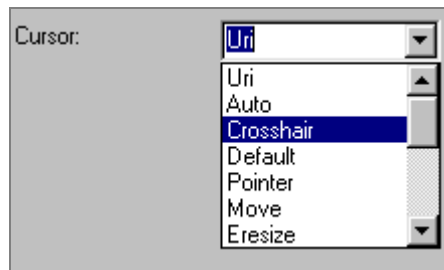
This value of this property specifies the sides of an element where floating elements are not accepted. If you set this to **Left**, an element displays below any floating element on the left side. If you set this to **None**, floating elements are allowed on all sides.

**Transform**

For text elements only. Select **Capitalize**, **Uppercase**, **Lowercase**, or **None**.

**Cursor**

Specify how the cursor displays when passed over the element.

***Values for Display***

<b><i>Element</i></b>	<b><i>Effect</i></b>
Block	Opens a new box. The box is positioned relative to adjacent boxes. Typically, elements like 'H1' and 'P' are of type 'block'.
ListItem	Similar to block except that a ListItem marker is added. In HTML, 'LI' will typically have this value.
Inline	Results in a new inline box on the same line as the previous content. The box is dimensioned according to the formatted size of the content. If the content is text, it may span several lines, and there will be a box on each line. The margin, border and padding properties apply to 'inline' elements, but will not have any effect at the line breaks.
None	Turns off the display of the element, including children elements and the surrounding box.





For more information about display settings and list-items, see <http://www.w3.org/TR/REC-CSS1#list-item-elements>.

## Pseudo Classes

Pseudo classes are mechanisms that extend the expressiveness of style sheets. Using pseudo classes, you can change the style of page links based on whether and when the links have been visited. Pseudo classes do not exist in HTML, that is, they are not visible in the HTML code.

PeopleSoft uses pseudo-classes to specify how a browser indicates to a user the status of hyperlinks in a document the user is viewing. For example, it is common for a browser to display a document link in a different color than the rest of the text.

### Options for Pseudo Classes

<b>Link</b>	How the link should display normally.
<b>Visited</b>	How the link should display if it has been visited.
<b>Active</b>	How the link should display when it is actively selected.
<b>Hover</b>	How the link should display when it is designated but not activated. For example, when the cursor hovers over a box generated by the element.
<b>Disabled Field</b>	How the link should display when the link (or field) is disabled.

## Grid Style Options

Grids comprise many components, such as columns, rows, tabs, labels, pushbuttons, navigation controls, and so on. Each part of a grid can have a different style class associated with it, as well as the grid itself.

<b>Component</b>	<b>Style</b>
Rows	You can specify the style class for all rows, or for alternate rows (odd/even style)
Navigation Bar	You can specify the style class for the entire navigation bar
Grid Title (label)	Set the style class for the label text



<b>Component</b>	<b>Style</b>
Headings (column)	You can specify whether to display the heading, as well as the style class for the text
Individual label style	You can specify the style class for all the column labels
Individual field style	Depending on the control, you can either specify the style class for the label or the label and the control itself.
Tabs	You can choose a color and a style for the text on the tabs
Row pushbuttons	You can only specify what the pushbutton looks like as part of that row or column, not for the individual pushbutton itself.
Columns	There is no Style property for a column. However, using PeopleCode, you can specify the Style property for every field in a column, thereby controlling the style class of the column.
Row numbers	You can only specify what the row number looks like as part of that row or column, not for the individual row number itself. You can also specify whether row numbers are displayed or not.

## Default Classes

The following is a list of all the default style classes for a style sheet, and a brief description of that style.

<b>Style Class</b>	<b>Description</b>
PSACTIVETAB	Controls how all labels and background color of active tabs display
PSCHECKBOX	Controls the label for all checkboxes
PSDISABLED	Controls the display of data when the field value is disabled
PSDROPDOWNLABEL	Controls the label for all dropdown boxes
PSDROPDOWNLIST	Controls how the data portion of the dropdown control will display
PSEDITBOX	Controls how the data portion of all edit box controls will display
PSEDITBOXLABEL	Controls the label for all edit boxes
PSERROR	Controls how a field that is in error displays
PSFRAME	Controls how all frames are displayed



<b>Style Class</b>	<b>Description</b>
PSGROUPBOX	Controls how all group boxes and the background of a group box body display
PSGROUPBOXLABEL	Controls how all labels for group boxes display
PSHORIZONTALRULE	Controls how all horizontal rules display
PSHEADERHYPERLINK	Controls how the hyperlink displays in a scroll area or grid header
PSHEADERHYPERLINKD	Controls how the hyperlink displays in a scroll area or grid header when disabled
PSHYPERLINK	Controls how all hyperlinks display
PSHYPERLINKACTIVE	Controls how the selected hyperlink displays
PSHYPERLINKDISABLED	Controls how a disabled hyperlink displays
PSHYPERLINKHOVER	Controls how the hyperlink displays when the mouse control is on it
PSHYPERLINKVISITED	Controls how the previously visited hyperlink displays
PSIMAGE	Controls how images display, such as border styles, border width and border colors
PSINACTIVETAB	Controls how all labels of inactive tabs display and background color of the tab
PSLEVEL1GRID	Controls the background colors, border settings, fonts for level 1 grids
PSLEVEL1GRIDACTIVETAB	Controls how labels and background color of active tabs on level 1 grids display
PSLEVEL1GRIDCOLUMNHDR	Controls how grid column labels display on level 1 grids
PSLEVEL1GRIDEVENROW	Controls how even rows for level 1 grids display
PSLEVEL1GRIDINACTIVETAB	Controls how labels and background of inactive tabs on level 1 grids display
PSLEVEL1GRIDLABEL	Controls how labels on level 1 grids display
PSLEVEL1GRIDNAVIGATIONBAR	Controls how navigation bars on level 1 grids display
PSLEVEL1GRIDODDROW	Controls how odd rows on level 1 grids display
PSLEVEL1GRIDROW	Controls the background settings, border settings, fonts for level 1 grids
PSLEVEL1SCROLLAREABODY	Controls how level 1 scroll area body displays



<b>Style Class</b>	<b>Description</b>
PSLEVEL1SCROLLAREAFooter	Controls how level 1 scroll area footer displays
PSLEVEL1SCROLLAREAHeader	Controls how level 1 scroll area header displays
PSLEVEL2GRID	Controls the background colors, border settings, fonts for level 2 grids
PSLEVEL2GRIDACTIVE TAB	Controls how labels and background color of active tabs on level 2 grids display
PSLEVEL2GRIDCOLUMNHDR	Controls how grid column labels display on level 2 grids
PSLEVEL2GRIDEVENROW	Controls how even rows for level 2 grids display
PSLEVEL2GRIDINACTIVE TAB	Controls how labels and background of inactive tabs on level 2 grids display
PSLEVEL2GRIDLABEL	Controls how labels on level 2 grids display
PSLEVEL2GRIDNAVIGATIONBAR	Controls how navigation bars on level 2 grids display
PSLEVEL2GRIDODDROW	Controls how odd rows on level 2 grids display
PSLEVEL2GRIDROW	Controls the background settings, border settings, fonts for level 2 grids
PSLEVEL2SCROLLAREABODY	Controls how level 2 scroll area body displays
PSLEVEL2SCROLLAREAFooter	Controls how level 2 scroll area footer displays
PSLEVEL2SCROLLAREAHeader	Controls how level 2 scroll area header displays
PSLEVEL3GRID	Controls the background colors, border settings, fonts for level 3 grids
PSLEVEL3GRIDACTIVE TAB	Controls how labels and background color of active tabs on level 3 grids display
PSLEVEL3GRIDCOLUMNHDR	Controls how grid column labels display on level 3 grids
PSLEVEL3GRIDEVENROW	Controls how even rows for level 3 grids display
PSLEVEL3GRIDINACTIVE TAB	Controls how labels and background of inactive tabs on level 3 grids display
PSLEVEL3GRIDLABEL	Controls how labels on level 3 grids display



<b>Style Class</b>	<b>Description</b>
PSLEVEL3GRIDNAVIGATIONBAR	Controls how navigation bars on level 3 grids display
PSLEVEL3GRIDODDROW	Controls how odd rows on level 3 grids display
PSLEVEL3GRIDROW	Controls the background settings, border settings, fonts for level 3 grids
PSLEVEL3SCROLLAREA BODY	Controls how level 3 scroll area body displays
PSLEVEL3SCROLLAREAFOOTER	Controls how level 3 scroll area footer displays
PSLEVEL3SCROLLAREAHEADER	Controls how level 3 scroll area header displays
PSLONGEDITBOX	Controls how the data portion of all long edit box controls display
PSLONGEDITLABEL	Controls how the labels for long edit boxes display
PSPAGE	Controls the background color and margins of all pages
PSPUSHBUTTON	Controls the labels and background color for push buttons
PSQRYINSTRUCTIONS	Not used
PSQRYRESULTSEVENROW	Controls how all even rows for query results display
PSQRYRESULTSFOOTER	Not used
PSQRYRESULTSHDR	Controls how the header for a query result display
PSQRYRESULTSODDROW	Controls how all odd rows for query results display
PSQRYRESULTSTITLE	Controls how the title of a query result displays
PSQRYTIPS	Not used
PSQRYTITLE	Controls how all query headings display
PSRADIOBUTTON	Controls how all radio buttons display
PSSRCHINSTRUCTIONS	Controls how all search instructions display
PSSRCHRESULTSEVENROW	Controls how all even rows for search results display
PSSRCHRESULTSFOOTER	Not used
PSSRCHRESULTSHDR	Controls how all headers for search results display
PSSRCHRESULTSODDROW	Controls how all odd rows for search results display
PSSRCHRESULTSTITLE	Controls how all titles for search results display
PSSRCHTIPS	Controls how all search tips display



<b>Style Class</b>	<b>Description</b>
PSSRCHTITLE	Controls how the first level title on a search page displays
PSSRCHSUBTITLE	Controls how the second level title on a search page displays
PSSTATICIMAGE	Controls how images display, such as border styles, border width and border colors
PSTEXT	Controls how all static text controls display

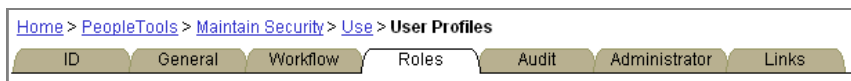
## Changing Colors on Tabs

This section describes how you can change the background color of *folder tabs in a component* and *tabs in a grid*. To change the background color of tabs, it is helpful to have a basic understanding of how tab definitions are built and stored in the database.

---

### Tab Definitions

PeopleSoft stores tab definitions as images within an HTML table. Each tab, or image definition, has 3 parts, stored as rows in the HTML table. Row 1 contains code representing the top border; Row 2, the tab itself; and Row 3, the bottom border. Because tabs look different depending on where they are located relative to other tabs and whether or not they are active, tabs have to be defined in *sets* for a desired combination of active and inactive tab colors.



Example of Active and Inactive Tabs

The tab image names reflect the role of the image in the tab row, and the color or colors it uses. Colors are encoded using the 6-character hexadecimal RGB value of the color.

When the system displays tabs in a page, it checks to see if all the images exist that are required for the pair of colors specified by the active and inactive tab styles. If these images are found, the tabs will be drawn using these colors. If the system cannot find the images, it uses the default styles and their corresponding images. The default color for an active tab is white or FFFFFFFF; for an inactive tab, it is beige or B8B090.



## Defining Color in HTML

Computer colors comprise various combinations of red, green, and blue—known as the RGB scale. The RGB decimal scale of colors are converted to the hexadecimal scale for use on a web page. To define HTML colors using the hexadecimal system, you set first two digits to the amount of red, the next two to the amount of green, and the last two to the amount of blue. In this scheme, six zeros, or 000000 represents black, and FFFFFFFF represents white.

The hexadecimal color representation is always preceded by the # symbol, as shown in the table below, which lists 16 named colors.

<b>Color</b>	<b>Hexadecimal Number</b>
Black	#000000
Green	#008000
Silver	#C0C0C0
Lime	#00FF00
Gray	#808080
Olive	#808000
White	#FFFFFF
Yellow	#FFFF00
Maroon	#800000
Navy	#000080
Red	#FF0000
Blue	#0000FF
Purple	#800080
Teal	#008080
Fuchsia	#FF00FF
Aqua	#00FFFF

## Tab Image Naming Scheme

This section describes in detail how tab images are named. However, when you want to change tab colors, you are interested only in changing the RGB values.

All tab images are named in the following format:

**PT\_TABNABBBRRGGBB** where

- PT\_TAB is the system-defined image definition name prefix
- *N* is the HTML table row. Values are 1, 2, or 3. You will create images only for 2 or 3.



- *A* is the location of the tab parts in a tab. Values are L (left end), B (between), R (right end), or M (middle of a tab).
- *BB* is the relative position to other tabs. Values are AI, IA, II, AX, or IX.
  - *AI* is a piece between active and inactive
  - *IA* is a piece between inactive and active
  - *II* is a piece between two inactive tabs
  - *AX* is a piece of an active tab
  - *IX* is a piece of an inactive tab
- *RRGGBB* is either omitted (when the tab image does not use any color), or it is one or two 6-character RGB codes for inactive and active tab colors.

The following screen shows a partial list of pre-defined tab images.

PT_TAB2BAIB8B090FFFFFF	
PT_TAB2BIA6666FFFFFF	
PT_TAB2BIA6666FFFFFF	
PT_TAB2BIAB8B090FFFFFF	
PT_TAB2BIAB8B090FFFFFF	
PT_TAB2BII6666FF	
PT_TAB2BII6666FF	
PT_TAB2BIIB8B090	
PT_TAB2BIIB8B090	
PT_TAB2LAXFFFFFF	
PT_TAB2LAXFFFFFF	
PT_TAB2LIX6666FF	
PT_TAB2LIX6666FF	
PT_TAB2LIXB8B090	
PT_TAB2LIXB8B090	
PT_TAB2RAXFFFFFF	
PT_TAB2RAXFFFFFF	

Pre-defined Tab Images

The first entry in the table is **PT\_TAB2BAIB8090FFFFFF** which represents a tab (**PT\_TAB2**) part in the 2<sup>nd</sup> row of the HTML table, **BAI** (between an active and inactive tab), **B8B090** (inactive tab color of beige), and **FFFFFF** (active tab color of white). When the tab image requires two colors, the inactive tab color is always listed first.

## Creating Tab Images

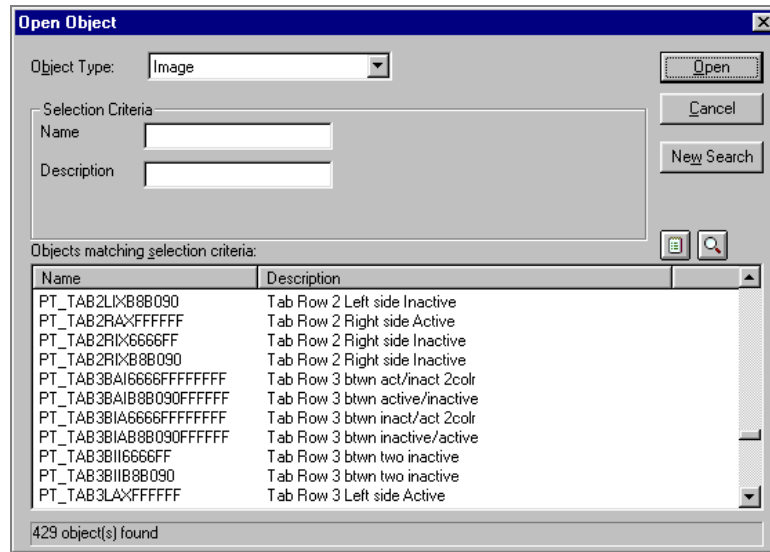
Before you can assign a new background color to your active or inactive tabs, you must create the necessary tab images with that color. You do this by opening an existing tab image definition in Application Designer, exporting it to an image editor, altering the color in the image editor, then adding the image to the image catalog in Application Designer.



To produce tabs in a different color combination

1. In Application Designer, open the image definitions for the tabs you want to change.

Because you want to change only the color of tabs, you will open only those image definitions which already contain an RGB color code.



Open Image Definition for Tab

If you are changing *both* the active and inactive tab color, you need to access the following image definitions:

- PT\_TAB2LAXFFFFFF
- PT\_TAB2RAXFFFFFF
- PT\_TAB2LIXB8B090
- PT\_TAB2RIXB8B090
- PT\_TAB2BAIB8B090FFFFFF
- PT\_TAB2BIAB8B090FFFFFF
- PT\_TAB2BIIB8B090
- PT\_TAB3LAXFFFFFF
- PT\_TAB3RAXFFFFFF
- PT\_TAB3MAXFFFFFF
- PT\_TAB3LIXB8B090
- PT\_TAB3RIXB8B090



- PT\_TAB3MIXB8B090
- PT\_TAB3BAIB8B090FFFFFF
- PT\_TAB3BIAB8B090FFFFFF
- PT\_TAB3BIIB8B090

If you are changing only the inactive color, which is beige, you only need the files that contain the beige color code, B8B090. Likewise, if you are changing only the active tab color, which is white, you only need the files that include FFFFFFFF.

2. Export the files to a directory.

Select **File, Export Image**.



Exporting an Image definition

In the **Save Image** dialog box, select the directory in which you want to place your images.

3. Use your favorite image editor to alter the image colors.

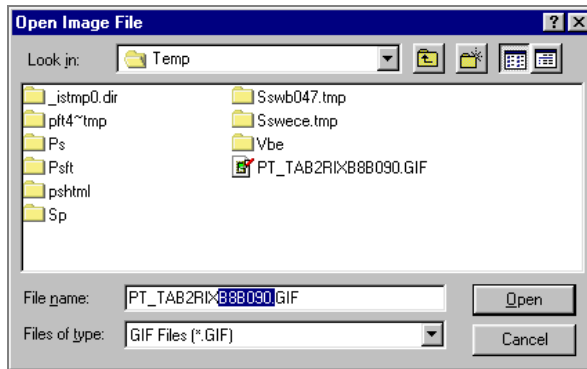


**Note.** Do not change the size or shape of the images, and **do not** replace any of the transparent pixels with solid pixels.

4. In Application Designer, add the new image definitions.

Select **File, New, Image**.





Add a new image

Save the new image files under the appropriate name. The new images must have new names reflecting the HTML color they represent. For example, replace FFFFFFFF with the new Active tab color, and replace B8B090 with the new inactive tab color.

5. In Application Designer, open the appropriate style sheet.

If you are changing the tab folder colors, use PSSTYLEDEF. If you are changing grid tabs, use PSSTYLEDEF or the style sheet associated with the page definition where the grid is located.



---

**Note.** The grid tab styles can be set for each grid individually using the grid properties. However, for page tabs, you can only set the styles using the default styles in the application style sheet.

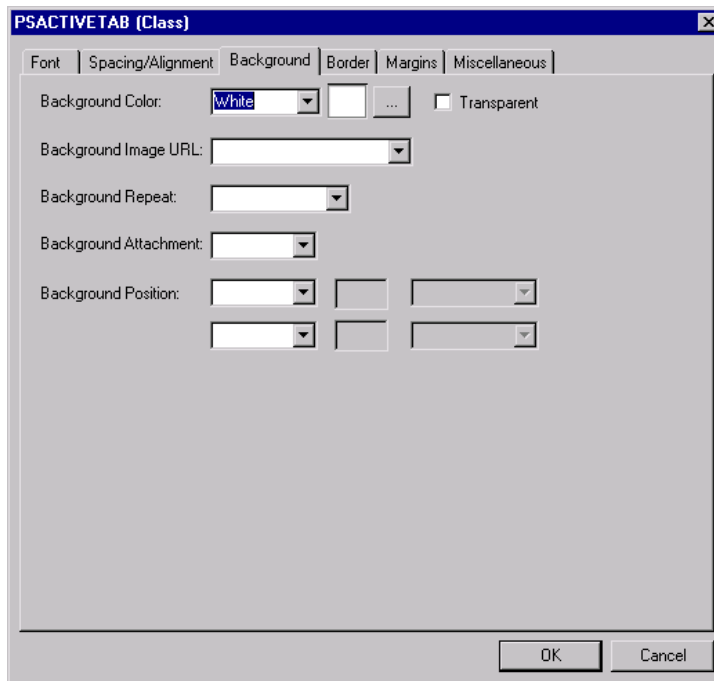
---

You will need to access the PSACTIVETAB, PSINACTIVE TAB, and any other tab classes (for example, PSLEVEL1GRIDACTIVETAB and so on) your application uses.

6. For folder tabs, open the PSACTIVETAB class by double-clicking on the class name.

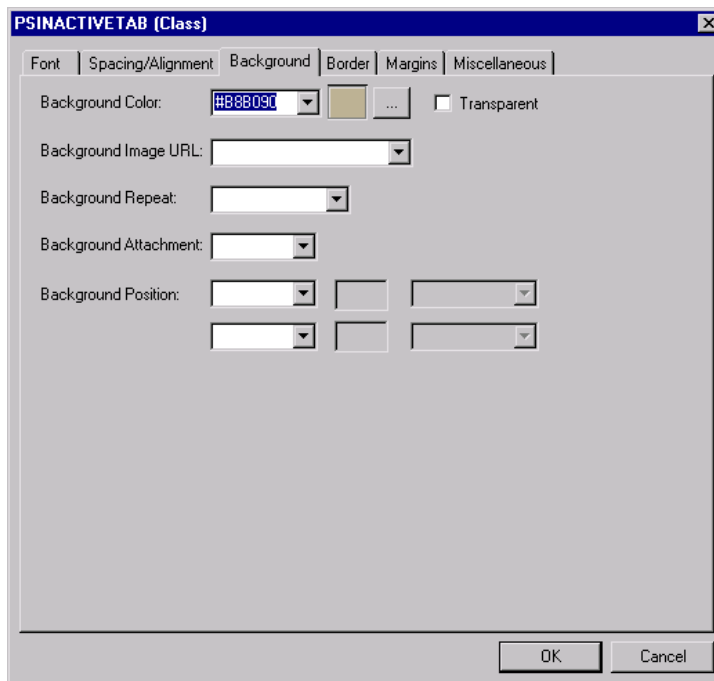
On the **Background** tab, select the color of the background of the active tab (matching the color of the tab image you created). Use the dropdown list to find the color or browse through the color choices.





PSACTIVETAB class, Background tab

Do the same for the PSINACTIVETAB class (or any others you need) for folder tabs by double-clicking on the class name, and selecting the Background tab.



PSINACTIVETAB class, Background tab

7. For grid tabs, access the style class associated with the grid tab, and change the colors as



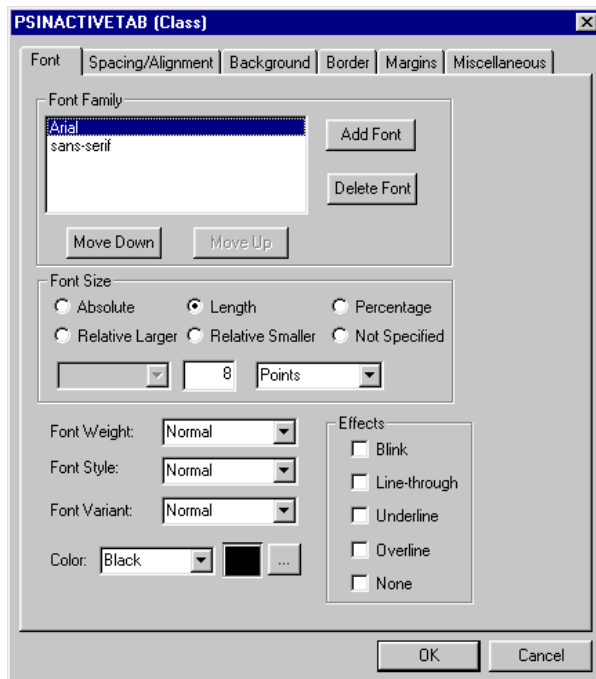
indicated in the previous steps.

## 8. Save the style sheet.

The following is an example of folder tabs with a green background. In addition, the color of the text displaying on the tabs was changed to black.



Green tabs



PSINACTIVETAB class, Font tab

For this example, the active tab color stayed the same (FFFFFF). Only the inactive tab color changed. Therefore, only the following files were created and added to the list of images:

- PT\_TAB2LIX80FF80
- PT\_TAB2RIX80FF80
- PT\_TAB2BAI80FF80FFFFFF
- PT\_TAB2BIA80FF80FFFFFF
- PT\_TAB2BII80FF80
- PT\_TAB3LIX80FF80
- PT\_TAB3RIX80FF80



- PT\_TAB3MIX80FF80
- PT\_TAB3BAI80FF80FFFFFF
- PT\_TAB3BIA80FF80FFFFFF
- PT\_TAB3BII80FF80







## CHAPTER 9

# Creating Menu Definitions

You use the Application Designer to create and modify menu definitions for your applications. This is not a WYSIWYG tool in the strict sense of the word, since the menu navigation looks somewhat different at runtime in a browser than at design time. But hierarchy and functionality of your menu definitions do remain the same from Application Designer development through runtime in the browser.

## Standard Menus and Menu Groups

The standard menus in a PeopleSoft application are accessed at the **Home** menu level in your browser, which is accessible from anywhere in the PeopleSoft system. The items off of Home, either start a particular *standard menu* or expand into a set of cascading items that correspond to the standard menus in a particular *menu group* (such as in the example below of Define Business Rules).

[Home](#) > Define Business Rules



### Menu Groups

When a user chooses a PeopleSoft menu item, the system opens the associated PeopleSoft application.

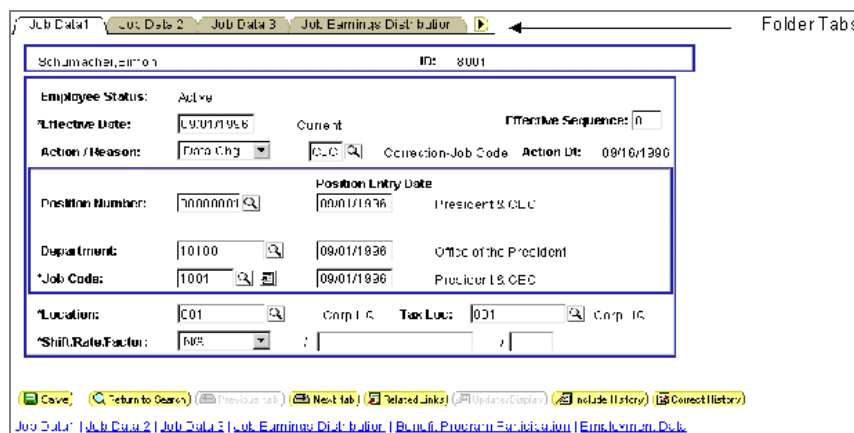


[Home](#) > [Define Business Rules](#) > [Establish Business Units](#) > Use A-M



## Parts of a Standard Menu

Menus, bar items, menu items, and menu groups are all parts of a standard menu definition. The menu items on the right side of the preceding illustration (Inventory BU Groups, Inventory Definition, and so on ) are determined by the component definition. If a component contains more than one page, folder tab labels appear on the top of the display, allowing the user to choose which component page is active and displayed on top.



### Folder Tabs for Job Data Component

If the component definition (as well as the user profile or class definition in Understanding PeopleSoft Security) allows the user to open the component in more than one action mode; the action modes will appear as further menu navigation to selecting an initial Search Page.



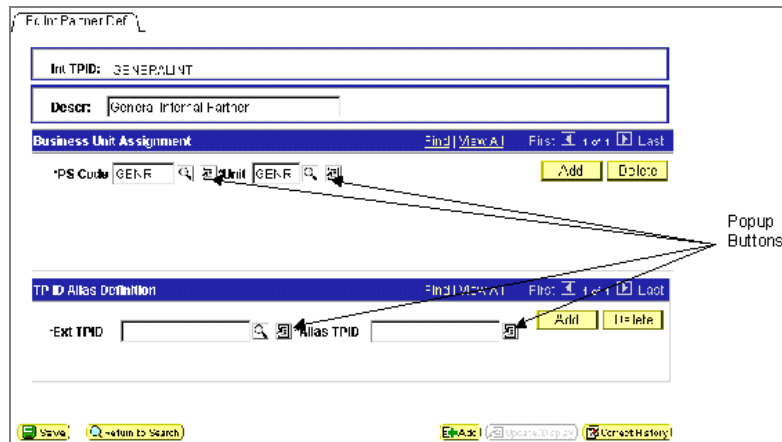
For more information about component definitions see [Creating Component Definitions](#).

The menu items in a standard menu are almost invariably used to open components. (They can also be used to run PeopleCode programs, but in actual practice this is unusual, because PeopleCode functionality in standard menus is limited.)



## Understanding Pop-up Menus

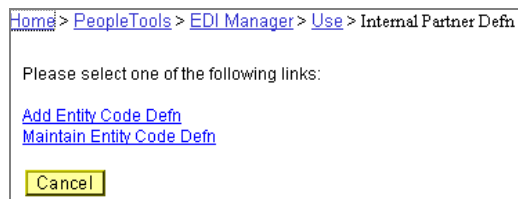
When a runtime user double-clicks on a pop-up button, the system displays a Pop-up transition page. This transition page can be a system (or default) menu page, or it can be a *defined popup menu* page that has been created and associated with the pop-up button by an application developer. The system pop-up menu page contains a set of standard commands; defined pop-up menus contain developer-defined menu items in addition to the set of standard commands. Page fields that have associated defined pop-up menus are displayed at runtime.



Pop-up Controls

Defined pop-up menus can be used for:

- **Transferring to another Page.** The page that you transfer to can be in any component in the application menu system.
- **Running a PeopleCode program.** PeopleCode in pop-up menus do not share the same limitations as PeopleCode in standard menus, so pop-up transition menus provide an effective alternative to using command push buttons on pages. Pop-up menu PeopleCode programs could be used for any number of purposes, for example:
  - to execute a modal transfer
  - to recalculate a field value
  - to trigger a Workflow business event



Defined Pop-up Transition Page





**Note.** Transfers defined in pop-up menu items are called *definitional transfers* to distinguish them from transfers made using PeopleCode programs. Definitional transfers are always non-modal. To execute a modal transfer you must use PeopleCode.

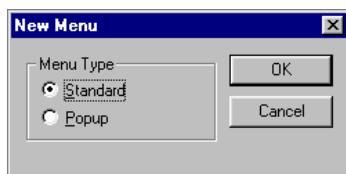
## Defining Standard Menus

Once you've created records, pages, and components, you need to add your components to menu definitions by associating them with menu items. You can also group several menu definitions together into menu groups.

To create a new standard menu definition

1. From the Application Designer toolbar, select **File**, New.
2. Select Menu from the list, then click OK.

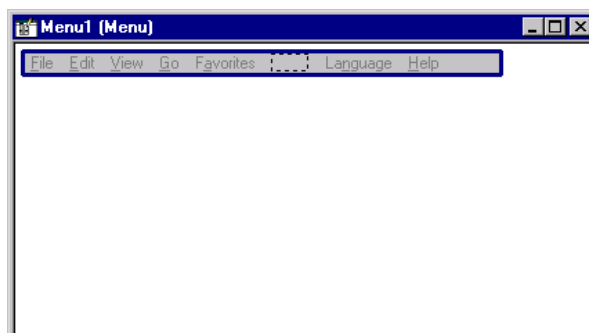
The **New Menu** dialog displays:



New Menu Dialog

3. Select the Standard radio button then click OK.

A new blank standard menu definition appears in the Object Workspace.



New Blank Standard Menu Definition

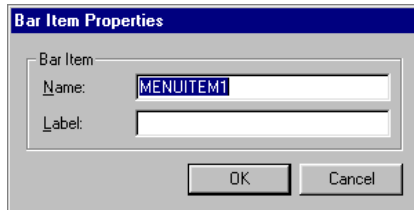
The thick rectangle surrounding the bar item indicates that this element in the menu definition is currently selected.



4. Assign bar item names and labels.

You can define multiple menu bars for the menu. The empty dashed rectangle in the preceding figure is a placeholder for a new bar item label.

Double-click the rectangle to display the **Bar Item Properties** dialog:



Bar Item Properties Dialog

Give the bar item a name and label text.

Click **OK** to accept the **Bar Item Properties** settings. Notice that the new label appears in the menu and the empty rectangle appears in a new location.

Repeat this step to add all of the bar items that your menu requires. You can always return to the menu definition later to add or modify menu bars.

5. Add menu items to the bar items.

See Defining Menu Items.

6. Set the menu properties.

See Setting Menu Properties.

7. Save the menu definition.

8. Grant users access to the menu and its menu items in Maintain Security.

Before anyone can see or use the menu you defined or any of its components, they have to be granted access in Maintain Security.



---

For more information on granting security access to menus, see Setting Up Menu Security.

---

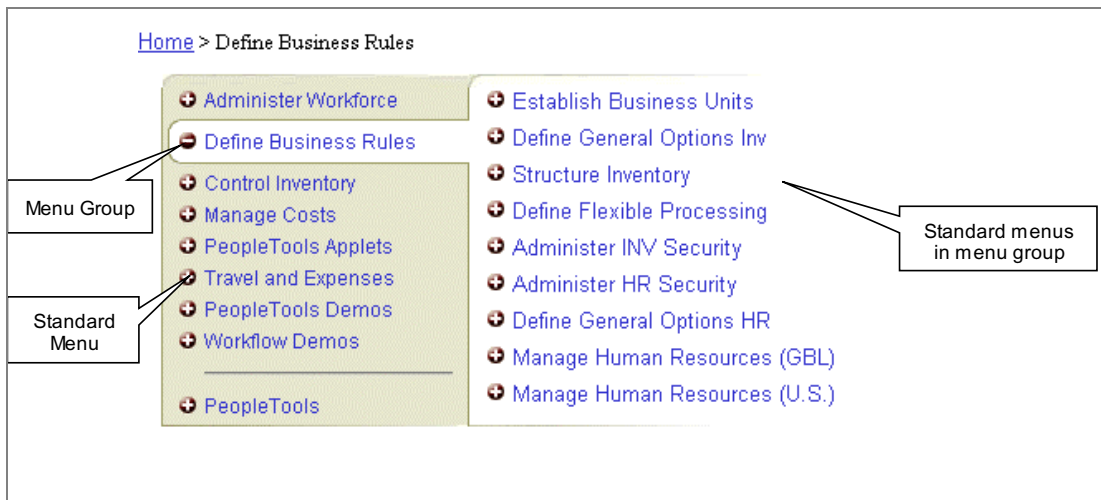
---

## Specifying a Menu Group for a Standard Menu

Menu groups are groups of standard menus that can be accessed from the PeopleSoft **Home** page. If a menu group contains more than one standard menu, the standard menu labels will appear in a cascading tree display off of the menu group, at the **Home** page level.



When you define a standard menu item, you can choose to include it in an existing menu group, create a new menu group for it, or choose not to include it in a menu group.



#### Example of Menu Group



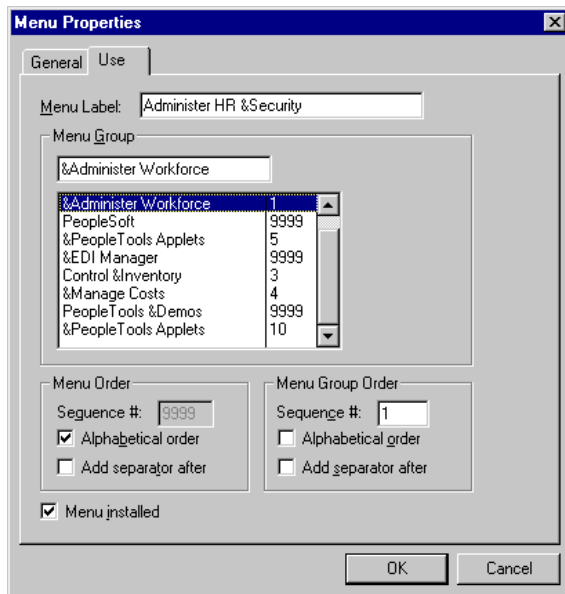
**Note:** Pop-up Menus cannot be part of a Menu Group.

To specify a menu group for a standard menu

1. Create a new menu definition or open an existing menu definition.
2. Open the menu properties, then click the **Use** tab.

To open the Menu Properties dialog, click the **Properties** button or press ALT+ENTER.





Use Tab of Menu Properties Dialog

### 3. Specify a menu group.

To choose an existing menu group, click the menu group label in the Menu Group scrolling list. To create a new menu group, type label text for the menu group in the Menu Group edit box, optionally placing an ampersand in the label text. Leave the Menu Group edit box blank if you want the menu to appear as a single item at the top level.

In other words, if you want the menu to appear as a single item at the top level, then that menu's menu group should contain exactly *one* menu. If you leave the Menu Group edit box blank, Application Designer will create such a menu group for you.



**Note:** If there is only one menu in your new group, the menu label will display off of the **Home** level of your application.

### 4. Click **OK** to close the **Menu Properties** dialog.

### 5. Save the menu definition.

## Setting the Display Order of Menu Groups and Menus

You can use the **Menu Properties** dialog to control the order in which menu groups and menus appear at the **Home** level, and the order in which menus that comprise a menu group appear within their cascade menu. You can sort menus and menu groups alphabetically, by sequence number, or by a combination of both methods. Using both methods would make sense if you wanted to display more important items at the top of the menu and sort the remaining items alphabetically.



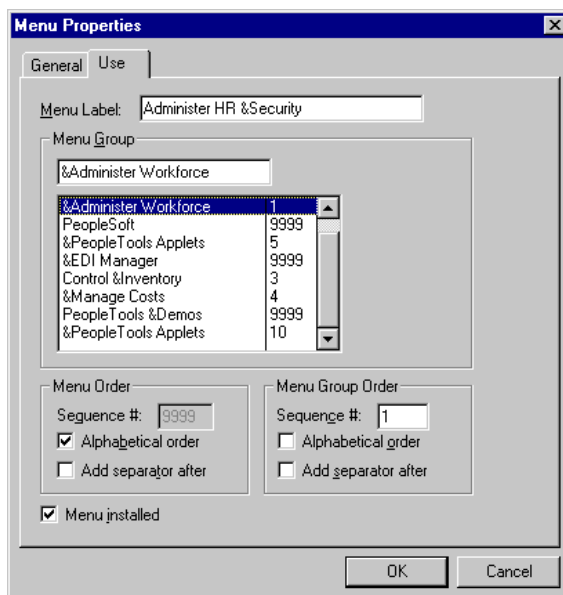
Items that sort by sequence number are always positioned in ascending order, from the top of the menu down.

Items that are defined as sorting alphabetically are automatically assigned the highest possible sequence number (9999), so that items set to sort alphabetically always appear after items set to sort by sequence number.

To set the display order of menu groups

1. Open the Menu Properties of a menu definition.

Double-click on an open standard menu definition. This displays the **Menu Properties** dialog. Click the **Use** tab.



Use Tab of Menu Properties Dialog

2. Select or create the menu group that you want to modify.

To select a menu group, click its name in the **Menu Group** scrolling list. To create a new menu group, type a name for it in the **Menu Group** edit box.

3. Set the **Menu Group Order** controls for the selected menu group.

Select the **Alphabetical order** check box to specify that the menu group is sorted alphabetically relative to other groups. Clear the **Alphabetical order** check box to specify that the menu group is sorted by sequence number.

If the menu group is sorted by sequence number, type a sequence number into the **Sequence #** field. Menu groups that sort by sequence number are positioned off the **Home** menu level in ascending order, above any menu groups that sort alphabetically.



Select the **Add separator after** check box to place a separator bar after the menu group and before the next menu group in the sequence.

4. Click **OK** to accept the dialog settings.

Note that steps 3 and 4 have a side effect: they assign the menu to the menu group you just modified, which may or may not be the correct menu group for the menu. This is corrected in steps 6 and 7.

If this is the only menu group that you want to modify, and if the menu has been assigned to the correct menu group, skip to step 8.

5. Repeat step 1 through 4 for any other menu groups that you want to modify.

You must repeat all four steps for each menu group that you modify.

6. Select a menu group for the menu.

Every time you modify the settings of a menu group, you assign the current menu to that menu group rather than any other menu group. To ensure that the menu has been assigned to the correct menu group, open the **Menu Properties** dialog again, then click on the correct menu group for the menu.

7. Click **OK** to accept the dialog settings.

8. Save the menu definition.

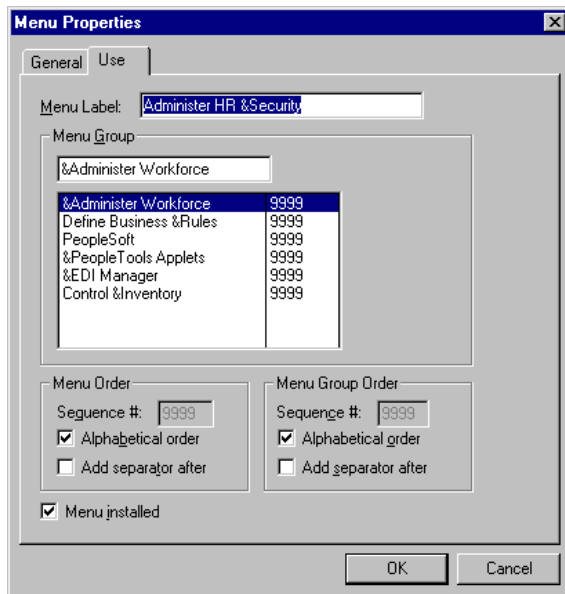
You will have to open a new PeopleSoft window to see the effects of your changes.

To set the display order of menus

1. Open a menu definition, or create a new menu definition.
2. Open the Menu Properties of the menu definition.

Double-click on an open standard menu definition. This displays the **Menu Properties** dialog. Click the **Use** tab.





Use Tab of Menu Properties Dialog

3. Set the Menu Order controls for the current menu.

Select the **Alphabetical order** check box to specify that the menu is sorted alphabetically relative to other menus in the same menu group. Clear the **Alphabetical order** check box to specify that the menu is sorted by sequence number.

If the menu is sorted by sequence number, type a sequence number into the **Sequence #** field. Menus that sort by sequence number are positioned in ascending order, above any menus that sort alphabetically.

Select the **Add separator after** check box to place a separator bar after the menu item and before the next menu item in the sequence in the same menu group.

4. Click **OK** to accept the dialog settings.
5. Save the menu definition.

You will need to open a new PeopleSoft window to see the effects of your changes.

6. Repeat steps 1 through 5 for every menu that you want to modify.

You will probably want to work by menu groups, setting the sort settings for each menu in each group.

## Defining Pop-up Menus

The following procedures describe how to create a new pop-up menu, then associate it with a **Page** field. At runtime, the pop-up menu appears when the user right-clicks the associated **Page** field button.



To create a new pop-up menu

1. Select **File, New**.

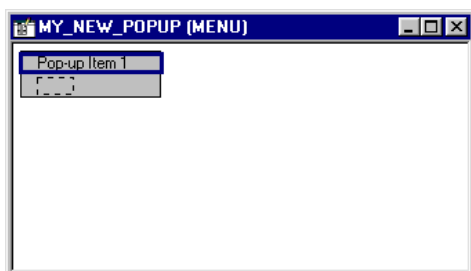
The **New** dialog is displayed.

2. Choose **Menu** from the available options then click **OK**.

The **New Menu** dialog is displayed.

3. Select **Popup** in the New Menu dialog then click **OK**.

A new pop-up menu definition is displayed in the Object Workspace.



New Pop-up Menu Definition

4. Define the pop-up menu's menu items.



**For information** on defining menu items, see Defining Menu Items.

---

5. Save the pop-up menu definition.

To give users access to the pop-up menu you must associate it with a **Page** field.

To associate a pop-up menu with a **Page** field

1. Open the **Page** definition which contains the panel field to which you want to associate the pop-up menu.
2. Right-click on the page field, then select **Page Field Properties**.

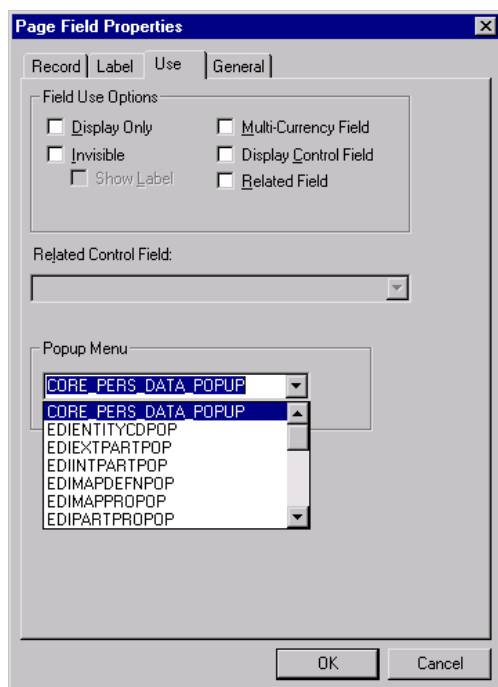


**Note:** You can also double-click on the page field or press **Ctrl+F** to open the **Page Field Properties** dialog.

---

3. When the **Page Field Properties** dialog is displayed, click the **Use** tab.





Page Field Properties Dialog, Use Tab

4. In the **Popup Menu** area, select from the available pop-up menus in the drop-down list, then click **OK**.
5. Save the page definition.

## Defining Menu Items

There are four types of menu items: Component, Transfer, PeopleCode and Separator. Component menu items are defined only in standard menus; Transfer menu items are defined only in pop-up menus. PeopleCode and Separator menu items are available for both pop-up and standard menus.

The procedures in the following topics all assume that you have a menu definition open in the Object Workspace.

---

### Defining Component Menu Items

Component menu items, which can be created only in standard menus, open a component. This is the most common type of menu item in PeopleSoft applications. The following procedure describes how to create a new component menu item, or to redefine an existing menu item as a component menu item.

To define a component menu item

1. In a standard menu definition, double-click a menu item to access its properties.



To create a new menu item, double-click the empty rectangle at the bottom of the menu.

This displays the Menu Item Properties dialog for standard menus. The Component radio button should already be selected, if this is a new menu item.

Menu Item Properties for Standard Menu Items

2. If this is a new menu item, type a menu item name and label text in the Menu Item edit boxes.
3. Click the **Select** button to choose a component.

This displays the standard Open Object dialog. Use the dialog to select a component to associate with the menu item.

4. If desired, override the component search record.  
See *Overriding the Component Search Record*.
5. Click OK to close the Menu Item Properties dialog.
6. Save the menu definition.

---

## Defining Transfer Menu Items

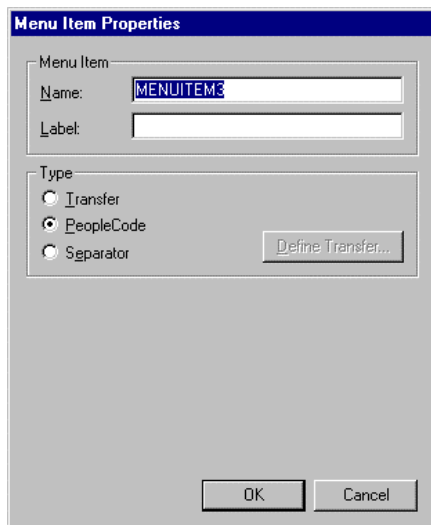
Transfer menu items, which can be created only in pop-up menus, allow you to specify a menu, component, and page that the user will be taken to when the transfer menu item is selected. The following procedure describes how to create a new transfer menu item or redefine an existing menu item as a transfer menu item.

To define a transfer menu item

1. In a pop-up menu definition, double-click a menu item to access its properties.

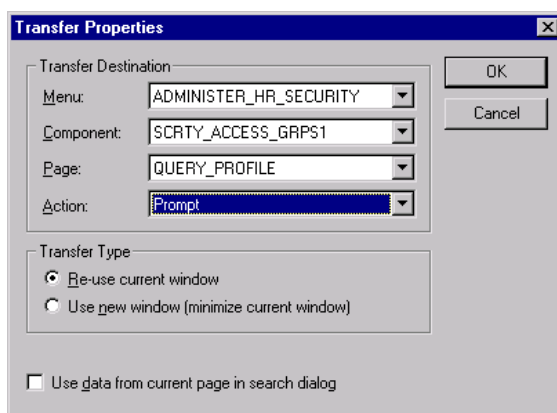


To create a new menu item, double-click the empty rectangle at the bottom of the menu. This displays the **Menu Item Properties** dialog for pop-up menus:



Menu Item Properties of New Pop-up Menu Item

2. If this is a new menu item, type a menu item name and label text into **Menu Item** fields.  
You can create a shortcut key for the menu item by placing an ampersand in the label.
3. Set the transfer properties.
  - Select the **Transfer** button to make this a Transfer menu item.
  - Click the **Define Transfer** button to display the **Transfer Properties** dialog:



Transfer Properties Dialog

The **Transfer Properties** dialog lets you define the properties of a definitional transfer made from a pop-up menu item. The component you are transferring from is called the *originating component*. The *component* you are transferring to is called the *destination component*.



4. Specify the menu, *component*, and page to transfer to
  - Set the **Menu** field to the name of the menu containing the destination *component*.
  - Set the **Component** field to the name of the destination component.
  - Set the **Page** field to the name of the page to display at the front of the destination component.
5. Specify an action mode; or specify that the system prompt the user to choose an action at runtime

Set the **Action** field to an action mode (Update/Display, Update/Display All, Correction, or Data Entry) if you want to constrain the User Profile to a specific action mode at the time of the transfer. The action modes available in the prompt list depend on which modes are specified as valid in the destination component definition.

Set the **Action** field to Prompt if you want to let the User Profile choose an available action mode at the time of the transfer. The action modes that the User Profile can choose from will depend on (1) which action modes are defined as valid in the destination component definition, and (2) which action modes the User Profile is granted access to in Maintain Security.



For more information on defining the action modes available in a component, see Understanding Component Definitions.

---

6. Set the transfer type.
 

Select the **Re-use current window** radio button to transfer to the component in the same window where the transfer is initiated. Select the **Use new window (minimize current window)** radio button to minimize the current window and open the destination component in a separate window.
7. Choose whether to supply search key values from the originating component.
 

Select the **Use data from current page in search dialog** check box if you want to use the values from the originating component's search keys in the search dialog of the destination component. If these values allow the system to select a unique row from the search record, the search dialog will be bypassed and the destination component will open immediately.

Clear the **Use data from current page in search dialog** check box if you want the user to type the search key values into the search dialog.
8. Click **OK** to accept the **Transfer Properties** dialog settings.
9. Click **OK** to accept the **Menu Item Properties** dialog settings.
10. Save the menu definition.



## Defining PeopleCode Menu Items

PeopleCode menu items trigger PeopleCode programs. You can create a PeopleCode menu item for either a standard or a pop-up menu; however, pop-up menu PeopleCode is far more versatile, because the program executes in a component buffer context, which allows PeopleCode to access values in the component buffer. The following procedure describes how to create a new PeopleCode menu item or redefine an existing menu item as a PeopleCode menu item, in either a standard or pop-up menu.



For more information on PeopleCode menu items, see Menu Item PeopleCode.

To define a PeopleCode menu item

1. In a standard or pop-up menu definition, double-click a menu item to access its properties. To create a new menu item, double-click the empty dashed rectangle at the bottom of menu item list of the appropriate bar item.

This displays the **Menu Item Properties** dialog.

Menu Item Properties for Standard Menu Items

2. If this is a new menu item, type a menu item name and label text into **Menu Item** fields.

You can create a shortcut key for the menu item by placing an ampersand in the label.

3. Set the **Type** of menu item to **PeopleCode**.
4. If this is a standard menu item, choose an enabling component.

At runtime standard PeopleCode menu items are always visible in a menu, but they are active (enabled) only when their enabling component is open. To specify an enabling component,



click the **Select** button, then choose an enabling component using the standard **Open Object** dialog.

5. Click **OK** to accept the settings in the **Menu Item Properties** dialog.
6. Associate a PeopleCode program with the menu item.

Save the menu item if it has not yet been saved. In the menu definition, right-click on the menu item, then select **View PeopleCode**. The PeopleCode editor appears. Add a PeopleCode program in the menu item's ItemSelected event.

When you have finished typing the program, save the PeopleCode program and close the PeopleCode editor.

7. Save the menu definition.



For more information on PeopleCode menu items, see Menu Item PeopleCode.

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## Defining Separator Menu Items

In some cases you may want to visually group menu items within a menu—particularly on long menus. The following procedure describes how to create a separator bar in a standard or pop-up menu.

To create a Separator menu item

1. In a standard or pop-up menu definition, double-click a menu item to access its properties. To create a new menu item, double-click the empty rectangle at the bottom of the menu.

This displays the **Menu Item Properties** dialog.



Menu Item Properties for Standard Menu Items

2. In the Type section select **Separator**.
3. Click **OK** to accept the settings in the **Menu Item Properties** dialog.
4. Drag the separator to the desired position.

To move the separator, simply click and drag it to the appropriate position in menu item list of the appropriate bar item. You can also select the separator bar, then **Cut** and **Paste** it to a new location.

5. Save the menu definition.

## Setting Menu Properties

The properties of a menu include:

- a short and long description of the menu
- the menu label
- the menu group

You can set the menu properties in the **Menu Properties** dialog, which includes a **General** and, in the case of a standard menu, a **Use** tab.

To access the properties of a menu

1. With a menu definition open in the Object Workspace, open the **Menu Properties** dialog.

You can open the dialog by doing any of the following:

- click the **Properties**  button.

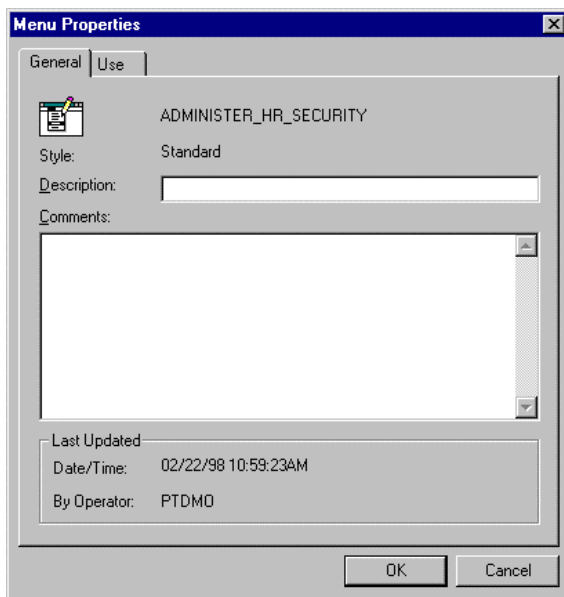


- select File, Object Properties
- press Alt+Enter
- double-click the menu definition
- right-click on the menu definition, then select **Menu Properties** from the pop-up menu

---

## General Tab of Menu Properties Dialog

This topic describes the settings in the **General** tab of the Menu Properties dialog.



Use Tab of Menu Properties Dialog

The **General** tab of the **Menu Properties** dialog lets you provide descriptive information about the menu and view information about the last time the menu definition was modified.

- Type a short description of the menu in the **Description** field.
- Type a longer description of the menu's function in the **Comments** field, along with any other information that you want to provide about the menu.
- The **Last Updated** group provides the date and time of the last update to the menu definition and the User Profile name of the User Profile who performed the last update.



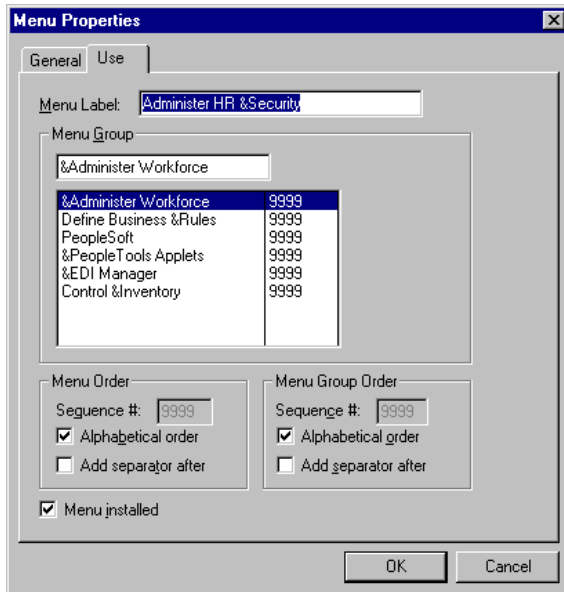
Translations of the menu description and comment into a foreign language count as an update only if the **Translations change updated information** is selected in the PeopleTools Options utility. For more information see .

---



## Use Tab of Menu Properties Dialog

This topic describes the settings in the **Use** tab of the Menu Properties dialog.



Use Tab of Menu Properties Dialog

The **Use** tab of the **Menu Properties** dialog lets you modify the menu label, change the associated menu group, and specify the order in which menu groups and menus appear in the **Home** bar item and in menus that appear in cascade menus.

### Menu Label Field

The **Menu Label** field lets you specify the label text for the menu. The label appears in the **Home** bar item, or in a cascade menu off the menu's menu group. You can place an ampersand in the text to assign a keyboard shortcut for the menu.

### Menu Group Controls

The **Menu Group** field lets you assign the menu to a menu group, or create a new menu group for the menu. To create a new menu group you can type a menu group label into the Menu Group edit box, optionally using an ampersand to assign a keyboard shortcut for the menu group. To assign the menu to an existing menu group, you can select a menu group from the **Menu Group** scrolling list.

If you leave the **Menu Group** field blank, the system creates a new menu group based on the menu label text. In this case the menu label text appears on the **Home** level, rather than the menu group name; however, the position where the label appears at the **Home** level is determined by the **Menu Group Order** settings of the menu group (see next topic).



## Menu Group and Menu Sort Order Controls

The **Menu Group Order** controls let you specify the order in which menu groups and menus appear on the **Home** bar item. The **Menu Order** controls let you specify the order in which the menus comprising a menu group appear within their cascade menu.

You can sort menus and menu groups alphabetically, by sequence number, or by a combination of both methods. The **Alphabetical order** check box sets the sort method of the item to alphabetical if selected, and to sequence number if cleared. The **Sequence #** field lets you assign a sequence number to items set to sort by sequence number. Items that sort alphabetically are automatically assigned the highest possible sequence number (9999), so that items that sort by sequence number always appear before items that sort alphabetically.



For more information on sorting menu-group and menu labels, see *Setting the Display Order of Menu Groups and Menus*.

---

## Menu Separator Position

The **Add separator after** check box determines whether a separator bar appears after the menu or menu-group label.

## Menu Installed Setting

The **Menu Installed** check box determines whether the menu is displayed in the system at runtime. Clear the checkbox if you want to uninstall the menu without deleting the definition.

# Setting Menu Item Properties

The **Menu Item Properties** dialog allows you to:

- Specify menu item names and labels for the menu item.
- Specify the menu items function: to open or transfer to a component, run a PeopleCode program, or act as a separator bar.
- Specify what component, if any, is associated with the menu item.
- Override the component search record.

You can set the menu properties in the **Menu Item Properties** dialog. The appearance of this dialog varies, depending on whether you are modifying the properties of a standard or pop-up menu item.

To access menu item properties

1. With a menu definition open the Object Workspace, open a bar item by clicking on a bar item label.



The bar item opens, displaying its menu items.

2. Right-click on a menu item, then select **Menu Item Properties** to open the **Menu Item Properties** dialog.

To open the properties of a new menu item, right-click on the empty dashed rectangle at the end of the bar item, then select **Menu item Properties**.

---

## Standard Menu Item Properties

This topic describes the settings of the Menu Item Properties dialog for standard menus:



The screenshot shows the 'Menu Item Properties' dialog box. It has a title bar with the text 'Menu Item Properties'. Inside, there are several sections: 'Menu Item' with 'Name' (GLOBAL SECURITY) and 'Label' (&Global Security) fields; 'Type' with radio buttons for 'Component' (selected), 'PeopleCode', and 'Separator'; 'Component' with 'Name' (SCRTY\_TBL\_GBL), 'Market' (GBL) and a 'Select...' button, 'Search Rec' (PSOPRDEFN), and an 'Override' checkbox with a dropdown arrow. At the bottom are 'OK' and 'Cancel' buttons.

Menu Item Properties Dialog for Standard Menus

The **Menu Item Properties** dialog for standard menus lets you specify the name and label for a menu item, specify its type, specify its associated component, and gives you the option of overriding the component search dialog.



For more information on defining menu items, see [Defining Menu Items](#).

---

### Menu Item Name and Label Fields

The **Name** and **Label** fields let you specify a name and label for the menu item. The label appears in the bar item. You can place an ampersand in the text to assign a keyboard shortcut for the menu.



## Menu Item Type

Select the **Component** radio button to specify that the menu item is associated with a component, which will be opened when the menu item is selected. Use the **Component** controls to choose the component.

Select the **PeopleCode** radio button to specify that the menu item runs a PeopleCode program.

Select the **Separator** radio button to specify that the menu item is a separator bar.

## Component

Use the **Component** controls to associate the menu item with a component. If the menu item type is **Component**, the menu item will open the component.

If the menu item type is **PeopleCode**, the label of the **Component** control group changes to **Enabling Component**. The enabling component is the component that must be open for the PeopleCode menu item to be enabled. When the enabling component is not open, the menu item is disabled (gray).

The **Search Rec** field displays the default search record for the component. Select the **Override** check box to override the default search record when the menu item is selected; use the prompt field to the right of the **Override** check box to choose the search record that will override the default search record.



For more information on overriding component search dialogs, see [Overriding the Component Search Record](#).

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## Pop-up Menu Item Properties

This topic describes the settings of the Menu Item Properties dialog for pop-up menus:



Menu Item Properties Dialog for Pop-up Menus

The **Menu Item Properties** dialog for pop-up menus lets you specify a name and label for a menu item, specify its type, and define a transfer if it is a transfer menu item.



For more information on defining menu items, see Standard Menus and Menu Groups.

## Menu Item Name and Label Fields

The **Name** and **Label** fields let you specify a name and label for the menu item. The label appears in the bar item. You can place an ampersand in the text to assign a keyboard shortcut for the menu.

## Menu Item Type and Transfer Destination

Select the **Transfer** radio button if the menu item is a transfer to another component. Click the **Transfer** push button to specify the menu, menu item, component, and page that the menu item transfers to.

Select the **PeopleCode** radio button to specify that the menu item runs a PeopleCode program.

Select the **Separator** radio button to specify that the menu item is a separator bar.

## Overriding the Component Search Record

Every component has a search record as part of its definition. The component search record is the record used to populate the component's level-zero search key fields; this enables the system to identify a unique row of data for the level-zero primary records in the component's pages, build a component buffer for the component, and display the page.



In some cases you may want to reuse the same component multiple times with different search records. You can accomplish this without creating separate copies of the component by overriding the component search record at runtime when the component is opened from a menu item. You must specify the override search record in the properties of the menu item that opens the component. The menu item must be in a standard menu; you cannot override a component search record in a transfer from a pop-up menu item.

The component override is temporary, and occurs only when the component is opened from the menu item where the override is set. It does not change the component definition.

To override a component search record

1. Open the menu item properties of the menu item with which you want to associate the component.

Menu Item Properties of Standard Menu Item

2. Set the **Type** of the menu item to **Component**.  
Select the Component radio button if it isn't already selected.
3. If the menu item does not already have an associated component, select a component.  
Click the **Select** button to choose a component from the standard **Open Object** dialog.
4. Select the **Override** check box, then choose an override search record from the **Override** prompt field.

The override search record must be a valid search record for the component: that is, it must have all of the search key fields that are at level zero of the component's pages.

5. Click **OK** to accept the settings in the **Menu Item Properties** dialog.
6. Save the menu definition.



## Controlling the Appearance of Menus

PeopleCode has a set of functions that enable you to control the appearance of menu items in both standard and pop-up menus. These functions enable you to:

- Check and uncheck menu items that act as "toggles."
- Disable (gray) and enable (ungray) menu item.
- Hide and show menu items.



For more information on using PeopleCode to control the appearance of menu items, see Menu Item PeopleCode.

---

## Modifying Menu Definitions

The Project Workspace is closely integrated with the Object Workspace. You can view menu definitions, drag and drop components and menu items from the Project Workspace to menu definitions in the Object Workspace.

---

### Viewing Menu Definitions


You can view menu definitions, bar items, and menu items in the Project Workspace.

To view menu definitions in the project workspace

1. Open an existing project.

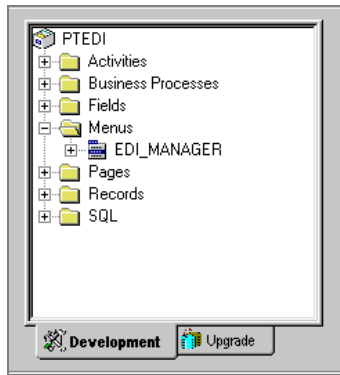
When the project appears in the project workspace, open the Menus folder using one of the following methods:

- Double-click the **Menus** folder.


Click once on the  tree control.

The **Menus** folder expands to show menu definitions included in the current project. In the example below, the Menus folder contains one menu definition, **EDI\_MANAGER**.

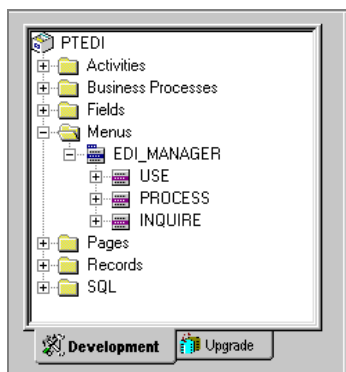





To view bar items, components, and PeopleCode in the project workspace

1. Click once on the  tree control to the left of the menu definition in the project workspace.

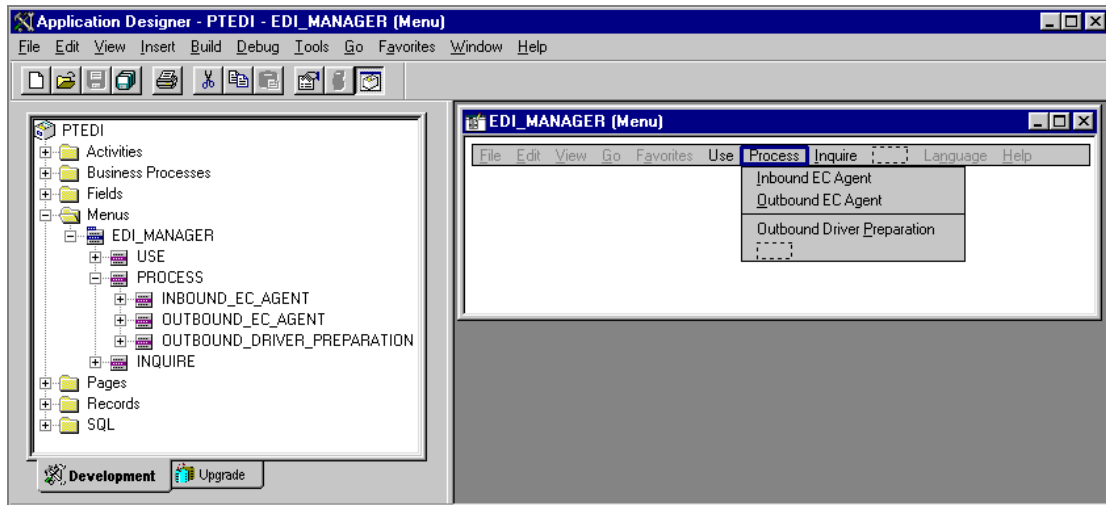
The bar items in the menu definition appear in a new branch. In this example, the EDI\_MANAGER menu definition has three bar items; **USE**, **PROCESS**, and **INQUIRE**.



2. Click once on the  tree control next to the bar item, to view the components associated with a bar item.
3. You can view the menu item's place in the menu definition by double-clicking on it in the project workspace.

The menu definition and bar items appear in the object workspace.





## Adding Components to a Menu from the Project Workspace

You can easily add a component to a menu definition from the project workspace.

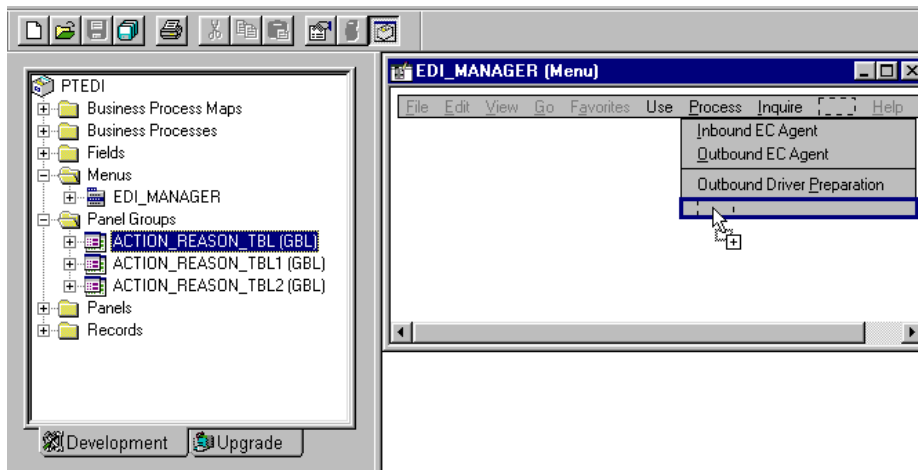
To add a component to a menu definition from the project workspace

1. Open a component in the object workspace.
2. Select Insert, Current Object into Project (or press F7).
3. Click **Close**.

The Component appears in the Components folder in the Project Workspace. If there were no previous components in the project, Application Designer creates the Components folder and inserts the component.

4. Open the menu definition you want to add a component to in the object workspace.
5. Drag and drop a component definition from the project workspace to the empty rectangle at the bottom of the menu definition in the object workspace.





6. The new component is inserted in the menu definition as a new menu item.
7. Save the menu.

---

## Accessing Menu PeopleCode

If a menu item has PeopleCode associated with it, the PeopleCode program appears in the project workspace. You can view the PeopleCode program in the PeopleCode editor by double-clicking the PeopleCode item in the project workspace.

## Working with Existing Menu Definitions

This topic describes how to rename and copy existing menu definitions, how to rearrange, copy and paste, and delete menu items, and how to uninstall a menu definition from an application without deleting the definition.

---

### Renaming Menu Definitions

When you change the name of the menu definition, you do not change the name of the application window which appears when you select your new menu from the PeopleSoft application. To change the name of your menu as it appears in the application window, open the Properties dialog and change the Menu Label.

To rename a menu definition

1. Close all open objects in the Object Workspace.
2. Select **File, Rename**.  
The **Rename Object** dialog displays.
3. Select **Menu** from the **Object Type** drop-down list then click **Rename**.



4. From the list of available menus, double-click on the menu you want to rename (or right-click and select **Rename**).
5. Type the new name over the name selected on the menu definition and click **Rename**.
6. At the dialog, which prompts you to make sure you want to rename the object, click **Yes**.

---

## Creating a Copy of an Existing Menu Definition

Creating a copy of a menu definition is slightly different than renaming the definition. Save As creates a copy of the definition with a new name while keeping the old menu definition as it was.

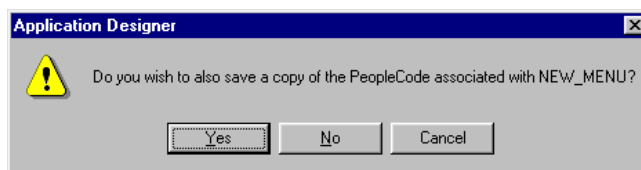
To save a copy of a menu definition

1. Open the menu definition you want to copy.
2. Select **File, Save As**.

The **Save As** dialog is displayed.

3. In the **Save As** dialog, type a new name for the copy of the menu definition, then click **OK**.

You are then prompted to save a copy of any PeopleCode you have associated with the menu definition.



Application Designer PeopleCode Prompt

---

## Moving Menu Bar Items and Menu Items

Both the bar items and their associated menu items can be moved within the menu definition. Drag and drop as well as cut and paste are supported.

To move menu items and items within menu definitions

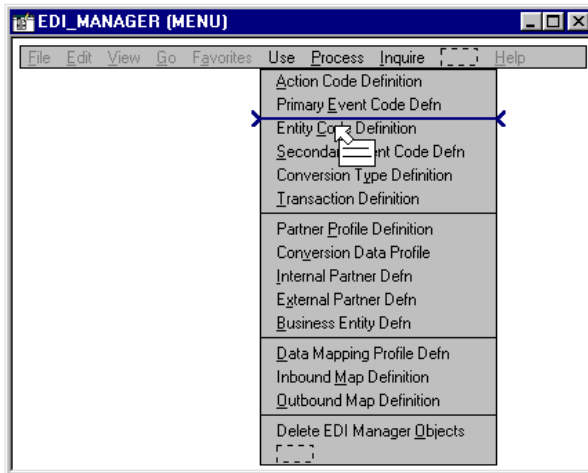
1. Open the Menu Definition containing the bar item you want to move, then click once on it.
2. With the appropriate bar item or item selected, drag and drop it to the new location.

For menu items, the cursor changes and a line appears showing where the menu item is being moved. To move an item from one bar item to another, drag it over the desired bar item. The bar item will appear, and you can place the item where you wish.





You can also select the bar item or menu item and choose **cut** and **paste** from the **Edit** menu.



Menu Definition with Drag and Drop Cursor



If you've already added the item to your Operator Security profiles, you don't need to make any additional security adjustments. The **position** of an item on a menu definition doesn't affect security.

## Copying and Pasting Menu Items from Existing Menus

You can use the **Edit**, **Copy** and **Paste** options to copy menu items to the clipboard and paste them into the current menu or others. However, because Application Designer will not allow you to have duplicate item names within a single menu, you must first change the name of the original item before you paste the copy into the same menu.

If you decide that a menu item would be more appropriate on another menu definition, you can move it from one menu to another using drag and drop in the Object Workspace.

To move a menu item to another menu

1. Highlight the item you want to move and select **Edit, Cut**.
2. Select File, Save to save your change.
3. Select File, Open to open the other definition, or highlight the menu definition to make it active in the Object Workspace.
4. In the menu definition, highlight the line immediately *below* the point where you want to insert the menu item.



5. Select Edit, Paste to insert the item on the menu definition.
6. To move the menu item within the menu, simply drag and drop it to the desired location.



You can also open both menu definitions in the Object Workspace and drag and drop the menu item from one definition to the other. The context menu options **Cut** and **Paste** are also available.

---

## Deleting Items from Existing Menu Definitions

If you want to remove an item permanently from a menu definition, you'll delete it. To help prevent accidental deletions, you can only delete one entry at a time.

To delete a menu item

1. Highlight the menu item you wish to delete.
2. Select Edit, Clear or press Delete.

If you attempt to delete a menu item linked to PeopleCode, the system will issue a warning. If you proceed to delete it anyway, the linked PeopleCode menu items will be deleted also.



When you delete an item from a menu definition, the system automatically removes it from the operator security list for that application window. If you delete an item by mistake, you can do the following: Before you perform any additional edits or saves, use the **Edit, Undo** option to restore the menu item.

---

## Uninstalling Existing Menu Definitions

When you create a new menu definition, the system automatically assumes that you want to install it as part of your application.

This means that the menu definition is active and will appear as an application window option under the Window menu in your application.

If you don't want to use a menu definition within your application, you turn off the installed flag. You might want to uninstall menu definitions if you're getting ready to install a new application and need time to set up user profiles. Or perhaps you want a template that stores the actions you typically use—but you don't want to include it as part of your standard application.

To remove a menu definition from the menu

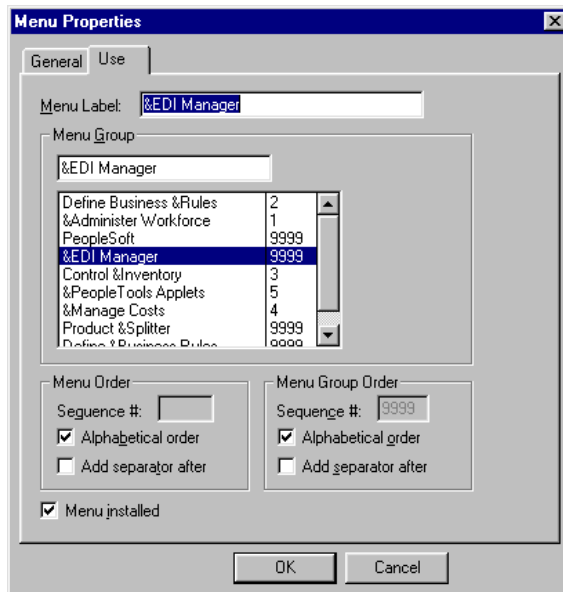
1. With the menu definition open in the Object Workspace, right-click on the menu definition



and select **Properties**.

The **Menu Properties** dialog is displayed.

2. Click the **Use** tab.



Menu Properties Dialog, Use Tab

3. Clear the **Menu installed** checkbox then click **OK**.

The **Menu installed** checkbox marks the menu definition as installed or not installed. You'll still be able to see and acknowledge the menu definition as you build security profiles in Maintain Security, however the menu definition won't appear as an application window option if not installed.

## Printing Menu Definitions

In addition to printing a menu definition from the object workspace, you can also obtain a formatted report of all menu definitions by printing the PeopleTools cross-reference report XRFMENU (Menu Listing). This report lists application windows in alphabetical order, and details all menus within each window and all page definitions within each menu. It also includes the associated search record definition name and detail page definition name.

To print a menu definition

1. Open the menu definition you wish to print so that it is displayed in the Object Workspace as the current object.
2. Select **File, Print**.

The standard Windows **Print** dialog appears.



## Menu and Menu Item Names

Menu and menu item names must conform to a specific set of naming conventions for the system to recognize them. The following rules always apply:

- All upper case letters ('ADMINISTER', *not* 'Administer')
- No embedded spaces ('ADMINISTER\_PERSONNEL', *not* 'ADMINISTER PERSONNEL'). Embedded spaces cannot be used because these names are used internally by PeopleCode.
- No special characters (such as % ^ & \* \$ #, etc.)

---

### Labeling Menu Definitions

The underlying record definition and page definition names should not drive your menu labeling conventions—rather you should be influenced by how your users will intuitively approach your application.

For example, within our PeopleTools database, we have several application window items, the names of which make it easy for you to determine the focus of each window. The Administer Personnel application window consists of menus that list pages designed specifically for entering personal, job, and other information about employees.

In addition to making your menu labels functionally easy to understand, you also want to make them easy to read. As a general rule, we recommend that you use mixed case for both application window and menu item labels: "Administer Personnel" as opposed to "ADMINISTER PERSONNEL."

---

### Setting Up Menu Security

Whenever you make a change or add items to an existing menu definition, you may need to adjust your user profile authorizations in Maintain Security. When you add a new menu to a security profile, that menu will be available the next time you sign on to the system.



For more information about specifying menu group security, see Understanding PeopleSoft Security.

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### Menu Groups at Runtime

Once you've created your menu groups and added them to your security profile in Maintain Security, you are ready to view it as Menu Navigation in your browser.



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## Menu Groups within a Portal

You can make a menu group available for use with any PeopleSoft portal by importing an entire menu group into the portal registry. The menu import process creates content references for all components and pages that belong to the menu group.



For more information, see the PeopleSoft Portal documentation.

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## CHAPTER 10

# Creating Image Definitions

Images are used to improve the look and usability experience for the user in virtually every web page on the internet. In fact, images have become so ubiquitous on the web that we forget how crucial they are to every aspect of our web experience: from helping us view the key contents of a web site, to providing a clear and intuitive path for navigating from one page to the next.

PeopleSoft Internet Architecture comes equipped with several different types of image related features, each of which serves a different function. It is easy to become confused with the various image types and their function. The table below gives a brief description of each and provides a link to the place in this book where it is described.

<i><b>Image Type</b></i>	<i><b>Description</b></i>
Image Fields	Use this field for storing images in a user defined format, such as bitmap (BMP) or Postscript (EPS). Image fields cannot be changed at runtime.
ImageReference Fields	Use this field when you want to change an image dynamically at runtime using PeopleCode. For more information see Using the ImageReference Field.
Image Definition	Source from where all static images and image fields are drawn and used elsewhere in the system.
Image Control	Placed on pages, use this control when you want a variable image that is pulled out of a record field in the database.
Static Image Control	Placed on pages, use this control when you want to place a static image definition on the page, such as on a push button.

This chapter describes how to create, update, and consolidate image definitions. We also provide you with pictures and descriptions of most of the image definitions included with your application.

## Creating New Image Definitions

Image definitions are managed PeopleSoft objects that can be associated with a variety of page controls. They are used primarily for aesthetic purposes, but can also be used to demonstrate a simple function, such as an arrow on a push button. Many organizations need to store images along with the rest of their employee, customer, and supplier data as part of their ongoing business operations. For example:

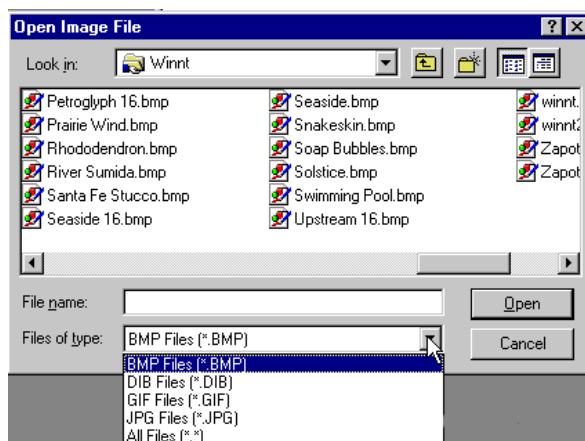


- Retailers often need to store images of each product along with all the standard merchandise information they use to manage inventory. Online retailers can display product pictures on their customer web site.
- Many organizations would like to store images of each employee as part of their standard human resources information.
- Consumer banks might want to store images of their customers' cancelled checks.

Application Designer allows you to create an Image Definition from any type of image file and store it in a central PeopleTools image catalog. In this process you essentially convert the image files into image definitions and store them in the image catalog so that they may be referred to from a PeopleTools application. Once you create the image definition, it is available for use throughout your system, such as in a static image page control or on a push button/hyperlink.

To create an image definition from an image file

1. Go to **File, New** and select **Image**.
2. Press **OK** to bring up the **Open Image File** dialog.



Opening an image file

3. Select an image file type.

Notice that you can select from a number of file types such as BMP, WBMP, DIB, and JPG. You can create an image definition using any file type. If you want to use a GIF or WBMP image, see [Creating Alternate Image Types](#).



**Note.** Some browsers do not support all image types. For example, Netscape does not support BMP images.

4. Select an image file name.



Application Designer displays a warning message if the image size is greater than 32 kilobytes. The maximum image size depends on the database platform you are using. Some database platforms support much larger image sizes while others limit the size; see Image Field for more information.

5. Select **Open**.

The image is now open as an image definition in the object workspace.



Saving image definition

6. Select **File, Save** to save the image definition in the PeopleSoft image repository.

Upon **Save**, the **Image Properties** dialog box opens.

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## Setting Image Properties

Once you create a new image definition, you can set the image properties.

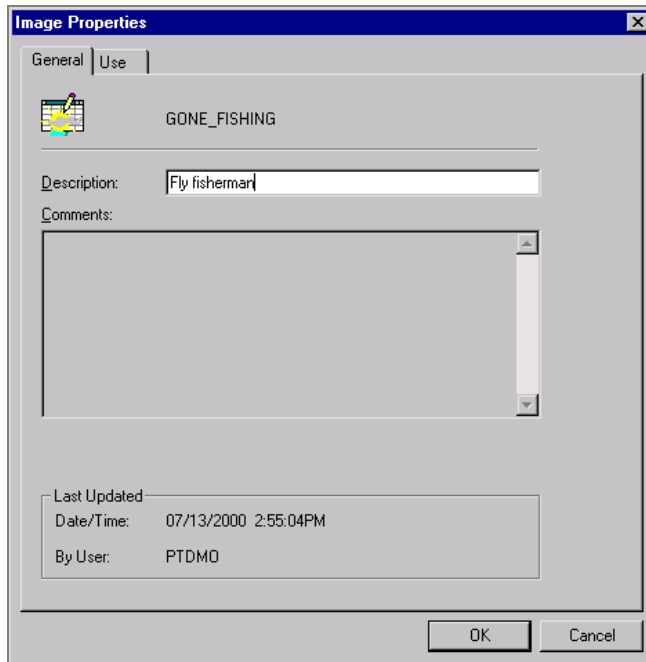
To set the Image Properties

1. Access the **Image Properties** dialog box.

If not already open, right-click on the open image definition and select **Image Properties** from the pop-up menu. Or select **File, Object Properties**.

2. You can put in an optional **Description** on the **Image Properties, General** tab.





Add a description for image definition

3. Click on the **Use** tab to view image use properties.

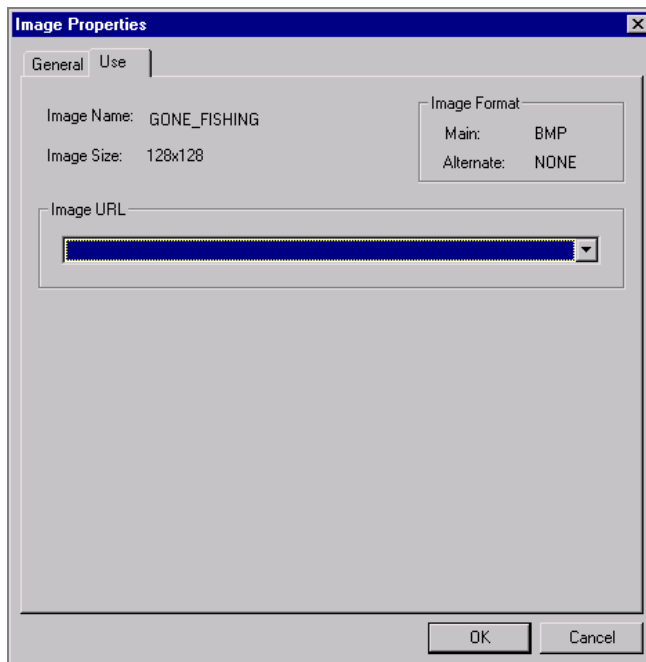


Image Properties – Use tab

The **Image Name** (the name it was saved as), **Image Size**, and **Image Format** specifications are displayed here. The **Main** and **Alternate** image formats are also visible. The Main image format is the picture format it was imported in as, such as BMP, and the one that will appear at runtime. The **Alternate** format is the optional image format that you can specify if



you want a GIF image as your **Main** image format that will appear at runtime. See *Creating Alternate Image Types* for more information. If you are using an alternate image format, the **Image Size** displays the value for the displayed image, or the alternate image.

The **Image URL** is a reference to an image on a web server. It can be used as an alternative to storing an image definition in the database. When the user opens a page containing a control associated with this image definition, the application retrieves the image from the URL to be displayed rather than from the database. URL's can be set up in the URL Maintenance utility. See *URL Maintenance* for more information.

---

## Creating Alternate Image Types

When creating new image definitions to be used with your applications you may want to use different image types for different purposes. Some developers argue, for example, that JPEG is the best format for photographic images since it gives the greatest compression of any bitmap format in common use. However, some believe that JPEG is not as effective in compressing text and drawings as it is at compressing photographs. GIF images, on the other hand, seem to be the most widely used format for image storage and continue to be the preferred format for storing text and drawings. Regardless of your image type preferences, we enable you to store all image types in the image catalog.

There are two image types (GIF and WBMP), however, that cannot be viewed in Application Designer during design time but that can be viewed through the browser at runtime. Instead we enable you to import an alternate image type of your image, such as JPEG, for viewing purposes only in Application Designer. The image you view at runtime in the browser or in your wireless application will still be the original GIF or WBMP image.

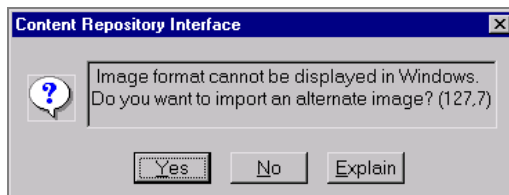
To import a GIF or WBMP image type

1. Go to **File, New** and select **Image**.

The **Open Image File** dialog box opens.

2. Select **GIF** or **WBMP** from the **Files of Type** drop-down box.
3. Locate the image you want to import and click the **Open** button.

The **Content Repository Interface** appears prompting you to select an alternate image.



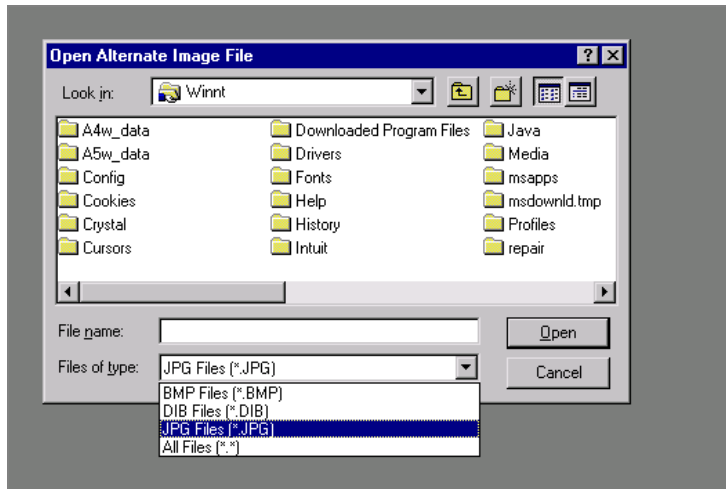
Prompt for importing an alternate image

4. Select **Yes**.

When you select **Yes**, the **Open Alternate Image File** dialog box appears, prompting you to



select an alternate image type. You will need to have the same image stored in your directory under a different file type, such as JPEG, if you want to be able to view the image in Application Designer. If you select **No**, you can still open the GIF or WBMP image definition, but you will not be able to see it. Instead you will see a message that reads “This image cannot be viewed in Application Designer.”



Open Alternate Image File dialog box

5. Select your alternate image format and the appropriate file and click **Open**.

You cannot select a GIF image as an alternate image type for WBMP images. Nor can you select a WBMP image as an alternate image type for a GIF image.

6. Select File, Save As.

Upon Save, the Image Properties dialog box appears. If you select the Use tab, you'll notice that the Image Format group area shows the Main image format as GIF (or WBMP) and the Alternate as JPEG. Now you can view the image in Application Designer as a JPEG image and still display the image at runtime as GIF (or WBMP).

## Updating an Image Definition

Occasionally, the original image file from which you created an image definition may change. To keep your image definitions current, you may want to update them rather than creating an entirely new image definition.

To update an image definition

1. To change the image for a saved Image definition, right-click on the open object.
2. Select **Update Image** on the pop-up menu.





Update image pop-up menu

This will bring up the **Open Image File** dialog box, where you can select the changed image file to replace the open image definition.

3. Press **Open**.

This will replace the previous image in the image definition with the new image you have selected.

4. Select **File, Save** to save the current Image definition with the new image.

---

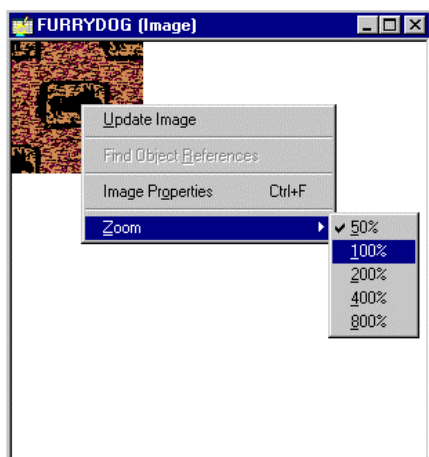
## Changing Image Display Size

If the image file is smaller than you would like it to appear in your open image definition, you can increase the size by zooming in on your object workspace. Note that this does not alter the size of the image in the image catalog.

To change image definition display size

1. Open the image you would like to view.
2. Right-click on the image and select **Zoom** to see the different size ratios.





Selecting 200% display size ratio

3. Select a new image display percentage and the image will automatically change to that selection.

---

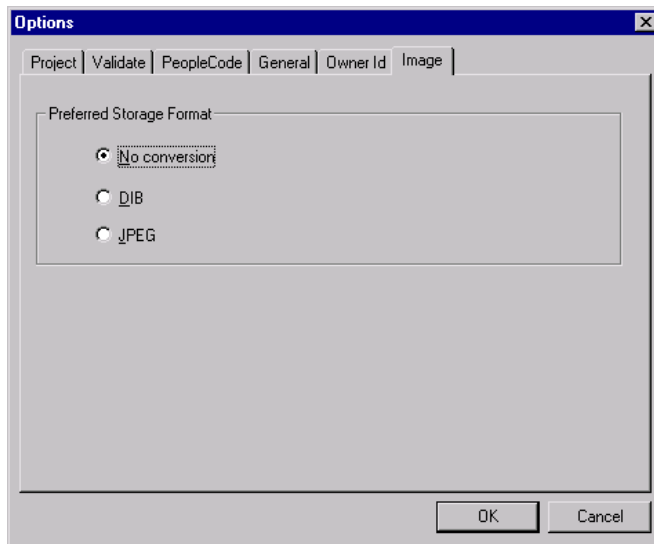
## Specifying Image Storage Format

You can specify a default storage format in which image definitions are stored. For example, if a JPEG is specified as the preferred storage format, then a bitmap (BMP) will be stored as a JPEG, once it is converted to an image definition. If you don't want the image format to be converted, you can leave it at the default of No conversion.

To specify an image definition storage format

1. Select **Tools, Options** to bring up the Options dialog box.
2. Click the **Image** tab.





Storage format for images

**No conversion**, the default, imports all image definitions in their original formats.

Select **DIB** or **JPEG** to have imported image definitions converted and stored to either DIB or JPEG in the Application Designer image catalog. Note that GIF and WBMP images cannot be converted to DIB or JPEG.

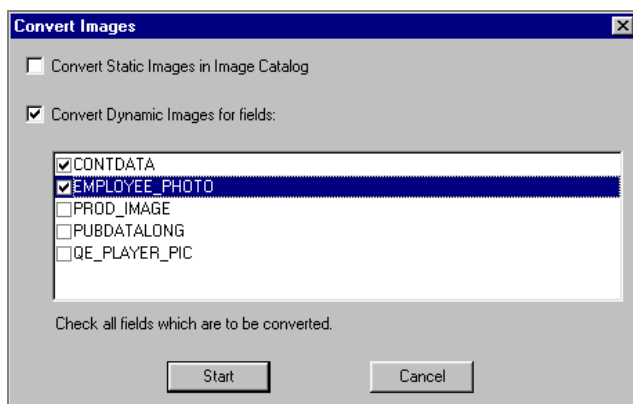
3. Select **OK**.

## Converting Images

Not all browsers support all image formats, but most browsers support the JPEG image type. Therefore, PeopleSoft has a utility to convert all application images to JPEG.

To convert images to JPEG format

1. Select Tools, Upgrade, Convert Images.



Convert Images dialog box



2. Select one of the two check boxes.

**Convert Static Images in Image Catalog**

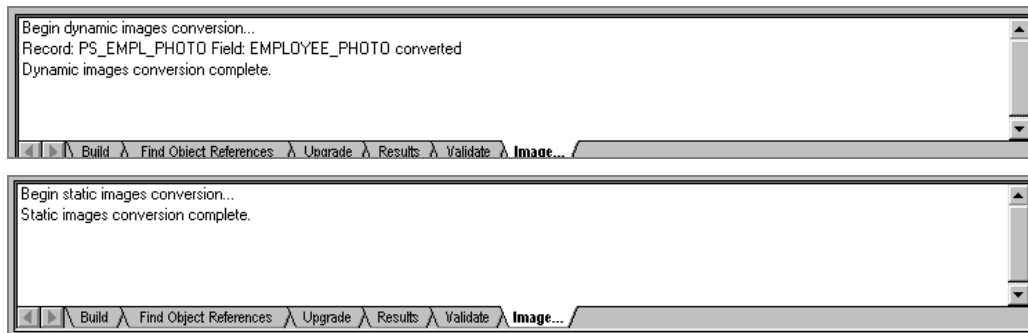
Converts all image definitions stored in the image catalog of your PeopleSoft database.

**Convert Dynamic Images for fields**

Converts all images that are dynamically referenced by PeopleCode to display in image fields.

3. Check the fields to be converted. Click the **Start** button.

When the process is complete, a message displays in the **Image...** tab of the output window.



Displays of dynamic and static image conversion output window messages

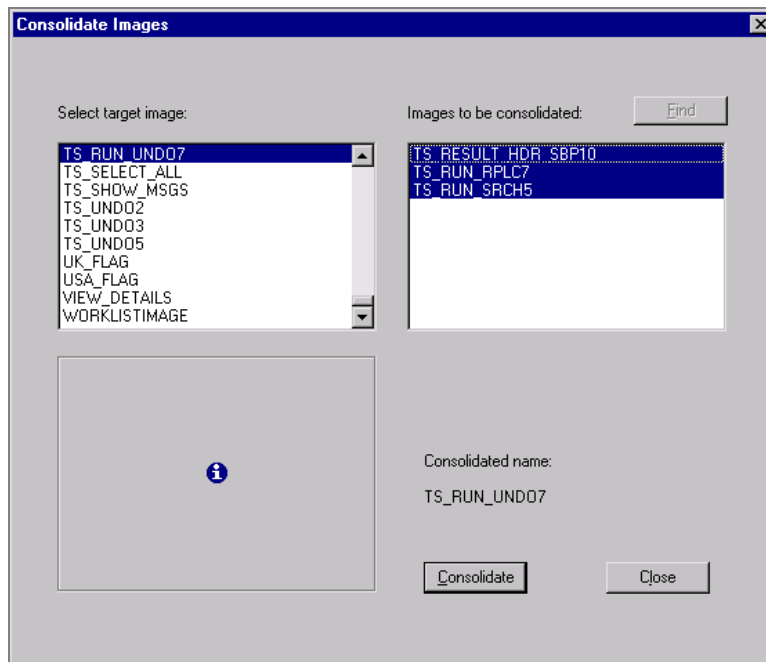
## Consolidating Images

Use this tool if you create custom image definitions and use them in multiple record definitions. Consolidate Images helps you avoid having the same image stored in several places. All image definitions packaged with your PeopleSoft system have already been consolidated.

To consolidate custom image definitions

1. Open an existing image definition in the object workspace.
2. Select Tools, Consolidate Images.
3. Select a target image from the list.
4. Press **Find** to gather all of the consolidated image candidates.





Consolidating image definitions

5. Select all the images and press **Consolidate**.

To select multiple images hold down the Shift or Ctrl key. The selected image definitions are removed from the **Images to be consolidated** list box and consolidated into the target image.

6. Press **Close**.

## Catalog of Image Definitions

In addition to the image definitions you create, your system comes equipped with a multitude of predefined image definitions. These images can be used to help you identify an action that a user needs to perform on a page, or can be used for merely aesthetic purposes. For example, you can access an image by either inserting it onto a page as a static image, or by specifying it as a label on a push button to accompany a specific function.

The following tables list the image definitions stored in the image catalog that are used by PeopleTools in the deployment of Internet Applications. We do **not** recommend changing any of these images.

In general:

- All PeopleTools image definitions start with PT\_
- Any image definition with \_D at the end of the name is the disabled mode of the image.
- All images that start with PT\_TAB are used for tab construction and colors. For information on how to use these images see Changing Colors on Tabs.





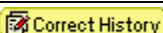

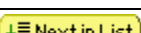

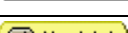
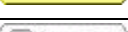
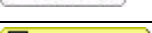
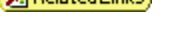
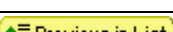
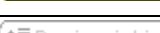
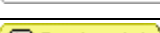
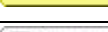
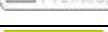
To open an image definition

1. Go to **File, Open** in Application Designer.
2. Select **Image** from the **Object Type** drop-down list.
3. Press **Enter** to view the full list of image definitions.





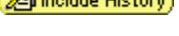

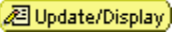

## Internet Architecture Image Definitions

The following image definitions are used by PeopleTools to generate the display of Internet Architecture pages. It is important to use these images consistently as you create new pages and update pages in your applications. The images are categorized by their function and are listed in alphabetic order by Image Name.

### Toolbar Images



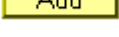




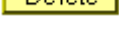



<i>Toolbar Image</i>	<i>Image Name</i>	<i>Description</i>
	PT_ADDMODE	Add mode
	PT_ADDMODE_D	Add mode disabled
	PT_CORRECTMODE	Correction mode
	PT_CORRECTMODE_D	Correction mode disabled
	PT_NEXTINLIST	View next in list
	PT_NEXTINLIST_D	View next in list disabled
	PT_NEXTTAB	Next page in component
	PT_NEXTTAB_D	Next page in component disabled
	PT_POPUP3	Transfer to a page of hyperlinks related to the current page
	PT_PREVINLIST	View previous entry in list
	PT_PREVINLIST_D	View previous in entry in list disabled
	PT_PREVTAB	Previous page in component
	PT_PREVTAB_D	Previous page in component disabled
	PT_REFRESH	Executes a trip to the server to validate data. Available only to expert entry users who choose to defer page processing.
	PT_REFRESH_D	Disabled refresh button. Appears to users who have not selected expert entry in a component set to standard processing mode.









<b>Toolbar Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_RETURN	Return to search page
	PT_RETURN_D	Return to search page disabled
	PT_SAVE	Save
	PT_SAVE_D	Save disabled (reserved for future use)
	PT_UPDATEALLMODE	Update/display all mode
	PT_UPDATEALLMODE_D	Update/display all mode disabled
	PT_UPDATESMODE	Update/display mode
	PT_UPDATESMODE_D	Update/display mode disabled

## Scroll or Grid Actions

PeopleSoft Internet Architecture uses these standard images when creating scroll areas, scrolls, and grids.




<b>Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_ADD	Add a row
	PT_ADD_D	Add a row disabled
	PT_ADD_LARGE	Large add a row button. Alternative to PT_ADD if there is enough room on the page
	PT_ADD_LARGE_D	Large add a row button disabled
	PT_COLLAPSE	Used to collapse grid, scrolls, or group box
	PT_DELETE	Delete a row
	PT_DELETE_D	Delete a row disabled
	PT_DELETE_LARGE	Large delete a row button. Alternative to PT_DELETE if there is enough room on the page
	PT_DELETE_LARGE_D	Large delete a row button disabled
	PT_EXPAND	Used to expand grid, scrolls, or group box
	PT_GRID_NO_TABS	Expand grid columns horizontally so grid tabs are no longer showing.



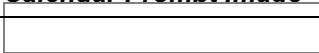






<b>Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_GRID_SHOW_TABS	Return expanded grid to a tabbed grid.
	PT_NEXTRROW	View next row
	PT_NEXTRROW_D	View next row disabled
	PT_POPUP2	Transfer users to a page of hyperlinks related to the current grid
	PT_PREVIOUSROW	View previous row
	PT_PREVIOUSROW_D	View previous row disabled

### Tab Images


You can change the look of both folder and grid tabs. See Changing Colors on Tabs for details on the process for creating new tab images.

<b>Tab Images</b>	<b>Image Name</b>	<b>Description</b>
	PT_TAB_LSCROLL	Scroll left to previous tab in page or grid
	PT_TAB_RSCROLL	Scroll right to next tab in page or grid
	PT_TABxxx – PT_TABxxxxxxxx...	Selection of over 80 images that can be used for creating folder tabs

### Calendar Prompt Images

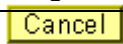
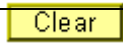
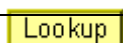
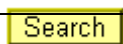
<b>Calendar Prompt Image</b>	<b>Name</b>	<b>Description</b>
	PT_028 – PT_631	Variations of the numbering sequence for a calendar month. (28 options)
	PT_CALENDAR	Open calendar prompt
	PT_CURRENT_DATE	Encircle current date in month display
	PT_DATE_HEADER	Header bar where scroll buttons appear
	PT_DATE_TITLE	Label for the days of the week
	PT_LEFT_SCROLL	Scroll to previous months
	PT_RIGHT_SCROLL	Scroll to subsequent months



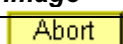


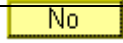




<b>Calendar Prompt Image</b>	<b>Name</b>	<b>Description</b>
	PT_SELECTED_DATE	Gray out the date selected in the month display

## Lookup and Search Page Images








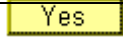
The following images are used on lookup and search pages.

<b>Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_CANCEL	Used to cancel a lookup page
	PT_CLEAR	Clear search criteria from the page (only appears on the Advanced Search/Lookup page)
	PT_LOOKUP	Begin lookup of data
	PT_SEARCH	Start search on search page







## General

<b>Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_ABORT	Abort transaction. Used in some PeopleCode message boxes.
	PT_APPLY	Applies changes made to the database. Usually found when transferring to another page via PeopleCode.
	PT_IGNORE	Used in some PeopleCode message boxes
	PT_NO	Used in some PeopleCode message boxes
	PT_OK	Used to accept the input on a secondary page and go back to the main page
	PT_PIXEL	Used for spacing purposes in page generation
	PT_POPUP	Transfer users to a page of hyperlinks related to the current field
	PT_PRINT	Open print dialog box for designated item
<b>Processing</b>	PT_PROCESSING	Display as flashing text while accessing a server/database
	PT_PROMPT_LOOKUP	Lookup button for field prompt table



<b>Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_REPORT_DIST_ICN	Usually found on the Process Scheduler Request page, this button takes you to the Distribution Detail page. Used to select Roles/Users who can access or be sent an email of report output.
	PT_RETRY	Button used in some PeopleCode message boxes.
	PT_RUN	Run a report. Takes the user to the Process Scheduler Request page. Not used in PeopleTools 8.10.
	PT_SEC_RETURN	Return from a secondary page to the main (calling) page
	PT_WF_ACTIVITY	Used for a subprocess of the business task for workflow, consisting of one or more steps
	PT_WF_BUSPROC	Used to depict a complete business task for workflow
	PT_WF_STEP	Used to show a discrete step in the business process, corresponding to a single transaction executed on an application page or through an external program
	PT_YES	Used in some PeopleCode message boxes

### Query Images

<b>Query Images</b>	<b>Image Name</b>	<b>Description</b>
	PT_QUERY_ADD_CRITERIA	Add criteria to query
	PT_QUERY_DEL_CRITERIA	Delete criteria from query
	PT_QUERY_GRP_CRITERIA	
	PT_QUERY_NOT_CRITERIA	
	PT_QUERY_REL	
	PT_QUERY_UNG_CRITERIA	



## Tree Images

The tree images listed below are used with Tree Manager.











For more information see Tree Components.

<b>Tree Node &amp; Leaf Images</b>	<b>Image Name</b>	<b>Description</b>
	PSTREEMGR_COL_BRANCH	Identifies node that is root node for a branch
	PSTREEMGR_COL_NODE	Standard node image
	PSTREEMGR_COL_SKNODE	Tree node that has skipped a level
	PSTREEMGR_END_NODE	Tree node that has no children, i.e. terminal node
	PSTREEMGR_EXP_BRANCH	Image used for root node on a branched tree
	PSTREEMGR_EXP_NODE	Node that has been expanded
	PSTREEMGR_EXP_SKNODE	Node that has been expanded and has skipped a level
	PSTREEMGR_LEAF	Lowest level detail value of a tree


<b>Connector Line Images</b>	<b>Image Name</b>	<b>Description</b>
	PSTREEMGR_SKIPLEVEL	Image used to create connector lines between nodes
	PSTREEMGR_ENDCONNECT	Image used to create connector lines between nodes
	PSTREEMGR_CONNECT	Image used to create connector lines between nodes
	PSTREEMGR_VERTICAL	Image used to create connector lines between nodes
























<b>Node &amp; Leaf Command Button Images</b>	<b>Image Name</b>	<b>Description</b>
	PTTREE_ADDCHILD	Add a new child node
	PTTREE_ADDLEAF	Add a new detail value, such as a leaf
	PTTREE_ADDSIB	Add a new node as a sibling to selected node
	PTTREE_CUT	Cut a node or leaf and place on clipboard
	PTTREE_DELETELEAF	Delete a leaf
	PTTREE_DELETENODE	Delete a node
	PTTREE_DISP_AS_ROOT	Redisplay Tree starting with the currently selected node being displayed as the root node
	PTTREE_EDITDATA	Display underlying user data page
	PTTREE_MAKEBRANCH	Create a new Tree Branch starting with the selected node
	PTTREE_PASTECHILD	Paste node on Clipboard as a child of currently selected node
	PTTREE_PASTELEAF	Paste leaf on Clipboard as a sibling of currently selected node
	PTTREE_PASTESIB	Paste node on Clipboard as a sibling of currently selected node
	PTTREE_UNBRANCH	Unbranch a branch
	PTTREE_UPDATELEAF	Update a leaf's values and properties
	PTTREE_UPDATENODE	Update a node's value or properties

## Portal Images

The portal images listed below are all used to perform a specific action. Additional images used in the portal, such as PT\_PORTAL\_HEADER\_BG are purely aesthetic. In general, all images reserved for the portal contain the word "PORTAL" in the image name, such as PT\_PORTAL\_SEPARATOR.

<b>Portal Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_PORTAL_DOWN_ARROW_Y	Move pagelet down when personalizing portal layout



<b>Portal Image</b>	<b>Image Name</b>	<b>Description</b>
	PT_PORTAL_GO	Process search criteria
	PT_PORTAL_HOME	Return to customized home page
	PT_PORTAL_MENU	Open the menu navigation
	PT_PORTAL_FAVORITES	Open favorites page
	PT_PORTAL_FAVORITES_ADD	Add current open page to list of favorites
	PT_PORTAL_IC_BACK	Goes back one level in the menu
	PT_PORTAL_IC_CLOSE	Remove a pagelet from your home page
	PT_PORTAL_IC_CLOSE_OVER	Mouse over image on close a page button
	PT_PORTAL_IC_COLLAPSE	Minimize a pagelet on home page
	PT_PORTAL_IC_COLLAPSE_OVER	Mouse over image on the collapse pagelet button
	PT_PORTAL_IC_EDIT	Personalize content of a pagelet
	PT_PORTAL_IC_EDIT_OVER	Mouse over on personalize pagelet content
	PT_PORTAL_IC_EXPAND	Restore collapsed pagelet in portal
	PT_PORTAL_IC_EXPAND_OVER	Mouse over of expand collapsed pagelet in portal
	PT_PORTAL_IC_HELP	Open Help
	PT_PORTAL_IC_LOGOUT	Log out of the portal
	PT_PORTAL_IC_MINUS	Collapse one menu level
	PT_PORTAL_IC_PLUS	Expand one menu level
	PT_PORTAL_LEFT_ARROW_Y	Move pagelet to left when personalizing portal layout
	PT_PORTAL_RIGHT_ARROW_Y	Move pagelet to right when personalizing portal layout
	PT_PORTAL_UP_ARROW_Y	Move pagelet up when personalizing portal layout







## CHAPTER 11

# Creating HTML Definitions

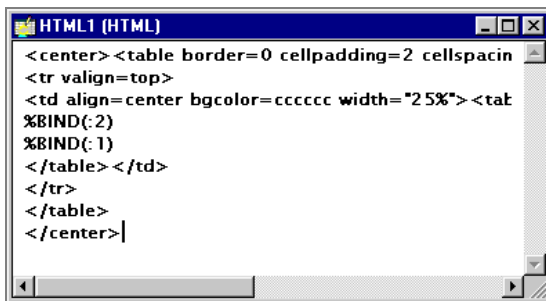
You use the Application Designer to create and modify HTML definitions to use in your applications. HTML definitions are stored in your database and used primarily to dynamically call them from an HTML area control with the help of PeopleCode. The PeopleCode function used to call an HTML definition is GetHTMLText.



For more information on using **GetHTMLText**, see Using HTML Definitions and the GetHTMLText Function in PeopleCode.

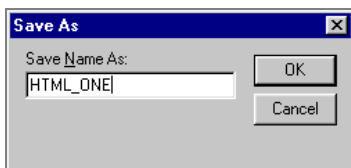
To create an HTML Definition

1. Go to **File, New** (or press CTRL+N) and select **HTML**.
2. Press **OK** to open a new **HTML** definition.
3. Type or paste your HTML text directly into the open definition window.



Open HTML Definition

4. Select **File, Save** to save the HTML definition.



Saving HTML Definition

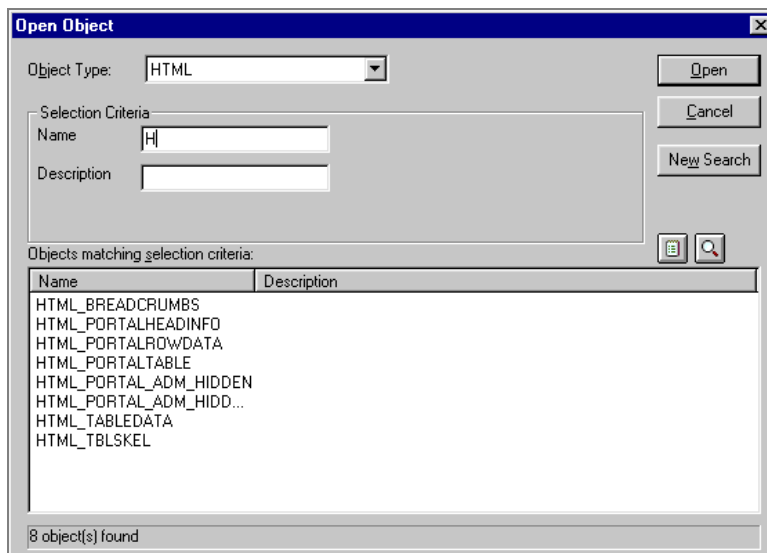


The HTML definition is saved in your current database for accessing.

To open an HTML Definition

1. Select **File, Open** (or press Ctrl-O) to get the Open Object dialog box.
2. Select **HTML** from the Object Type drop down menu.
3. Click on **Open** to show all of the HTML definitions currently stored in your database.

You can also type in a letter or word in the **Selection Criteria, Name** edit box to filter the display. As in, typing in the letter H reveals all of the HTML definitions that begin with H in your database.



Selecting HTML Definitions

Obviously by naming a group of HTML definitions by the same introductory phrase can help keep them together for easy selecting.

## Referencing HTML Definitions Dynamically

HTML definitions can be referenced from an HTML Area Control statically or dynamically. But, the most common usage is to reference a number of HTML definitions dynamically from an HTML Area Control.



For more information on setting the properties for HTML Area Controls, see HTML Area Control.



# Upgrading with Application Designer

## Overview

Application Designer streamlines the migration of database objects—such as records, pages, projects, and PeopleCode—from one PeopleSoft database to another. You can also use Application Designer to generate reports, online and printed, about how the object definitions in a project differ between the source and target databases.

There are many types of upgrades, each requiring a different amount of time and effort. However, there are basic steps to be performed in Application Designer regardless of the type of upgrade. If you need to know the specific procedures to do an enterprise-wide upgrade for a specific platform, see the Upgrade documentation for your platform.

This document explains the following tasks you can perform in Application Designer:

- Preparing projects for upgrade
- Comparing databases
- Changing the upgrade settings
- Performing a copy
- Stamping the target database

## Preparing for an Upgrade

Before you can copy a database to a destination, either a target database or a file, you may need to perform one or more of the following tasks:

- Navigating in the Upgrade Workspace. This covers basic information about the upgrade workspace in Application Designer.
- Connecting to a target database
- Opening projects
- Populating projects
- Getting security access



- Comparing databases

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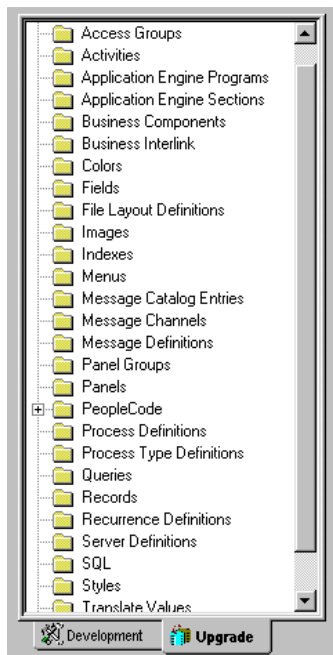
## Navigating in Upgrade Workspace

When using Application Designer's upgrade feature, you use a different project workspace view and definition window than you do when developing object definitions.

The upgrade view of the project workspace shows you all the object types in the project—not just those that Application Designer can modify, as in the development view. The upgrade definition window, which displays—one object type at a time—the objects in the project and their upgrade settings.

To view the upgrade attributes of a project

1. Open a project.
2. Select the **Upgrade** tab at the bottom of the project workspace.



Displaying the Upgrade View of the Project Workspace

The Upgrade view in Application Designer differs from the Development view in that it shows you all the objects in the project *available for upgrade*, not just the object types that Application Designer can modify.

With the exception of PeopleCode, the folders in the upgrade view are not expandable; double-clicking them does not open a branch listing individual definitions. Instead, double-clicking one of these folders opens the upgrade definition window.



To view all the objects in a project for upgrade

1. Double-click a folder listed in the Upgrade view.

Records (Upgrade Object Type)

Records Key							
	Record Name	Field Name	Source	Target	Action	Upgrade	Done
1	ACCESS_GRP_TBL		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	AEMASSCHNG_AE		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	AEREQUESTPARM		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	AEREQUESTTBL		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	AERUNCONTROL		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	AERUNCONTROLPC		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	AE_APPL_TBL		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	AE_APPL_TMP		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	AE_APPL_VW		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	AE_CACHE_FLD_V		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	AE_CACHE_REC_V		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	AE_CV8_PAIR_TBL		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	AE_DO_APPL_VW		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	AE_DO_PROD_VW		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15	AE_INTTEST_AET		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16	AE_OPTIONS		Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Upgrade Definition Window

The upgrade definition window contains a grid displaying objects in the project of the type selected. For example, if you double-click the **Records** folder in the Upgrade view, the upgrade definition window displays the records in the project, as shown above.

You can only view one upgrade definition window—and, hence, one object type—at a time. When you double-click another object type in the upgrade view, the upgrade definition window is refreshed with the new objects of that type.



You can choose to filter which objects are displayed in this window. By default, no filtering is applied. See Choosing View Options.

## Upgrade Definition Columns

The columns in the upgrade definition window display various kinds of information about each object.

<b>Key</b>	Displays the name of the object, plus any other key values. The number and title of the Key columns vary, depending on the object type.
<b>Source</b>	Shows the object's status in the source (current) database
<b>Target</b>	Shows the object's target database status
<b>Action</b>	Shows what action will be performed if the object is copied into the target database



**Upgrade**

Check which objects to be upgraded during a copy

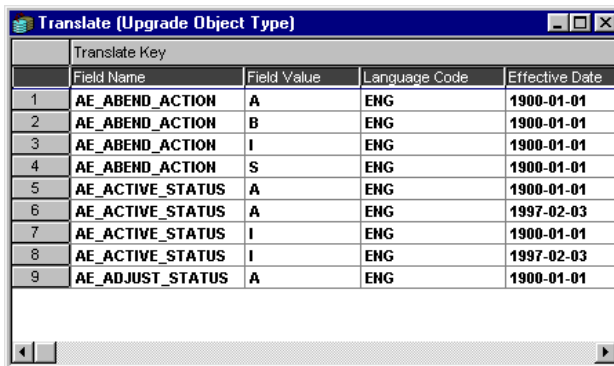
**Done**

Shows whether an object has been copied or not. You can't select **Done** checkboxes yourself—Application Designer does this after a copy—but you can *deselect* them. Only objects that have **Upgrade** selected and **Done** deselected are copied during an upgrade.

**Viewing Grid Columns**

The key columns on the left of the grid do not scroll horizontally. When you use the horizontal scroll bar, only the upgrade columns scroll, allowing you at all times to see the key information about the objects you're viewing. The various object types have different numbers of key columns. For example, fields have only one—Field Name—while translates have four—Field Name, Field Value, Language Code, and Effective Date.


When viewing objects types with a large non-scrolling region, the horizontal scroll bar is disabled unless there is at least one scrolling column displayed. For example, in the window displayed below, the scroll bar does not work not function because only key columns are displayed.




	Field Name	Field Value	Language Code	Effective Date
1	AE_ABEND_ACTION	A	ENG	1900-01-01
2	AE_ABEND_ACTION	B	ENG	1900-01-01
3	AE_ABEND_ACTION	I	ENG	1900-01-01
4	AE_ABEND_ACTION	S	ENG	1900-01-01
5	AE_ACTIVE_STATUS	A	ENG	1900-01-01
6	AE_ACTIVE_STATUS	A	ENG	1997-02-03
7	AE_ACTIVE_STATUS	I	ENG	1900-01-01
8	AE_ACTIVE_STATUS	I	ENG	1997-02-03
9	AE_ADJUST_STATUS	A	ENG	1900-01-01

Viewing Key Columns Only

To enlarge the window enough so that you can scroll the upgrade columns, you have a number of options. Try them in this order:

- Maximize the upgrade definition window.
- Maximize Application Designer.
- Hide the project workspace. (Click  on the toolbar.)

There may be times when you want to display *all* the grid columns at one time. If you've tried the options above and you still can't see every column, you can use the zooming commands in the **View** menu. With each click of the **Zoom Out** command, the grid size is reduced. To restore the normal view, select **100%**.

You can also resize individual columns in the grid. To do this place your cursor over the right edge of the column you want to resize (in the header row). When your cursor looks like this ,



click and drag the column border to where you want it. If you resize the upgrade columns, your sizing will be saved and used for every project. Custom key column sizing is not preserved after you close a project; these columns will be reset to their default size.

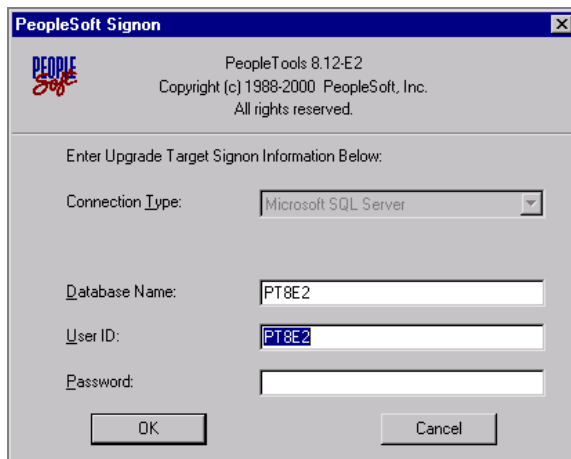
---

## Connecting to a Target Database

You must connect to a target database using the PeopleSoft Signon dialog for a number of upgrade tasks.

To connect to a target database

1. When the PeopleSoft Signon dialog displays, enter the appropriate information.

The image shows a Windows-style dialog box titled "PeopleSoft Signon". At the top left is the PeopleSoft logo. To its right, the text reads "PeopleTools 8.12-E2" and "Copyright (c) 1988-2000 PeopleSoft, Inc. All rights reserved." Below this, a label says "Enter Upgrade Target Signon Information Below:". There are four input fields: "Connection Type:" with a dropdown menu showing "Microsoft SQL Server"; "Database Name:" with a text box containing "PT8E2"; "User ID:" with a text box containing "PT8E2"; and "Password:" with an empty text box. At the bottom are "OK" and "Cancel" buttons.

PeopleSoft Upgrade Target Signon Dialog

<b>Database Name</b>	The name of your target database.
<b>User ID:</b>	The standard user-defined user ID for your target system.
<b>Password</b>	The user-defined password for your target system.

---

## Populating Projects

Before you can copy object definitions from one database to another, you must insert them into an Application Designer project.

If you have a custom application, you probably already know which objects need to be copied from the source into the target database. In fact, the objects may already be in a project. When you know which objects you want to upgrade, you can specify and insert the objects in the project.

However, when you are unfamiliar with one of the databases, you might want to populate a project by comparison—for example, when you upgrade to a new PeopleSoft application release.



When you populate a project by comparison, the source and target databases are compared, and the project is automatically populated with objects that are defined differently in the two databases.

To select objects

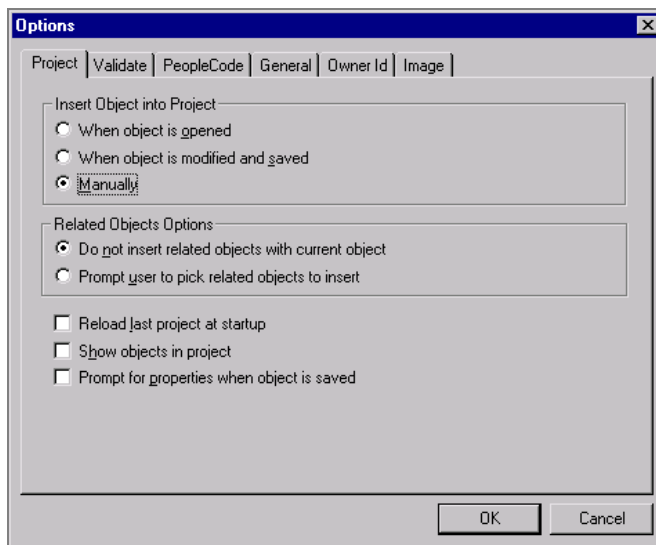
1. Select **Insert, Insert Object into Project** from the Application Designer toolbar.

Application Designer designates certain object types as related to a parent or controlling object type. For example, a record's related objects can include objects such as fields, indexes, and subrecords. When you insert objects into a project for the purpose of upgrading, it can be important for these related objects to also be included.

To check project options

1. Select Tools, Options.

Review the settings in the Related Objects Options and reset, if necessary.



Reviewing Related Objects Options



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For more information about Project Options, see Setting Project Options.

---

## Opening Object Definitions

To open an object definition in the upgrade grid

1. Double-click the item in the grid.



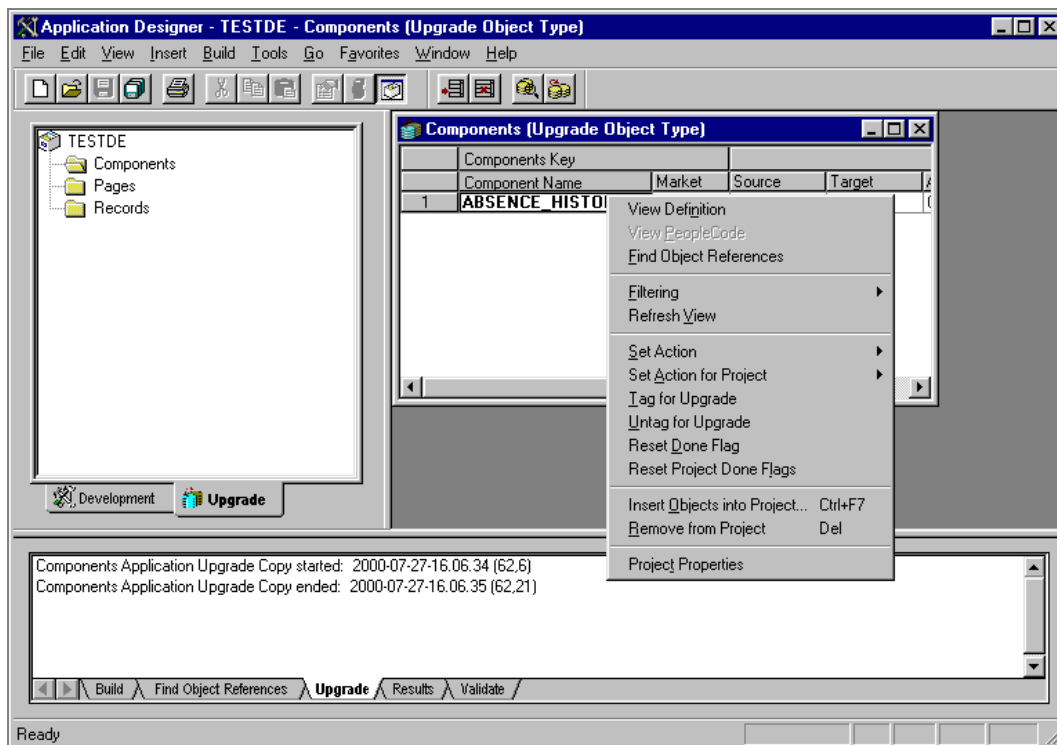
The corresponding object definition opens.

To open multiple object definitions in the upgrade grid

1. Select the desired items in the grid.

You can use Shift+click to select a range of objects or Ctrl+click to select individual objects.

2. Right-click on one of the selected items.



Upgrade Options

3. Select View Definition.

Each of the selected objects is opened.

## Searching for an Object

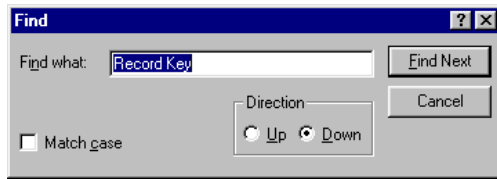
When you want to find a particular object in the grid, you can search for all or part of the object's name.

To find an object in the project

1. Select Edit, Find.

The **Find** dialog displays.





Application Designer Find Dialog

You use this dialog to find a text string in an upgrade definition window.

2. Enter a value in the **Find what** text box.
3. Specify the **Direction** and whether to search for text exactly as you typed it (matching case).

You can search **Up** or **Down**. Selecting **Match case** means the search results must match the letter casing of the search string you entered

4. Click Find Next.

If a match is found, the cell containing the match will be highlighted.

### Summary of Upgrade Menu Actions

<i><b>Menu Items</b></i>	<i><b>Action</b></i>
View Definition	Allows you to open multiple object definitions in the upgrade grid.
View PeopleCode	Enabled for object types that support PeopleCode. Clicking this item opens the PeopleCode Editor.
Filtering	Opens a cascading menu with various filtering options that you can apply to the upgrade grid. These same options can also be found in the View menu.
Refresh View	Updates the information in the upgrade definition window.
Set Action	Allows you To select and tag objects for copy or delete.
Set Action for Project	Allows you To select and tag all objects in a project for copy or delete To select and tag projects for copy or delete.
Tag for Upgrade	Allows you to tag a group of objects for upgrade.
Untag for Upgrade	Allows you to remove the tag on a group of objects for upgrade.
Reset Done Flag	Allows you reset Done flags for a group of objects.
Reset Project Done Flags	Allows you to reset all Done flags.
Insert Objects into Project	Opens the Insert into Project dialog.
Remove from Project	Removes selected objects from the current project. You can also use the Del key to perform this action.



Project Properties	Opens the Project Properties dialog, which you can use to define the report filter and copy.
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## Getting Access for Upgrading

To use Application Designer's upgrade features, you must have full access to projects. You will also need to have upgrade access in the target database.



For more information see Maintain Security Interface.

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Also, we recommend that you lock all Application Designer objects in the source and target databases before comparing and copying projects. In order to do this, you need Supervisor-level access to Change Control. You could ask your Change Control administrator to perform this action for you, but their user ID will be the only one allowed to perform the copy while the target objects are locked.



For more information on getting supervisor access, see Understanding PeopleSoft Security.

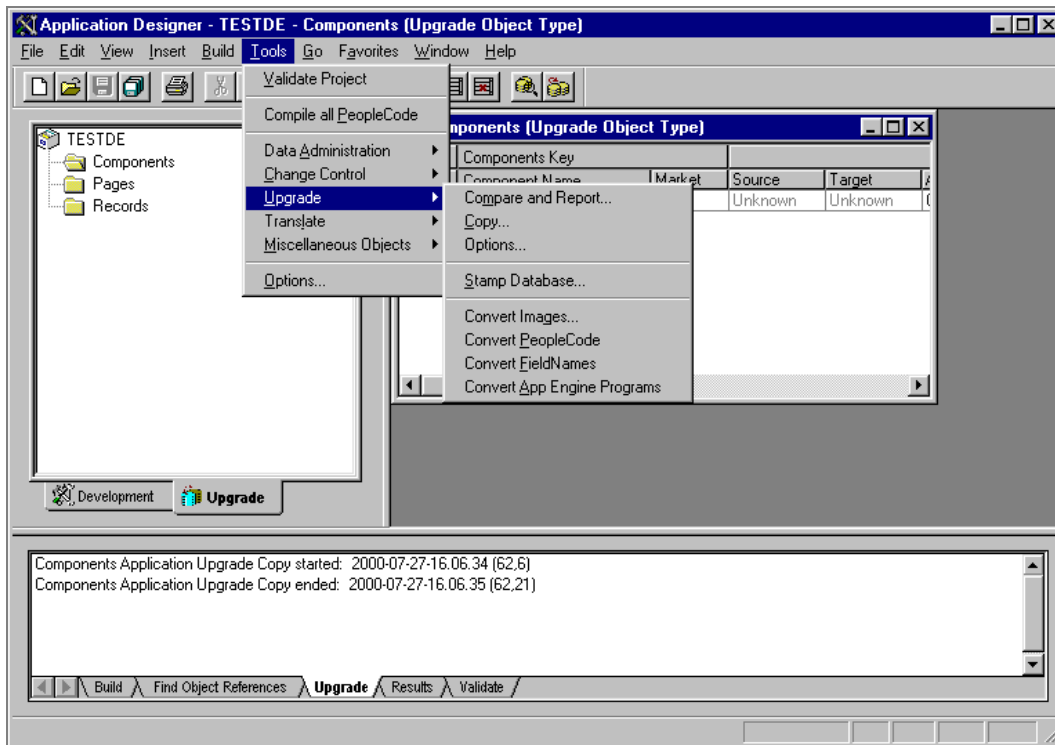
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## Converting Objects

The Upgrade process allows you to convert images, PeopleCode, field names and Application Engine Programs, as shown in the following screen:





Converting Objects



For more information about converting images, see [Converting Images](#). For more information about converting PeopleCode, field names and application engine programs, see the [Upgrade documentation](#) for your platform.

## Comparing Databases

Application Designer lets you compare the contents of your project with the target database and shows you online the status of each object in the target and the source database. You can then decide which object definitions to keep.

There are two ways to compare a source and target database. You can:

- Compare all database objects of a certain type—then, populate the current project with any objects defined differently in the source than in the target.
- Compare only the objects in the current project.

### Compare All Objects by Type

Application Designer performs comparisons one object type at a time. For each object type you select, the system removes any existing objects of that type from the current project and



repopulates the project based on the comparison results. For this reason, you should be careful when performing a database comparison on a predefined project.

For example, say your project includes several record, page, and menu definitions and you perform a database comparison just on pages. All the page definitions that were originally in the project will be removed and be replaced by any page definitions found in the compare process. However, the record and menu definitions in your project will not be affected.

Performing a database comparison will also overwrite customized upgrade settings with the defaults for the specified target orientation.

## Compare Objects by Project

If you have manually inserted objects into your project and you want to see how those objects differ from the same objects in another database, you'll want to perform a project comparison. This method compares only the objects in the project, and does not repopulate the project—except in the case of record and field comparisons, which we explain below. Upgrade settings are never modified when you perform a project comparison.

### *Comparing Records and Fields*

When records are compared—during a database *or* project comparison—any differences found in record fields will be written into the project. For example, let's say Record A in the source database contains record fields 1, 2, 3, 4, and 5, and Record A in the target database contains fields 2, 4, 6, and 7. Before the comparison, the project contains only Record A. After the comparison, the project would contain Record A and record fields 1, 3, 5, 6, and 7.

Similarly, when field objects are compared, any differences found in the field labels are inserted into the project as new field objects. For example, suppose you are comparing Project X with Project Y where both projects have all the same field objects. However, the field labels for one of those field objects is different. The Project X field object is labeled Employee ID while Project Y's is labeled Staff ID. The compare would create a new field object that is labeled Staff ID. After the comparison, the project would contain both an Employee ID field and a Staff ID field.



This is the only situation in which a project comparison will repopulate a project.

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## Setting Compare Options

To set the options for comparison

1. Optionally, lock all Application Designer objects in the target database.

If you perform a full comparison, it may take several days for you to review all your comparison reports and to set your upgrade settings accordingly. Locking the target database Application Designer objects will ensure that those definitions cannot be changed between the comparison and the time you perform the copy.





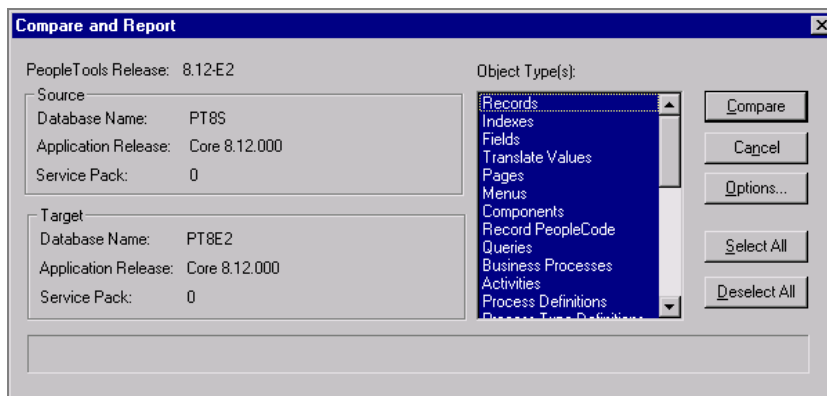
For more information on locking all database objects, see Locking and Upgrades.

2. Turn off all tracing.
3. Select Tools, Upgrade, Compare and Report.

The Target Signon dialog displays, prompting you to sign on to a target database.

4. Sign on to the target database.

Sign on just as you would to any PeopleSoft database. The **Compare and Report** dialog displays:



Compare and Report Dialog

You use this dialog to set your comparison preferences and to start the comparison and reporting processes.

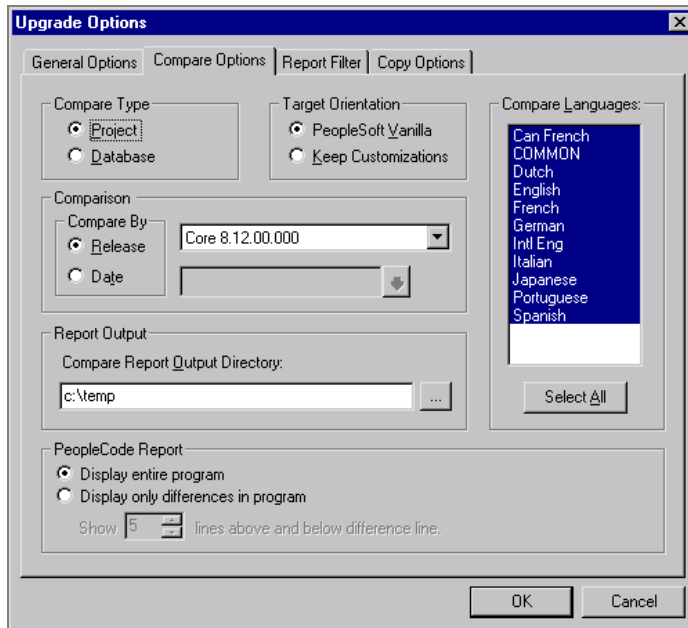
5. Choose your Object Type(s).

From the **Object Type(s)** list, select the types of objects you want to compare. If you want to select all or most of the types, click **Select All**. You can then use Ctrl+click to deselect any unwanted types.

6. Click on the **Options** button to bring up the **Upgrade Options, Compare Options** dialog.

The Compare Options dialog displays. See Compare Options.





Compare Options Dialog

## Comparison Reports

When you perform a comparison, the system generates a report for each object type compared. These reports provide detailed information on how each object in the source differs from its counterpart in the target.

Before performing a comparison, you can choose what object status combinations you want to generate reports on. For example, during an upgrade to a new PeopleSoft release, you may decide that if an object is found in the source that was last changed in the target by PeopleSoft, and that hasn't changed since the last upgrade, you don't need to see any information on the object definition differences (because you intend to accept PeopleSoft's new version). In this case, you want to filter your compare reports so that a report is not generated if Source = (any status) and Target = Unchanged.



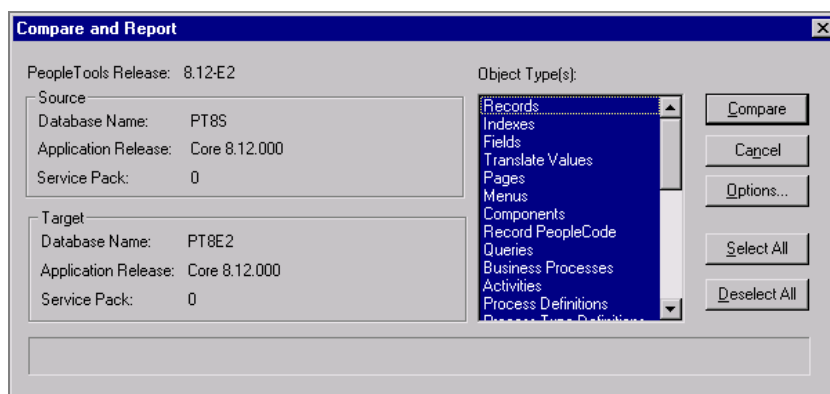
Filtering comparison reports does not affect which objects get added to a project during a database comparison, only which objects are reported. Any object defined differently in the two databases will always be added to the project.

7. Define the comparison report filter.

See Report Filter Options.

8. Click **OK** to go back to the **Compare and Report** dialog and then choose your **Object Types(s)**.



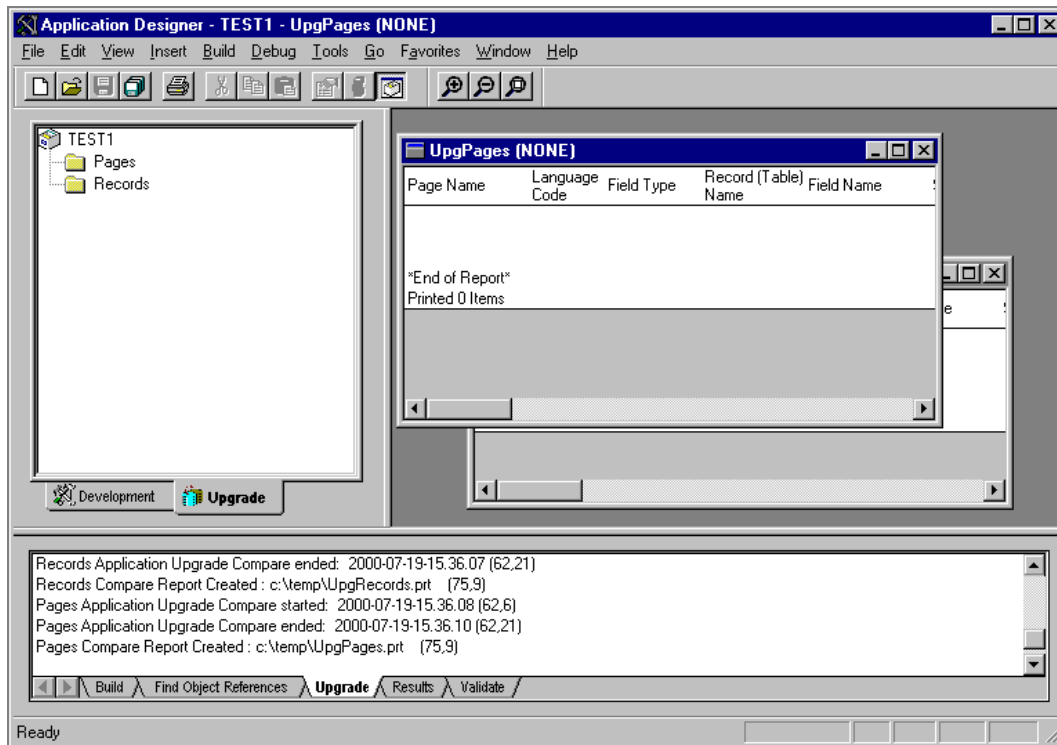


From the **Object Types(s)** list, select the types of objects you want to compare. All of the Object Types are highlighted. If you want to select all or most of the types, click **Select All**. You can then use Ctrl+click to deselect any unwanted types.

9. To perform the comparison now, select **Compare**.

The system creates online reports for the objects that you are comparing. Alternatively, if you are unsure, you can select **Cancel** to stop the comparison from taking place.





Upgrade Reports in Application Designer

## Setting Upgrade Options

The object types that Application Designer can **copy** are listed on the chart in Appendix – What Object Types Can be Upgraded?.

The following section describes setting various options for upgrade.

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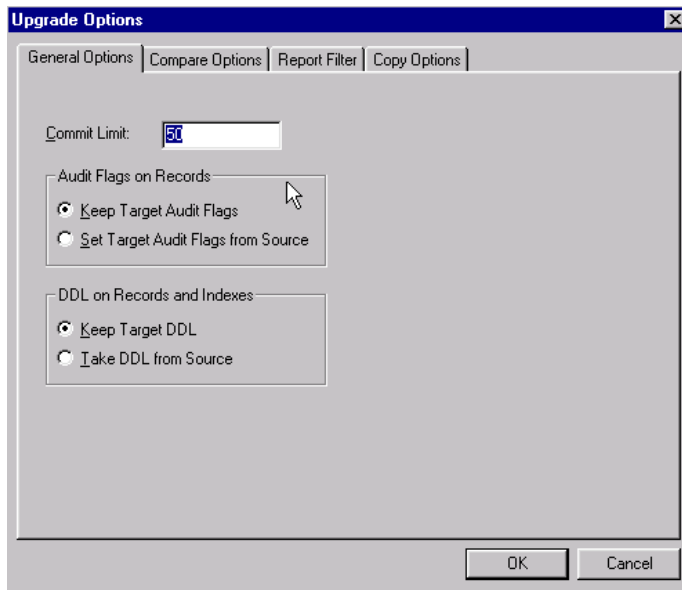
### General Options

To set general options

1. Select Tools, Upgrade, Options.

The **General Options** dialog displays.





General Options Dialog

2. Choose a Commit Limit.

We recommend you use the default **Commit Limit**, which is 50. If the copy process seems slow, and you have a good amount of log file space, try increasing the commit limit. However, keep in mind that very large commit limits can mean a lot more work if something goes wrong during the copy. For example, if your **Commit Limit** is set to 1,000 and the copy process stalls on the 999<sup>th</sup> object, none of your previous objects will have been copied; you'll have to copy them all again.

3. Determine your **Audit Flags** setting.

**Keep Target Audit Flags** Default. This means all your enabled target flags are preserved. Any audit flags enabled in the source will also be retained. Note that any differences between the source and target audit flags are not shown on the compare report.

**Set Target Audit Flags from Source** Audit flag settings will be determined by the source only.

4. Select the DDL on Records and Indexes.

**Keep Target DDL** Default. This means your target DDLs will be preserved.

**Take DDL from Source** Target DDL will be determined by the source only. Note that any differences between source and target DDL are not shown on the compare report.

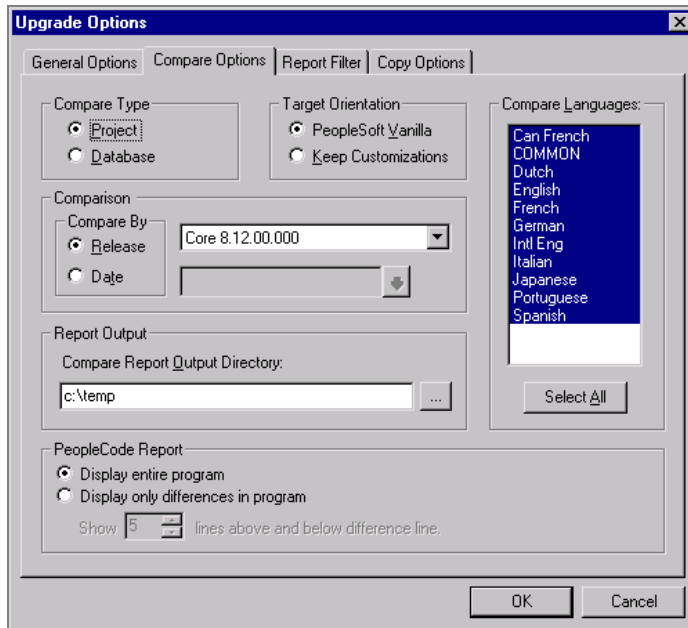
5. Click **OK**.



## Compare Options

To set compare options

1. Select Tools, Upgrade, Options, Compare Options.



Compare Options

2. Select the Compare Type.

### Project

Only the objects in the current project—of the specified Object Type(s)—are compared; the contents of the project do not change.

### Database

All definitions—of the specified Object Type(s)—will be compared.



If you choose **Database**, the contents of the current project will be deleted and replaced with objects found during the comparison.

3. Select a Target Orientation.

The **Target Orientation** option determines how the **Upgrade** checkboxes in the upgrade definition window will be set for objects that were last modified by the customer in one database and last modified by PeopleSoft in the other database.



<b>PeopleSoft Vanilla</b>	The Upgrade checkboxes will be set so as to preserve PeopleSoft's changes.
<b>Keep Customizations</b>	The checkboxes will be set so that the customer's changes are preserved.

4. In the **Comparison** box, choose the criteria to **Compare By**.

<b>Release</b>	Default—databases compared by the highest release that the two databases have in common. You can use the drop-down list to select from lower common releases. The comparison process will label objects as Changed or Custom/Changed if they've been changed since the date/time stamp for that release level.
<b>Date</b>	The comparison process labels objects as Changed or Custom/Changed if they have been modified since the Date that you specify.

5. Select Compare Languages option.

Choose specific languages in the **Compare Languages** column or choose **Select All**.

All of the **Languages** are highlighted.

<b>Select All</b>	The recommended default. Make sure that the languages in your source and target databases match.
<b>COMMON</b>	Specifies basic object characteristics and parameters in the architecture that are not language-sensitive. <b>Language options</b> specify label-oriented characteristics of an object such as page names, labels, and messages. If you do not highlight <b>COMMON</b> , basic object characteristics will be omitted.
<b>Specific Languages</b>	If you choose to select specific languages and basic object characteristics, you should also highlight <b>COMMON</b> . However, if you only want to copy language attributes of an object, you do not need <b>COMMON</b> . From the <b>Copy Languages</b> list, select <b>COMMON</b> and then the languages of objects you want to compare. If you want to select all or most of the languages, use <b>Select All</b> . You can then use Ctrl+click to deselect any unwanted languages.

6. Specify the **Report Output** location.

Enter the pathname where you want the comparison report saved.

7. Specify the **PeopleCode Report** options.

For PeopleCode compare reports, you can specify whether you want to show the entire



program on the report (the default setting), or only show the code differences between the source and target by **selecting Display only differences in program**. If you choose the latter, you can specify the number of code lines to show above and below the difference for context. The valid values for number of lines to show is 0 to 99. A value of 0 shows only the difference line. A value greater than zero shows that many lines above and below the difference line.



**Note.** The PeopleCode Report settings are global across all projects, such that changing any settings for one project changes all subsequent PeopleCode compares, regardless of project.

## Report Filter Options

To define the comparison report filter options

1. Select Tools, Upgrade, Options, Report Filter.

		T A R G E T				
		Absent	Changed	Unchanged	Custom Changed	Custom Unchanged
S	Absent	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D	Changed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
U	Unchanged	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C	Custom Changed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E	Custom Unchanged	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Select All    Default    Deselect All

OK    Cancel

Report Filter Page of the Upgrade Options Dialog

You use the checkboxes to specify how you want to filter your upgrade comparison reports.

2. Select the checkboxes corresponding to the object status combinations you want reported.

Each row in the matrix corresponds to the object status in the source database. Each column corresponds to the object status in the target.



The default settings for report filtering will show conflicting, customized definitions only. To reset your selections to the default setting, click the **Default** button. To choose all object status combinations, click **Select All**. If you don't want to generate any reports, click the **Deselect All** button to deselect all of the checkboxes.

3. Click **OK**.

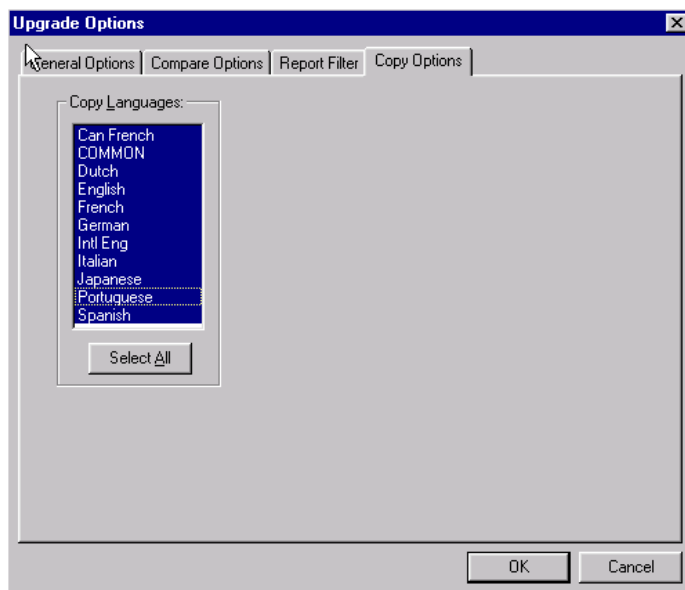
---

## Copy Options

To set copy options

1. Select the **Copy Options** tab.

The Copy Options page displays.



Upgrade Options, Copy Options

2. Choose **Select All** or choose specific languages in the **Copy Languages** column.

All of the **Languages** are highlighted.

### Select All

The recommended default. For **Select All**, make sure that the languages in your source and target databases match. Otherwise, you may overwrite translations in your target.



**COMMON**

This specifies basic object characteristics and parameters in the architecture that are not language-sensitive.

**Language options** specify label-oriented characteristics of an object such as page names, labels, and messages. If you do not highlight **COMMON**, basic object characteristics will be omitted.

**Specific Languages**

If you choose to select specific languages and basic object characteristics, you should also highlight **COMMON**. From the **Copy Languages** list, select **COMMON** and then the languages of the objects you want to copy. If you want to select all or most of the languages, click **Select All**. You can then use Ctrl+click to deselect any unwanted languages.

**Translation Scenario Examples**

<i>If you select...</i>	<i>What happens...</i>
<b>COMMON</b> and <b>English</b>	Your source database does not include translations but your target database has translations that you do not want to overwrite
Languages and <i>omit</i> <b>COMMON</b>	You have sent your database out for translations and want to avoid copying any inadvertent changes made by the translators to your objects.
<b>COMMON</b> and <i>omit</i> Languages	You want to copy the source without translations to the target

3. Click **OK**.

When you save your project, the copy settings you made will be saved and will remain set unless you change them again.

**Reviewing Upgrade Settings**

Once your project is populated with objects and has been compared (if applicable), you'll want to review it and check the upgrade settings before copying it.

To reduce the number of objects you must search through, you can filter out the information you don't need to see. You do this by setting your view options. Afterwards, you can adjust the default upgrade settings as necessary.



## Choosing View Options

You can filter your view of the upgrade definition window by choosing one of the options in the **View, Filtering** menu. These same options are available in the upgrade pop-up menu in the **Filtering** menu. The options are:

<b>No Filtering</b>	All objects are displayed
<b>Tagged for Upgrade</b>	Only objects with their <b>Upgrade</b> checkbox selected are displayed.
<b>Not Tagged for Upgrade</b>	Only objects with their <b>Upgrade</b> checkbox deselected are displayed.
<b>Done</b>	Only objects with their <b>Done</b> checkbox selected are displayed.
<b>Not Done</b>	Only objects with their <b>Done</b> checkbox deselected are displayed.
<b>Custom Filtering</b>	Choosing this option opens a dialog in which you can choose which object status combinations you want to display. For more information see Custom Filtering.

When you apply a filter, the filter type is displayed in the bar above the upgrade columns. For example, in the graphic below, there is a custom filter applied, plus **Not Tagged for Upgrade** and **Done**.

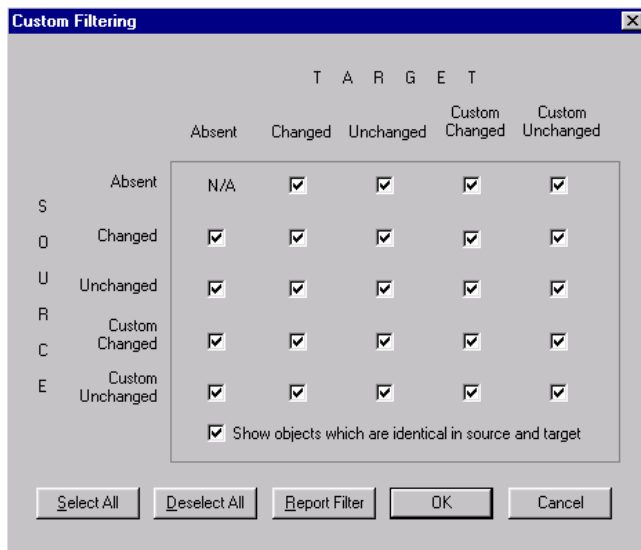
View Custom Filter					View Upgrade = No		View Copy Done = Yes	
Source	Target	Action	Upgrade	Done				

Applied Filters Displayed

## Custom Filtering

When you select **View, Filtering, Custom Filtering**, you are presented with a matrix similar to that found in the **Project Properties** dialog on the **Report Filters** page.





Custom Filtering Dialog

In this dialog, you can choose which object status combinations you want to be displayed in the upgrade definition window. You can choose to set these options the same as your settings on the **Report Filter** page of the **Project Properties** dialog by clicking **Report Filter**.

You can also elect to **Show objects which are identical in source and target**. This will display objects having a status combination of Same/Same. This status combination is only possible if you've performed a project comparison and objects in the project were defined the same in the source and target. You can never have a Same/Same status combination for object types on which you've performed a database comparison.

---

## Overriding Upgrade Defaults

After reviewing your project and its Compare Reports, if you're unhappy with the default upgrade column values for any objects, you can override them. You do this by changing an object's Upgrade and Action values.

For example, if you want to preserve an object that Application Designer plans to delete from the target (**Action = Delete, Upgrade** box selected) you change its **Upgrade** setting. You can also remove an object from the project. This does not delete the object from the database.

Overriding defaults also comes in handy if you want to propagate deletions from one database to another.

To specify whether any action will be taken on a single object

1. Select or deselect the object's **Upgrade** checkbox.

When the **Upgrade** box is checked, the displayed **Action** will be performed when you copy the project. If the box is not checked, no **Action** will be taken.



To specify whether any action will be taken on a group of objects

1. Select a group of objects.

To do this, use Ctrl+click or Shift+click. Or, you can select all objects in the upgrade definition window by clicking on the top left cell of the grid.

2. Right-click on one of the objects.

The upgrade pop-up menu displays.

3. Select either Tag for Upgrade or Untag for Upgrade.

To select the **Upgrade** checkbox of all the selected objects, click **Tag for Upgrade**. To deselect the **Upgrade** checkbox of all the selected objects, click **Untag for Upgrade**.

To specify which action will be performed on an object during a copy

1. Click the **Action** cell of the desired object.

This activates a drop-down list in the cell.

2. Select the desired **Action** from the drop-down list.

You can choose *Copy* or *Delete*.

To remove an object from a project

1. Select the object and press **Del**.

To select and tag objects for copy or delete

1. Select the object row(s).

2. Right-click on one of the objects.

The **Upgrade** pop-up menu displays.

3. Select Set Action.

You can choose *Copy* or *Delete*. Your selected object will reflect this change in the **Action** column. When you upgrade your project, it will be copied/deleted from the target database.

You can also select **Set Action for Project** to tag all objects within a project for a selected action.

---

## Recording Your Upgrade Settings

After you've made your changes to the default upgrade settings, you'll probably want to **Save** the project. You may also want to print out a hardcopy record of the project in its current state. You



can elect to rerun the comparison process (as a project compare) to regenerate new upgrade reports. Or, you can simply print the contents of the upgrade definition window, to save a high-level view of the project.



For more information on saving a project, see [Saving a Project](#).

---

To regenerate upgrade reports

1. Set up the reporting filter.

See Report Filter Options.

2. Perform a project comparison.

A project comparison will compare only the objects in the project and will not change your **Action** and **Upgrade** settings. Your project contents will not be altered—unless any record fields have changed in the target database, in which case the corresponding changes will be made in the project.

The new upgrade reports generated by this comparison will reflect your customized **Action** and **Upgrade** settings. See [Compare Objects by Project](#).

To print the contents of the upgrade definition window

1. Open the upgrade definition with the desired object type displayed.

To do this, click on the appropriate folder in the upgrade view.

2. Select File, Print.

The print job will automatically be formatted in landscape style.

## Copying Projects

There are two ways to copy projects to another database:

- Copying a source project directly to a target database to which you are connected.
- **Copying a source project to a file** and then copying the file to a target database. The Copy Project to File/from File is a new feature giving you more flexibility in moving PeopleTools objects and projects across databases. To move objects to another database, you copy objects to a target directory and files, instead of another database. The directory and files can be local or reside on a file server. These files then become the source in the Copy Project from File operation.



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## Copying Projects to Target Database

To copy a project

1. Optionally, lock target database objects.

Before Application Designer replaces or deletes an object in the target database, it checks to see whether the object has a Change Control lock applied. If so, it will only take action on that object if it has been locked by the same operator ID that is performing the copy. Consequently, the speed of a copy may be slow because every object to be deleted or replaced in the target must be checked.

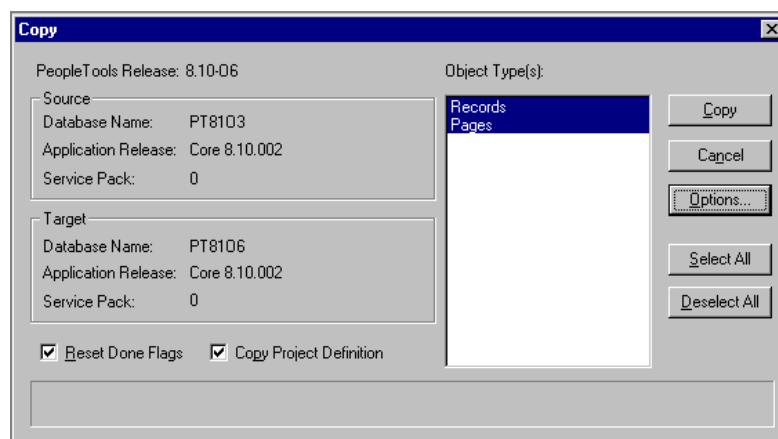
You can avoid the performance degradation by locking all the database objects in the target database—using the Change Control Administrator dialog. This sets a flag telling Application Designer not to check the lock status of every object. When all target objects are locked, the copy is faster.

2. Turn off all system tracing.
3. Select Tools, Upgrade, Copy.

The target signon screen displays, prompting you to sign on to a target database.

4. Sign on to the target database.

Sign on just as you would to any PeopleSoft database. The **Copy** dialog displays.



Copy Dialog

In this dialog, you specify the types of objects to be copied and start the copy process.

5. Decide whether to **Reset Done Flags**.

Any object with a selected **Done** checkbox will not be copied. The first time you copy a project, this won't be an issue, as all **Done** flags will be turned off. However, if you're repeating a copy due to problems found the first time, you may want to deselect the **Done**



flags of objects that were copied incorrectly. You deselect all project **Done** flags from the **Copy** dialog by selecting **Reset Done Flags**. This option is selected by default.

6. Decide whether to Copy Project Definition.

If you select this checkbox, your project definition is copied to the target database.

7. Select the **Object Type(s)** to be copied.

Only the object types that exist in your project will be displayed in the **Object Type(s)** list. To choose all types, click **Select All**. You can also opt to copy just a few or one object type at a time. If so, you'll have to repeat this procedure each time.



If you copy your object types individually, be sure to copy them in the order in which they're presented in the dialog box. For instance, start with records, then indexes, and so on.

---

8. Click **Copy**.

As the copy process runs, a progress indicator appears on the status bar of the dialog, displaying the definition type, total number of objects to copy, and the number copied so far.

9. After the copy completes, check for messages.

If you find any problems, you should correct them and repeat the copy.

10. Stamp the database.

In order to track the history of your customization upgrades, we recommend you stamp the target database after each copy.



For more information see [Stamping a Database](#).

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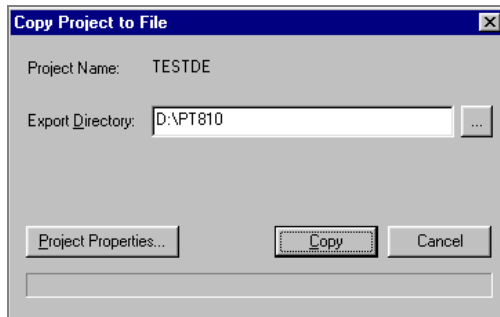
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## Copy Project to File

To copy a project to a file

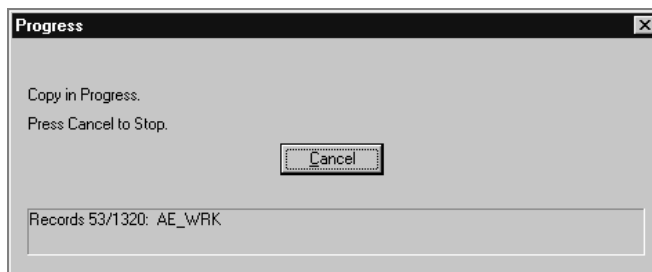
1. Open the project you want to copy
2. Select File, Copy Project to File.





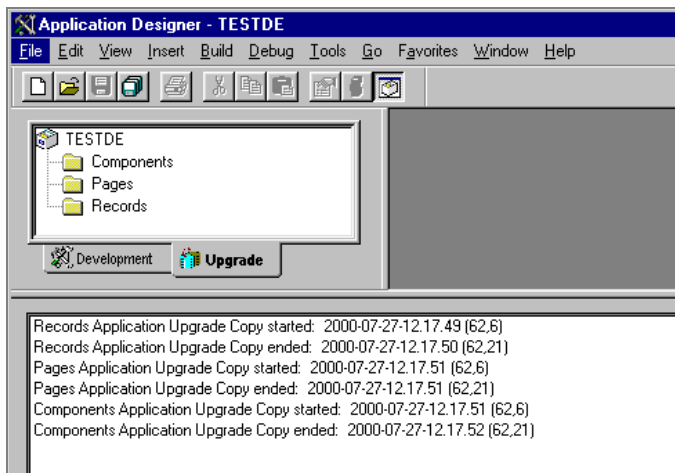
Copy Project to File

### 3. Click **Copy**.



Copy in Process dialog

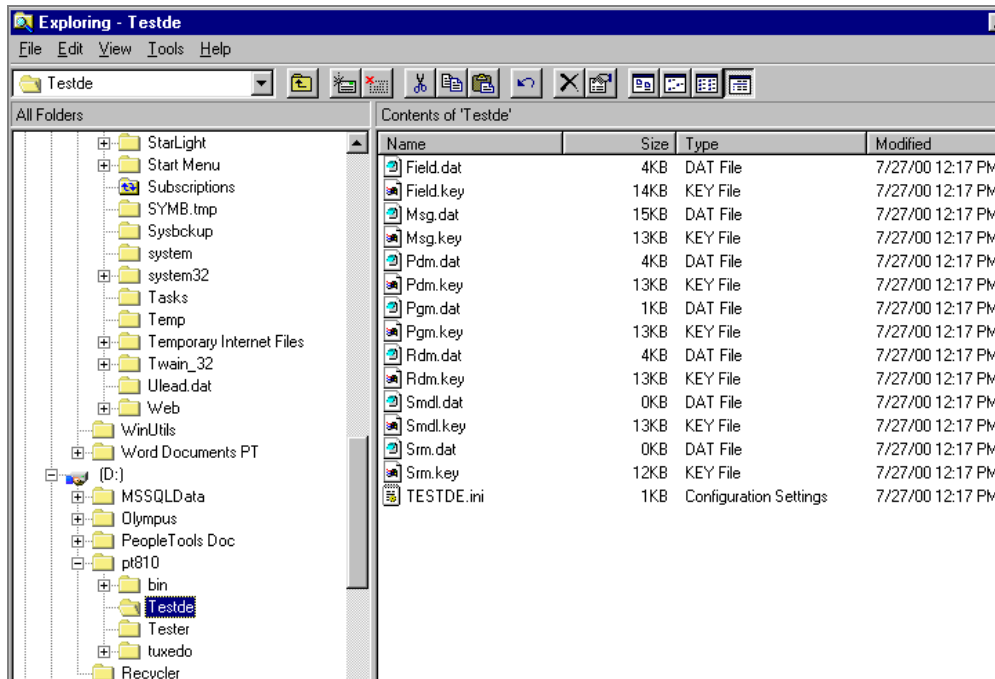
The Progress dialog shows the progress of the Copy process as it copies each object in the project to the specified file. If you click the Cancel button, the system cancels the Copy process. Any files created by the Copy process will be removed from the specified file. To continue copying a project, you will have to restart the copy process if it was cancelled.



Results of a Copy Project to File

When the copy process completes successfully, a directory with the same name as the current project is created under your specified export directory. This directory contains the PeopleTools objects and project definition in cache file format.





Directory showing copied project in file

## Copy Project from File

The Copy Project from File feature imports PeopleTools objects and the project definition from a file previously copied using the Copy Project to File. To do this, you must have write access to the directory location where the exported files exist.

## Tracking Fixed Incidents

When PeopleSoft delivers a software update it is in the form of a maintenance project file. This project file usually includes enhancements or updates that fix incidents. You can view Incident IDs and their dependencies before you copy the file to your target database.

To view Incident IDs that were included in the project file

1. Open the maintenance project that you are planning to copy to your database.
2. Click Project Properties button.

Select the **Incidents** tab. This screen contains a list of Incident IDs which were fixed and applied to the software.

Select the **Dependencies** tab. This screen contains a list of Incident IDs that are dependent on other fixes being applied. These will be validated against the target database when you copy the project. If a fix in the dependency list has not been applied, a message displays telling you that the target database is missing a dependency. The only way to have the system allow you



to copy projects that have unapplied dependencies, is to use the Override Dependencies checkbox.




**Note.** We can track applied incident ID fixes only through the Copy from File function. Therefore, every incident ID fix that PeopleSoft delivers is in a maintenance project that needs to be copied to your database.

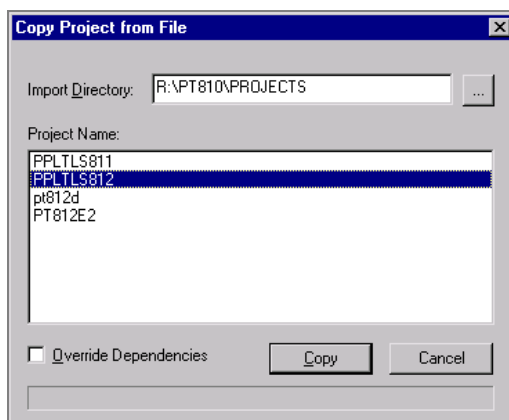


For more information about Project Properties, see Setting Project Properties.

To copy a project from a file

1. Select File, Copy Project from File.
2. Enter the directory where the file resides in the **Import Directory** field.

Click the  for a list of directories, then select the correct directory. The Project Name area lists all exported projects under the specified export directory.



Copy Project from File dialog

3. Select a project to import from the **Project Name** list.

You can only copy one project from a file at a time. If a project exists in the current database with the same name as the selected project, the Copy from File process replaces it.

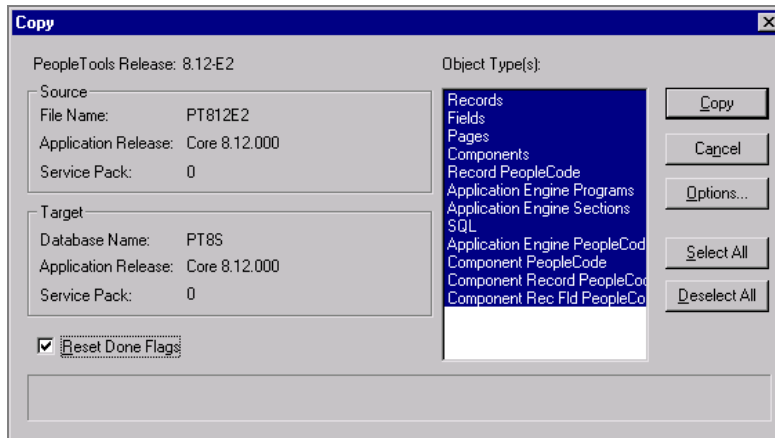
4. Select the **Override Dependencies** check box if necessary.

Check the Override Dependencies check box if you want to ensure that the system allows you to copy projects that have unapplied dependencies.

5. Click **Copy**.



The Copy dialog that displays looks like the copy dialog in Tools Upgrade Copy process (select Tools, Upgrade, Copy from the Application Designer toolbar). However, the source and target database specifications are different—the Source Database Name is the export directory, and the Target Database Name is the database to which you are connected.



Copy from file dialog

6. Select the **Object Type(s)** you want to copy.

The Object Type list shows the object types that have been exported and are available to be copied into the database.

7. Click **Copy**.

The Progress dialog shows the progress of the Copy process as it copies each object from the export directory into the attached database. If you click the Cancel button, the system cancels the Copy process and performs a rollback to the last commit point.

When the Copy from File process successfully completes, the system creates a new project definition from the PeopleTools objects in the current database.

## Accessing Online Reports

PeopleSoft now provides online comparison reports which replace the SQR reports run through the Process Schedules. These reports display in the project workspace area after you have selected the **Tools, Upgrade, Compare and Report** option.

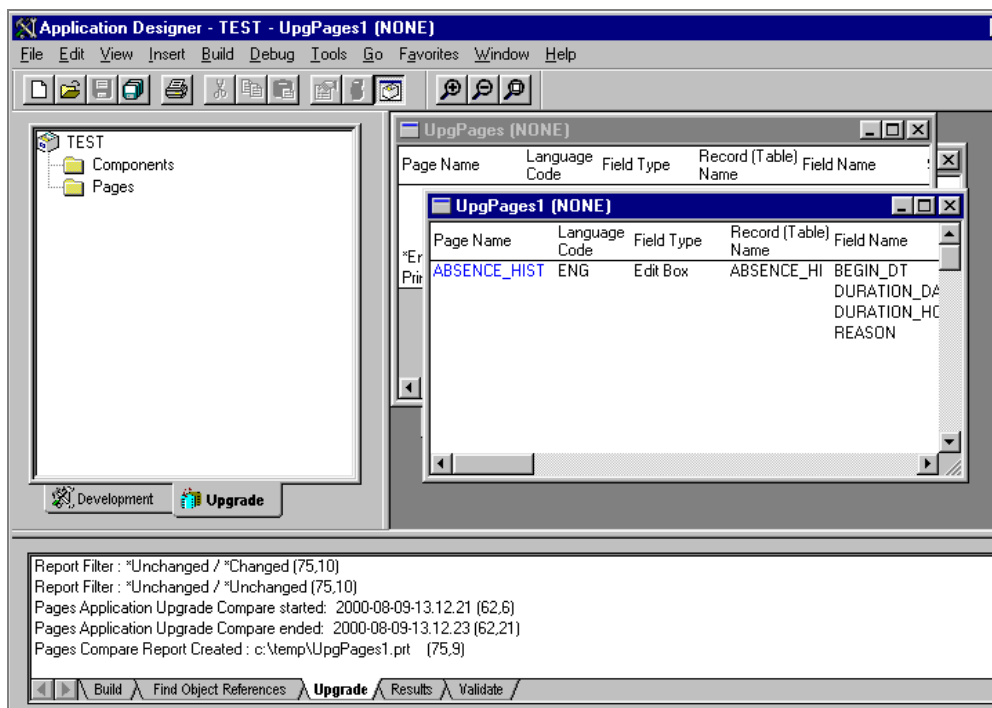
To access reports

1. Select Tools, Upgrade, Compare and Report.
2. Sign on to your target database.

See Connecting to a Target Database. The system automatically displays a comparison report for each object you selected to be copied. In the following screen, only the object type Pages



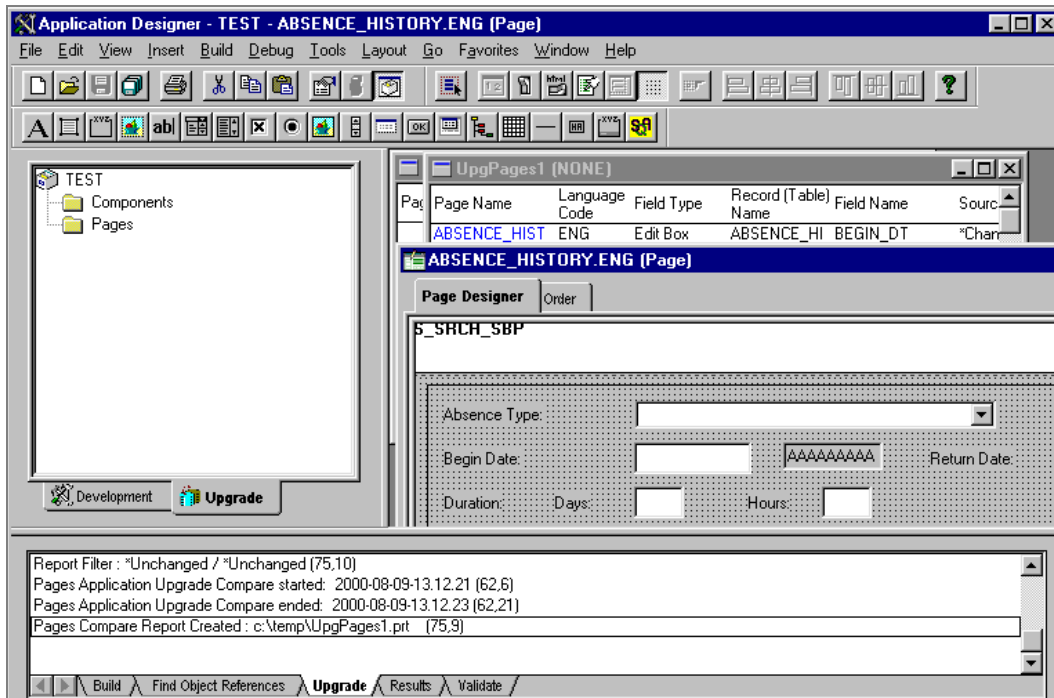
(ABSENCE\_HIST) was compared. Note the message in the message area, “Pages Compare Report Created: c:\temp\UpgPages1.prt (75,9).” The comparison report is saved to the location you previously specified. In this case, it is the default: c:\temp...



### Comparison Report Generated

You can open the object definition from the online report by double-clicking on it.





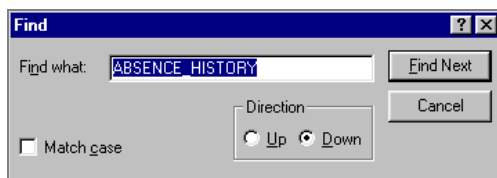
Opening Page from comparison report

If your comparison report is large, you can search for specific object names.

## Searching for Objects in Reports

To search for an object in the comparison report

1. Select Edit, Find in Report.



Find in Report dialog

2. Enter the object name you want to search for in the Find what: box.

You can specify whether or not to match cases and the direction in which you want to search.

3. Click Find Next.

The object displays in the definition workspace.

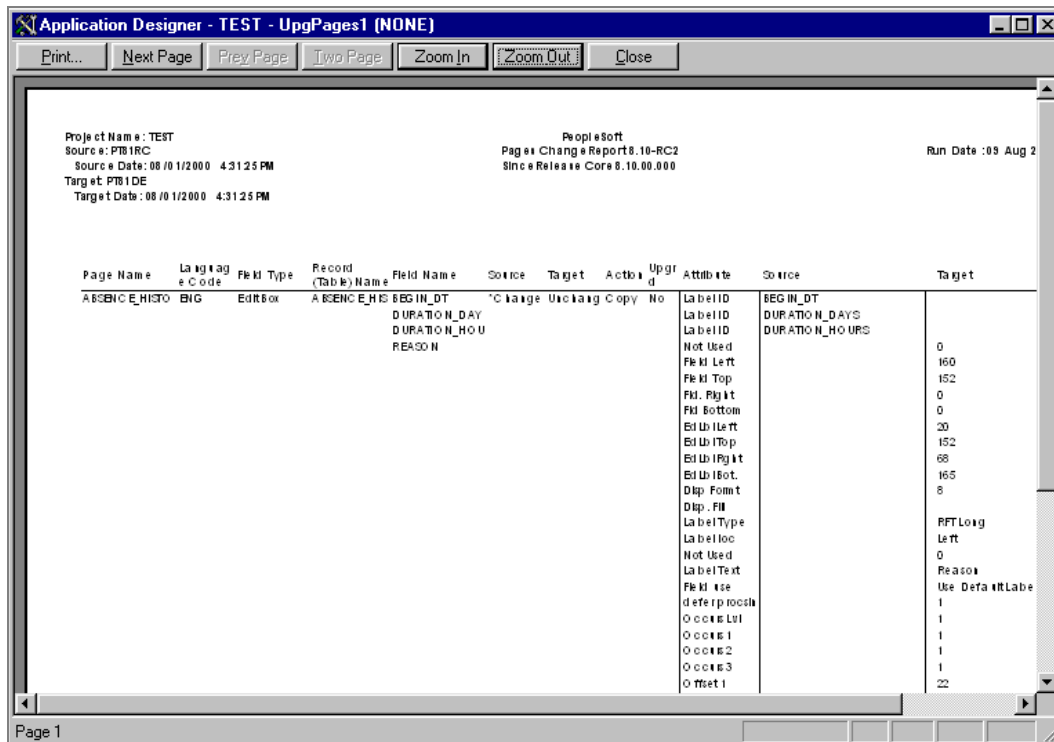


## Printing the Report

To print the comparison report

1. If the comparison report you want to print is already highlighted, select **File, Print Preview**.

Otherwise, select the comparison report you want to preview. If you are ready to print the report without previewing it, select **File, Print**.



Previewing printed comparison report

You can use the buttons at the top of the screen to **Zoom In**, **Zoom Out**, or go to **Next Page**.

2. Click **Print**.

The standard Print dialog displays allowing you to select printer, number of copies, and so on.

To print a comparison report from file

1. If you want to print a comparison report saved, select **Find, Report from File**.

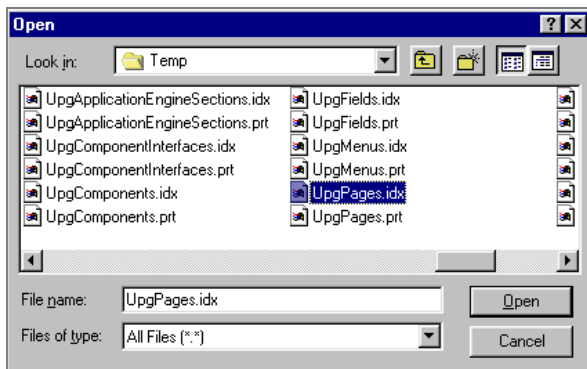
Select **Print Preview**, **Print**, or **View Report**. These three options require that you specify the report name and its location in a standard Open dialog. View Report displays the specified report to the project workspace.



## Moving Print Files

You may want to move the comparison report files to another directory or send as an email attachment. Each comparison report file is saved as two files with the following format:

- UpgObjectType.prt
- UpgObjectType.idx

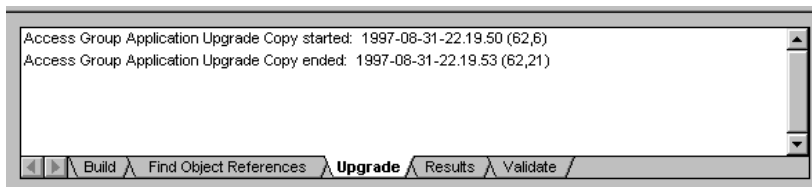


Example of report files

Both files (*filename.prt* and *filename.idx*) are required to view or print the report.

## Viewing Messages

You can check if any errors were encountered during the compare or copy process by clicking the **Upgrade** tab in the output window.



Upgrade View in the Output Window

This view displays upgrade messages pertaining to the object type most recently displayed in the upgrade definition window. In the above example, Access Groups were the last objects viewed in the window.

You can also print your upgrade messages.

To view messages

1. Reopen the project, if necessary.

When you perform comparisons, the system automatically saves and closes your project.



2. Click the **Upgrade** tab in the project workspace.
3. Double-click the folder of the object type whose messages you want to view, or click the project icon to view all messages.

Any upgrade messages for that object type display in the output window.

To print upgrade messages

1. View the messages you want to print.
2. Right-click in the output window.
3. From the pop-up menu, choose **Print**.

To clear messages

1. View the messages you want to clear.
2. Right-click in the output window.
3. From the pop-up menu, choose **Clear**.

## Stamping a Database

After successfully copying a project into the target database, you should “stamp” it to reflect the fact that it has changed from its previous customer release level. This will help you identify modifications you make subsequent to this version of your database.



When upgrading to a new PeopleSoft release, this step is *required*, only you’ll be stamping the database with the new PeopleSoft release level, as directed by the upgrade instructions in your *Release Notes*.

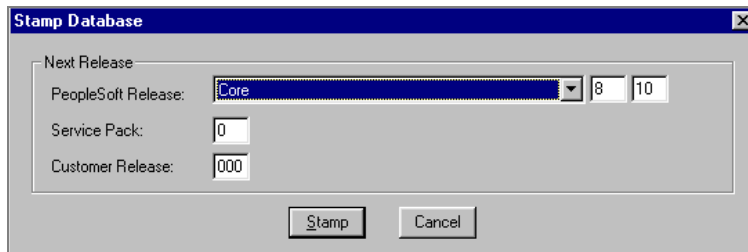
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To stamp the target database

1. Select Tools, Upgrade, Stamp Database.

The **Stamp Database** dialog displays:





Stamp Database Dialog

You use this dialog to specify and stamp your database with a new **Customer Release** level.

2. Enter the desired PeopleSoft Release description, the Service Pack level, and the **Customer Release** value.

Do not change the service pack level unless instructed to do so during a PeopleSoft delivered release upgrade.

The new **Customer Release** value must be greater than or equal to the previous value.

3. Click **Stamp**.

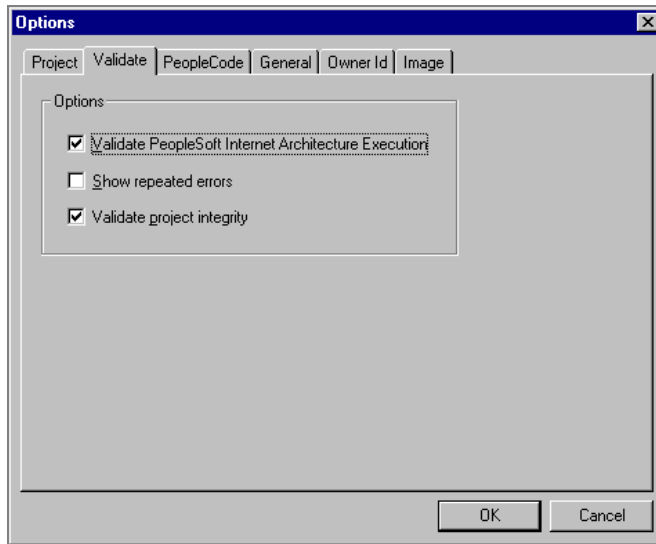
## Reusing Projects

Application Designer lets you reuse your projects. To reuse a project, you simply deselect the Done checkboxes of the objects to be re-copied. You may also want to validate the project's integrity and delete any invalid objects. However, this is not necessary. During a copy, invalid objects are simply reported and ignored.

To validate project integrity

1. Select **Tools, Options** and click the **Validate** tab.





Validate Tab in the Options Dialog

You use this dialog page to specify what kind of checks you want performed during a project validation. This procedure discusses only project integrity validation.



For more information on the other validate options, see [Validating Projects](#).

2. Select the **Validate project integrity** checkbox and click **OK**.
3. Select Tools, Validate.

A message displays asking whether you want to delete and report invalid objects, or just to report them.



An invalid object is any object in the project with an Add or Replace action that does not exist in the database. Application Designer does not act on objects with a Delete action, because it assumes you want to retain such objects in the project—regardless of whether they still exist in the database—for the purpose of deleting the same object in a target database.



For more information on deleting objects from a target database, see [Overriding Upgrade Defaults](#).

4. Click the appropriate button on the prompt dialog.

To reset all **Done** flags

1. Right-click in the upgrade definition window.



The upgrade pop-up menu displays.

2. Select Reset Project Done Flags.

You can also select **Edit, Upgrade, Reset Project Done Flags** from the main menu. All **Done** checkboxes for all objects in the project are de-selected.

To reset **Done** flags for a group of objects

1. Select a group of objects.

To do this, use Ctrl+click or Shift+click. Or, you can select all objects in the upgrade definition window by clicking on the top left cell of the grid.

2. Right-click on one of the objects.

The upgrade pop-up menu displays.

3. Select Reset Done Flag.

You can also select **Edit, Upgrade, Reset Done Flag** from the main menu. All **Done** checkboxes for the selected objects will be deselected.

To reset the **Done** flag for a single object

1. Click the **Done** checkbox of the desired object.



You can only manually *de*-select **Done** flags. You cannot activate these flags yourself; they are automatically turned on after a successful copy.

## Appendix – What Object Types Can be Upgraded?

Application Designer has two levels of upgrade support for PeopleSoft object definitions: full and copy-only. If an object type has full upgrade support, it can be compared and copied. Copy-only support means an object can be copied but not compared.

<b>Object Type</b>	<b>Compare &amp; Copy</b>	<b>Copy to/from File</b>	<b>Copy-only</b>
Access Groups			X
Activities	X	X	
Application Engine Programs	X	X	
Application Engine Sections	X	X	
Approval Rule Sets	X	X	
Business Interlink	X	X	
Business Processes	X	X	



<b>Object Type</b>	<b>Compare &amp; Copy</b>	<b>Copy to/from File</b>	<b>Copy-only</b>
Colors	X	X	
Component	X	X	
Component Interface	X	X	
Cube Definitions			X
Cube Instance Definitions			X
Dimensions			X
Fields	X	X	
Field Formats	X	X	
File Layout Definitions	X	X	
File References**			
HTML	X	X	
Images	X	X	
Indexes	X	X	
Job Definitions	X	X	
Menus	X	X	
Message Catalog Entries			X
Message Channels	X	X	
Message Definitions	X	X	
Message Nodes	X	X	
Pages	X	X	
PeopleCode—Application Engine	X	X	
PeopleCode—Component Interface	X	X	
PeopleCode—Channel	X	X	
PeopleCode—Menu	X	X	
PeopleCode—Message	X	X	
PeopleCode—Message Channel	X	X	
PeopleCode—Page	X	X	
PeopleCode—Field	X	X	
PeopleCode—Component	X	X	
PeopleCode—Component Record	X	X	



<b>Object Type</b>	<b>Compare &amp; Copy</b>	<b>Copy to/from File</b>	<b>Copy-only</b>
PeopleCode—Component Record Field	X	X	
PeopleCode—Record	X	X	
PeopleCode—Subscription	X	X	
Permission Lists	X	X	
Portal Registry Definition	X	X	
Portal Registry Structures	X	X	
Process Definitions	X	X	
Process Type Definitions	X	X	
Queries	X	X	
Records	X	X	
Recurrence Definitions	X	X	
Roles			X
Server Definitions	X	X	
SQL	X	X	
Styles	X	X	
Style Sheets	X	X	
Translate Values	X	X	
Trees			X
Tree Structures	X	X	
URL Definitions	X	X	

**\*\*File References** cannot be compared or copied. They are only references to files delivered as part of a maintenance project.



Certain Object Types, for example, Cube Dimensions, found in either **Compare & Copy** or **Copy-only** do not display in the Development tab because you cannot edit them within Application Designer. Refer to the specific PeopleTools documentation that supports these Object Types.







## CHAPTER 13

# Using Change Control

Change Control has the following three main functions which help you manage and track your development:

- Locking
- History
- Stamping

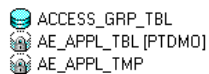
You can enable one or all of these functions and also control how much access each user has to the Change Control commands.

## Locking

Change Control locking is keyed by PeopleSoft user IDs. When a definition is locked, it cannot be modified by anyone other than the user ID who locked it; and, it can only be unlocked by that same user or by a Change Control Administrator.

You can tell if a definition is locked by a small padlock icon on top of the definition in the project workspace (development view) of Application Designer. Also, the user ID of who has locked the object displays next to the name of the object. Your user ID is not displayed for objects that *you* have locked.

For example, the following graphic displays icons for three record definitions. The top record is unlocked; the middle record is locked by another user ID (PTDMO), the bottom record (with no ID displayed) is locked by you, the current user.



Locked and Unlocked Record Icons



Standard Change Control locking is only supported for objects that you can modify with Application Designer. Other PeopleSoft objects can be added to a project—for upgrading—but cannot be locked by developers.





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If you are a Change Control Administrator, you can lock all upgradable database objects—both Application Designer development objects and other types. However, for non-Application Designer objects this action only prevents unauthorized upgrading—not unauthorized development.

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## Locking Projects

Under Change Control, projects are treated like any other Application Designer object—they must be locked before you can modify them. However, locking a project does *not* lock the objects in the project; and, modifying an object in a project does not modify the project itself.

A project definition consists of a name and a list of objects. When you lock a project definition, it prevents other users from adding or removing objects from the project, and from renaming or deleting the project. But, it does *not* restrict access to the objects named in the project definition. Likewise, modifying an object definition has no effect on the definition of any project to which the object might belong.



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Application Designer provides an option to load the last open project on startup. If this option is enabled on your machine and Change Control locking is turned on, you may get a “open in read-only mode?” message at startup—if you hadn’t locked the project before, or if someone else has the project locked. In either case, you have the option of opening the project in read-only mode. Remember, this will not restrict your access to objects in the project.

---

## Locking Compared to Version Control

Change Control locking is not the same as version control. With a version control system, you check out a copy of an object and make your changes to the copy. After you check the changed version in, you can always undo your changes if you want. This is *not* the case with Change Control locking.

Locking an object simply prevents other users from modifying it. However, any changes you save are written directly to the database, overlaying or replacing the existing object. There is no way to restore a previous version of an object.

## Locking and Upgrades

When preparing to upgrade a database, it’s crucial that all development ceases in the source database. This assures that the comparison process is dealing with a static environment. It also assures that changes aren’t made to any objects between the time you’ve set your upgrade defaults and the time you copy the objects.

You can freeze all development by using the **Change Control Administrator** dialog to lock *all* database objects. When the upgrade is done, you can then use the same dialog to unlock all



objects. However, be aware that this action will *permanently* remove all previous lock settings from all objects. Developers will have no way of resetting their locks except by manually re-locking. When you lock objects in this way, it is not reflected in the Locked Objects dialog or in the project workspace. And, if a developer has any unsaved changes when you lock all objects, they will not be able to save their changes.

For all of these reasons, it's imperative that you inform your developers that you plan to lock all objects and that you give them time to save their changes, perhaps even to view the Locked Objects dialog and print the screen.

Locking objects with the **Change Control Administrator** dialog doesn't actually mark every object as locked. Instead, it adds a single row at the top of the locking table. The presence of this row acts as a flag to the system, letting it know that full database locking is in effect, and it stores the user ID of the administrator who enabled the locking.

Full database locking also plays a role in the target database during the upgrade copy process. During a copy, we always check the locking status of the target database objects to see if they're locked and by whom. If they've been locked by a user ID other than the one performing the copy, those objects won't be modified.

In major upgrades, having to check each object's locking status before copying severely impacts performance. To prevent this kind of slowdown, you can lock all target database objects—again, using the Change Control Administrator dialog—before copying. During the copy, if the entire target database is locked we verify that the user ID performing the copy is the same user ID that locked the database. If these conditions are true, we assume that it was locked for the purpose of the upgrade and that we can safely proceed to copy all objects without checking each one individually.



When you copy a project, we don't check the locking status of the objects in the source database. However, we recommend that you keep your objects locked until the copy is complete.

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## History

When Change Control history is enabled, you can enter comments about the modifications made to Application Designer development objects. History entries contain a common set of information, including who created the entry, when, and the type of action associated with the entry. For example, when a user locks an object, a history entry is automatically created containing the user's user ID, the data and time, and an action value of "Add." If desired, this entry can also contain a project name, an incident ID, and comment.

### Automated History Prompting

Although you always have the option of manually inserting history entries, there are many situations in which Application Designer automatically inserts history entries and prompts you for comments. In addition, there are special circumstances when entries are added without a prompt. For example, an action history gives you some idea of what has happened to an object, even if no



comments were entered. Possible action values are Lock, Unlock, Rename, Delete, Add, and Copy.

- **Lock and Unlock.** Whenever an object is locked or unlocked, you are automatically prompted for a comment, after which a Lock- or Unlock-action entry is added to the object's history.
- **Rename.** When you rename an object, you're prompted for a comment, after which a Rename-action entry is added to the object's history. We provide you with a default comment of "<name1> renamed to <name2>" (where <name1> is the previous name of the object and <name2> is the new name you gave it).



If the object is locked when you try to rename it, the system unlocks it prior to the rename and re-locks it after the rename. In this case, three history entries will be added: one for unlock, one for rename, and one for re-lock.

---

- **Delete.** When you delete an Application Designer object, its history is retained. During the deletion, Application Designer prompts you to add a final comment into the object's history, after which a Delete-action entry is added to the object's history.



If Change Control locking is enabled, you can only delete locked objects. After a locked object is deleted, it is automatically unlocked and an Unlock-action history entry is added. You are not prompted for comments for this unlock event.

---

- **Add.** When you create a new object, Application Designer creates a history entry with an Action of "Add." You are not prompted for comments.
- **Copy.** If Change Control history is enabled in the target database when you perform an upgrade copy, any added, replaced, or deleted objects will have a Copy-action entry inserted into their histories. You are not prompted for comments.

## History and Upgrades

Change Control history is not copied along with its associated object definition during an upgrade. However, if history is enabled in the source database, then the history of each affected *target* object will be updated with a comment noting when the copy was performed and by whom.

This behind-the-scenes history updating occurs for all target objects affected by the copy—even those whose histories can't be updated or viewed by Application Designer (non-Application Designer objects)—and regardless of whether Change Control history is enabled in the source database.

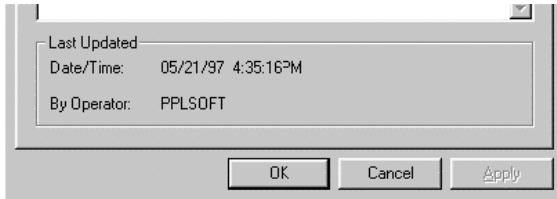
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## Stamping

Change Control stamping is always in effect, regardless of whether locking and history are also enabled. For every object in the database, PeopleTools maintains a "last updated" stamp that



denotes the date and time of the last update, and the user ID of the person who saved the object. When PeopleSoft delivers a new database, all the objects are stamped with our own proprietary ID, PPLSOFT, displayed in the graphic below.



"Last Updated" Stamp Displayed in the Object Properties Dialog

## Stamping and Upgrades

Change Control stamping provides critical information during an upgrade comparison. Because we track the user ID of whoever last changed each object, we can easily identify your customizations. (Any object stamped with a user ID that isn't PeopleSoft's proprietary ID is considered a customization.) Whether you made a customization prior to or since the last update is irrelevant. The customization will always be identified as such.

During a comparison, objects that you last modified are given a status of Custom Changed (if they've changed since the compare date), or Custom Unchanged (if haven't changed since the compare date). Objects that PeopleSoft last modified are given a status of either Changed or Unchanged.

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## Change Control Security

Using the Maintain Security menu, you can assign users one of three Change Control access levels, depending on how much authority you want them to have.

- **Restricted access.** This access level restricts users from locking or unlocking objects. When Change Control locking is enabled, users with restricted access can only open Application Designer development objects in read-only mode. Users are also unable to view or update object histories.
- **Developer access.** With developer access, a user is allowed to lock any unlocked definitions and to unlock any definitions that they have locked. They can then manipulate object definitions, as allowed in Maintain Security. Users can also view and enter object history comments.
- **Supervisor access.** A user with this access level can unlock any locked definitions, regardless of who has locked them. They also have access to the **Change Control Administrator** dialog, which lets you lock/unlock all objects at one time and enable/disable Change Control locking and history.

If Change Control locking is disabled, these access levels have no security value. If history is disabled, developer- and supervisor-access users can still view the **History** dialog; restricted-access users cannot.



Remember that Change Control is based on user IDs. If your developers all share the same user ID, Change Control will offer no advantage in control—because each developer will be able to modify definitions locked by others.



For more information see Implementation Considerations.

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## Change Control Administrator

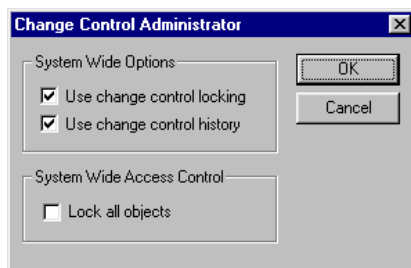
You can appoint Change Control administrators by giving certain users supervisor-level access to Change Control. When a user has this access level, they can enable and disable Change Control.

### Enabling or Disabling Change Control

To enable or disable Change Control

1. In Application Designer, select Tools, Change Control, Administrator.

The **Change Control Administrator** dialog displays.



Change Control Administrator Dialog

2. Specify the System Wide Options and Access Control, if desired.

<b>Use change control locking</b>	If this is checked, Application Designer object definitions must be locked before they can be modified.
<b>Use change control history</b>	If this is checked, Application Designer developers can insert comments about open object definitions. If both options are selected, developers will be prompted for comments when locking and unlocking objects.



Because these are system-wide settings, if you change them all users must log off and back on for your changes to take effect.

---



**Lock all objects**

If this is checked, you can lock or unlock all objects in the database. Locking all objects is usually something you only do prior to a major upgrade, as it will permanently remove all individual developer locks.

3. Click **OK**.

---

## Implementation Considerations

When deciding how to implement Change Control, if at all, consider the level of development control you want to maintain, the amount of freedom your developers need, and the security requirements of your site.

<i><b>How to Implement</b></i>	<i><b>Advantage</b></i>	<i><b>Disadvantage</b></i>
Individual Control	For maximum control of your development environment, use both locking and history and assign each developer a unique user ID. Then objects can only be modified by one developer (user ID) at a time; and, developers will always be prompted for comments when they lock and unlock their definitions.	Developers can only share ownership of their objects by unlocking them after each change.
Group Control	For flexibility, use locking and history but assign developers working on the same project a common ID. Then developers can share objects with the other members of their group, but not with members of other groups. Administering security is also easier, as there are fewer user IDs to deal with.	Decreased protection from simultaneous development on objects. History will be harder to track unless developers always include their names in their comments.
History Only	Provides the least restricted Change Control environment. In this situation, all objects can be shared among all your developers.	Developers aren't automatically prompted for comments. They can all share the same ID. If you have a very small development team, this might be a good option.

---

## Using Projects

You can use all levels of Change Control with or without also using projects. If you decide not to use projects, you rely on the **Locked Objects** dialog rather than the project workspace to identify



locked objects. The dialog provides a better overall view of locking status because it shows all the Application Designer objects in the database, not just those in the current project.

We recommend that projects be used to keep track of the objects that are changed as part of a change or feature request. This set of objects is commonly referred to as the "change set." There is an option in the Application Designer **Tools Options** dialog to **Insert object into project** when it is modified and saved. If you start with an empty project, this option provides an easy way of keeping track of the change set for this incident. When the change request is completed, the project will contain everything associated with the change. It's also a good idea to use the **Comments** field in the **Project Properties** dialog to list any external objects like COBOL or SQR modules that need to be migrated with this change.

## Using Multiple Databases for Development

Managing change in a single database environment is fairly straightforward. But very few, if any, PeopleSoft users operate in a single database environment. The classic development model uses three databases: Development, Test and Production. All changes are applied to the Development database. After unit testing the change, the change set is migrated to the Test database where it goes through more rigorous testing. Usually, one or more regression test suites are run to ensure that it resolves the issue it was intended to resolve and has no undesirable side effects. Finally, that change set is migrated into the Production database. If a problem is found at any stage in the process, then the incident is sent back to development and the process begins all over again.

This model assumes that the Development database is your master database. Developers can use the Change Control locking feature to lock down the modules on which they are working. When the changes are completed in the Development database, the Change Control Administrator is notified and uses the upgrade copy facility to copy the change set into the Test environment. As long as the technique described above in Using Projects is used, the project should contain the entire change set. All of the documentation for the change is tracked in the development database. The only information that shows up in the Test and Production database is a history line that says that it was copied. Objects move only in one direction in this model: from Development to Test, then from Test to Production.



The only case where an object might be copied back to development from either test or production is if a problem needs to be recreated and another change has already been made to the affected object. This needs to be done with extreme care because upgrade copies are destructive and can not be undone if you discover that you overlaid another developer's change. It is for this reason that changes are rarely, if ever, applied directly to test or production.

---

Please note that this is just one Change Control model that can be used. This one is provided to give you an idea of how you can implement Change control in your environment. While it is not important that you follow this one exactly, it is important that you implement a Change control model that enables you to keep track of the changes that are made to your system and to prevent developers from stepping on each others changes.



## Distributed Development Environments

It is still a good idea to use a master development database, even if each developer or development team works on their own copy of the database. The recommended approach in this scenario is for the developer to lock down the objects in the master development database that they intend to work on, then copy those modules to their private database. This will ensure that no other developer makes a change to those objects while they are “checked out.”

When the developer is ready to copy changes back in to the master development database, it is always a good idea to check the Change Control history of the locked objects in the master development database. Do this prior to using upgrade copy to migrate them back, just in case a Change Control Administrator has overridden a lock and made a change while the objects were checked out.



Change Control Administrators should always notify the developer who has a lock on an object before they override to avoid unexpected surprises later.

---

---

## Locking and Unlocking Object Definitions

You can lock and unlock object definitions manually. You can also choose to have Application Designer lock/unlocked definitions for you each time you open them.

You must have developer or supervisor access to Change Control to be able to lock and unlock object definitions. If you have supervisor access, you also have the ability to lock all objects at once. This can be helpful when performing upgrades, to ensure that object definitions don't get modified in the middle of the process.

To lock/unlock an unopened definition in the current project

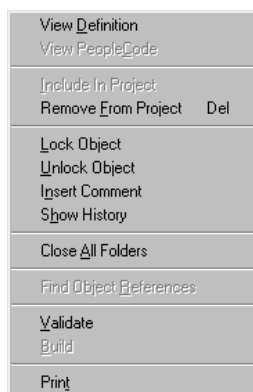
1. In the project workspace, activate the development view.

To do this, click the **Development** tab at the base of the workspace window.

2. Select the object(s) you want to lock or unlock.
3. Right-click on any of the selected objects.

A pop-up menu displays.





Project Workspace Popup Menu

4. Choose Lock Object or Unlock Object, as desired.

To unlock an unopened definition not in the current project

1. Select Tools, Change Control, View Locked Objects.

The **Locked Objects** dialog displays.




---

This menu item is not available if you have restricted access to Change Control.

---

2. Select the **Object Type** and the **User**.

You can view all locked objects of the specified type by selecting (all) from the User drop-down list.



3. Select the object(s) to be unlocked.
4. Right-click on any selected object.
5. Select Unlock Object.

If you have Change Control history enabled, you'll be prompted for comments.

To lock/unlock an open definition

1. Activate the object definition.

Click on the object's definition window or use the list in the **Window** menu to navigate to the definition.

2. Click  or  on the toolbar to lock or unlock the object, respectively.



You can also use the **Lock Object** and **Unlock Object** items in the **Tools, Change Control** menu.

To automatically lock definitions when you open them

1. Select Tools, Options, Change Control tab.
2. Select Lock object when it is opened.

Now whenever you open an object it will be locked automatically, unless you have only restricted access to Change Control. In this case, you'll be notified that you have restricted access and asked whether you want to open the object in read-only mode



As with all settings in the Application Designer Options dialog, this setting only controls the behavior on *your* workstation. Also, definitions can not be automatically unlocked. You must always unlock them manually.

---

To lock/unlock all objects at once

1. Select Tools, Change Control, Administrator.

The **Change Control Administrator** dialog displays.

2. Select **Lock all objects** to lock all objects or deselect it to unlock all objects.

Locking all objects applies a database-wide lock tagged with your user ID.

---

**Warning!** Selecting this checkbox will remove individual locks from all database objects. You should only proceed with this step if you've informed all your developers and given them an opportunity to save any unsaved work.

---

3. Click OK.

If locking all objects, you'll be warned that this action will permanently undo any existing locks. Click **Yes**.

---

## Viewing Locked Objects

To view locked objects

1. Select Tools, Change Control, View Locked Objects.

The **Locked Objects** dialog displays.

2. Choose the **User** whose locked objects you want to view.



3. Choose the Object Type to display.

You can only view one Object Type at a time. Select one from the drop-down list. If you want to, you can unlock objects in this dialog.

---

## Inserting Comments

When Change Control history is enabled, you can insert comments about an open object definition at any time. To help ensure that you insert new comments with each modification, you can instruct Application Designer to prompt you for a comment every time you save a definition, every time you lock or unlock a definition, or both.

To insert a comment for an unopened definition in the current project

1. In the project workspace, activate the development view.

To do this, click the **Development** tab at the base of the workspace window.

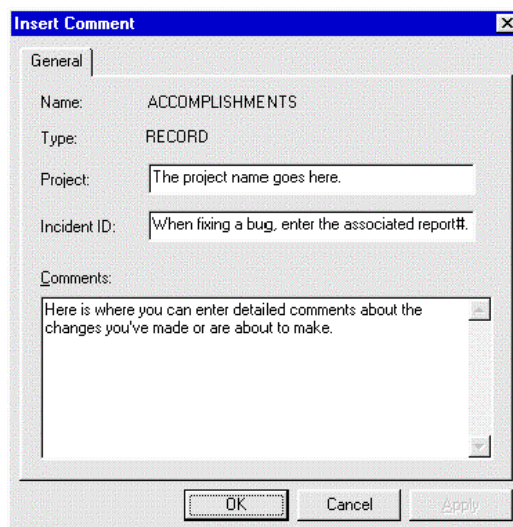
2. Select the object for which you want to insert comments.

You cannot insert comments for more than one object at a time.

3. Right click on the selected object.

4. Choose **Insert Comment** from the pop-up menu.

The **Insert Comment** dialog displays.



Insert Comment dialog

5. Type in a **Project name**, an **Incident ID**, if desired; and **Comments**.



<b>Project</b>	This value automatically defaults to the name of the current project—if any—but you can delete this value or replace it with anything you like.
<b>Incident ID</b>	Denote the incident that your development corresponds to. Neither of these fields are required.
<b>Comments</b>	Optional, but highly recommended. Comments should include information on why and how you're modifying the object definition.

If you click **OK**, your information will be inserted into the object's history and the dialog will close. If you click **Apply**, your comments are inserted, but the dialog remains open. You can then enter comments for another history entry. When you click **OK** or **Apply** these new comments will be inserted as a new history entry; they will not replace your previous entry.

To insert a comment for an open definition

1. Activate the object definition.

Click on the object's definition window or use the list in **Window** menu to navigate to the definition.

2. Click  on the toolbar.

You can also select **Tools, Change Control, Insert Comment**.

3. Enter the name of the **Project**, and **Incident ID**, if applicable.
4. Enter your **Comments** then click **OK** or **Apply**.

To be prompted for comments when saving a definition

1. Select Tools, Options, Change Control tab.

The Change Control page is displayed.

2. Select Prompt for comments when object is saved.

Whenever you save an object, the system prompts you to insert history comments.




---

This setting only affects the behavior on *your* workstation. One possible drawback to using this option is that a definition may be saved many times as part of a single change and you'll be prompted for comments at every save.

---



---

## Viewing Change Control History

For every Application Designer development object in the database, you can view its Change Control history.

To view Change Control history

1. Click  or select Tools, Change Control, View History.

You can also use the **Show History** item in the right-click menu for in the project workspace. The **History** dialog displays.

2. Select Object Type and an Object Name.

The **Object Name** list contains only the names of Application Designer objects that have at least one history entry. You can click the **Refresh** button to ensure you're viewing the most up-to-date listing of locked objects.

<b>Date</b>	When each entry was added.
<b>User</b>	Who added the entry.
<b>Action</b>	Action that identifies why the comment was entered. Five of these Action types—Lock, Informational, Unlock, Rename, and Delete—represent actions you perform in Application Designer, and for which you're prompted for comments.
<b>Add</b>	The Add type denotes an automatic history entry that PeopleTools inserts when a new object is created. In this case—and whenever the system performs a behind-the-scenes lock or unlock—you aren't prompted for comments. The Comment column will contain the text "System Generated."



Application Designer performs automatic locks and unlocks under certain situations. For example, when you rename a locked object, that object must be unlocked before the rename and re-locked afterward. Likewise, when you delete a locked object, the object is automatically unlocked after the delete. The system does not prompt you for comments any of these unlock or re-lock actions, but corresponding history entries are added automatically.

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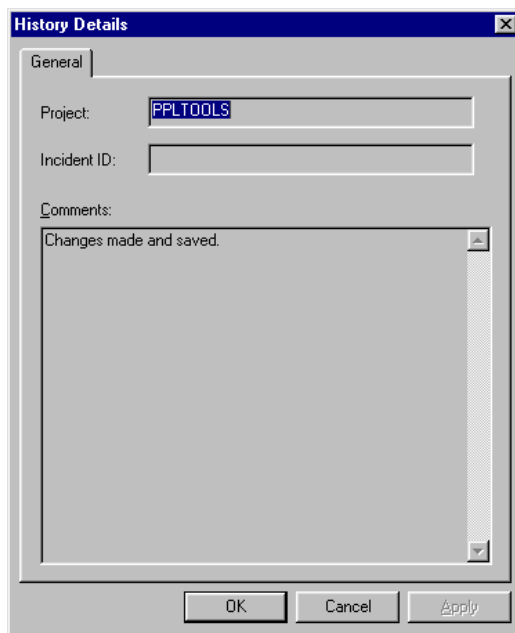
<b>Copy</b>	This type of history entry is added automatically when an object is copied into the current database. In this case, the <b>Project</b> value will be the name of the copied project in the source database, and there are no <b>Comments</b> added.
<b>Project</b>	Name of project from the Insert Comments dialog.



<b>Incident ID</b>	Incident ID from the Insert Comments dialog.
<b>Comment</b>	Relevant comment copied from the Insert Comments dialog.

3. Choose a different **Object Type** and **Object**, if desired.
4. Open a history entry, if desired.

To do this, double-click on a row in the grid. The **History Details** dialog displays.



History Details Dialog

This dialog is a read-only version of the **Insert Comments** dialog. You cannot update any of the information displayed in this dialog.

---

## Reporting Change Control Information

Currently, PeopleSoft doesn't deliver predefined reports for retrieving Change Control information. However, you can create your own reports by querying the Change Control tables.

The two tables you can use for reporting are PSCHGCTLHIST and PSCHGCTLLOCK, which contain the history and locking information, respectively. These tables have an almost identical column structure, shown below.



Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	OPRID	Char	8	Mixed		Operator	Operator Id
2	OBJECTTYPE	Nbr	5	Raw B		ObjectType	Object Type
3	OBJECTID1	Nbr	5	Raw B		Object Id 1	Object Id 1
4	OBJECTVALUE1	Char	30	Mixed		Object Value 1	Object Value 1
5	OBJECTID2	Nbr	5	Raw B		Object Id 2	Object Id 2
6	OBJECTVALUE2	Char	30	Mixed		Object Value 2	Object Value 2
7	OBJECTID3	Nbr	5	Raw B		Object Id 3	Object Id 3
8	OBJECTVALUE3	Char	30	Mixed		Object Value 3	Object Value 3
9	OBJECTID4	Nbr	5	Raw B		Object Id 4	Object Id 4
10	OBJECTVALUE4	Char	30	Mixed		Object Value 4	Object Value 4
11	DTM_STAMP	DtTm	26	Scnds		Date/Time	Date/Time Stamp
12	CHGCTRL_ACTION	Char	1	Upper		Action	Change Control Action
13	PROJECTNAME	Char	30	Upper		Project	Project Name
14	INCIDENT_ID	Char	18	Mixed		Incident	Incident ID
15	DESCRLONG	Long	0			Descr	Description

### Structure of PSCHGCTLHIST

The main difference between these two tables is that PSCHGCTLHIST contains a CHGCTRL\_ACTION field, while PSCHGCTLLOCK does not.

Each PeopleSoft object in these tables is uniquely identified by numeric codes (OBJECTID columns) and names (OBJECTVALUE columns). The different OBJECTID/OBJECTVALUE column pairs correspond to the various object key types and values for each kind of object. You can see these object keys when you view the upgrade definition window. For example, translate values have four keys—Field Name, Field Value, Language Code, and Effective Date—as shown below:

Translate Values (Upgrade Object Type)									
Translate Values Key									
	Field Name	Language Code	Field Value	Effective Date	Source	Target	Action	Upgrade	Done
1	AE_ABEND_ACTION	ENG	A	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	AE_ABEND_ACTION	ENG	B	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	AE_ABEND_ACTION	ENG	I	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	AE_ABEND_ACTION	ENG	S	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	AE_ACTIVE_STATUS	ENG	A	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	AE_ACTIVE_STATUS	ENG	A	1997-02-03	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	AE_ACTIVE_STATUS	ENG	I	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	AE_ACTIVE_STATUS	ENG	I	1997-02-03	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	AE_ADJUST_STATUS	ENG	A	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	AE_ADJUST_STATUS	ENG	D	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	AE_ADJUST_STATUS	ENG	M	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	AE_ADJUST_STATUS	ENG	X	1900-01-01	Unknown	Unknown	Copy	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Viewing Object Keys

In the Change Control tables, the row containing the first translate value in the above graphic would have the following field values:

<u>OBJECTVALUE1</u>	<u>OBJECTVALUE2</u>	<u>OBJECTVALUE3</u>	<u>OBJECTVALUE4</u>
AE_ABEND_ACTION	A	ENG	1900-01-01

When reporting on a particular object type, you want to retrieve object values, but you need to limit the query using the object IDs for the object type. The following table lists all the upgradable object types, their corresponding object ID codes, and what type of value each ID represents (in parentheses).



## PeopleTools Object Types

<b>Object Type</b>	<b>OBJECTID1</b>	<b>OBJECTID2</b>	<b>OBJECTID3</b>	<b>OBJECTID4</b>
Access Groups	17 (name)	0	0	0
Activities	18 (name)	0	0	0
Application Engine Programs	66 (name)			
Application Engine Sections	66 (name)	77 (section)		
Approval Rule Sets	85 (name)	21 (eff date)		
Business Interlink	64 (name)			
Business Processes	7 (name)			
Colors	19 (name)	25 (oprID)	0	0
Components	10 (name)	39 (market)		
Component Interfaces	74 (name)			
Cube Definitions	54 (name)	55 (description)		
Cube Instance Definitions	56 (name)	57 (description)		
Dimensions	51 (name)	52 (dimension type)	53 (description)	0
Fields	6 (name)	0	0	0
Field Formats	23 (family name)	0	0	0
File Layout Definitions	71 (name)			
HTML	90 (name)	95 (type)		
Images	91 (name)	95 (type)		
Indexes	1 (name)	24 (index ID)	0	0
Job Definitions	27 (name)			
Menus	3 (name)	0	0	0
Message Catalog Entries	48 (msg set #)	48 (msg #)	16 (lang code)	50 (description)



<b>Object Type</b>	<b>OBJECTID1</b>	<b>OBJECTID2</b>	<b>OBJECTID3</b>	<b>OBJECTID4</b>
Message Channels	61 (name)			
Message Definitions	60 (name)			
Message Nodes	62 (name)			
Pages	9 (name)	16 (lang code)	0	0
PeopleCode	See PeopleCode Object Types			
Process Definitions	29 (process type)	28 (name)	0	0
Process Type Definitions	29 (name)	26 (operating system)	20 (db type)	
Queries	30 (name)	25 (oprID)	0	0
Records	1 (name)	2 (recfield name)	0	0
Recurrence Definitions	31 (name)			
Roles	32 (name)	0	0	0
Server Definitions	33 (name)			
SQL	65 (name)	81 (SQL type)		
Styles	35 (name)	0	0	0
Style Sheets	94 (name)			
Translate Values	6 (db field name)	16 (lang code)	22 (value)	21 (eff date)
Trees	34 (setID)	68 (user key value)	36 (tree name)	21 (eff date)
Tree Structures	37 (name)	0	0	0

### PeopleCode Object Types

<b>Object Type</b>	<b>OBJECTID1</b>	<b>OBJECTID2</b>	<b>OBJECTID3</b>	<b>OBJECTID4</b>
Application Engine	66 (AE program)	77 (section, market, database type, effective date)	78 (step)	12 (method)
Component Interface	74 (business component)	12 (method)		



<b>Object Type</b>	<b>OBJECTID1</b>	<b>OBJECTID2</b>	<b>OBJECTID3</b>	<b>OBJECTID4</b>
Channel	61 (channel)	12 (method)		
Menu	3 (menu)	4 (bar)	5 (item)	12 (method)
Message	60 (message)	12 (method)		
Page	9 (panel)	16 (language code)	12 (method)	
Page Field	9 (panel)	16 (language code)	67 (field)	12 (method)
Component	10 (panel group)	39 (market)	12 (method)	
Component Record	10 (panel group)	39 (market)	1 (record)	12 (method)
Component Record Field	10 (panel group)	39 (market)	1 (record)	2 (fieldname, method)
Record	1 (record)	2 (field)	12 (method)	
Subscription	60 (message)	87 (subscription)	12 (method)	

### Object Types with Change Control Support

- Activity
- Application Engine Program
- Approval Rule Set
- Business Interlink
- Business Process
- Component
- Component Interface
- Field
- File Layout
- HTML
- Image
- Menu
- Message
- Message Channel



- Message Node
- Page
- Project
- Record
- SQL
- Style Sheet



PeopleSoft Object IDs are subject to change from release to release.

---

Here's an example of a SQL query to report on locked panel groups:

```
select oprid, objectvalue1, objectvalue2, dtm_stamp, projectname, incident_id,
descrlong
from pschgctllock
  where objectid1 = '10' and objectid2 = '39' and objectid3 = '0' and
 objectid4 = '0'
 order by oprid, objectvalue1
```

Notice that if an object type has one or more objectIDs equaling zero (0), there's no need to select the corresponding object value in the query, as it will always be blank. Panel groups have a non-zero code for objectID1 and objectID2 only. So in the previous example, we selected only objectvalue1 and objectvalue2.

When reporting on Change Control history, there's one other field to take into consideration: CHGCTRL\_ACTION. This field stores the one-letter code for the various actions that Change Control history tracks. (A=Add, C=Copy, D=Delete, I=Informational, L=Lock, R=Rename, U=Unlock.)

Here's an example of a SQL query to report on all deleted objects:

```
select oprid, objectvalue1, objectvalue2, objectvalue3, objectvalue4, dtm-
_stamp, projectname, incident_id, descrlong
from pschgctlhist
  where chgctrl_action = 'D'
 order by oprid, objectvalue1
```



Remember that full history tracking is only supported for Application Designer objects—business processes, business process maps, fields, menus, panels, panel groups, projects, and records. Other object types will only have history entries where CHGCTL\_ACTION='C', and only if they've been upgraded.

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## CHAPTER 14

# PeopleTools Cross Reference Reports

Using PeopleTools, you can create new applications by defining menus and pages you use to enter data and database tables. Similar to how contractors work from a set of blueprints before they begin building a house, you need a similar guide for the objects (such as menus, pages, and record definitions) delivered with your system and those you create or customize with PeopleTools.

PeopleTools includes a variety of invaluable cross reference reports. When you run these reports against your PeopleSoft database, they'll produce lists of the objects and structures, as well as combinations of information on various objects, such as fields, records, and pages.

This appendix describes:

- How to run cross reference reports.
- The cross reference reports available.



**For information** about finding where specific records, fields, pages or other objects are used, see [Searching for Field References](#).

---

We assume you are already familiar with the types of objects delivered with your PeopleSoft application as well as PeopleTools and relational databases.

Topics

## Running Cross Reference Reports

PeopleTools cross reference reports are actually pre-defined Crystal reports, not unlike the standard reports delivered with your PeopleSoft application. These reports scan the PeopleTools tables that contain the definitions for application objects, then print them out in a report designed as a PeopleTools customization reference tool. Like other standard reports, you can identify cross reference reports by their three-character prefix: XRF.

These reports run from the **Process Scheduler, Process, Multi-Process Jobs** window.



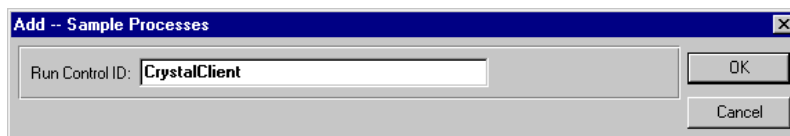
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## Running a Sample Crystal Report

The following example shows you how to generate the Field Cross Reference (XRFIELDSDS) report.

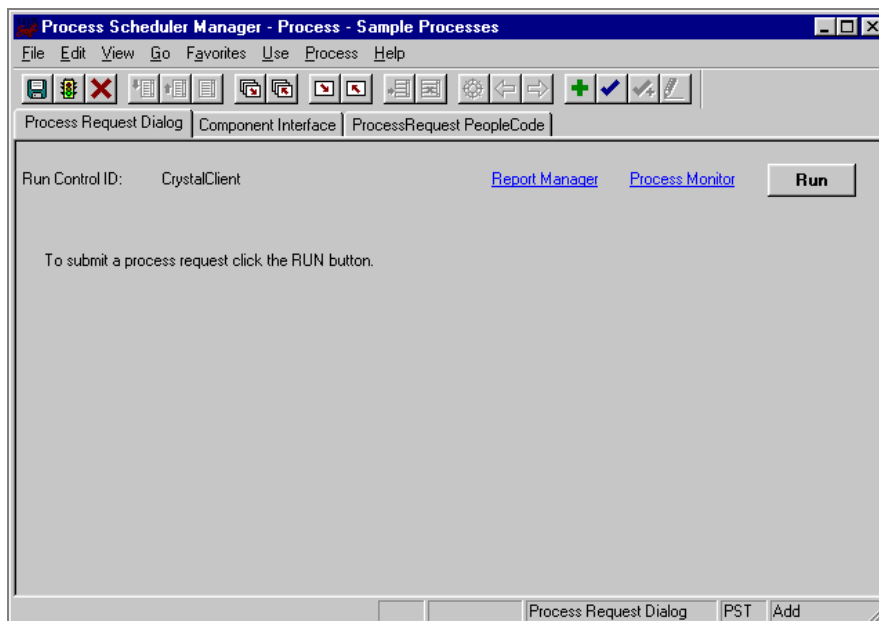
To get a Field Cross Reference Report

1. From the **Go** menu, highlight **PeopleTools, Process Scheduler Manager** to bring up the Process Scheduler Manager window.
2. From within Process Scheduler select Process, Sample Processes, Process Request Dialog, Add.



*Add Sample Processes Dialog*

3. Enter “CrystalClient” for the Run Control ID and press OK.



4. Select **Run** or press the Run button on the Tool Bar.

The **Process Request** dialog displays.



**Process Scheduler Request**

User ID: PTDMO Run Control ID: CrystalClient

Server Name: PSNT Run Date: 08/17/2000

Recurrence: Run Time: 12:50:14AM

Time Zone: Reset to Current Date/Time

Select	Description	Process Name	Process Type	*Type	*Format
<input checked="" type="checkbox"/>	Crystal Multi-process Job	3CRYSTAL	PSJob	(None)	NONE
<input type="checkbox"/>	Applications and Fields Cross	XRFAPFL	Crystal	Web	HTM
<input type="checkbox"/>	Fields Referenced by PeopleCo	XRFFLPC	Crystal	Web	HTM
<input type="checkbox"/>	Fields and Panels Cross Refere	XRFFLPN	Crystal	Web	HTM

*Process Request Dialog*

5. Select “Field Cross Reference, XRFIELDSD, Crystal” from the scrollable list at the bottom of the dialog.

**Process Scheduler Request**

User ID: PTDMO Run Control ID: CrystalClient

Server Name: PSNT Run Date: 08/17/2000

Recurrence: Run Time: 12:50:14AM

Time Zone: Reset to Current Date/Time

Select	Description	Process Name	Process Type	*Type	*Format
<input checked="" type="checkbox"/>	Field Cross Reference	XRFIELDSD	Crystal	Web	HTM
<input type="checkbox"/>	Menu Listing Report	XRFMENU	SQR Report	Web	PDF
<input type="checkbox"/>	Panel Cross Reference Report	XRFPANEL	SQR Report	Web	PDF
<input type="checkbox"/>	PeopleCode and Field Cross Ref	XRFFPCFL	SQR Report	Web	PDF

6. Click on **OK** to generate a formatted display in HTML of this Crystal report.

## Reviewing Cross Reference Reports

The PeopleTools cross reference report gives you several views of your application—ranging from high-level lists of all the windows, menus, and pages contained in the system to the detailed database attributes of fields.

The cross reference reports include:

- |                         |                |  |
|-------------------------|----------------|--|
| <b>Fields and Pages</b> | <b>XRFFLPN</b> | Lists all fields in alphabetical order. The report lists the names of all record and page definitions in which the field occurs and lists the field Long Name. |
|-------------------------|----------------|--|



<b>Fields and Records</b>	<b>XRFCFL</b>	Lists all fields in alphabetical order by associated record definition name. The report details the Long Name, Field Type, Field Length, and Formatting specified for the field.
<b>Records and Fields</b>	<b>XRFFLRC</b>	Lists all fields in alphabetical order. The report lists the Long Name, Field Type, Field Length, and Formatting specified for the field, and includes the names of all record definitions that contain the field.
<b>Applications and Fields</b>	<b>XRFAPFL</b>	Lists all menus, such as General Tables, in alphabetical order, and the fields within each menu. For each field, the report lists the Field Name, Field Type, Length, and Format and all the record and page definitions that contain the field (within the window).
<b>Fields Referenced by PeopleCode Programs</b>	<b>XRFFLPC</b>	Lists all PeopleCode programs in alphabetical order by associated record definition and field. The report lists the type of field all fields referenced in the PeopleCode program.
<b>Field Listing</b>	<b>XRFIELDSD</b>	Lists all fields in alphabetical order. The report includes Field Type, Length, Format, Long Name and Short Name.
<b>Menu Listing</b>	<b>XRFMENU</b>	Lists all menus in alphabetical order, and all page definitions within each menu. It also includes the associated search record definition name and detail page definition name.
<b>Page Listing</b>	<b>XRFPAGE</b>	Lists all page definitions in alphabetical order.
<b>PeopleCode Programs and Field References</b>	<b>XRFPCL</b>	Lists record definitions that contain fields with PeopleCode program attributes. The report includes the Field Name, as well as the associated records definitions and fields referenced in the PeopleCode program.
<b>Pages with PeopleCode</b>	<b>XRFPNPC</b>	Lists all pages that contain fields with PeopleCode attributes. For each page, the report includes the name of the record definition(s) that contain the field as well as the Field Name and Type



<b>Records and Pages</b>	<b>XRFRCPN</b>	Lists all record definitions in alphabetical order. The report includes the menu and page definitions associated with each record definition.
<b>Window Listing</b>	<b>XRFWIN</b>	Lists all application menu windows in alphabetical order.



**Note:** In addition to standard cross reference reports, if you are familiar with your PeopleSoft database, you can generate additional ad-hoc reports to extract the exact combination of information you need.

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