PeopleSoft®

Enterprise PeopleTools 8.45 PeopleBook: Workflow Technology

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Enterprise PeopleTools 8.45 PeopleBook: Workflow Technology
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Contents

About This PeopleBook

PeopleBooks provide you with the information that you need to implement and use PeopleSoft applications.

This preface discusses:

- PeopleSoft application prerequisites.
- PeopleSoft application fundamentals.
- Related documentation.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common elements in PeopleBooks.

Note. PeopleBooks document only page elements that require additional explanation. If a page element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common elements for the section, chapter, PeopleBook, or product line. Elements that are common to all PeopleSoft applications are defined in this preface.

PeopleSoft Application Prerequisites

To benefit fully from the information that is covered in these books, you should have a basic understanding of how to use PeopleSoft applications.

See *Enterprise PeopleTools 8.45 PeopleBook: Using PeopleSoft Applications*.

You might also want to complete at least one PeopleSoft introductory training course.

You should be familiar with navigating the system and adding, updating, and deleting information by 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.

These books do not review navigation and other basics. They present the information that you need to use the system and implement your PeopleSoft applications most effectively.

PeopleSoft Application Fundamentals

Each application PeopleBook provides implementation and processing information for your PeopleSoft database. However, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals PeopleBook. Each PeopleSoft product line has its own version of this documentation.

The application fundamentals PeopleBook consists of important topics that apply to many or all PeopleSoft applications across a product line. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of this central PeopleBook. It is the starting point for fundamentals, such as setting up control tables and administering security.

Related Documentation

This section discusses how to:

- Obtain documentation updates.
- Order printed documentation.

Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on the PeopleSoft Customer Connection website. Through the Documentation section of PeopleSoft 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 that is delivered on your PeopleBooks CD-ROM.

Important! Before you upgrade, you must check PeopleSoft Customer Connection for updates to the upgrade instructions. PeopleSoft continually posts updates as the upgrade process is refined.

See Also

PeopleSoft Customer Connection, https://www.peoplesoft.com/corp/en/login.jsp

Ordering Printed Documentation

You can order printed, bound volumes of the complete PeopleSoft documentation that is delivered on your PeopleBooks CD-ROM. PeopleSoft makes printed documentation available for each major release shortly after the software is shipped. Customers and partners can order printed PeopleSoft documentation by using any of these methods:

- Web
- Telephone
- Email

Web

From the Documentation section of the PeopleSoft Customer Connection website, access the PeopleBooks Press website under the Ordering PeopleBooks topic. The PeopleBooks Press website is a joint venture between PeopleSoft and MMA Partners, the book print vendor. Use a credit card, money order, cashier's check, or purchase order to place your order.

Telephone

Contact MMA Partners at 877 588 2525.

Email

Send email to MMA Partners at peoplesoftpress@mmapartner.com.

See Also

PeopleSoft Customer Connection, https://www.peoplesoft.com/corp/en/login.jsp

Typographical Conventions and Visual Cues

This section discusses:

- Typographical conventions.
- Visual cues.
- Country, region, and industry identifiers.
- Currency codes.

Typographical Conventions

This table contains the typographical conventions that are used in PeopleBooks:

Typographical Convention or Visual Cue	Description
Bold	Indicates PeopleCode function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
Italics	Indicates field values, emphasis, and PeopleSoft or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply. We also use italics when we refer to words as words or letters as letters, as in the following: Enter the letter *O*.
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 the W key.
`Monospace font`	Indicates a PeopleCode program or other code example.
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).

Typographical Convention or Visual Cue	Description
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.

Visual Cues

PeopleBooks contain the following visual cues.

Notes

Notes indicate information that you should pay particular attention to as you work with the PeopleSoft system.

Note. Example of a note.

If the note is preceded by *Important!*, the note is crucial and includes information that concerns what you must do for the system to function properly.

Important! Example of an important note.

Warnings

Warnings indicate crucial configuration considerations. Pay close attention to warning messages.

Warning! Example of a warning.

Cross-References

PeopleBooks provide cross-references either under the heading “See Also” or on a separate line preceded by the word *See*. Cross-references lead to other documentation that is pertinent to the immediately preceding documentation.

Country, Region, and Industry Identifiers

Information that applies only to a specific country, region, or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a country-specific heading: “(FRA) Hiring an Employee”

Example of a region-specific heading: “(Latin America) Setting Up Depreciation”

Country Identifiers

Countries are identified with the International Organization for Standardization (ISO) country code.

See *About These PeopleBooks,* “ISO Country and Currency Codes,” ISO Country Codes.

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in PeopleBooks:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in PeopleBooks:

- USF (U.S. Federal)
- E&G (Education and Government)

Currency Codes

Monetary amounts are identified by the ISO currency code.

See *About These PeopleBooks,* "ISO Country and Currency Codes," ISO Currency Codes.

Comments and Suggestions

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

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

Or send email comments to doc@peoplesoft.com.

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions.

Common Elements in These PeopleBooks

As of Date The last date for which a report or process includes data.

Business Unit An ID that represents a high-level organization of business information. You can use a business unit to define regional or departmental units within a larger organization.

Description Enter up to 30 characters of text.

Effective Date The date on which a table row becomes effective; the date that an action begins. For example, to close out a ledger on June 30, the effective date for the ledger closing would be July 1. This date also determines when

	you can view and change the information. Pages or panels and batch processes that use the information use the current row.
Once, Always, and **Don't Run**	Select Once to run the request the next time the batch process runs. After the batch process runs, the process frequency is automatically set to Don't Run. Select Always to run the request every time the batch process runs. Select Don't Run to ignore the request when the batch process runs.
Report Manager	Click to access the Report List page, where you can view report content, check the status of a report, and see content detail messages (which show you a description of the report and the distribution list).
Process Monitor	Click to access the Process List page, where you can view the status of submitted process requests.
Run	Click to access the Process Scheduler request page, where you can specify the location where a process or job runs and the process output format.
Request ID	An ID that represents a set of selection criteria for a report or process.
User ID	An ID that represents the person who generates a transaction.
SetID	An ID that represents a set of control table information, or TableSets. TableSets enable you to share control table information and processing options among business units. The goal is to minimize redundant data and system maintenance tasks. When you assign a setID to a record group in a business unit, you indicate that all of the tables in the record group are shared between that business unit and any other business unit that also assigns that setID to that record group. For example, you can define a group of common job codes that are shared between several business units. Each business unit that shares the job codes is assigned the same setID for that record group.
Short Description	Enter up to 15 characters of text.

See Also

Enterprise PeopleTools 8.45 PeopleBook: PeopleSoft Process Scheduler

Enterprise PeopleTools 8.45 PeopleBook: Using PeopleSoft Applications

PeopleSoft Workflow Preface

This preface gives an overview of the contents of this book.

PeopleSoft Workflow

This book describes the features of PeopleSoft Workflow related to business process design and workflow. These features include PeopleSoft Application Designer tools for designing workflow applications, adding workflow to your business processes, and tools for administering workflow within your organization. Other topics include notification features, Virtual Approver, and BlackBerry handheld device response programs.

CHAPTER 1

Getting Started with PeopleSoft Workflow Technology

This chapter discusses:

- An overview of PeopleSoft Workflow
- How to implement PeopleSoft Workflow

PeopleSoft Workflow Technology Overview

Workflow capabilities enable you to efficiently automate the flow of information throughout your enterprise—crossing both application and functional boundaries. PeopleSoft Workflow Technology consists of a powerful set of tools that enables you to automate time-consuming business processes and deliver the right information to the right people at the right time. You can merge the activities of multiple users into flexible business processes to increase efficiency, cut costs, and keep up with rapidly changing customer and competitive challenges.

Many of the tasks you perform throughout the day are part of larger tasks that involve several steps and several people. For example, when you order supplies, you are really kicking off an approval process—someone else reviews the order and either approves or denies it. If the order is approved, a purchase order is sent to the vendor. If it is denied, notification is sent back to the person who submitted the original order. The term workflow refers to this larger process.

Using PeopleSoft Workflow Technology requires you to define, step by step, your business processes. The first step in implementing your workflow application will be determining the business rules of your organization. This step involves taking fluid, subtle, and sometimes controversial practices and defining explicit rules of operation. The trick to this step is in walking a tightrope: your business rules must be specific enough to give you a solid understanding of your project goals, but not so specific that they predefine a single solution—one that might be impossible to implement, or that does not provide needed flexibility.

Implementing PeopleSoft Workflow Technology

This section discusses the steps required to build a workflow.

Step One: Designing a Workflow Application

Designing a workflow application can take three main steps:

1. Analyze and document your business requirements.
2. Diagram the process flow.

3. Document the workflow object attributes for business processes, activities, steps, events, and email and worklist routings.

In the planning phase of your implementation, take advantage of all PeopleSoft sources of information, including the installation guides, PeopleTools documentation, and the PeopleBooks that are specific to your applications.

After clearly designing your workflow requirements you can proceed to building the workflow.

Step Two: Build Supporting Definitions

If the applications required for your workflow do not already exist, build the definitions you need for fields, records, pages, components, and menus.

See Chapter 3, “Building Workflow Maps,” page 11.

Step Three: Create Workflow Maps

Create the workflow maps comprising the steps, activities, and business processes required for your workflow as determined in step one.

Use PeopleSoft Application Designer to create graphical maps that represent your business process. At this stage, you create maps only for the processes that are involved in the underlying application; you add PeopleSoft Workflow-specific elements to the maps when you define events and routings.

See Chapter 3, “Building Workflow Maps,” page 11 and Chapter 12, “Designing PeopleSoft Navigator Maps,” page 97.

Step Four: Define Roles and Role Users

Define the roles and the role users, including any Query roles, required for your workflow.

To ensure that work flows to the correct person, you must determine who that person is. You can find the right person using either Query roles or user list roles.

See Chapter 4, “Defining Roles and Users,” page 29.

Step Five: Define Worklist Records

Create a record definition that will be used to store all of the application-specific information for the worklist.

The worklist record determines which fields of information the system stores for each work item, including the data needed to access the target page (the search keys for the page) and any additional information that you want to display in the worklist itself. Because different worklist entries can have different target pages and display data, you need separate worklist records for the different types of entries that will appear in the worklist.

See Chapter 5, “Defining Worklist Records,” page 33.

Step Six: Define the Workflow Objects

This is the step where the workflow application is defined. Each of the objects is entered onto a business process definition in Application Designer as determined in step one.

You will define the events and routings that comprise workflow. Events and routings are both objects on the workflow maps. To define these workflow objects, add the icons to the map, linked to the step representing the page where the triggering event occurs.

See Chapter 6, “Adding Events and Routings,” page 39.

Step Seven: Define Event Triggers

Define the business rule in PeopleCode on the triggering application record definition. Workflow programs are defined on a record definition for one of the tables that the component accesses. They contain the business rules used to decide whether to trigger the business event. The PeopleCode detects when a business rule has been triggered and determines the appropriate action.

See Chapter 7, "Defining Event Triggers," page 53.

Step Eight: Test

Test your workflow, or use the workflow monitoring tools in Workflow Administrator to validate worklist routing results.

See Chapter 15, "Administering PeopleSoft Workflow," page 125.

CHAPTER 2

Introducing PeopleSoft Workflow

This chapter discusses:

- Workflow tools.
- Workflow application development.
- Extended workflow capabilities.

Understanding PeopleSoft Workflow

Many of the tasks that you perform throughout the day are part of larger tasks that involve several steps and several people working together. For example, when you enter an invoice, you are initiating an approval and payment process: someone else reviews and approves it, and a third person submits payment to the vendor. The term workflow refers to this larger process.

To a certain extent, all of the business processes that you define using PeopleSoft Application Designer involve workflow. However, we usually reserve the term to refer to processes that involve multiple users and the routing of data between the users.

Workflow Tools

You create and use workflow applications using several tools.

- *Worklists* are prioritized lists of the work items that a person (or group of people) has to do. A worklist is a standard PeopleTools grid. Therefore, the user can use grid personalization features to order and sort columns. When work is routed to a PeopleSoft user, it is put in the user's worklist. To work on an item, the user selects it from the worklist and is presented with the appropriate page to begin work. Users accessing worklists through a browser see worklist entries prioritized in a predefined order (set on a properties page). For example, worklists for accounts receivable clerks can be sorted by days overdue, amount overdue, or credit class.
- *PeopleSoft Application Designer* includes the tools that you use to design and build business processes, including the workflow rules and routings.
- *PeopleCode* functions detect when a business rule has been triggered as users enter data into a PeopleSoft application. These functions evaluate who should act on the new work instance (the role) and route it to the appropriate employee (the routing).
- *PeopleSoft Workflow Administrator* enables you to access, monitor, analyze, and control workflow in your organization.

Work Items

At the center of a workflow definition is a set of business events and the routings that are associated with those events. A business event is a condition that tells the system that an activity is complete. For example, a new record has been created, a record field has a particular value, or a due date has passed. A routing is an instruction that tells the system to forward information to the next step in the business process. It specifies what information to forward and where to forward it.

When a user saves a page, the system determines whether an event has occurred and triggers the associated routings. For example, suppose an employee enters a change of address from an online page. An agent determines that the database has been correctly updated and may then add an item to the benefits administrator’s worklist to notify the insurance provider of the correct address.

In addition to adding work items to worklists, routings can send email messages.

Workflow Triggers

Workflow routings are initiated by Workflow PeopleCode. The PeopleCode is assigned to pages, and when you save a page, it triggers a business event and its related routings.

Any process that can trigger PeopleCode can trigger a workflow event, including:

- Users working on PeopleSoft pages.
- Third-party applications sending information to a PeopleSoft component through a component interface.
- Batch programs or queries sending information to a PeopleSoft component through a component interface. Batch workflow processing uses these tools in addition to the standard workflow tools:
  - Application Engine programs run queries behind the scenes and pass the results to a component interface.

    You can use PeopleSoft Process Scheduler to run these programs on a regular schedule.
  - A component interface accesses the component and its PeopleCode to trigger a business event, thus initiating a workflow.

Workflow Application Development

This section discusses:

- Rules.
- Roles.
- Routings.
- Steps for developing workflow applications.

Rules

Rules determine which activities are required to process your business data. For example, you might implement a rule that says department managers must approve all requests for external classes.

You implement rules through workflow events, such as PeopleCode that evaluates a condition and triggers a notification (a routing) when appropriate.

Roles

Roles describe how people fit into the workflow. A role is a class of users who perform the same type of work, such as clerks or managers. Your business rules typically specify which roles do which activities. For example, a rule can say that department managers (a role) must approve external course requests.

Roles direct the work to types of people rather than to individuals. Identifying roles instead of individual users makes a workflow more flexible and easier to maintain. Associating roles with users makes it easy to ensure workflow users the security access that they need to access the pages where they complete their work.

Roles remain stable, even as people change jobs. For example, if an employee in the Research and Development (R&D) department requests an external class, the system forwards the request to R&D Manager, not to Vic Rumpel, who is the current R&D manager. PeopleSoft application data serves as the basis for defining roles throughout your organization.

Routings

Routings specify where the information goes and what form it takes—email message or worklist entry. Routings make it possible to deploy applications throughout the enterprise. They work through the levels and departments of an enterprise to bring together all of the roles that are necessary to complete complex tasks.

Steps for Developing Workflow

Workflow development progresses through eight steps:

1. Design the workflow application.

   Before you start developing workflow applications, you must first analyze the business processes that you want to automate. Identify the goal of each business process, what its component tasks are, and how the tasks should be divided into smaller activities and steps. Articulate the conditions that trigger a workflow event and what happens when those conditions occur. Understand who your workflow users are and how you'll determine who receives a work item.

   As you design the workflow application, identify the workflow rules and how they relate to the data objects and transactions in the PeopleSoft system.

2. Build the underlying application.
3. Create workflow maps.

   Use PeopleSoft Application Designer to create graphical maps that represent your business process. At this stage, you create maps only for the processes that are involved in the underlying application; you add PeopleSoft Workflow-specific elements to the maps when you define events and routings.

4. Define roles and users.

   Define users' roles when you give them their user IDs. Roles are important in PeopleSoft Workflow. To ensure that work flows to the correct person, you must determine who that person is. You can find the right person using either query roles or user list roles.

5. Create a worklist record.

   The worklist record determines which fields of information the system stores for each work item, including the data needed to access the target page (the search keys for the page) and any additional information that you want to display in the worklist itself. Because different worklist entries can have different target pages and display data, you need separate worklist records for the different types of entries that will appear in the worklist.

6. Define workflow objects.

Events and routings are both objects on the workflow maps. To define these workflow objects, add the icons to the map, linked to the step representing the page where the triggering event occurs.

7. Define event triggers.

   After you create workflow processes, link them into the PeopleSoft applications by adding PeopleCode programs to the pages. The PeopleCode detects when a business rule has been triggered and determines the appropriate action.

8. Test.

   No development is complete until everything is thoroughly tested. Be sure to test under a variety of conditions, both usual and unusual.

Extended Workflow Capabilities

In addition to basic workflow events and routings, PeopleSoft provides extended capabilities that add to the power of workflow applications.

This section discusses:

- Route controls.
- Workflow triggers from external applications.
- Enterprise Integration Points (EIPs).
- Batch workflow.
- Approval processes.
- Activity guides.
- Notification features.

Route Controls

Route controls identify the aspects of a situation on which you want to base routing decisions, and they enable you to associate values with role users. For example, suppose you want to route purchase requisitions to different buyers, depending on which vendor supplies the ordered items, which business unit is requesting the items, which department needs the items, or some combination of these factors.

Route controls simplify the creation of role queries by enabling you to associate application data with the role user definition. Instead of joining together a group of records, you can look at the role user table. Another advantage of route controls is that the factors controlling routing are stored in a database table instead of in query definitions or PeopleCode. To change the routing rules, you change users' route control profiles. You don't have to modify the business process, role queries, or PeopleCode.

Workflow Triggers From External Applications

A *component interface* enables third-party applications to enter data into PeopleSoft applications. It accepts data from a variety of sources, such as electronic forms software, interactive voice response (IVR) systems, or World Wide Web applications, and from PeopleCode and Application Engine programs.

When a component interface sends data into the PeopleSoft system, PeopleSoft performs the same edits and security checks as it always does, including running any PeopleCode that is associated with the page. So, if the page has associated Workflow PeopleCode, a component interface can trigger a business event.

EIPs

PeopleSoft delivers a number of preconfigured EIPs to meet some of the more common integration needs. There are three PeopleSoft Workflow-related EIPs that you might use:

- The Worklist Entry EIP (component interface WORKLISTENTRY) enables third-party applications to access existing worklist entries, mark items as selected or worked, or reassign items to other users.
- The Worklist Synchronization EIP consolidates worklist data from multiple PeopleSoft databases using the application engine program WL_REPLICATE, which publishes worklist data using WORKLIST_MSG.

  Users who would otherwise have to work from multiple worklists (for example, people who use PeopleSoft Workflow in both PeopleSoft HRMS and PeopleSoft Financials) can use one worklist and still see all work items from both sources.

  Third-party applications can also use this EIP to create new worklist entries—entries that can include a URL for the action that must be taken.
- The Worklist EIP (component interface WORKLIST) enables third-party applications to add new entries to PeopleSoft worklists.

  This is not the preferred way to add worklist entries. The preferred method is to use a component interface for a component that already calls TriggerBusinessEvent and to let TriggerBusinessEvent create the worklist entry. Another alternative is to use the Worklist Synchronization EIP.

Batch Workflow Processing

Sometimes, the event that triggers a workflow routing is actually a nonevent. That is, a situation exists, but not because someone has entered data into the system. The most common examples of this type of event are aging processes. For example, an invoice becomes overdue, an employee reaches his five-year anniversary, or a worklist entry remains unworked for over a week.

PeopleSoft Application Engine enables you to monitor your database for this type of event. You can create an Application Engine program that runs a SQL query against the PeopleSoft database and passes the results to a component interface.

Using Application Engine programs in conjunction with PeopleSoft Process Scheduler, you can monitor the database tables for conditions that should trigger workflow events.

Approval Processes

Approval processes are a very common form of business process, and you can define approval rules on an Approval Rule Set map. The approval steps that you place on this map represent the approval levels required for the activity in question.

Two tools can read and implement the approval rules from the map:

- Virtual Approver automatically tracks the approval process. As users complete transactions that require approvals, Virtual Approver determines the appropriate approver and sends a workflow routing. As each approver completes the approval, Virtual Approver determines whether additional approvals are needed and, if necessary, sends additional workflow routings.
- GetApprovers PeopleCode determines the entire list of required approvals at once, so that you can develop custom approval tracking applications.

Activity Guides

Activity guides support a specific type of workflow—a single user's work across several pages. Because activity guides are intended for a single user, they do not involve routings like those found in a regular workflow application. Rather, the activity guide leads a user through a multi-step task.

An activity guide appears as a navigation bar across the top of a page. Within the bar, you can see each of the steps involved in the activity. Clicking a step takes you to the page where you can complete the step; the navigation bar remains visible as you move from page to page.

Activity guides take a single map and integrate it into the pages that are used for the specific transaction. Although activity guides can benefit all users, they are particularly appropriate for guiding untrained users through self-service transactions.

Of the two kinds of workflow maps (business processes and activities), only activities are used for activity guides. The activity guide maps are built with the same tools as all other maps.

Notification Features

Within an activity definition, an event can trigger a notification routing in email or a worklist. These features facilitate sending notifications in workflow:

- The Notify toolbar button can be added to any PeopleSoft component.

  With the Notify toolbar button, the user can determine when an event has occurred that requires that someone be notified. The Notify toolbar button opens the Send Notification page, where the user can enter a personal message and send an email or worklist notification to users.

- Notification templates enable functional users to configure unique message text for each component.

  The notification template can include values from the component page (for example, order number and customer name) so that even the predefined text in the notification can be specific to the data on the page. These values are called template variables.

- The BlackBerry Email Response notification setup and polling program enables companies to leverage the Research in Motion (RIM) wireless handheld device functionality to send and receive email.

  The email response from the device can trigger business logic in the PeopleSoft system to update or complete a transaction.

- The combination of generic templates and PeopleCode application classes can be used by application developers to extend the delivered notification features for an application.

CHAPTER 3

Building Workflow Maps

Workflow maps, also known as Navigator maps, are visual representations of your organization's business processes. Maps are necessary to all workflow processes, and they can also be used as navigational aids for end users.

This chapter discusses:

- Map hierarchies.
- How to define maps.
- Adding map objects.

Understanding Workflow Maps

Workflow maps, also known as PeopleSoft Navigator maps, are visual representations of your organization's business processes. Maps are necessary to all workflow processes, and they can also be used as navigational aids for users.

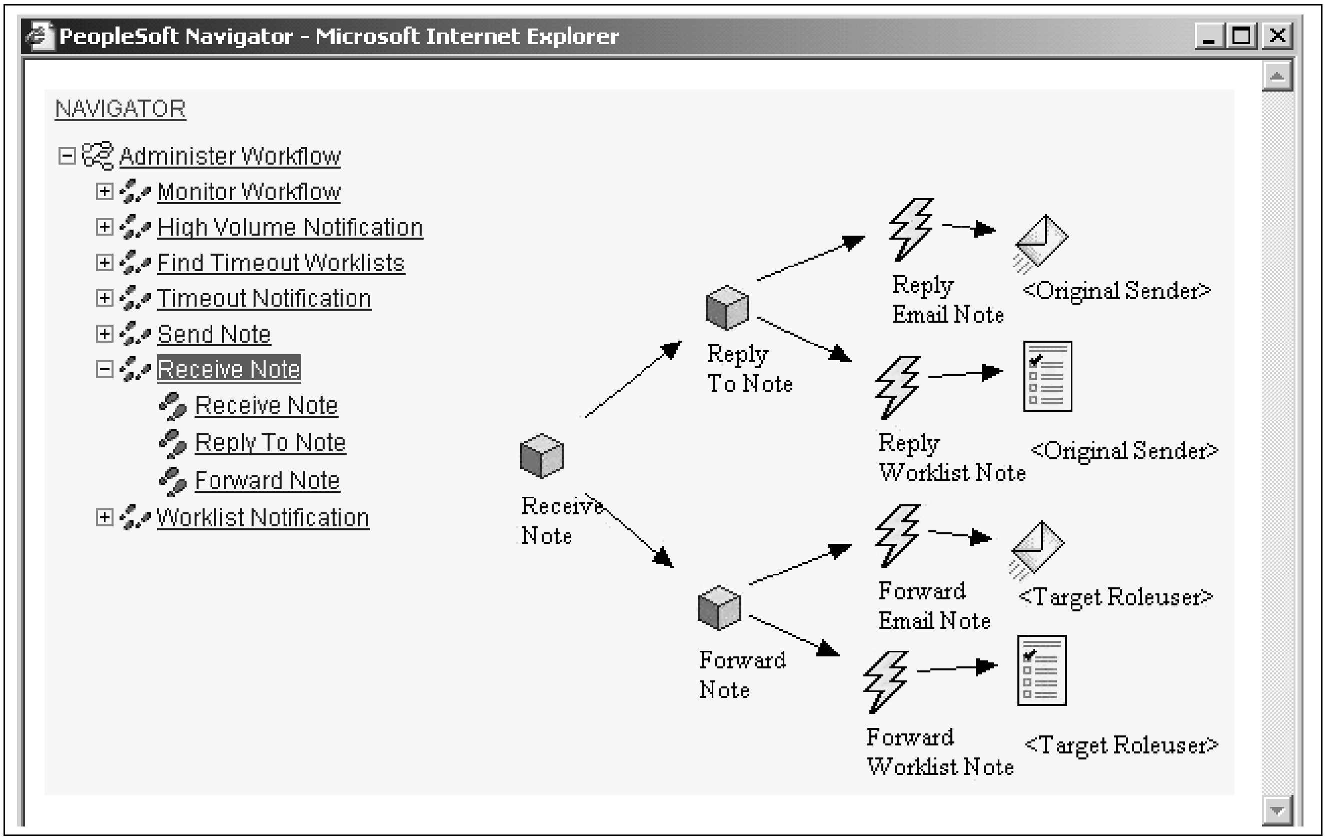
There are two types of workflow maps, each representing a different hierarchical level. The top-level map, known as a business process, represents broad areas of functionality. Business processes contain one or more activities, or subprocesses. Activities contain individual steps that represent the specific transactions that complete that activity.

When you create workflow maps, you first create basic maps (business processes and activities) as described in this chapter. As you continue with subsequent steps, you add workflow-specific elements—events and routings—to the activities. You need events and routings only in activities that are used as workflow tools, not in those that are used as navigation tools.

PeopleSoft Navigator Maps

PeopleSoft Navigator is an alternative to the standard portal navigation. With PeopleSoft Navigator, users can see workflow maps and use them to access pages (but not external programs) that are represented within these maps.

PeopleSoft Navigator presents maps according to their hierarchical relationships. Users can browse the available maps and navigate to individual pages by clicking the step that represents the page. As users move from map to page and back to map, the Navigator tree remains visible on the left-hand side of the screen.



PeopleSoft Navigator

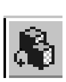
You control which maps are visible in PeopleSoft Navigator by defining a Navigator homepage: a top-level business process that greets the user when PeopleSoft Navigator is first accessed. Users can access only the maps that are hierarchically related to this homepage.

Understanding Map Hierarchies

PeopleSoft Workflow uses three hierarchical levels. The first two levels, business processes and activities, are both maps: graphical representations of the relationships between the component objects (other maps or steps).

The third level, steps, are not maps. Steps are elements within activities and represent the level at which the user interacts directly with application pages.

The Business Process icon represents a complete business task, consisting of one or more activities. Business processes can include other business processes. Normally, you use this functionality only when designing maps for use in PeopleSoft Navigator.



The Activity icon represents a subprocess of the business task, consisting of one or more steps.

The Step icon represents a discrete step in the business process, corresponding to a single transaction performed on an application page or through an external program.

Business processes and activities are both freestanding definitions that you can open in PeopleSoft Application Designer and include in projects. Because business processes include icons for other maps (activities or other business processes), you must create these lower-level maps before you can add them to a business process. You can develop in a top-down approach by creating the lower-level maps from the Business Process Designer directly.

Steps are not freestanding definitions in PeopleSoft Application Designer; they exist only within a particular activity. You create steps as you define an activity.

Note. PeopleSoft Workflow and PeopleSoft Navigator applications require all three levels: all activities must belong to business processes. Activity guides, on the other hand, do not involve business processes. Activity guides are built from standalone activities and their component steps. A setting in the Activity Properties dialog box identifies the activity as being used in an activity guide.

The following sections describe the two types of graphical maps.

Business Processes

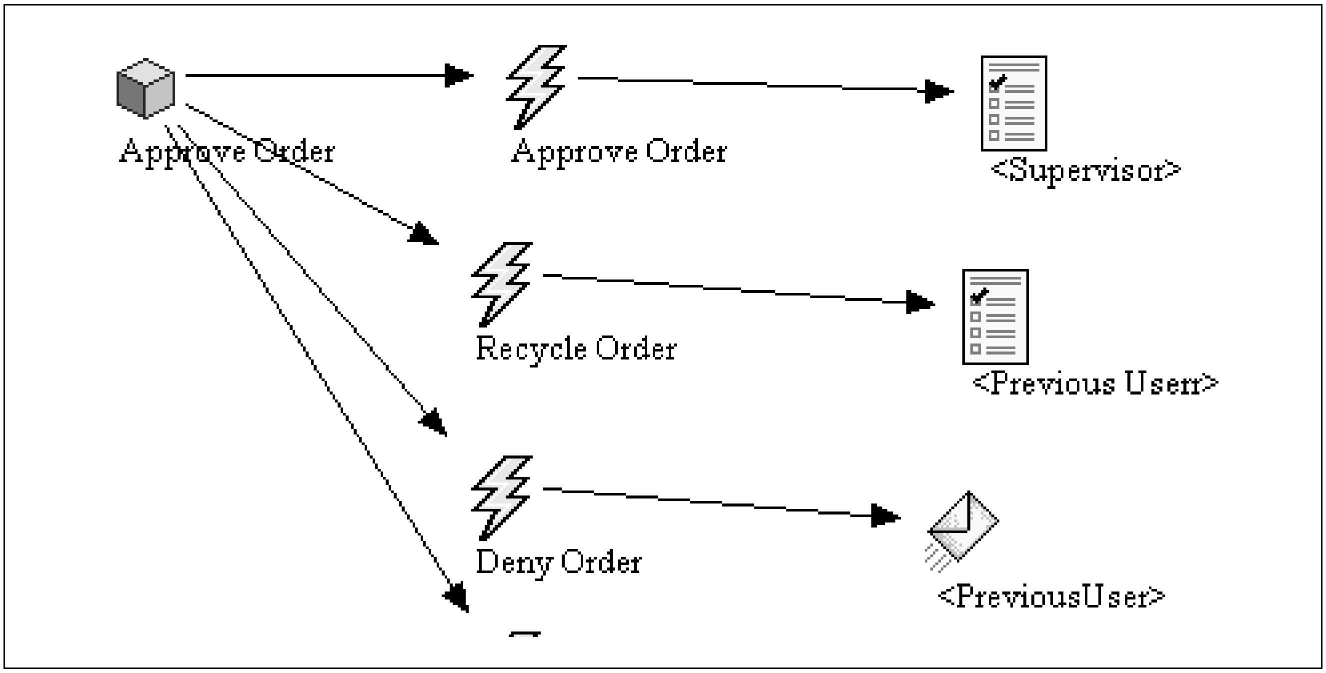
A business process is a graphical representation of the relationships between related activities. Arrows show the relationships between the activities, indicating the proper chronological sequence.

Activities

Activities that are intended only for end users (in PeopleSoft Navigator or in activity guides) typically include only steps that correspond either to application pages or to external programs.

When you incorporate workflow, activities also include events and routings. Events represent specific transactions that can occur in the page that is connected to the event. Routings represent notifications that are triggered by that event.

For example, there are several possible events on a page where managers approve orders. The manager can approve or deny the order or send the order back to the employee for changes. Each event requires routings to inform the next person in the chain (a buyer, an additional approver, or the employee who submitted the original order) about what must happen next.



Activity with workflow routings

Defining Maps

You create maps using PeopleSoft Application Designer. After creating the map, you add items and establish the attributes of and relationships between those items.

Because maps are freestanding definitions in PeopleSoft Application Designer, you can use the standard techniques for opening, saving, deleting, renaming, adding to projects, printing, and so forth.

This section discusses how to:

- Create a new map.
- Define business process properties.
- Define activity properties.

Common Elements Used to Define Maps

Icon Desc (icon description) Enter a description to appear in the dialog boxes that list this type of map. If you leave this field blank, the map name appears by default.

This field is language-sensitive; the map name is not. If you intend to translate this object, supply a value for this field.

Owner ID To track definition owners, enter an appropriate value.

Creating a New Map

To create a new map:

1. In PeopleSoft Application Designer, select File, New.

2. In the New scrolling list, select the map type: Activity or Business Process.
3. Click OK.
4. Add the icons required to represent the activity or business process.

   If you're creating a business process, the icons represent other maps, activities and possibly other business processes. When you add these types of icons to the map, you can specify an existing activity or business process that the icon represents, or you are prompted to create a new one.

   Even if you do not save the business process on which you are working, the new activities or business processes that you created are saved to the database. Arrange the icons in a logical and visually informative way.

   If appropriate, add modeling symbols, drawings, arrows, text, or other graphic elements to the map. These elements are useful primarily in maps that are visible in PeopleSoft Navigator. They do not affect workflow processing, nor are they visible in activity guides.
5. Connect the activities, decision points, and subprocesses in the appropriate order:
   a. Click the Link button.
   b. Click the two objects sequentially.

      An arrow appears, pointing from the first object to the second.

      The links between steps only clarify the flow of work. They do not directly determine the order of the steps, which you specify when you set the properties for individual icons in the maps. However, if you've enabled automatic sequencing in the activity properties, the default step order is based on the links.
6. Define the properties of the map.
7. Define the properties of the icons on the map.
8. Save the map.

Defining Business Process Properties

To define the properties of a business process:

1. Open the business process in PeopleSoft Application Designer.
2. Open the Business Process Properties dialog box:
   a. Right-click in the map (but not on an item in the map).
   b. Select Definition Properties.

      The General tab in the Business Process Properties dialog box appears.
3. Set the properties on the General tab.
4. Set the properties on the Use tab.

   A Navigator homepage is the high-level business process that a user sees immediately after accessing PeopleSoft Navigator. A user's homepage settings are established on the User Profile and Permission List pages. To make this business process available as a homepage, select the Can be used as a Navigator home page check box.
5. Click OK to accept the settings.
6. Save the business process.

Defining Activity Properties

To define the properties of an activity:

1. Open the activity in PeopleSoft Application Designer.
2. Open the Activity Properties dialog box.
    a. Right-click in the map (but not on an item in the map).
    b. Select Definition Properties.

    The General tab in the Activity Properties dialog box appears.
3. Set the properties on the General tab.
4. Set the properties on the Use tab.

    The Use tab includes options for automatically sequencing steps and for enabling end-user-facing activity guides.

    After you add steps to an activity, arrange them into a logical sequence using connecting arrows, and assign each step a number. If you select Automatically sequence steps , the step numbers are automatically assigned when you save the activity. The step numbers are based on the order in which you connect the arrows. This is an efficient way to order the steps.

    Select Activity Guide if you’re creating a map to use as the basis for an end-user-facing activity guide.

    Note. Normally an activity that you use in a workflow application isn’t reused as an activity guide. Instead, you create activities specifically for activity guides.

5. Click OK to accept the settings.

Adding Map Objects

This section discusses how to:

- Add icons to maps.
- Connect icons within a map.
- Add images to maps.
- Arrange objects on maps.
- Set icon properties.
- Control text.
- Add drawing shapes to maps.
- Use other map display features.

Understanding Toolbar Buttons

Use toolbar buttons to add icons and connecting lines to maps. Different toolbars (and therefore different map objects) are available for business processes and activities.

Business Process Toolbar

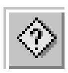
This toolbar provides the basic components of a business process, including activities and the lines that link them. This toolbar is visible only when a business process is the active window.

Click the Link button to connect related activities or steps. This button is also in the Activity toolbar.

You must use the link tool to connect objects on the map; do not use arrows or other drawn shapes.

Click the Business Process button to add another business process.

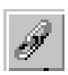
Click the Activity button to add an activity.



Click the Decision button to add a decision point in a process. A Decision icon in a map is descriptive only; it has no workflow functionality. This button is also in the Activity toolbar.

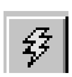
Activity Toolbar

This toolbar provides the basic components of an activity, including steps, workflow events, and workflow routings. This toolbar is visible only when an activity is the active window.

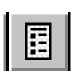


Click the Link button to connect related activities or steps. This button is also in the Business Process toolbar.

Click the Step button to add a PeopleSoft page.

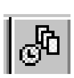


Click the Event button to add a business event.

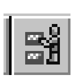


Click the Worklist button to add a worklist.

Click the Email button to add email for workflow routing.



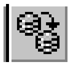
Click the Batch button to create a descriptive icon for a background process.



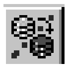
Click the Manual Process button to create a descriptive icon for a manual process.

Click the Decision button to create a descriptive icon for a decision point in a process. This button is also in the Business Process toolbar.

Click the Local Transaction button to create a descriptive icon representing an application message definition for a transaction that occurs in one database.



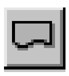
Click the Transaction other DB (transaction other database) button to create a descriptive icon representing an application message definition for a transaction that sends a message to another database in the same enterprise.



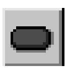
Click the Remote Transaction button to create a descriptive icon representing an application message definition for a transaction that sends a message to another database in another enterprise by crossing the firewall. Application message definitions are used in PeopleSoft Integration Broker transactions.all.

Modeling Toolbar

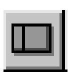
This toolbar provides additional buttons for creating icons to graphically enhance maps. Some of the icons are informational only; those that are functional have exact equivalents in either the Business Process or the Activity toolbar. This toolbar is visible when either a business process or an activity is the active window in the workspace.



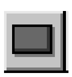
Click the Document button to create a descriptive icon for a document. (Informational only.)



Click the End Process button to create a descriptive icon for the end of process. (Informational only.)

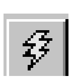


Click the Process button to add an icon for a business process. This is the same function as the Business Process button on the Business Process toolbar. When you add this icon to a map, you're prompted to identify an existing business process that the icon represents. This is available only when a business process is the active window in the workspace.

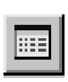


Click the Activity button to add an icon for an activity. This is the same function as the Activity button on the Business Process toolbar. When you add this icon to a map, you're prompted to identify an existing activity that the icon represents.

This is available only when a business process is the active window in the workspace.



Click the Event button to add icon for an event. This is the same function as the Event button on the Activity toolbar. This is available only when an activity is the active window in the workspace.

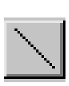


Click the Page button to add icon for a page. This is the same function as Step button on the Activity toolbar. This is available only when an activity is the active window in the workspace.

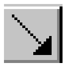
Drawing Toolbar

This toolbar is visible when either a business process or an activity is the active window in the workspace.

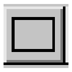
Normally, you add an object to a map by clicking the object on the toolbar and clicking the location on the map. Some of the drawing tools, however, involve extra clicks on the map. For example, to draw a line, first click the Line button as you click any other button. To draw the line on the map, click once at the beginning of the line and again at the end of the line.



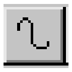
Click the Line button to draw a static line. Drag the cursor from one end of the line to the other. You can move the endpoints later.



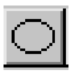
Click the Arrow Line button to draw a line that is terminated with an arrow.



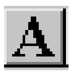
Click the rectangle button to draw a rectangle. Drag the cursor from one corner of the rectangle to the opposite corner. You can move the corners later.



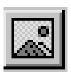
Click the Polycurve button to draw a curve. Drag from anchor point to anchor point, and double-click at the end of the curve. You can move the anchor points later.



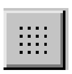
Click the Ellipse button to draw an ellipse. Drag from one corner of the surrounding rectangle to the opposite corner. You can move the corners later.



Click the Text button to draw a static text field. Place text by clicking at the appropriate location. You can move or resize the text box later.



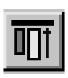
Click the Image button to add a bitmap. Place the bitmap by clicking at the appropriate location.



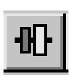
Click the Toggle Grid button to display or hide an optional grid to help you place map objects.

Alignment Toolbar

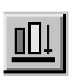
This toolbar contains options for aligning objects on several different axes.



Click the Align Top button to arrange all selected objects so that they are aligned at the top of the base position object.

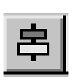


Click the Align Middle button to arrange all selected objects so that they are aligned at the middle of the base position object.

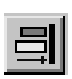


Click the Align Bottom button to arrange all selected objects so that they are aligned at the bottom of the base position object.

Click the Align Left button to arrange all selected objects so that they are aligned at the left-hand side of the base position object.



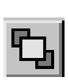
Click the Align Center button to arrange all selected objects so that they are aligned at the center of the base position object.



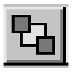
Click the Align Right button to arrange all selected objects so that they are aligned at the right-hand side of the base position object.

Layering Toolbar

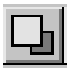
This toolbar contains options to move objects in front of or behind each other.



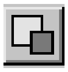
Click the Front button to move the selected object in front of any overlapping objects.



Click the Back button to move the selected object behind any overlapping objects.



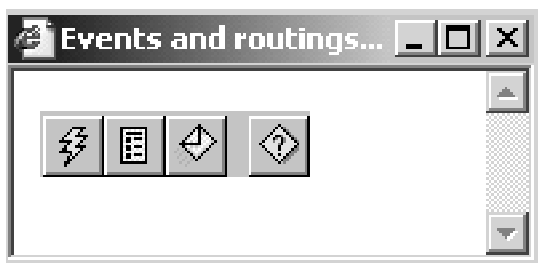
Click the Forward button to move the selected object in front of the overlapping objects that are immediately in front of it.



Click the Backward button to move the selected object behind any overlapping objects that are immediately in front of it.

Events and Routings Icons

These are actual workflow objects, representing transactions that trigger workflow (events) and the medium through which the trigger sends work to the recipient (routings). You normally add these objects to activities after completing the basic maps.



Events and routings icons

Adding Icons to Maps

To add an icon to a map:

1. Click the toolbar button representing the icon that you want to add.
2. Click the map where you want to place the icon.

   In most cases, the icon is added to the map when you click. If you're adding an icon for an activity, business process or transaction, however, the Select Definition dialog box appears.
3. In the Select Definition dialog box, select the specific activity, business process, or application message definition that the icon represents.
4. Click the Select button to finish placing the icon on the map.

Connecting Icons Within a Map

To connect icons within a map:

1. Click the Link button on the toolbar.

   You must use the link tool to connect icons; do not use arrows or other drawing objects.
2. Click the icon where the link starts.

   The icon must be a linkable definition. As you pass the cursor over different parts of the map, its appearance changes to indicate whether you're over a linkable definition:

   • A plus sign indicates that you are not over a linkable definition.

   • A plus sign within a circle indicates that you are over a linkable definition.

3. Click the icon where the link ends.

   This click completes the link, and an arrow from one object to the other appears. Even if you relocate objects on the map, the link stays connected to both objects.

   To cancel without completing the link, right-click.

4. (Optional) Modify the shape of the link.

   To create angles at the same time that you create the link, make one or more intermediate clicks where you want the line to bend. You can add multiple angles. However, you must always end the line with a linkable definition.

   Change the angle by clicking the connector line, selecting the angle anchor, and moving it.

   To create an angle in an existing link, select the link, press and hold the CTRL key, and click where you want to create an angle anchor. You can then move the anchor as described previously.

Adding Images to Maps

To add an image to a map:

1. Click the Image button on the toolbar.
2. Click on the map where you want to place the image.
3. Right-click the bitmap and select Change Bitmap.

   The Select Image dialog box appears.

4. Select the image file.
5. Click OK.

   The selected image replaces the default bitmap.

Note. The Select Image dialog box lists all of the images that are stored in the PeopleSoft database. If the Show Only Workflow Images check box is selected, the list includes only images that have the Used in Workflow property set in the image definition properties. If the Show Only Workflow Images check box is cleared, the list includes all images that can be rendered in the Microsoft Windows environment. Because .GIF files cannot be rendered in Windows, they do not appear.

Table of Default Workflow Images

To replace the PeopleSoft default images for new or existing maps, you can add new images to the Image Catalog using the same names, as in the following table.

Type	Image Name	Toolbar Name
Activity	PT_WFD_ACTIVITY	PT_WFD_TBACTIVITY
Business Process	PT_WFD_BUSPROC	PT_WFD_TBBUSPROC
Step	PT_WFD_STEP	PT_WFD_TBSTEP
Batch	PT_WFD_BATCH	PT_WFD_TBBATCH

Type	Image Name	Toolbar Name
Manual Process	PT_WFD_MANUALPROC	PT_WFD_TBMANUALPROC
Transaction Same DB	PT_WFD_SAMEDB	PT_WFD_TBSAMEDB
Transaction Other DB	PT_WFD_OTHERDB	PT_WFD_TBOTHERDB
Transaction Outside Firewall	PT_WFD_OUTSIDEFW	PT_WFD_TBOUTSIDEFW
Event	PT_WFD_EVENT	PT_WFD_TBEVENT
Worklist	PT_WFD_WORKLIST	PT_WFD_TBWORKLIST
Email	PT_WFD_EMAIL	PT_WFD_TBEMAIL
Decision	PT_WFD_DECISION	PT_WFD_TBDECISION
Bitmap	PT_WFD_BITMAP	PT_WFD_TBBITMAP

Arranging Objects on Maps

This section discusses how to:

- Move objects on maps.
- Delete objects from maps.
- Change the display bitmap of an existing icon.
- Align multiple objects visually.
- Move objects in front of or behind each other.

Moving Objects on Maps

To move objects on maps:

1. Select the object.

   Handles appear around the object.

2. Drag the object to a new position.

   When you drag an object, caption text moves with it. You can, however, select or move just the text to reposition it relative to its object.

   If an object is linked to other objects, the lines representing links move with the object.

   Use the Snap to Grid feature to align the object to the grid or deactivate the Snap to Grid feature for free-form placement.

Deleting Objects From Maps

To delete objects from maps:

1. Select the object to delete.
2. Press DELETE.

Changing the Display Bitmap of an Existing Icon

To change the display bitmap of an existing icon:

1. Right-click the icon and select Change Bitmap.

   The Open dialog box appears.
2. Select the image file.
3. Click OK. The selected image replaces the default bitmap.

Note. The Open dialog box for Change Bitmap lists only images that are Windows-compatible. Also, when the system saves the activity or business process definition, it automatically generates a JPEG file of it so that it can be viewed in PeopleSoft Navigator (in the browser).

Aligning Multiple Objects Visually

To align multiple objects visually:

1. Decide on a base position object; you'll move other objects in line with this base position object.
2. Press SHIFT while selecting the objects that you want to move. Select the base position object last. To deselect an object, continue to press SHIFT and select the object again.
3. Click the appropriate button in the Alignment toolbar.

Moving Objects in Front of or Behind Each Other

To move objects in front of or behind each other:

1. Select the objects that you want to move in front of or behind another overlapping object.
2. Click the appropriate button on the Layering toolbar.

Setting Icon Properties

This section discusses how to set properties for:

- Descriptive icons.
- Step icons.

Setting Properties for Descriptive Icons

Both business processes and activities can include descriptive icons. These icons typically do not have associated workflow processing; they are useful primarily if the map will be visible through PeopleSoft Navigator.

Note. Even though the Activity icon does not have any associated processing, it must be included in the business process to establish the relationship between the activity and the business process. That relationship is necessary for proper workflow processing.

To set properties for descriptive icons:

1. Right-click the descriptive icon and select Item Properties.

   The Properties dialog box appears. Depending on the type of icon, the title bar reads Business Processes Definition, Activity Definition, or Description Symbol Definition.

2. Enter information in the dialog box.

   The text you enter in the Name field identifies the icon and, by default, appears as the display text under that icon. To display different text under the icon, enter it in the Icon Descr text box. Include line breaks in the text by pressing the ENTER key.

3. Click OK to close the dialog box.

Setting Properties for Step Icons

Set properties for the steps in an activity to associate the step with the proper page or external program and to establish the correct sequence of steps within the activity.

To set properties for step icons:

1. Right-click the step icon and select Item Properties. The Step Definition dialog box appears.
2. Enter descriptive information about the step.
3. Enter the step and path numbers to place this step into the activity's flow.

   The Step Number and Path Number boxes order the steps in this activity. When the user always completes the same steps in the same order, specify the order of the step in the Step Number box and leave the number 1 in the Path Number box. The first step is step 1; the second is step 2.

   When the user performs different tasks along the way, define multiple step paths. Start numbering the steps from step 1, staying on path 1 until you reach the first point at which a user has options. For each step that might come next, use the next consecutive step number, but a different path number, for each one. All of the steps should have the same step number sequence, but a different path number value.

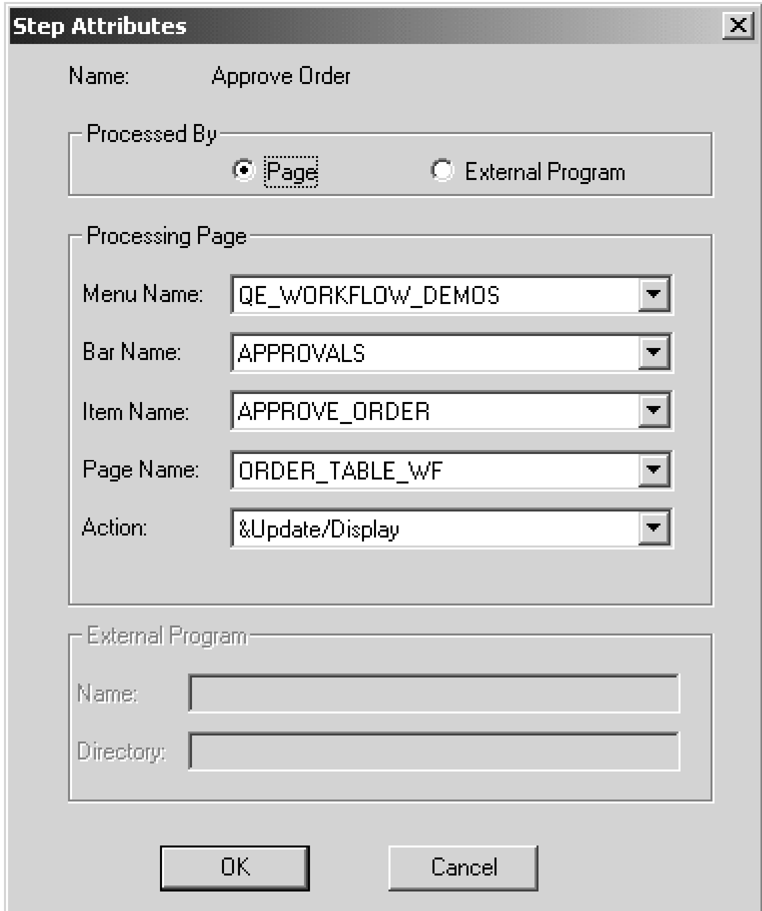
   If there's a user-facing activity guide based on this map, you might want to make the more common path the default path. Select Default Step for the step that you want the activity guide to take when a user progresses through the activity.

   You can avoid the manual sequencing of steps if you use the automatic step sequencing options that are available in the property sheet for the activity. However, always review the sequence created by automatic numbering to verify that the sequence is correct.

4. (Optional) Click Activity Guide. This button is available only if you have marked this as an activity guide in the activity properties. The Step Internet Client Attributes dialog box appears. If this map is an activity that will be used in an activity guide, enter the necessary information in this dialog box.

Setting Step Attributes

This section discusses how to set step attributes.



Step Attributes dialog box

Use the Step Attributes dialog box to select the page or program that the system starts when a user selects this step and the action mode that is used to open the page.

To set step attributes:

1. On the Step Definition dialog box, click the Attributes button.
2. Specify whether the user completes this step on a PeopleSoft page or from an external program.

   When you select Page or External Program, the appropriate section of the dialog box becomes available. If this is an activity guide and you've marked the activity guide option in the activity properties, you must select Page.
3. Provide directions for starting the page or external program.

   If a user performs the step by completing a PeopleSoft page, select the page from the list boxes in the Processing Page group box.

   In the Action list box, select the type of activity that the user must perform on the database: *Add*, *Update/Display*, *Update Display/All*, or *Correction*. When a user selects this step, the system displays the specified page in the specified action mode.

Note. You must assign a page to a menu before you create a step that navigates to it.

If users perform the step using an external program, select the program name and its working directory from the External Program group box. The program name must be the name of the executable file, followed by command line parameters, if appropriate. When a user selects this step, the system starts the specified program.

Note. If this step is the first step in its activity (Step 1 Path 1) and the activity has an associated worklist, the system can pass additional parameters to the external program from the worklist record.

4. Click OK in the Step Attributes dialog box.
5. Click OK to close the Step Definition dialog box.

Controlling Text

This section discusses how to:

- Add standalone text to maps.
- Format standalone text.
- Change the position of icon text.

Adding Standalone Text to Maps

To add standalone text to maps:

1. Click the Text button on the Drawing toolbar.
2. Click the map in the location where you want to place the text. A text box with the word *text* appears on the map.
3. Double-click the default text to select it.
4. Enter your own text.

Formatting Standalone Text

To format standalone text:

1. Right-click the text and select Item Properties.

   The Text Properties dialog box appears.
2. Set the text properties.
3. Click OK.

Changing the Position of Icon Text

To change the position of icon text:

1. Click the text to select it.
2. Drag the text to its new position.

   You might want to center caption text under the object that it describes.

Adding Drawing Shapes to Maps

This section discusses how to:

- Add drawing shapes to maps.
- Change the appearance of the drawing line.
- Change the color and pattern of a drawing shape.

Adding Drawing Shapes to Maps

To add drawing shapes to maps:

1. Click a drawing shape button.
2. Draw the shape on the map. The drawing method depends on which shape you're drawing.
3. Modify the shape by dragging the handles to a new location.

Changing the Appearance of the Drawing Line

To change the appearance of the drawing line:

1. Double-click the shape to open the Properties dialog box.
2. Set the properties on the Linetab.

   Click Transparent to make the line disappear. When you select this option for a line, only the arrowhead on the line remains visible.
3. Click OK to close the dialog box.

Changing the Color and Pattern of a Drawing Shape

Because lines and curves do not enclose a drawing area, this procedure applies only to rectangles and ellipses. To change the color and pattern of a drawing shape:

1. Double-click the shape to open the properties dialog box.
2. Set the properties on the Fill tab.
   a. For a solid fill (no hatching), select a foreground color to fill the shape.
   b. To prevent the drawing from covering other shapes behind it, select Transparent Fill.
   c. For a patterned fill, select both a foreground and background color, and select a hatchpattern.

      Select Transparent Background to apply hatches while leaving the fill transparent. The pictures of the hatching options show the color scheme that you've selected.
3. Click OK to close the dialog box.

Using Other Map Display Features

When you create a map, additional display options help you control the design environment. For example, maps have an optional grid to help you align objects precisely on the map. You can view or hide the grid, define its size, and specify whether objects snap to the grid intersections when you place or move them.

This section discusses how to:

- Control the size of the map display (the zoom).
- View the grid.
- Resize the grid.
- Activate the snap-to grid.

- Navigate between a business process and its constituent maps.

Controlling Map Display Size

To change the display (zoom) size of the map:

1. Select View, Zoom.
2. Select the level of magnification.
3. Click OK.

Viewing the Grid

To view or hide the grid, select View, Grid Visible. This menu item is a toggle command. When the grid is visible, a check mark appears next to the menu item. By default, the grid is visible.

Resizing the Grid

To resize the grid:

1. Select Edit, Grid. The Window Grid dialog box appears.
2. Select how much space (in pixels) should appear between the lines of the grid. Select the width (the number of pixels between the vertical lines) and the height (the number of pixels between the horizontal lines).
3. Click OK to close the dialog box. If the grid is visible, it redisplays its grid lines based on the new settings. If the grid is not visible, the new settings still take effect, although you can't see them.

Activating Snap to Grid

When the Snap to Grid feature is active, PeopleSoft Application Designer positions all objects so that they each have a corner at an intersection in the grid. The grid doesn't have to be displayed for this option to work. This menu item is a toggle command. When the option is selected, a check mark appears next to the menu item. By default, this option is not selected.

Navigating Between a Business Process and Its Component Maps

A business process comprises lower-level maps. These lower-level maps, whether activities or other business processes, are freestanding objects in PeopleSoft Application Designer. It's convenient to open the lower-level maps directly from the business process map, rather than using the standard File, Open command.

To access a map that is part of a business process, double-click the icon for the lower-level map within the business process, or right-click the icon and select View Definition.

CHAPTER 4

Defining Roles and Users

This chapter discusses how to:

- Define a role query.
- Maintain roles and role users.

Understanding Roles and Users

You can define a role as a fixed list of individual role users or as a query that selects one or more role users at runtime.

This section discusses:

- User list roles.
- Query roles.
- Route controls.
- A case study: the manager query role.

User List Roles

PeopleSoft delivers the system with a set of default user list roles corresponding to the levels within an organization, such as EMPLOYEE, MANAGER, and VICE PRESIDENT. These roles are intended primarily for use with route controls.

Use the following criteria to determine if you need to define a role:

- It doesn't matter which person performs the work that is assigned to that role. For example, if a training clerk enrolls employees in classes, the TRAINING CLERK role can be defined as a list of users, because it doesn't matter which clerk enrolls an employee in a class. The system forwards enrollment requests to the worklist for training clerks, and the first clerk who selects the request handles it. (In PeopleSoft Workflow terminology, the users are working from a pooled worklist.)
- You want everyone who fills that role to receive the same set of work items. For example, if you want the automated Worklist Monitor to send email messages to several people when worklist volumes becomes too high, you can route messages to a role called SYSTEM ADMINISTRATOR. Every administrator receives the messages.
- Only one person fills the role.

  For example, the CHIEF FINANCIAL OFFICER role can be a user list, even though the list is very short.

See Also

Enterprise PeopleTools 8.45 PeopleBook: Security Administration, “Setting Up Roles”

Query Roles

Define a role as a query if you want to send work items to different people at different times. When an employee’s manager must approve a training request, the manager role is a query, because you want to send enrollment requests to different managers, depending on who makes the request.

When a role is defined as a query, the system determines who should receive a work item based on the values of fields on the page that triggers the routing. It uses context information from the current record to determine who needs to complete the work. For example, the manager role query uses the value of the Employee ID field from the course request to look up the name of the employee’s manager.

Because of the flexibility they bring to business processes, query roles are more common than user list roles.

When you create a query role, you tell the system how to determine who fills the role at runtime. You don’t need to assign role users to the role, as you do with user list roles. However, you must set up the query by:

1. Writing a query in PeopleSoft Query. The query identifies the users to whom the work item is routed. The query must take a value from the page that triggers the event—such as the user’s user ID or employee ID—and return a list of role users.
2. Defining the role through PeopleSoft Security Administration. For query roles, you pick the query that you want to run.
3. Assigning the role to the appropriate workflow routings. Because the query has runtime bind variables, you must also specify which page field values to copy into the query.

Route Controls

The PeopleSoft Workflow Administrator enables you to define route controls. For example, suppose you want to route purchase requisitions to different buyers, depending on which vendor supplies the ordered items, which business unit is requesting the items, and which department needs the items. You can define a route control for each factor—vendor ID, business unit, and department—and specify a range of values for each buyer.

Case Study: The Manager Query Role

When an employee requests an external course, we route the request to the employee’s manager. Because we route requests to different people, depending on who submits the request, we must define the manager role as a query.

A role query returns one or more role user IDs based on the data that is saved on the page triggering the routing. In our case, we need a query that takes an employee’s EMPLID (which is available on the course request form) and returns the role user ID of the employee’s manager.

This is the SQL statement for the [ROLE] Manager query (with the effective date logic removed to simplify matters).

```
SELECT C.ROLEUSER
 FROM PS_JOB A, PS_DEPT_TBL B, PS_ROLEXLATOPR C
 WHERE B.DEPTID = A.DEPTID
   AND A.EMPLID = :1
   AND C.EMPLID = B.MANAGER_ID
```

The Query Selects Role User IDs

The system uses role queries to determine which role users receive the work items. Therefore, the role query should select only ROLEUSER, from either the ROLEXLATOPR or ROLEUSER record definition. No matter how complex the query is—how many joins or selection criteria it has—it must return ROLEUSER only.

Bind Variables Correspond to the Contextual Factors

You define a role as a query because you want to route items differently based on the context of the transaction that the user is performing. So, every role query contains at least one bind variable with a value that is set at runtime. The bind variables correspond to the data on which you want to base the routing decision. In our example query, we want to route requests differently based on the EMPLID of the requester, so we should include a bind variable to set the EMPLID.

Note. At runtime, the system sets the values of the bind variables based on data from the page that triggers the routing. When you create the query, make sure that each bind variable matches a field from the page.

Defining a Role Query

To define a role query:

1. Select Reporting Tools, Query, Query Manager, Create New Query.
2. Select the Workflow record definition that you want to query.

   A role query returns a set of role users, so the record definition that you want is either ROLEUSER (which lists role users and the role to which they are assigned) or ROLEXLATOPR (which lists role users and their IDs).
3. Select ROLEUSER as the only SELECT field.
4. Specify the criteria for finding role users.

   For example, to define the manager role, join the ROLEXLATOPR record definition with a record definition that identifies each user's manager.

   Because you create query roles to route items differently based on the context (for example, which employee created the item) the query usually includes at least one runtime prompt. The runtime prompts (or bind variables) correspond to the data on which you want to base the routing decision. At runtime, the system sets the values of the variables based on data from the page that triggers the event.
5. Select Properties.
6. Select Role as the query type.
7. Save the role query using a name that begins with [ROLE], so that you can identify it as a role query.

See Also

Enterprise PeopleTools 8.45 PeopleBook: PeopleSoft Query

Maintaining Roles and Role Users

Role users are the people who participate in automated business processes. Because role users must all have PeopleSoft user IDs, maintaining role users is typically a security administrator's task.

Note. Workflow applications might involve role users who do not have access to the PeopleSoft system. For example, if the order processing workflow delivers electronic order forms to vendors, the vendors are role users. Those users still need PeopleSoft user IDs with information such as email address. Be sure that the security profile that is associated with the user ID doesn't allow access to the PeopleSoft system by leaving the password field blank in the user profile.

Maintaining User Workflow Information

The component used to maintain User IDs includes a page specifically for workflow information.

Select Security, Permissions & Roles, Roles, Workflow to access the User Profiles - Workflow page.

Allow notification	Select to cause the Notify button to appear on all components that have a Notify button defined.
Allow Recipient Lookup	Select to make available the Recipient Lookup link on the Send Notification page. This link enables the user to select a recipient name listed in the user profile (or LDAP server).
Use Query to Route Workflow	Select to use a query to route workflow.

See Also

Enterprise PeopleTools 8.45 PeopleBook: Security Administration, "Administering User Profiles," Specifying Workflow Settings

CHAPTER 5

Defining Worklist Records

This chapter discusses how to create worklist record definitions.

Understanding Worklist Records

The worklist can include several different types of items at once. For example, a manager might have entries related to approving both employee course enrollments and orders for supplies.

Although both types of entries appear in the manager's worklist, the underlying data is different. The course enrollment entries might display information about the course name and start date, while the orders might have information about the descriptions and prices of ordered items.

Worklist Records

Entries in worklists are stored in database tables. You define the structure content of these tables by creating worklist records. The worklist record determines which fields of information the system stores for each work item and in what order the work items appear.

When a business event routes a work item to a worklist, it adds a row to the table. When a user finishes with a work item, the system marks the row as worked.

The basic procedure for creating a worklist record definition is the same as for any record definition, but worklist record definitions have some special requirements.

Worklist Record Definitions

When you create a worklist record definition, you define what a work item in a worklist looks like. The system uses the worklist record definition to:

- Link each work item with the underlying workflow tracking information, which is stored in a workflow system record (PSWORKLIST).
- Display relevant information about each work item on the Worklist page, so that users can select the item on which they want to work.
- Retrieve the record that is associated with the work item, so that the user can work on it.

System Fields

The first fields in a worklist record definition must always be the following system fields.

System Field	Description
BUSPROCNAME	The business process that includes the work item.
ACTIVITYNAME	The activity that triggers the worklist routing.
EVENTNAME	The business event that triggers the worklist routing.
WORKLISTNAME	The worklist in which the work item is waiting.
INSTANCEID	The system-assigned ID for the work item.
TRANSACTIONID	The system-assigned transaction ID for the work item. When an event triggers multiple routings, each work item has the same transaction ID, but a different instance ID.

The system uses these fields to link the items in the worklist with their tracking information, which is stored in the PeopleSoft-defined table PSWORKLIST. They must be defined as ascending key fields in the worklist record definition.

Virtual Approver, a specialized type of workflow used for approval processes, requires one additional system field. If you're using Virtual Approver, you must also add the APPR_INSTANCE field as a non-key field in the worklist record definition. This field stores the ID assigned to the work item for Virtual Approver processing.

Application Fields

The next set of fields in a worklist record definition are those specific to the application that creates the worklist. The system uses these fields to retrieve the associated record from the database when the user selects a worklist entry and moves to the page where the work is done. Note the following:

- Because the system uses the values from these fields to search for the associated database record, you must include all of the key fields for the search record.
- Application field names cannot be the same as key words used in field mapping.
- All of the application fields appear in the user's worklist, unless you suppress them by including the special field WORKLIST_DESCR.

Worklist Display Fields

The last two fields in a worklist record definition are for descriptive information that appears in the worklist. These fields are optional.

Worklist Display Field	Description
WORLKIST_URL	The text that links to the page where the user can work on the item. Appropriate values might include the key data for the record in which the item will be worked. For example, for a work item directing a manager to approve an expense report, the text might be the name of the employee who submitted the report.
WORKLIST_DESCR	A text comment that appears in the user's worklist. The presence of this field automatically suppresses the display of any application fields, although the key fields are still used to bypass the search page of the target page.

On the Worklist Details page, these values appear as the Link and Comment fields. The link also appears on the main Worklist page.

Creating Worklist Record Definitions

To create a worklist record definition:

1. In PeopleSoft Application Designer, add the required system fields to the record definition.

   Identify the required system fields as key fields with ascending sort order.

2. Add the key fields from the search record for the page that group users use to process the worklist entries.

   The worklist record must include the search record key fields so the system can locate the record on which the user must work.

3. (Optional) If users work on work items using an external program, rather than a PeopleSoft page, add a character field named COMMAND_PARM.

   When you define a step in an activity, you can specify that an external program starts when a user selects it. If the activity assigned to this worklist starts with such an activity, you can pass command-line arguments to the external program from the worklist record.

   For example, if you map a filename into the COMMAND_PARM field, the system appends the filename to the external program's command line (as specified in the step definition).

4. Add fields to provide descriptive information in the user's worklist.

   If you have a compelling reason, you can add other application fields instead. However, don't add other application fields if you've added the WORKLIST_DESCR field, because using WORKLIST_DESCR automatically stops the worklist from displaying the application fields.

5. Save the record definition using a name that ends with _WL.
6. Create a database table using the record definition that you saved in step 5.

Replicating Worklists

To consolidate worklists from multiple databases, use the worklist replicate process.

The worklist replicate process depends on the WORKLIST_MSG application message definition. The WORKLIST_MSG definition must be active and it must have a valid PeopleSoft Integration Broker transaction defined for the worklist replicate process to work.

Note. Every worklist item has a worklist name—for example, Expense Report Approval, Order Item, and so on. For worklists to replicate successfully, you cannot generate identical worklist names in multiple databases; one database must be the “master” for each worklist name.

Page Used to Replicate Worklists

Page Name	Object Name	Navigation	Usage
Worklist Replicate	WF_WL_REPLICATE	PeopleTools, Workflow, Monitor Worklist, Replicate Worklist	Replicate a worklist.

Performing Worklist Replication

To replicate worklists:

1. Navigate to the Replicate Worklist page.
2. Search for an existing run control ID,or add a new one.

   Use the standard search and add methods to enter a run control ID and access the Worklist Replicate page.
3. Accept the default value, or enter the server Uniform Resources Locator (URL), in the format http://server (protocol://servername), used by the current database.
4. Click the Process Scheduler link.

   The Process Scheduler Request page appears. The list at the bottom of the page displays the Application Engine program that you can run from this page.
5. Complete the PeopleSoft Process Scheduler request.

Understanding Worklist Replication Considerations

When replicating worklists between databases, keep the following behavior in mind.

PeopleSoft formats the Worked By Activity field by examining the worklist definition in the target database. If the activity definition is not in the target database, the system can’t format the Worked By Activity field. So, in some cases, this field may appear blank after replication, and as long as the WORKEDBYACTIVITY is not defined in the target database this field is blank. These are the solutions to this issue:

Database Version	Solution
Databases at the same release level (8.4x to 8.4x)	From the source database, export the replicated worklist definition (activity) and the worked by activity (if they are not the same). Import the definitions into the target database.
Databases at different release levels (8.1x to 8.4x)	Manually recreate the activity in target database.

CHAPTER 6

Adding Events and Routings

This chapter discusses how to add events and routings.

Understanding Events and Routings

This section lists common elements and provides an overview of events and routings.

Common Elements Used in This Chapter

Name	Enter a unique name for the system to display in dialog boxes that list routings. By default, the routing name also appears as the display text under the icon on the map.
Icon Descr (icon description)	(Optional) Enter text to appear under the icon if you don't want to use the default name. Include line breaks in the icon display text by pressing ENTER.

Events and Routings

When you create a business process in PeopleSoft Application Designer, you specify which activities form a business process and in what order they must be completed. The map provides an overview of the process, but it doesn't provide a link between the activities. To link the activities into a workflow, you add routings, which automate the delivery of information to other activities and other users.

Events are conditions that have associated routings. Define the condition in PeopleCode, which is attached to the record definition underlying a step in a step map. When a user saves the page, completing the step, the system runs the PeopleCode program to test the condition. If the condition is met, the system performs the routings.

Routings can deliver data in two forms: worklist entries and email messages. To create a routing, specify the routing type, who should receive the data, and which data you want to send. The data is usually a subset of the data from the step that triggers the routing.

Adding and Defining Events and Routings

This section discusses how to:

- Add and define events.
- Add and define worklist routings.
- Add and define email routings.

Adding and Defining Events

This section discusses how to add and define events.

Add and define events in PeopleSoft Application Designer.

Adding an Event

To add an event:

1. Open the activity to which you want to add the event.
2. Click the Event button in the toolbar.
3. Click where you want the event to appear on the map.

   The Event icon appears on the map.
4. Connect the Event icon to the icon for the step that triggers it.
   a. Click the Connector icon in the palette.
   b. Click the Step icon, then the Event icon.

      An arrow connects the two icons.

      Use the Link icon, not the Line icon, to connect an event to the step that triggers it. If you use the Line icon, the system won't recognize the event.

Defining the Event

To define the event:

1. Double-click the Event icon, or right-click and select Item Properties.

   The Event Definition dialog box appears.
2. Enter a name and description of the event.

Name	Enter the name used to trigger the event with the TriggerBusinessEvent PeopleCode function. By default, the event name also appears as the display text under the icon on the map.
Active	When an activity triggers an event, the TriggerBusinessEvent function determines whether the event is active. To temporarily deactivate an event, preventing any of its routings, clear this check box. To restart an inactive event, select it.
Event Triggered from Record Name	Select the record definition to which you want to add Workflow PeopleCode to trigger the business event.

Editing the Business Rules

To edit the business rules:

1. Click the Edit Business Rules button.

   The PeopleCode Editor appears. The name of the first key field in the specified record definition appears in the title bar.

Note. The Edit Business Rules button adds the Workflow PeopleCode to the first key field in the specified record definition. If you use Virtual Approver, use PeopleSoft Application Designer to add SaveEdit PeopleCode to this same record.

---

2. Enter the PeopleCode that triggers the business event.
3. Save the PeopleCode.
4. Click OK to close the Event Definition dialog box.

Creating and Defining Worklist Routings

This section discusses how to create and define worklist routings.

Before you create a worklist routing for an activity, create a worklist record definition. The worklist record determines what fields the system stores for each work item.

See Chapter 5, “Defining Worklist Records,” Creating Worklist Record Definitions, page 35.

Creating Worklist Routings

To create a worklist routing:

1. Create the business event that triggers the worklist routing.
2. Click the Worklist button on the toolbar.
3. Click where you want the Worklist icon to appear on the map.

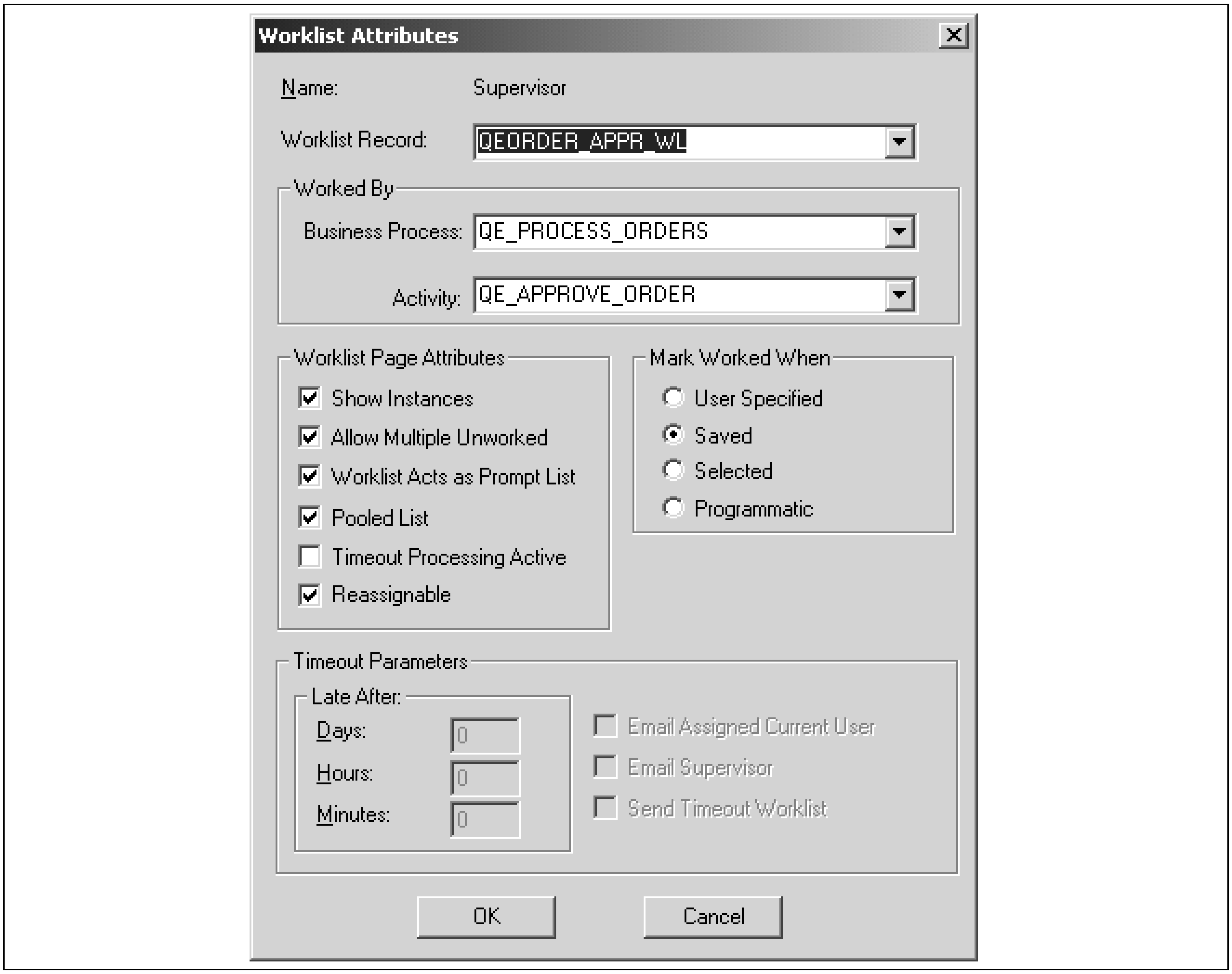
   The Worklist icon appears.
4. Connect the worklist routing to the event that triggers it.
   a. Click the Connector icon in the palette.
   b. Click the Event icon, then the Worklist icon.

      An arrow connects the two icons. Use the Link icon to connect a routing to an event. If you use the Line icon, the system won’t recognize the routing.
5. Double-click the Worklist icon, or right-click and select Item Properties.

   The Worklist Definition dialog box appears.
6. Enter a name and description for the worklist routing.

Defining Worklist Attributes

Define worklist attributes on the Worklist Attributes dialog box.



Worklist Attributes dialog box

To define worklist attributes:

1. On the Worklist Definition dialog box, click Attributes.

   The Worklist Attributes dialog box appears.

2. Select the worklist record, business process, and activity from the appropriate drop-down boxes.

Worklist Record Select the record definition to use for storing and displaying work items.

Business Process Enter the business process name that is associated with the worklist item.

Activity Enter the activity name that is associated with the worklist item. When a user selects a work item from the worklist, the system displays the page (or external program) that is associated with the first step in the activity that you specify here. The first step is the one marked as Step 1 Path 1 in the step map.

You usually select the next activity in the current business process, but this is not required. You can route to any activity in any business process. This is the “Worked by” business process and activity, which may not be the same as the business process or activity that triggered the worklist.

3. Select worklist page attributes.

Show Instances, Allow Multiple Unworked, and Worklist Acts Like Prompt List
Reserved for future use.

Pooled List
Specifies whether the system creates a single shared work item or one work item for each worklist user. With a pooled worklist, all worklist users receive copies of shared work items; the first user who selects an item works on it, and the item is dropped from everyone else's worklist. With a non-pooled worklist, each user receives a personal copy of each item.

If Delete Pooled WL When Select is selected on the Worklist System Defaults page, a pooled worklist will be deleted from other queues when a user selects it.

Timeout Processing Active
Specifies whether the system checks this worklist for overdue items.

Reassignable
Enables users to reassign worklist items to other users.

4. Specify the timeout parameters (if timeout processing is active).

Timeout Parameters
Specifying a timeout condition is optional. If you want all work items to remain in this worklist until a user processes them, leave the controls in this group box blank, or clear the Timeout Process Active check box. Otherwise, specify how long to wait (days, hours, and minutes) for a user to process a work item. The system adds the three values together. If a work item sits in the worklist for longer than the specified amount of time, the system performs the action identified by the check box that you select.

Email Assigned Current User
Send an email message to the user to whom the work item is assigned, warning that the item is overdue.

Email Supervisor
Send an email message to the user's supervisor. The supervisor is assigned as the user's supervising role user in the user profile, maintained through PeopleSoft Security. In PeopleSoft HRMS applications, the system uses the supervisor from the user's PERSONAL_DATA record.

Send Timeout Worklist
Send a new worklist item to the currently assigned user's timeout worklist.

5. Specify what the user must do before the system considers a work item to be worked. Work items remain in a user's worklist until they have been worked.

User Specified
A work item is marked as worked when the user explicitly identifies it as worked by selecting it on the Select Worklist page and clicking the Mark Worked button. This option is useful when the user must return to the same work item several times or wait for supporting information.

Saved
A work item is marked as worked when the user saves work on the page that is assigned to the worklist. This option is appropriate for work items that the user can complete right away.

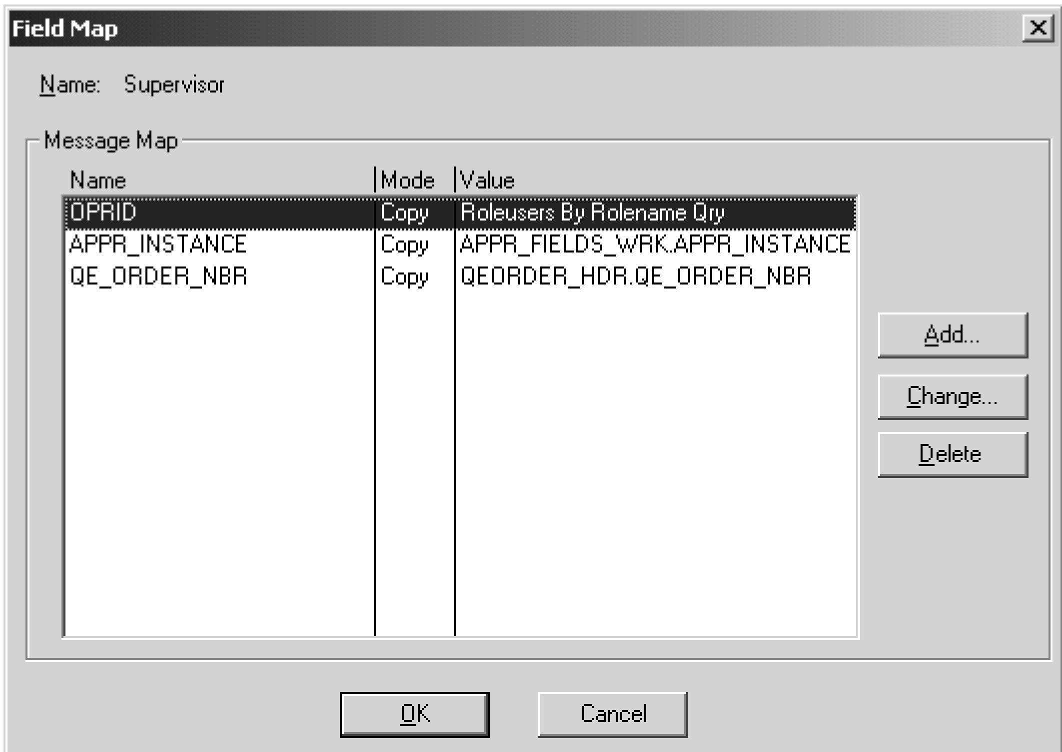
Selected
A work item is marked as worked as soon as the user selects it from the worklist. This option is appropriate for work items that notify the user of an event; just seeing the item is sufficient.

Programmatic	A work item is never marked worked directly by the user. It can be marked as worked only with PeopleCode. This setting enables you to provide additional logic to determine when a work item can be considered worked.

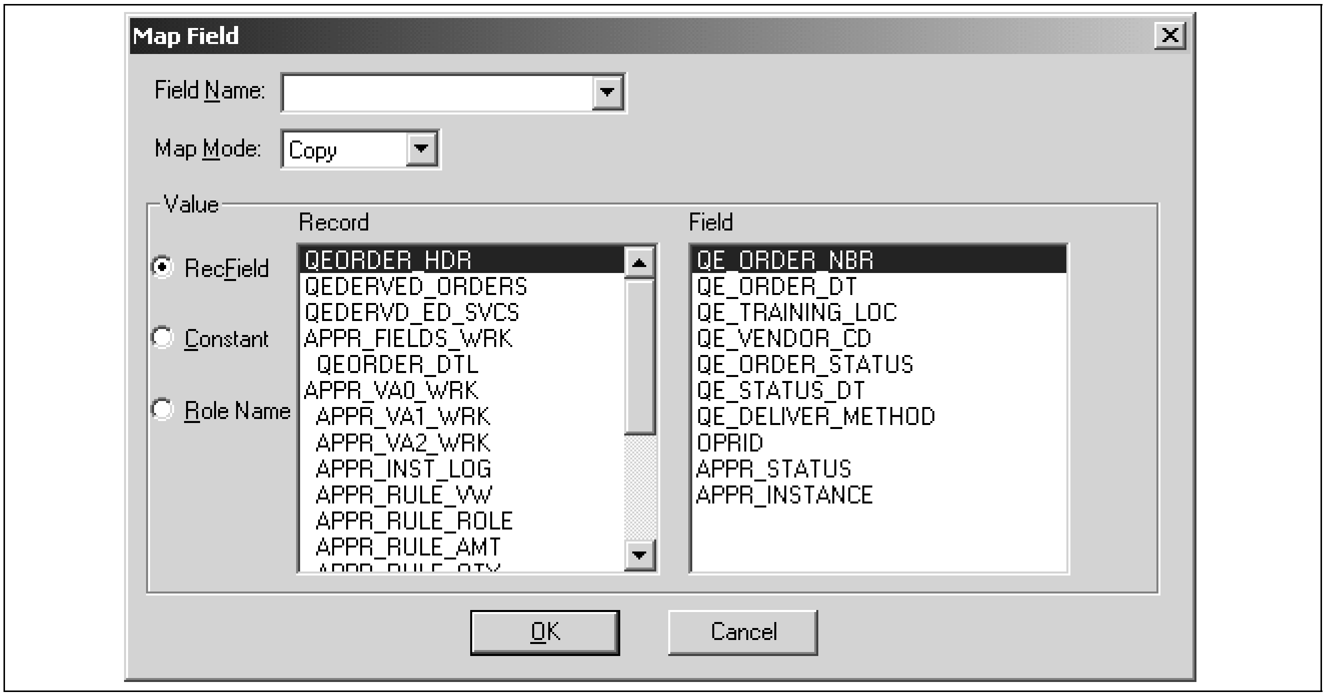
6. Click OK to close the Worklist Attributes dialog box and return to the Worklist Properties dialog box.

Specifying Field Mappings

Specify field mappings on the Field Map dialog box.



Field Map dialog box



Map Field dialog box

To specify field mappings:

1. Click the Field Mapping button.

   If the Field Mapping button is unavailable, you haven't properly linked the routing to the event that triggers it.

   The Field Map dialog box appears. Use this dialog box to tell the system where to find the data to create a worklist entry. The Message Map group box lists the fields involved.

Name	Displays the user ID (OPERID) of the person who receives the worklist routing. May also display the fields in the worklist record, which includes key data for the page where the user performs the necessary work and the descriptive data that appears in the user's worklist—normally the WORKLIST_URL and WORKLIST_DESCR fields.
Mode	Specify the map mode value from Copy, Xlat-S, or Xlat-L (use one of these two values if the field has a translate table value).
Value	Indicates where the system finds the data to enter into those fields.

2. Select the field into which you want to map a value.
3. Click the Change button, or to add a new field to the map, click the Add button.
4. The Map Field dialog box appears. Use this dialog box to provide a value for each field in the worklist record.
5. Select the field into which you want to place routing data.

   If you select the field from the message map, its name appears in the Field list box. If the correct name doesn't appear, you can select a field from the list box or enter a new name.

6. Identify the value for the selected field.

   There are three ways to put data into a field: from a database field, a specific constant value, or a role name.

Record Field Value	To enter the value from a database field into the worklist field, select the RecField option. The Record box lists the record definitions that should be

available when the event triggers this routing (according to the page and record definition associated with the event). Select the record name. The fields in that record appear in the Fields list box. Select the field whose value you want. When the event is triggered, the system completes the worklist field with the value of the field in the current record.

Constant To assign a specific constant value to the field, select this option and enter the value in the text box to the right. Every worklist entry will have this value in the selected field.

Role Name To assign a role name to the field, select this option and select a role from the drop-down list box that appears next to it. When the event is triggered, the system completes the field with a list of users who fill this role. If you select a user list role, each user who is assigned to that role receives a copy of the work item. If you select a query role, each user that the query returns receives a copy.

7. If you map the field to a role name, provide values for any bind variables.

   If you map the user ID field to a query role that includes bind variables, the Specify Query Bind Variables button appears next to the Role Name option. When you click this button, a dialog box appears, enabling you to specify the value that each bind variable in the query should take for each work item.

   The Query Bind Variable column displays the bind variables for the role query. (If nothing appears in this column, you defined the query without specifying any bind variables.) The Record column lists the record definitions associated with the component that triggers this routing. The Field column displays the fields in the selected record definition.

   You can bind each variable with the value from a record field or with a constant:

   - To bind a variable with the value from a record field, select the Field option, select the bind variable for which you want to provide a value, and select the record field to contain the value.
   - To bind a variable with a constant, select the Constant option, and enter the value into the text box.

8. When you've mapped bind values for all of the variables, click OK to close the dialog box.

   Note. If you're using route controls with Virtual Approver, the role that you assign to the OPRID field is one of the predefined route control query roles.

9. If you map the field to a record field, specify whether the system copies the assigned value directly into the worklist field or replaces the assigned value with a value from the translate table.

   Select the appropriate option from the Map Mode list box. This list box is available only if the selected field has associated translate table values. In most cases, leave the default value (Copy).

   For example, suppose the worklist record definition includes an Employment Status field, and you associate the field with the record field PERSONAL_DATA.STATUS. If the PERSONAL_DATA.STATUS field holds an abbreviation that translates to a value in the translate table, you can tell the system to populate the worklist field with the abbreviation (Copy) or with the corresponding translate table value (Xlat-S for the short form or Xlat-L for the long form).

10. Click OK to add the field and its value to the routing dialog box.

11. Repeat steps 5 to 10 for each field that you want to add to the worklist routing.

    You must provide values for all of the key fields in the worklist record definition.

12. Close all of the dialog boxes by clicking OK in each one.

Creating and Defining Email Routings

With email routings, you can send email messages in response to business events. In some cases, you might want to define two routings for the same event: one that adds an item to someone's worklist and one that sends an email message to tell that person about the new worklist item.

You can send an email routing to anyone to whom you can send email messages through the mail system. PeopleSoft applications support email routings to any email software that supports the Simple Mail Transfer Protocol (SMTP) standards.

Creating an Email Routing

To create an email routing:

1. Create the business event that triggers the email routing.
2. Click the Email button on the toolbar.
3. Click where you want the Email icon to appear on the map.

   The Email icon appears.
4. Connect the email routing to the event that triggers it.
   a. Click the Connector button in the palette.
   b. Click the Event icon, then the Email icon.

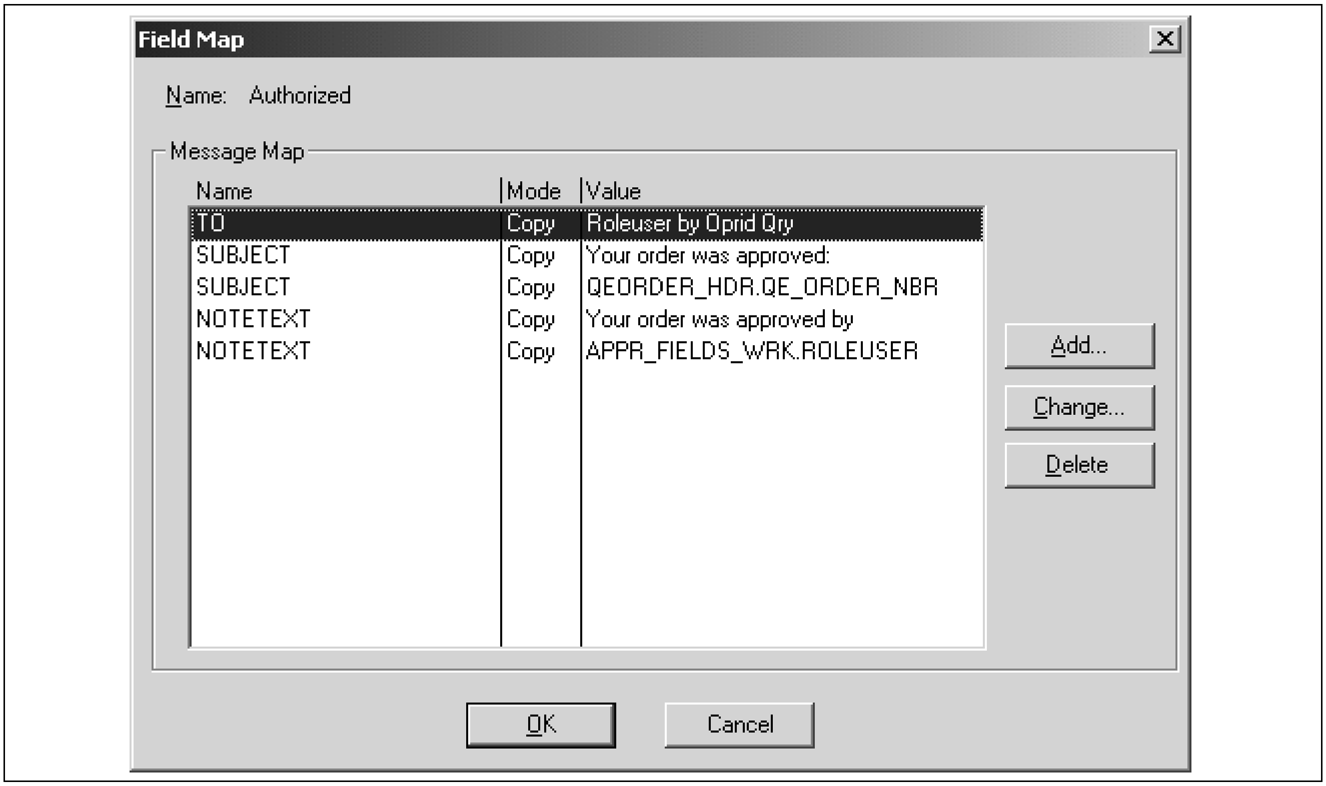
      An arrow connects the two icons.
5. Use the Link icon to connect a routing to an event. If you use the Line icon, the system won't recognize the routing.
6. Double-click the Email icon, or right-click and select Item Properties.

   The Email Definition dialog box appears.
7. Enter a name and description for the routing. By default, the routing name also appears as the display text under the icon on the map.
8. Select any settings to apply to the email message.

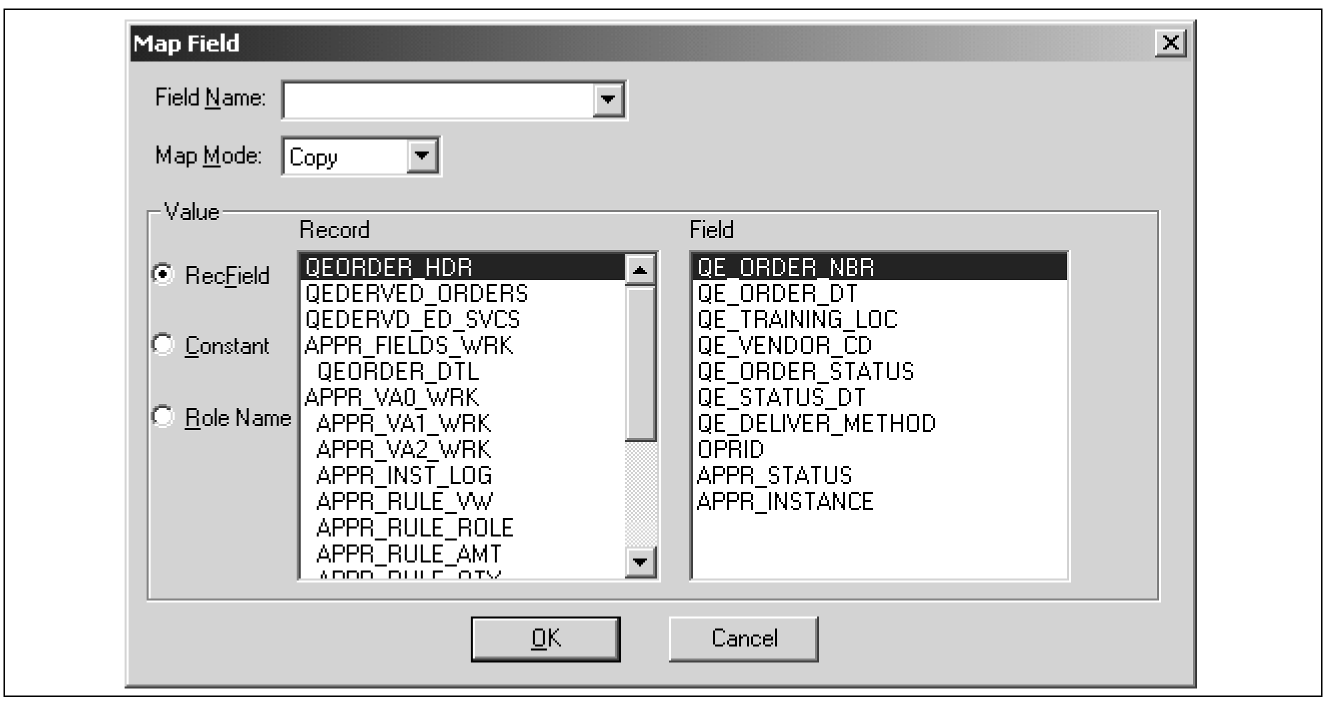
   The options in this dialog box correspond to the mailing options offered in most email software. If your email software does not support one or more of these options, the system ignores its setting. See the documentation for your email software.
9. Click to return to the Email Definition dialog box.

Mapping Fields

Map fields for your email routing on the Field Map dialog box.



Field Map dialog box



Map Field dialog box

To map fields:

1. Select Field Mapping .
2. The Field Map dialog box appears. Use this dialog box to tell the system where to find the data to create an email message. The Message Map group box lists the fields involved.

Name Displays the fields.

Value Indicates where the system finds the data to enter in those fields.

The fields that appear in this dialog box represent the two different types of data that are needed to create an email message: who and what. That is:

- Who receives the email message? The TO field holds the email address for this person.
- What is the content of the email message? This includes a SUBJECT line and any additional text that you add. You can also concatenate data into the message. When you first open the dialog box, the Name column displays the fields available for mapping. You must provide a value for the TO field.

3. Select the field into which you want to map a value.
4. Click the Change button, or to add a new field to the map, click Add.
5. The Map Field dialog box appears. Use this dialog box to create the email message from the values provided by the step that triggers the routing.
6. Select the field into which you want to place routing data.

   If you select the field from the message map, its name appears in the Field list box. If the correct name doesn't appear, you can select a field from the list box or enter a new name.

   The following fields in an email routing's message map have specific meanings to the email software to which the system forwards the email message.

TO Indicates the name of the person to whom you want to send the email message. The value can be an email name or a role. To send to more than one person, separate the names with semicolons. The values in the TO, CC, and BCC fields determine who receives the email message. The values that you map into these fields can be email addresses, role user IDs, or role names. The system automatically converts role user IDs and role names into the users' email addresses.

FROM (Optional) Indicates the email address of the sender. Setting this value overrides the system SMTPSender value so that the recipient of the email message can reply to an individual, rather than to the system email address.

REPLYTO (Optional) Indicates the email address to which the sender recommends sending replies.

SENDER (Optional) Indicates the email address of the actual originator of the email if different from the address set in the FROM field.

CC and BCC (Optional) Indicate the names of other people to whom you want to send the message.

SUBJECT Indicates the subject line that appears in the receiver's email inbox.

NOTETEXT Indicates the body of the message. The message can have multiple NOTETEXT fields. The system displays NOTETEXT fields in the order in which they appear in the Field Map dialog box box.

Note. When the PeopleSoft system constructs an email address to be used in email notifications, the system does so according to the following conditions. If the system detects an email address with a value enclosed in angled brackets, as in <email_address>, the system uses that enclosed value. If the system does not detect angled brackets in the email address, the system encloses the entire email value in angle brackets when transmitting the email message.

---

7. To add a new NOTETEXT line, click the Add button in the Field Map dialog box.
8. Select NOTETEXT in the Field Name box.

FILEPATH	(Optional) Indicates the completed qualified path and filename for a file to attach to the email message.
FILENAME	(Optional) Indicates the name to display in the body of the email message, below the icon that represents the file attachment.
FILETYPE	(Optional) Indicates the type of file being attached.

9. Identify the value for the selected field.

   The value can be data from a record field, a specific constant value, or a role name.

Record Field Value	To enter the value from a record field into the email message, select the RecField option. The Record box lists the record definitions that should be available when the event triggers this routing (according to the page and record definition associated with the event). Select the record name. The fields in that record appear in the Fields list box. Select the field whose value that you want. When the event is triggered, the system completes the email field with the value of the record field in the current record.
Constant	To assign a specific constant value to the field, select this option button and enter the value in the text box to the right. Every email message will have this value in the selected field.
Role Name	To assign a role name to the field, select this option and select a role from the drop-down list that appears next to it. When the event is triggered, the system completes the field with a list of users who fill this role. If you select a user list role, each user who is assigned to that role receives a copy of the email message. If you select a query role, each user that the query returns receives a copy. Although the role returns a list of role users, the system enters the user's email address into the field. There must be an email address in each role user record.

10. If you map the field to a role name, provide values for any bind variables.

    If you map the TO, CC, or BCC field to a query role that includes bind variables, the Specify Query Bind Variables button appears next to the Role Name option. When you click this button, a dialog box appears, enabling you to specify the value that each bind variable in the query should take.

    The Query Bind Variable column displays the bind variables for the role query. (If nothing appears in this column, you defined the query without specifying any bind variables.) The Record column lists the record definitions associated with the component that triggers this routing. The Field column displays the fields in the selected record definition.

    You can bind each variable with the value from a record field or with a constant:

    - To bind a variable with the value from a record field, select the Field option, select the bind variable for which you want to provide a value, and select the record field that will contain the value.

- To bind a variable with a constant, select the Constant option, and enter the value into the text box.

  When you've mapped bind values for all the variables, click OK to close the dialog box.

Note. If you're using route controls with Virtual Approver, the role you assign to the TO field is one of the predefined route control query roles, and the bind variable values come from a work record you need to add to the component that's triggering the routing.

---

11. If you map the field to a record field, specify whether the system copies the assigned value directly into the field or replaces the assigned value with a value from the translate table.

    Select the appropriate option from the Map Modedrop-down list. This list is available only if the selected field has associated translate table values. In most cases, leave the default value (Copy).

    For example, suppose you want to include a person's employment status in the email message, so you associate the NOTETEXT field with the record field PERSONAL_DATA.STATUS. If the PERSONAL_DATA. STATUS field holds an abbreviation that translates to a value in the translate table, you can tell the system to populate the field with the abbreviation (Copy) or with the corresponding translate table value (Xlat-S for the short form or Xlat-L for the long form).
12. Click OK to add the field and its value to the routing dialog box.
13. Repeat steps for each field that you want to add to the routing.
14. Close all of the dialog boxes by clicking OK in each one.

CHAPTER 7

Defining Event Triggers

As you define workflow processes, you identify the application pages that trigger business events. Now, you must add PeopleCode programs to the pages so that they actually trigger the events. The PeopleCode detects when a business rule has been triggered and determines the appropriate action.

This chapter discusses how to:

- Write Workflow PeopleCode.
- Write PeopleCode for approval processes.
- Use additional PeopleCode functions and variables.

Writing Workflow PeopleCode

This section provides an overview of Workflow PeopleCode and discusses how to:

- Use the TriggerBusinessEvent function.
- Create Workflow PeopleCode programs.

Understanding Workflow PeopleCode

To trigger a business event from a page, you add a PeopleCode program to the workflow event in the record definition for one of the tables to which the page writes. For example, to trigger events from the Course Request page, add Workflow PeopleCode to the TRAINING record definition; TRAINING is the record definition with which the Course Request page fields are associated.

If you're triggering business events from a page that includes scrolls, add the Workflow PeopleCode to the record definition at the appropriate scroll level. If, for example, you add it to the record definition that is associated with a level one scroll area, the PeopleCode runs once for each row at that level. A Workflow PeopleCode program can reference record fields from record definitions at the same scroll level or at a lower scroll level. These rules also apply to the SaveEdit PeopleCode for Virtual Approver.

Workflow PeopleCode runs after the user saves the page group and before it updates the database with the saved data. More specifically, it runs after SavePreChange PeopleCode and before SavePostChange PeopleCode. Because SavePostChange PeopleCode runs after Workflow PeopleCode, it does not run if the Workflow PeopleCode fails to complete.

Workflow PeopleCode programs typically review the data in the saved record, then decide which business event to trigger, if any. They all include at least one use of the PeopleCode function that triggers events, or Virtual_Router, a PeopleCode library function that is associated with Virtual Approver, which uses TriggerBusinessEvent internally. The Virtual_Router PeopleCode library function is located in the FieldFormula event of the APPR_VA0_WRK.FUNCLIB_02 record field.

You can add the Workflow PeopleCode to any field in the record definition. For clarity, it's helpful to add it to a field that the program itself references. For example, you might add the Workflow PeopleCode that triggers an approval process to the Approval Status field.

Using the TriggerBusinessEvent Function

You use this function in every Workflow PeopleCode program.

In components that use Virtual Approver, you don't use these functions explicitly in the Workflow PeopleCode. You use the Virtual_Router PeopleCode library function, which uses these two functions internally.

TriggerBusinessEvent triggers a specified business event and the workflow routings that are associated with that event. This is the syntax:

```
TriggerBusinessEvent(BUSPROCESS.BusProcName, BUSACTIVITY.ActivityName,⇒
 BUSEVENT.BusEventName)
```

The *BusProcName*, *ActivityName*, and *BusEventName* parameters are the names of the business process, activity, and event from PeopleSoft Application Designer. They are all strings, enclosed in quotes. For example, the following code triggers the Deny Purchase Request event in the Manager Approval activity of the Purchase Requisition business process:

```
TriggerBusinessEvent(BUSPROCESS."Purchase Requisition", ⇒
BUSACTIVITY."Manager Approval", BUSEVENT."Deny Purchase Request")
```

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," TriggerBusinessEvent.

Creating Workflow PeopleCode Programs

Do not use this section for components with Virtual Approver.

The general structure of all Workflow PeopleCode programs is the same:

- Check for the condition under which a business event should be triggered. This condition is a business rule.
- If the condition is true, trigger the event.

  The system automatically determines whether the event is active, and if so, triggers it. If you've deactivated the event, the system doesn't run it.

This a typical Workflow PeopleCode program:

```
/* Start the Employee Training process for a new course request */
if RecordNew(ATTENDANCE) then
    if COURSE_TBL.INTERNAL_EXTERNAL = "I" then
         /* For internal courses */
&TEMP = TriggerBusinessEvent(BUSPROCESS."Employee Training",
              BUSACTIVITY."Request Course",
BUSEVENT."Internal Course Request");
else
        /* For external courses */
    &TEMP = TriggerBusinessEvent(BUSPROCESS."Employee Training",
BUSACTIVITY."Request Course",
BUSEVENT."External Course Request");
end-if;
```

Writing PeopleCode for Approval Processes

Approval processes are a common form of business process. PeopleSoft has simplified the process of defining approval processes by enabling you to define approval rules on an approval rule setmap. You can then choose a tool to read and implement the approval rules from the map.

Using Virtual Approver

As users complete transactions that require approvals, Virtual Approver determines the appropriate approver and sends a workflow routing. As each approver completes the approval, Virtual Approver determines whether additional approvals are needed and, if necessary, sends additional workflow routings.

To trigger Virtual Approver from a page, use two PeopleCode functions in the record definition that is associated with the page:

- Use the Virtual_Approver function in the SaveEdit PeopleCode. This checks the approval rules that you defined in the approval rules sets and determines whether an item must be routed for approval.
- Use the Virtual_Router function in the Workflow PeopleCode. This routes items to the next step in the approval process.

Using the GetApprovers Library Function

The GetApprovers function isn't a regular PeopleCode function. It's a library function, like Virtual Approver. It's located in the FieldFormula event of the APPR_VA0_WRK.APPR_RULE_SET record field.

The GetApprovers PeopleCode function checks an approval rules set and determines the entire list of required approvals at once, so that you can develop custom approval tracking applications.

Using Additional PeopleCode Functions and Variables

You might find the following Workflow PeopleCode functions and variables useful as you begin more advanced workflow development.

GenerateActGuideContentURL, GenerateActGuidePortalURL, GenerateActGuideRelativeURL

These functions generate different types of URLs to the specifed activity guide (life event). Generally these functions are used in iScripts for populating application pages that you are generating on your own with HTML.

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," GenerateActGuideContentUrl; *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," GenerateActGuidePortalUrl and *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," GenerateActGuideRelativeUrl.

GetWLFieldValue

When you open a page from a worklist (by selecting one of the work items), this function enables you to get the value from one of the fields in the current item's worklist record. This is the syntax:

```
GetWLFieldValue(field_name)
```

The *field_name* parameter specifies the field from which you want the data. It must be a field from the worklist record definition.

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," GetWLFieldValue.

MarkWLItemWorked

When you open a page from a worklist (by selecting one of the work items), this function marks the current worklist entry as worked. MarkWLItemWorked takes no parameters and can be used only in Workflow PeopleCode.

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," MarkWLItemWorked.

System Variables

You might want to use these system variables during workflow development. If you didn't open this page from a worklist, some variable are blank.

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleCode Language Reference*, "System Variables".

%BPName The name of the business process for the worklist from which you're currently processing a work item.

%WLInstanceID The instance ID for the work item that you're currently processing.

%WLName The name of the worklist from which you're currently processing a work item.

CHAPTER 8

Using Additional Routing Options

This chapter discusses how to:

- Define route controls.
- Use route control roles.
- Review role users.

Understanding Route Control Development

Additional routing options enable you to define complex, custom routing schemes without writing PeopleCode. Develop route controls in the following order:

1. Define route control types, which identify the factors on which you want to base routings: Business Unit, Department, Vendor ID, and so on.

   You can define route control types based on any prompt table.
2. Define route control profiles, which identify ranges of values for route control types.

   For example, one route control profile might list the vendor IDs for all software vendors, while another might list the IDs for all office supply vendors.
3. Assign route control profiles to role users.

   Assign the Vendors (Software) profile to the clerks who handle software and the Vendors (Office Supplies) profile to the clerks who handle office supplies.
4. When you define the routing in PeopleSoft Application Designer, assign one of the roles that is provided for use with route controls.

Understanding Route Control Query Roles

The route control query roles have runtime bind variables that correspond to:

- The route control types to use.
- The values for those types.

For example, the One Route Control Qry (one route control query) rule has four bind variables:

- One that specifies the single route control type to use.
- Two that you map to a value from the page that triggers the routing.
- One that you map to the user list role.

When a business event is triggered, the system decides to whom it should route the work item by:

- Binding the query bind variables using data from the page that triggers the event.
- Running the query, checking each user’s route control profile to determine whether the user meets the selection criteria.
- Routing the work item to the appropriate role users.

Defining Route Controls

This section discusses how to:

- add route control types.
- build route control profiles

Understanding Route Control Definition

Create route controls using Workflow Administrator. There are two major parts to defining route controls:

- Route control types, which identify the situational factors on which you want to base routing decisions.

  For example, to route purchase requisitions to different buyers based on which vendor can supply the requested item, you create a Vendor route control type. Later, you specify with whom each buyer works.

  Note. You can create route control types based only on fields that have prompt tables.

- Route control profiles, which specify the range of values within a route control type.

  Assign route control profiles to role users to identify the areas on which they work.

Pages Used to Define Route Controls

Page Name	Object Name	Navigation	Usage
Route Control Type	RTE_CNTL_TYPE	PeopleTools, Workflow, Routings & Roles, Route Control Types	Define a route control type.
Route Control Profile	RTE_CNTL_PROFILE	PeopleTools, Workflow, Routings & Roles, Route Control Profiles	Define route control profiles.

Adding Route Control Types

To add a route control type:

1. Navigate to the Route Control Type page.
2. Search for an existing route control type,or create a new one.

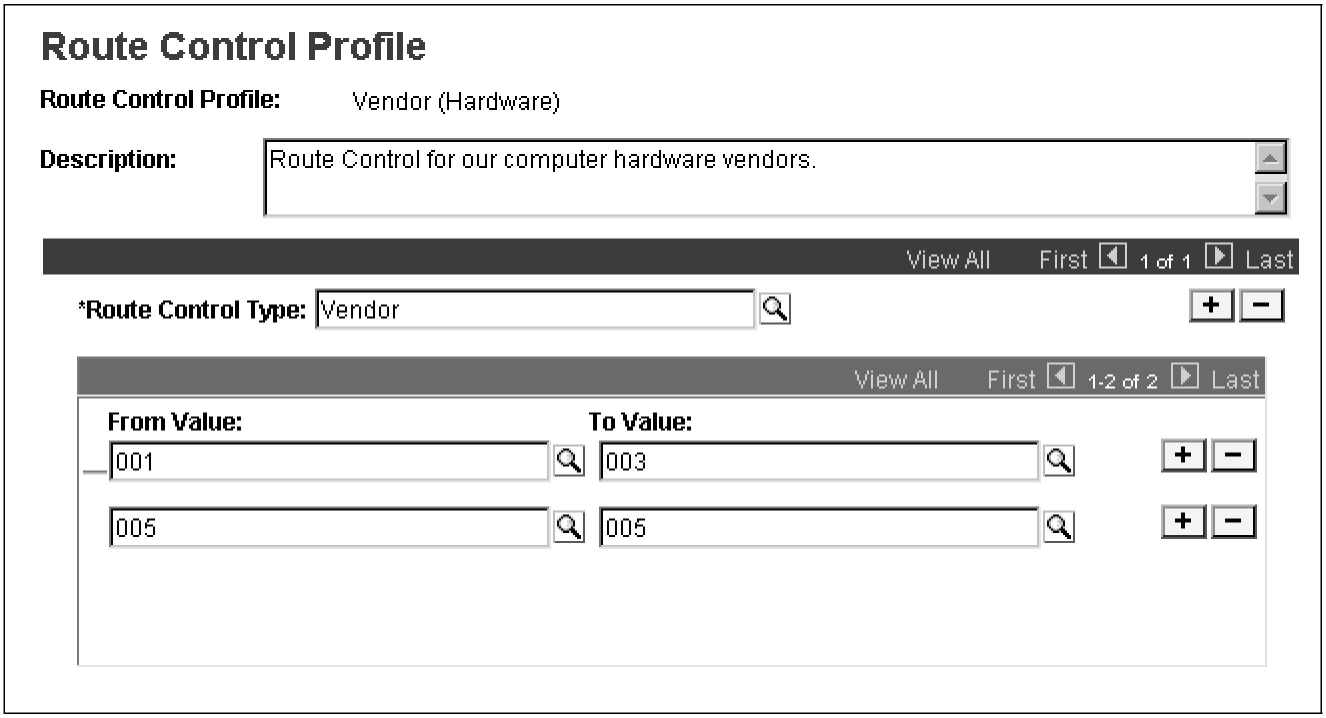
   The Route Control Type page appears.

   When creating a new route control type, use a descriptive name for the factor on which you want to base the route control.
3. In the Edit Table drop-down list, select the prompt table against which you want to validate values.

4. Save this page and repeat the process for each route control type.

Building Route Control Profiles

This section describes route control profiles.



Route Control Profile page

To build a route control profile:

1. Navigate to the Route Control Profile page.
2. Search for an existing route control profile,or create a new one.

   The Route Control Profile page appears. Use this page to specify the range of values that is associated with a class of users.
3. Select a route control type from the Route Control Type drop-down list.

   The route control type specifies the prompt tables to which this profile applies.
4. Specify the range of values from the type's edit table that users with this profile can process.

   To provide access to a continuous range of values, select the lowest value in the From Value field and the highest value in the To Value field. To provide access to a single value, select the same value in both fields. To provide access to two values, add a new row to the Range field.
5. (Optional) Assign values for another route control type.

   You can assign values for more than one route control type to the same route control profile.With your cursor in the Route Control Type field, click the Add button. Select a new route control type. Assign its authorized values.
6. Save the page.

Using Route Control Roles

When you use route controls, the application-specific data that you use to control routings is stored in database tables, not in PeopleCode or query definitions. To change the way you route items, you update the route control tables using Workflow Administrator pages. You don't have to modify code or business processes.

To preserve this advantage, we use a set of predefined query roles that are designed for use with route controls. The five route control query roles differ only in how many route control types you can use:

- One Route Control Qry.
- Two Route Controls Qry.
- Three Route Controls Qry.
- Four Route Controls Qry.
- Five Route Controls Qry.

Role queries do not include application data (that is, the names of particular route control types or particular values). Instead, they have a series of runtime bind variables that you link to the route control types that you want.

Sample SQL of Role Query

This is the SQL for the Two Route Controls Qry role:

```
SELECT A.ROLEUSER
 FROM PS_RTE_CNTL_LN_VW2 A
 WHERE A.ROLENAME = :1
    AND A.RTE_CNTL_TYPE_1 = :2
    AND A.RTE_FROM_VALUE_1 <= :3
    AND A.RTE_TO_VALUE_1 >= :4
    AND A.RTE_CNTL_TYPE_2 = :5
    AND A.RTE_FROM_VALUE_2 <= :6
    AND A.RTE_TO_VALUE_2 >= :7
```

Like all role queries, this query selects role users (although it retrieves the field from a special route control view, rather than the ROLEXLATOPR table).

Notice how generic the WHERE clause is and how many runtime bind variables it includes. This structure enables you to use the same role, regardless of which route control types you are using. The RTE_CNTL_TYPE bind variables enable you to plug in route control types at runtime.

A route control query has two classes of bind variables:

- RTE_FROM_VALUE and RTE_TO_VALUE bind variables are set to values that come from the component that triggers the routing.

  They are similar to the bind variables that all role queries have. They enable the role to route items to different users based on some aspect of the item.

- ROLENAME and RTE_CNTL_TYPE variables are typically set to constant values, representing the role and route control types that are relevant for the current routing.

Note. The value for the ROLENAME bind variable should be a user list role that corresponds to a level in your organization. If you're using route controls, you must have a set of organizational roles, and each role user should be assigned to at least one role. PeopleSoft provides a default set of roles—EMPLOYEE, MANAGER, and so on—but you might need to update them to reflect your organization.

To define routings in PeopleSoft Application Designer:

1. Map the OPRID field (or the TO field for email routings) to the route control query that uses the number of route controls that are relevant for the routing decision.
2. In the Specify Query Bind Variables dialog box, map the RTE_FROM_VALUE and RTE_TO_VALUE bind variables to fields from the page's record definitions.
3. Map the ROLENAME and RTE_CNTL_TYPE variables to constant values that provide the name of a user list role and route control type.

To experiment with how the route control queries work, the Review Role Users page enables you to mimic their operation.

Reviewing Role Users

If you use route controls, at runtime the system determines where to route work items. This feature provides flexibility, but it also creates the possibility that no users meet the criteria for the role. In a purchase requisition role query, for example, you might want a role query that returns the buyer that is assigned to work with the vendor of the ordered item; if someone orders an item from a new vendor, the query might return no one.

The Review Role Users page enables you to search for role users based on specified criteria. Use this page to determine which users receive particular work items. This is useful when using route controls. By entering different values for the route control parameters, you can verify that the correct users are receiving the correct work items, and that you've assigned a user for every possible case.

Pages Used to Review Route Control Users

Page Name	Object Name	Navigation	Usage
Criteria	RTE_CNTL_SRCH_1	PeopleTools, Workflow, Routings & Roles, Review Role Users, Criteria	Search for role users by selected criteria
User List	RTE_CNTL_SRCH_2	PeopleTools, Workflow, Routings & Roles, Review Role Users, User List	Review role user details.

Searching for and Reviewing Role Users

Search for and review role users on the Review Role Users Criteria and User List pages.

To search for users meeting specified criteria:

1. Sign on to PeopleSoft Pure Internet Architecture and select PeopleTools, Workflow, Routings & Roles, Review Role User.

The Criteria page appears. All of the fields are optional. For a complete list of role users, leave them all blank. To list all of the users in a role, select a role but leave the *Route Control Type* boxes blank.

2. Specify a user list role in the Role Name field.
3. Specify which route control values to use.
   a. In each of the Route Control Type fields, select a route control type that you defined.
   b. In the corresponding Value field, select a value from the prompt table that is associated with the route control type.
4. Click the Search button.

   The system searches for role users who meet the specified criteria. It displays the number of users below the button.
5. Access the User List page to review information about the users who meet the criteria.

   In the Users list, click the down button to expand or collapse the list of users. If there are multiple users, either review them one at a time using the controls in the Users bar or list all of them together by clicking View All.

   For any user in the list, click the Detail button to populate User Details . The Details button is visible only when the list of users is expanded.

Descr (description), User, and Email ID	Displays the user’s name, ID, and email address.
Routing Preferences	Displays the places where the system can deliver work items to this user. Only selected options are available; users cannot receive work items using options that are not selected.

CHAPTER 9

Using Batch Workflow Processing

This chapter discusses how to work with batch workflow applications:

Understanding Workflow Batch Processes

When you're working with PeopleSoft applications, you perform some activities interactively (online processes) and the system performs some behind the scenes (batch processes). Batch processes provide three major benefits:

- You can schedule them to run later, on a recurring schedule.
- They can process a large number of items all together, unlike online processes, which typically process one item at a time.
- You can off-load them to a server so that time-consuming tasks don't monopolize your machine.

However, batch processes have one drawback—they connect to the database directly, rather than working through the PeopleSoft pages. If your application validates incoming data or runs custom PeopleCode, you might not want a batch process updating the database in this way. Also, because you trigger business events by saving data on a page, batch processes can't initiate a workflow.

You can use Application Engine programs or a component interface to work around these limitations. Like online processes, Application Engine programs enter data through PeopleSoft pages (using a component interface as an intermediary). Like batch processes, they can handle a batch of items.

For example, suppose a batch process transfers assets between departments, and you want to notify (using an email message) the managers of all affected departments. The batch process can't trigger an email routing, and to create the email messages manually is time-consuming. Instead, after the batch process is complete, you can run an Application Engine program that selects the transferred assets and sends an email message to each manager. You can also replace the batch process with an Application Engine program that makes the asset transfer.

Working With Batch Workflow Applications

For an Application Engine program to trigger a business event, it must pass its data to a component interface and the component interface must then trigger Workflow PeopleCode in a component. Therefore, to set up batch processing, you must set up all three stages of the process:

1. Create the Application Engine program that queries the database.
2. Define a component interface that maps the results to a page.

You decide whether to enter new data on a page. For example, you can create a separate table for tracking overdue invoices. Alternatively, you can use the Save method in the component interface to force PeopleCode to run without entering data on the page. In this case, you set up PeopleCode in your main invoice record and use the component interface Save method to run that PeopleCode when the invoice is overdue (without affecting the data).

3. Create the Workflow PeopleCode that triggers the appropriate business event.

Monitoring the Database with PeopleSoft Application Engine

Usually, a user entering data on a page triggers a business process. For example, in a purchase order approval process, the system generates an approval request when a user enters a new purchase order. This immediate response is part of the productivity gain that PeopleSoft Workflow provides.

However, you might want to trigger routings based on an event that doesn't involve a user; for example, when the number of outstanding work items entries becomes too high, a contract lapses, PeopleSoft Process Scheduler completes a batch process, and so on. Application Engine programs make such routings possible.

To trigger routings based on a non-user-initiated event:

1. Write a SQL program that checks the database for data that must be processed.
2. Put the SQL program into an Application Engine program.
3. Use PeopleSoft Process Scheduler to schedule the Application Engine program to run on a regular schedule.

When the condition for which you're checking is true, the Application Engine program sends the data to the component interface, which initiates a workflow event. Once you've started the Application Engine program, no user intervention is required.

Triggering Events with Component Interfaces

Application Engine programs do not trigger business events directly. With PeopleSoft Workflow, you trigger business events by entering (and saving) data on a PeopleSoft page that has Workflow PeopleCode associated with it.

Application Engine programs trigger business events indirectly, by passing the results of their queries to the component interface. If the component has associated Workflow PeopleCode, a business process is triggered when the component interface saves the page.

If an Application Engine program returns multiple rows of data—for example, if it finds several overdue items—the agent passes the rows to the component interface, one row at a time.

Creating Batch Workflow Applications

To create batch workflow applications, you must be familiar with PeopleSoft Application Designer, and you must understand how to create Application Engine programs, component interfaces, and workflow applications. The following section provides only a high-level overview of the process.

To create batch workflow applications:

1. Create the workflow application.

   Build workflow maps, events, routings, and TriggerBusinessEvent PeopleCode. Everything must be working for a batch program to trigger the workflow event.

2. Create a new record to use as the state record for the new Application Engine program. This record type can be either derived or a table.

Note. If you are converting a database agent (a technology used in previous PeopleSoft versions), this record contains the database agent input and output fields; that is, the fields on the page where you ran the database agent and the fields that were returned by the database agent query.

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3. Create a new Application Engine program.

   Define the state record that you created in step 1 as the default state record for the Application Engine program. Insert a SQL statement to select values from the run control record into the state record. PeopleSoft Application Engine automatically initializes the OPRID and RUN_CNTL_ID fields.

4. Create a step in the Application Engine program to select data that meets your conditions.

   This step consists of a PeopleCode program with a SQL query that selects the data. For example, if you're looking for invoices that are over a month old, write a SQL query to select the appropriate invoices.

   You might want to break the SQL query into separate statements if the data is passed to a component interface with multiple levels.

Note. If you're converting an existing database agent (a technology used in previous PeopleSoft versions), in most cases you can paste the SQL from the database agent query into the Application Engine statement with only minor modifications.

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5. Create the component interface for the component with the Workflow PeopleCode.

   When you create the component interface, expose the properties that the Application Engine program will update.

   Be sure to test the component interface in the interactive environment provided by PeopleSoft Application Designer.

6. Create an Application Engine step that invokes the component interface once for each row that is returned by the query.

   How you invoke the component interface depends on what you're trying to accomplish. Here are some general guidelines:

   - Remember the mode that you are using for the component. If you're using Add mode, then use the Create and Save methods on the component interface. If you're using Update/Display mode, use the Get and Save methods on the component interface.
   - On the Save method, it is a good idea to record errors to a file or record. Workflow PeopleCode triggers routings when the component successfully saves.

7. Create a process definition for the new Application Engine program and link to the run control page.

   The steps for scheduling an Application Engine program are the same as those for any PeopleSoft Process Scheduler process:

   a. Define a process type definition.

      PeopleSoft ships with the process types for PeopleSoft Application Engine already defined, so you can skip this step.

   b. Create a process definition.

   c. Set up the page and component where users will run the process.

      If the program includes runtime bind variables, the page must include fields where users can enter values for the variables.

8. Users can then schedule the process just as they schedule any process:

- Navigate to the page.
- Click the Run button to reach the Process Scheduler request page.
- Click Run to initiate the process.

9. Test the application.

Converting Database Agents

Database Agents were used in previous versions of PeopleSoft to perform batch processing. If you implemented Database Agents, convert them to use the most recent technology offered by PeopleCode and Application Engine.

Here are some additional guidelines to consider if you're converting an existing database agent:

- Duplicate the database agent behavior using PeopleCode.

  The database agent behavior is determined through its properties, so using PeopleCode to produce this behavior provides greater flexibility because you have all of the capabilities of PeopleCode functions, including the PeopleCode debugger.
- The Field Mapping dialog box for the database agent contains all of the information that you need to set the component interface properties.
- If the component interface has multiple levels, use the level mapping information in the database agent property dialog box to determine how to handle matching and nonmatching rows in the component interface level data.

  Use the ItemByKey method to help determine whether you have matching rows.

Notification Application Class

PeopleSoft provides a method for sending email messages from PeopleCode through the Notification application class. The Notification application class can be called from Application Engine PeopleCode or from component, page, and record PeopleCode.

Here are some guidelines for deciding when to use the Notification application class instead of calling a component interface to use TriggerBusinessEvent PeopleCode:

- To leverage existing business logic on a page, use a component interface.
- If you have already defined a business process, activity, roles, and routing for sending the email message or worklist, use a component interface.
- To send an email or worklist notification (for example, if you want to run an Application Engine program that selects the transferred assets and sends an email message to each manager), use the notification application class.

  This assumes that the list of user IDs or email addresses to which you want to send the notification is easy to determine in PeopleCode.

CHAPTER 10

Defining Approval Processes

This chapter discusses how to:

- Define approval rule sets.
- Trigger Virtual Approver routings.
- Review approval history.
- Use GetApprovers PeopleCode.

Understanding Approval Processes

Approval processes are a common form of business process. The approval steps that you place on the approval rule set map represent the approval levels that are required for the activity.

A typical approval process incorporates many business rules, for example:

- Employees can approve purchases up to a given amount, based on their level in the organization: Supervisors can approve up to USD 500, managers up to USD 5000, and so on.
- All product improvement requests are approved by both a manufacturing representative and a safety inspector.
- People can approve items for their own departments only.
- If an item requires a vice president's approval, skip the usual step of manager approval.

Business rules like these are usually incorporated into Workflow PeopleCode programs. Logical statements in the PeopleCode check the data on the page—such as the page where employees enter purchase requests—to determine whether the conditions are right for entering a work item into the workflow.

With approval rule sets, you define approval rules on a graphical map.

Features That Are Common to Virtual Approver and GetApprovers

Virtual Approver and GetApprovers PeopleCode share the following advantages:

- You can determine the appropriate approver for each approval step.
- You define and configure approval rules using the same PeopleSoft Application Designer interface that you use to develop all business process maps.
- You can define different approval rules for different business processes and multiple sets of rules for the same process.
- You can build multistep approval processes, with steps occurring sequentially or in parallel.

- You access the approval rule set through built-in PeopleCode functions.

  Virtual Approver uses the functions Virtual_Approver and Virtual_Router. GetApprovers is a PeopleCode function. In both cases, the functions use the approval rule set to determine whether approvals are needed and who the appropriate approvers are. To change a rule, you change the approval rule set rather than the PeopleCode.

- Users enter transactions by entering data onto a PeopleSoft application page.

  When they save a page, Virtual Approver or GetApprovers checks the approval rules that you've defined to determine the necessary approvals.

Differences Between Virtual Approver and GetApprovers

Virtual Approver and GetApprovers PeopleCode differ in significant ways. Use the information in the following table to decide which is appropriate in a given situation.

Virtual Approver	GetApprovers
The system determines the next approver (if any) at each step along the way.	The entire approval chain is determined at the beginning.
Because Virtual Approver processes only one approval step at a time, the system always has the latest data about any substitute approvers—for example, when someone goes on vacation or leaves the organization.	Because the entire approval chain is determined at the beginning, you capture the approval chain at a single point in time. If an approver goes on vacation and schedules a substitute approver, GetApprovers isn't aware of this.
Because the system determines the next approver (if any) at each step along the way, you can't show users all of the approvals that are required for a transaction.	Because the entire approval chain is determined at the beginning, you can expose that data on a page that users can see.
Virtual Approver, with Virtual Router, generates workflow routings to approvers.	GetApprovers does not notify approvers. Once it provides the list of approvers, you must build a custom approval application. Typically, you store the list of approvers as part of the transaction (usually in a child table), so that the entire approval chain can be viewed. Additional development is necessary to define how approvals occur.
Virtual Approver automatically displays a message to a user who enters a transaction that requires approval. The user has the option to submit the transaction for approval or to cancel the transaction.	By itself, GetApprovers does not provide information to the user. You must provide messages.

Note. As GetApprovers returns only a list of approvers, it can be used with Virtual Approver without disrupting normal Virtual Approver functionality. You might use GetApprovers and Virtual Approver together to add forecasting capability to Virtual Approver.

Understanding Virtual Approver

This section discusses:

- Virtual Approver.
- Virtual Approver templates.
- User list roles for organizational levels.

Virtual Approver

Approval rule sets are PeopleSoft Application Designer definitions that are similar in appearance to workflow maps. Approval rule sets reference business processes, but they are not embedded within business processes (unlike activities, which are part of business processes). That is, approval rule sets are not represented by physical icons on workflow maps.

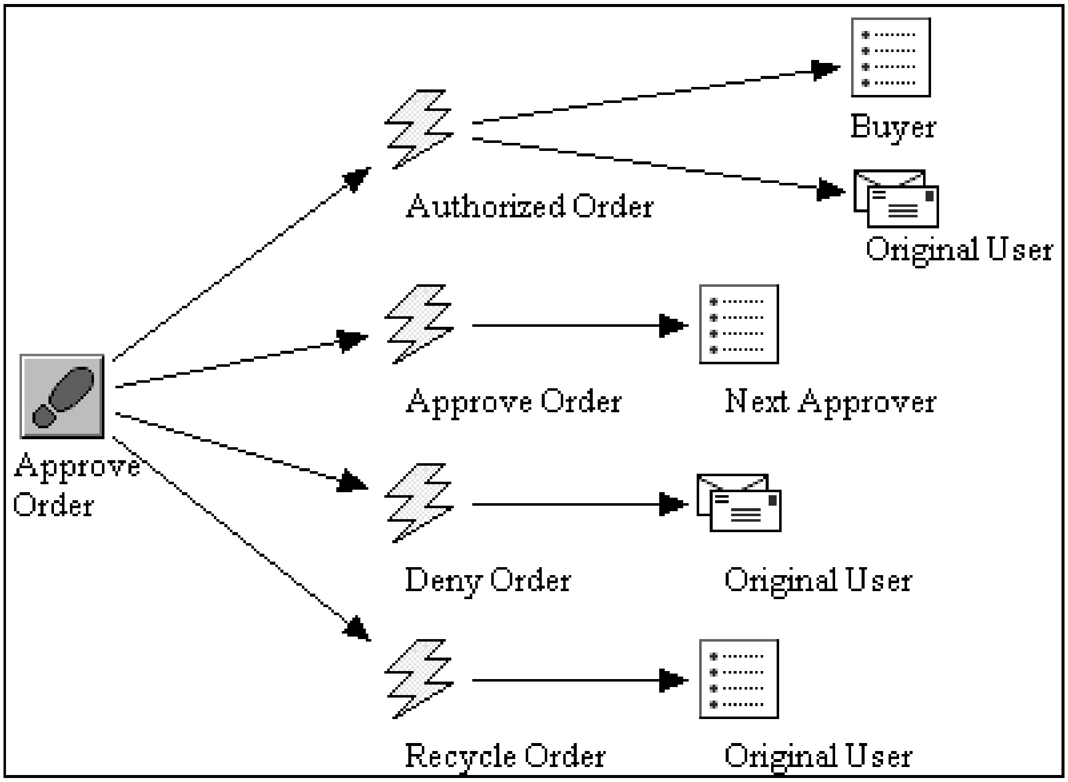
Instead, approval rule sets are separate definitions that are referenced by Workflow PeopleCode. Specifically, Virtual Approver finds the next approver by calling Virtual_Approver() and then sends that person a workflow notification by calling VirtualRouter(). You use different PeopleCode to trigger Virtual Approver than you use for other workflow events, but the function of the PeopleCode is the same: to identify the next users and to send them notifications.

To examine how Virtual Approver fits into PeopleSoft Workflow, consider a business process for ordering supplies. The first two activities within this business process are for creating orders and approving orders.

The Create Order activity consists of a single step: entering the order information into the PeopleSoft system.

When an employee enters an order, PeopleCode triggers Virtual Approver, which reads the specified approval rule set to determine whether the order requires approval and, if so, who must approve the order. When an order requires approval, Virtual Approver sends a routing to the approver. The approver works on the item using the activity that is specified in the first step of the approval rule set—in this case, the Approve Order activity.

The Approve Order activity also consists of a single step: approving the requisition. The approver can approver the order, deny the order, or recycle the order back to the original requestor for changes.



Approve Order activity

When the approver is finished, PeopleCode again triggers Virtual Approver. Virtual Approver PeopleCode includes a parameter that specifies the approval action. Valid actions are A (Approve), D (Deny), or R (Recycle).

If the approver approves the action, Virtual Approver checks the approval rule set to determine whether additional approvals are required.

- If additional approvals are not needed, Virtual Approver triggers the Authorized Order event, which sends a confirmation email message to the original user and sends a worklist routing to the buyer who places the purchase order.
- If additional approvals are needed, Virtual Approver triggers the Approve Order event again.

  This is the same event that was triggered when the original user first submitted the order, but when Virtual Approver determines who must approve the order, the routing goes to the next person in the approval chain.

If the approver denies the order, Virtual Approver triggers the Deny Order event, which sends an email message notifying the original user that the order was denied.

If the approver recycles the order, Virtual Approver triggers the Recycle Order event, which sends an email message telling the person who is defined in the routing (either the original submitter or the previous approver) to change the order and resubmit it.

As you can see, the workflow maps show the events and routings that Virtual Approver triggers, just as the maps show all workflow events and routing. To determine whether Virtual Approver is involved in a particular workflow application, check the SaveEdit and Workflow PeopleCode. If the PeopleCode uses Virtual Approver, you can identify the approval rule set being used.

Virtual Approver Templates

PeopleSoft delivers applications with some of the most common approval processes already set up. For example, PeopleSoft Payables uses a Virtual Approver-based business process to streamline voucher processing. In many cases, you must adapt an existing process, rather than develop a new one.

To adapt the approval rules for an existing business process, open the approval rule set for that process and update it with the rules that apply to your business. Because approval rule sets are managed objects within PeopleSoft Application Designer, the PeopleSoft upgrade tools help you manage upgrades. That's the advantage of the table-driven approach to approval processing.

User List Roles for Organizational Levels

Some of the Virtual Approver processes that are delivered with PeopleSoft applications use user list roles that PeopleSoft has already defined: EMPLOYEE, MANAGER, VICE PRESIDENT, and so on. Virtual Approver uses these roles to specify the levels of authorization authority that a user has.

Although PeopleSoft delivers these default roles, you must make sure that the set of roles accurately reflects the levels in your company and that they're assigned to the appropriate users.

Defining Approval Rule Sets

This section discusses how to:

- Create approval rule sets.
- Define approval steps.
- Maintain approval rules.

An approval rule set is a workflow map representing the criteria for determining which approvals are required for a transaction. The components of the map are individual approval steps: one for each level of approval.

Note. The Approval Rule Properties dialog box, Virtual Approver, and some currency-related PeopleCode functions depend on a set of database objects that do not exist in the PTSYS database. The set of database objects includes: PS_RT_DFLT_VW, PS_RT_TYPE_TBL, and RT_TYPE_LANG. These database objects currently reside in the Common Components project, which is named EO_COMMON. If you require these features to function within the PTSYS database, then you must transfer these tables into the PTSYS database using the upgrade copy feature in Application Designer.

Creating Approval Rule Sets

This section discusses how to create approval rule sets.

Except where specified, this process is the same, regardless of whether Virtual Approver or GetApprovers uses the approval rule set.

Creating an Approval Rule Set

To create an approval rule set:

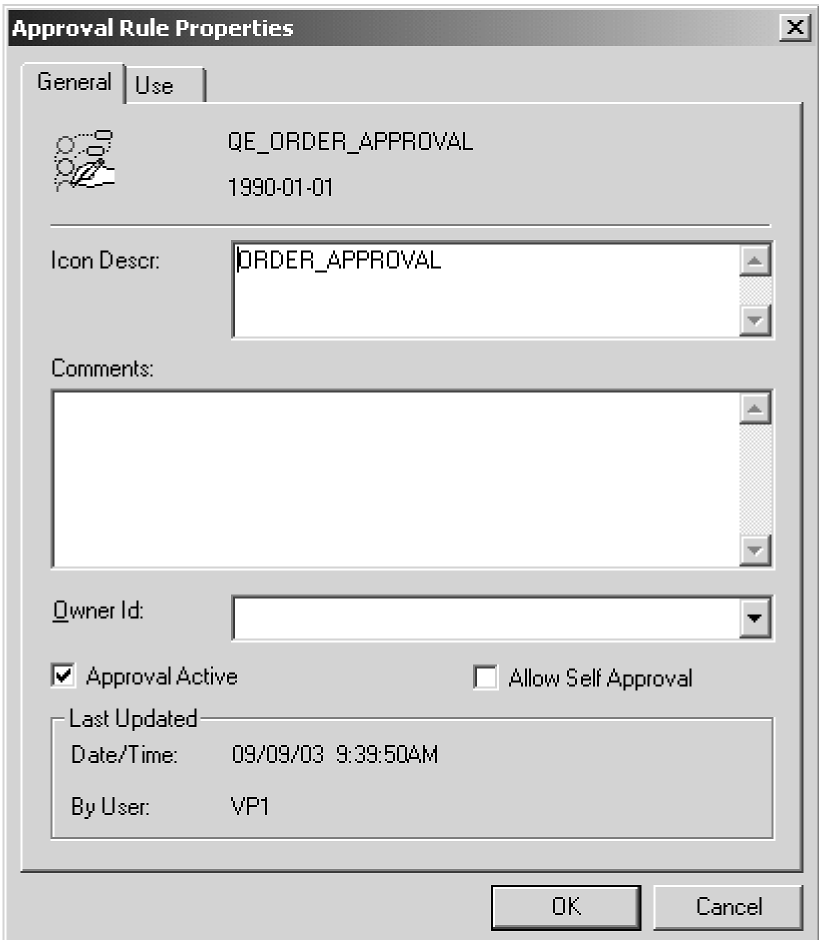
1. In PeopleSoft Application Designer, select File, New.
2. Select *Approval Rule Set* and click OK.

3. Save the rule set and assign an effective date.

   Unless you specifically want to make the approval rule set effective at a particular time, PeopleSoft recommends a standard effective date, such as 01/01/1900.

Specifying Approval Rule Properties

This section discusses how to specify approval rule properties.



Approval Rule Properties dialog box.

To specify approval rule properties:

1. Open the Approval Rule Properties dialog box by selecting File, Definition Properties.

   The Approval Rule Properties dialog box appears, displaying the General tab.

2. Enter descriptive information about the approval rule set.

   Use the Icon Descr (icon description) field to specify a description that appears next to the rule set's name in dialog boxes that list approval rule sets.

3. (Optional) Temporarily suspend the use of this approval rule set.

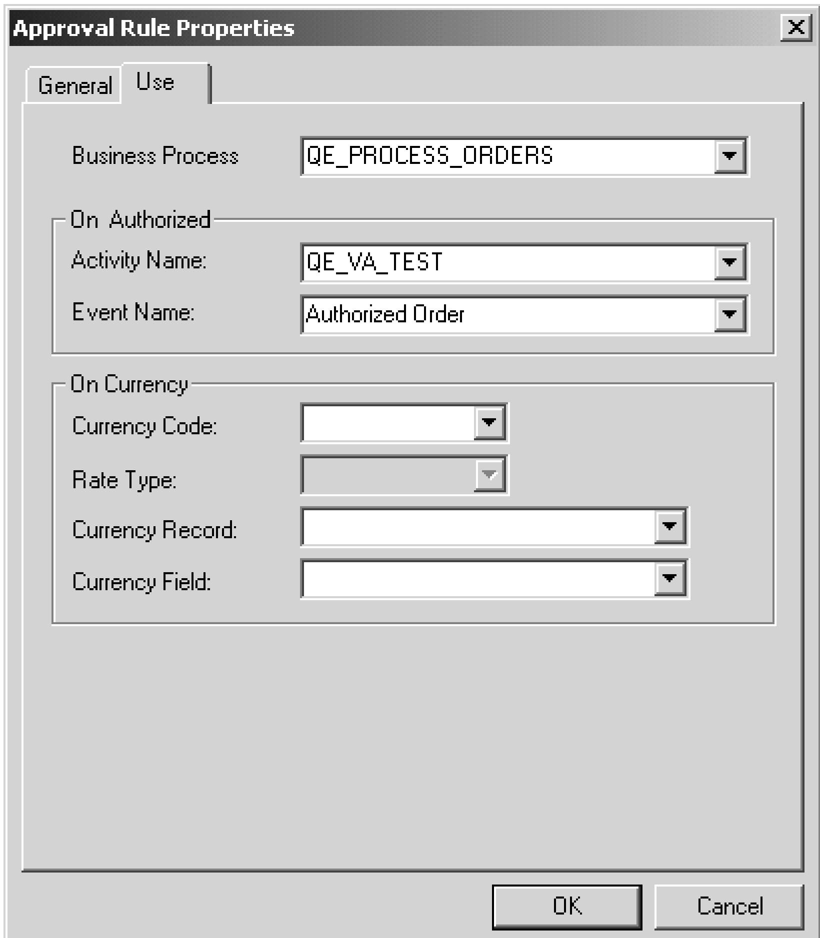
   Clear the Approval Active check box to prevent Virtual Approver from checking the approval rules. Instead, it automatically approves all transactions.

4. Specify whether users can approve their own transactions.

Select Allow Self Approval if users are permitted to approve transactions that they've entered. Selecting this option does not mean that transactions are automatically approved; self-approval is still subject to the person's approval limits. For example, if managers can approve purchase requisitions up to USD 5000, then a manager who submits a requisition for USD 7500 cannot self-approve that requisition, even if you allow self-approval.

Specifying Additional Approval Rule Properties

This section describes how to specify additional approval rule properties.



Approval Rules Properties dialog box, Use tab

To specify additional approval rule properties:

1. Select the Use tab. Enter the name of the business process that is associated with this rule set.

   Although approval rule sets are not represented by physical icons on workflow maps (business processes and activities), the approval process that you're defining is part of a workflow business process. Enter the name of that business process here. This information is required when you use Virtual Approver.

   When you add PeopleCode to call Virtual Approver from the transaction page, this business process is one of the input parameters.

2. Specify the event to trigger when all required approvals have occurred.

   Note. This information is for Virtual Approver only; the GetApprovers function disregards this information.

In the On Authorized group box, enter an activity name (associated with the business process that you've specified) and event nameto specify which event should be triggered when the transaction is fully approved. Virtual Approver triggers this event when final approval occurs. For example, after a purchase requisition is approved, it is logical to trigger an event that notifies a buyer that the approved requisition is ready to be fulfilled.

PeopleSoft Application Designer enables you to deactivate individual business events. If you deactivate an event that Virtual Approver is supposed to trigger, the event isn't triggered.

On Authorized activity or event is optional. Try to avoid using the same activity or event as on the individual step's On Pre-Approved field.

3. Specify currency units for the approval rules.

   Enter currency information only if the approval rules are based on monetary amounts in the transaction.

   Enter the currency code and rate type that are used in your approval rules. For example, if a rule requires approvals for amounts over 1000 US dollars, enter *USD*.

4. Specify the currency unit for the transaction.

   Specify the currency record and currency field name that store the currency code for the data to be evaluated. For example, to evaluate whether a requisition requires approval, you must know the amount of the requisition and the currency in which that amount is expressed.

Note. If the currency that is specified for the transaction being processed is different from the currency that is specified for the approval rule, Virtual Approver performs the appropriate currency conversion before making the comparison.

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5. Click OK to close the properties dialog box.
6. Add approval steps to the rule set.
7. Save the approval rule set.

Making an Effective-Dated Change to an Approval Rule Set

To make an effective-dated change to an approval rule set:

1. Open the approval rule set.
2. Select File, Save As…
3. Enter the new effective date.
4. Click OK.

   There's now a new object with the same name, but a different effective date. The different effective-dated versions of the rule set appear separately in the dialog box.

5. Modify the rules, as needed.

Defining Approval Steps

Rule steps are the individual approval steps. Approval rule sets incorporate one rule step for each level of approval that might be required.

When the person who submits something for approval has no self-approval authority, you do not need to include a step for that person. However, you may include a step for that user so that your graphical map more clearly documents the entire process. As long as that user has no authorization authority, Virtual Approver bypasses that user anyway.

If users who submit items for approval have some level of authorization, for example, users can self-approve amounts up to USD 100, then the first rule step must represent that approval level.

Adding a Rule Step to a Rule Set

To add a rule step to a rule set:

Note. This process is the same, regardless of whether Virtual Approver or GetApprovers uses the approval rule set.

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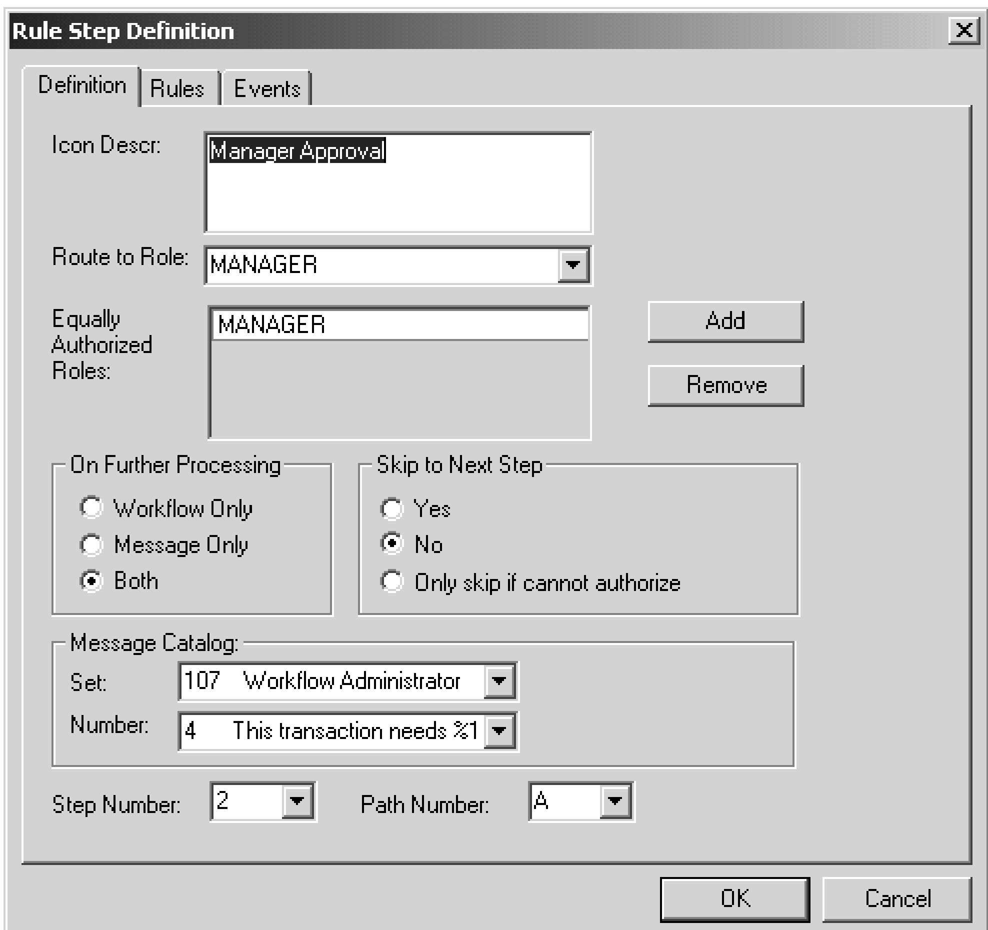
1. Click Approval Step on the toolbar.
2. Click the location on the approval rule set where you want the step to appear.

   An Approval Step icon appears where you clicked.

Defining a Rule Step

This section discusses how to define a rule step:



Rule Step Definition dialog box, Definition tab

To define a rule step:

1. Double-click the rule step icon, or right-click it and select Item Properties.

   The Rule Step Definition dialog box appears.

2. Enter an icon description.

   Use the Icon Descr field to specify a description to appear in dialog box boxes that list this type of map. If you leave this field blank, the map name appears by default.

3. In the Route to Role list box, select the role that performs this step.

   The role that you select is the role of the user who approves items at this step and path. The system verifies this role against the row-level rule that you set up in a previous step before routing items. Select a user list role that corresponds to a level within your organization. In approval processes, a person's level typically determines the approval authority.

   Note. The Virtual Router portion of Virtual Approver determines who should receive the work item based on the role that you specify here, with the query role that is assigned to the worklist in PeopleSoft Application Designer. The worklist's query role must accept a role name as a bind variable, as the standard route control roles do.

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4. In the Equally Authorized Roles field, select all of the roles that are qualified to process the transaction at this step.

   For example, consider a purchase request process in which managers can approve transactions up to USD 25,000. If a manager enters a request for USD 25,000 or less, Virtual Approver automatically approves it. Now, suppose that you also want to allow system administrators to self-approve up to USD 25,000 (if you allow self-approval). All you do is add *SYSTEM ADMINISTRATOR* to the Equally Authorized Roles box. System administrators don't receive transactions routed to them, but they are treated as managers for the requests that they submit.

   You can also use this field for users who do not normally participate in the approval process, but who have the necessary authority to approve at this level. This can be useful for exception processing—for example, when the regular approver is unavailable or you need to approve a transaction outside the worklist. Be aware that even if an equally authorized user handles the approval, the worklist routing in the regular approver's queue does not disappear.

   GetApprovers does not return information about equally authorized roles, only about users who actually perform approvals.

   Use the Add and Removebuttons to add users to or remove users from the Equally Authorized Roles box.

5. Specify what the user sees when a transaction requires further processing for approval.

   When a transaction needs further approval, Virtual Approver can:

   - Trigger the specified event to forward the transaction to the next step.
   - Display a message to the user, indicating that further approval is required.

6. Specify which of these actions it should take by selecting one of the options in the On Further Processing box on the right-hand side of the page. The default is Both.

   Workflow Only — If a transaction needs further approval, Virtual Approver forwards it on to the next step without informing the user.

   Message Only — The user sees a message indicating that the transaction needs further approval, but the transaction doesn't enter the workflow.

   Both — Virtual Approver displays a message asking the user whether to add the transaction to the workflow.

   If you select Message Only or Both, the message comes from the PeopleSoft Message Catalog. Use the Message Catalog setting to specify the set and number of the message that the user sees.

7. Specify whether the system can bypass this approval step if additional approval is required.

   In the Skip to Next Step group box, select when, if ever, the current approver should be ignored:

   Yes — If additional approvals are needed, the system always skips this approver. Use this option only when role users can self-approve certain transactions but don't ever approve other people's transactions.

   No — This approval step is not skipped and the routing happens. This is true, regardless of whether additional approvals are required. This step is omitted only when a prior approver was able to give final authorization.

   Only skip if cannot authorize — If additional approvals are needed (that is, this approver doesn't have final approval authority), the system skips this approver.

8. In the *Appr Step* (approval step) and *Appr Path* boxes, specify which step you're defining.

   Approval processes can have multiple steps (in sequence) and multiple paths (in parallel). The purchase request example following this procedure has several steps, but only one path. An example of a process with multiple paths is one in which requests must be approved by the department manager and an office manager before going to a vice president. Here is sequence of steps and paths in this case:

Step	Path	Route to Role
1	A	MANAGER (DEPTARTMENT)
1	B	MANAGER (OFFICE)
2	A	VICE PRESIDENT

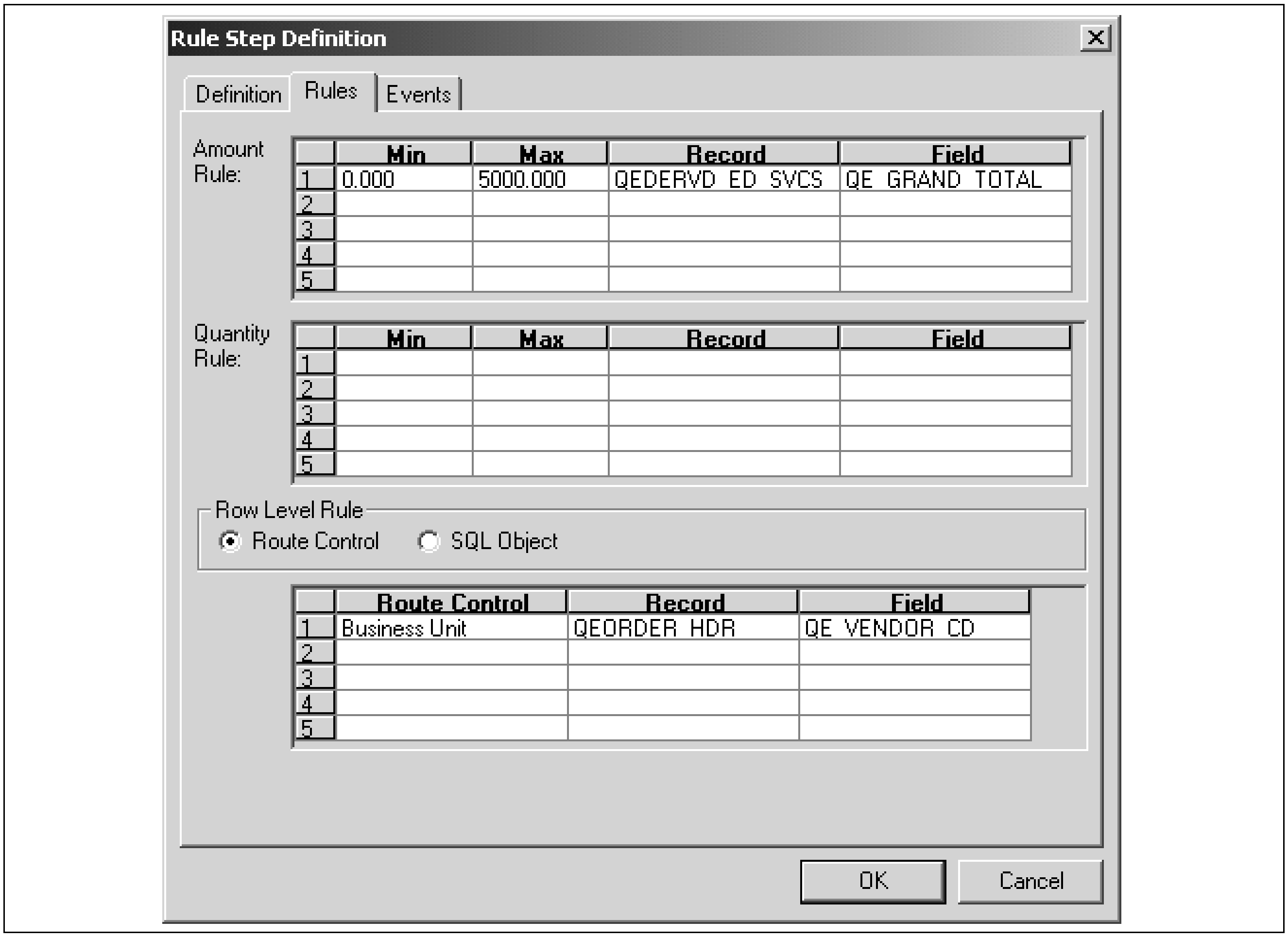
   In this example, the system sends two worklist entries when a new request comes in: one to the department manager and one to the office manager. When both of the managers approve the request, the system forwards it to a vice president.

   Note. The easiest way to determine approval steps and paths is to consult the activity map for the business process for which you're defining approval rules.

   Note. The approval step definition only allows for nine steps to be available when defining an approval process in Application Designer. However, you can enter any step number required.

Specifying Rule Step Rules

This section discusses how to specify rule step rules.



Rule Step Definition dialog box, Rules tab

To specify rule step rules:

1. Select the Rules tab to specify the approval parameters.
2. Specify which transactions the specified role users have the authority to approve.

   You can specify which transactions a user can authorize in the following three ways:

   - If approval requirements are based on a monetary amount, enter the criteria in the Amount Rule group box.

     The user can authorize transactions whose monetary amount is between the values in the Min and Max fields. The associated record and field specify the record and field containing the amount in the original transaction.

   - If approval criteria are based on a (nonmonetary) quantity, enter the criteria in the Quantity Rule group box. The user can authorize transactions in which the (nonmonetary) quantity is between the values in the Min and Max fields. The associated record and field specify the record and field containing the quantity in the original transaction.

   - If the approval criteria are based on the approver's user data, enter the criteria in the Row Level Rule group box.

- There are two methods of obtaining row level criteria: using a route control or a SQL object. If you select Route Control, the range of transactions that the user can authorize is determined by the user's route control profile. The system compares the value from the specified record and field to the user's route control profile. If the value is in the range to which the route control profile gives the user access, the user can approve the transaction.
- If you select SQL Object, the range of transactions that the user can authorize is based on other data in the database.

  Evaluate the data using a SQL program that you create as an Application Designer SQL object. After you create the SQL object, enter its name next to the SQL Object option. Enter bind variables used in the SQL program in Record and Field. At most, five record and field binds can be used.

  If SQL Object is selected, the worklist defined in the On Pre-Aproved activity or event must be consistent with the Operator defined by the SQL Object. Be sure that the Route to Role matches the Operator rendered by the SQL Object.

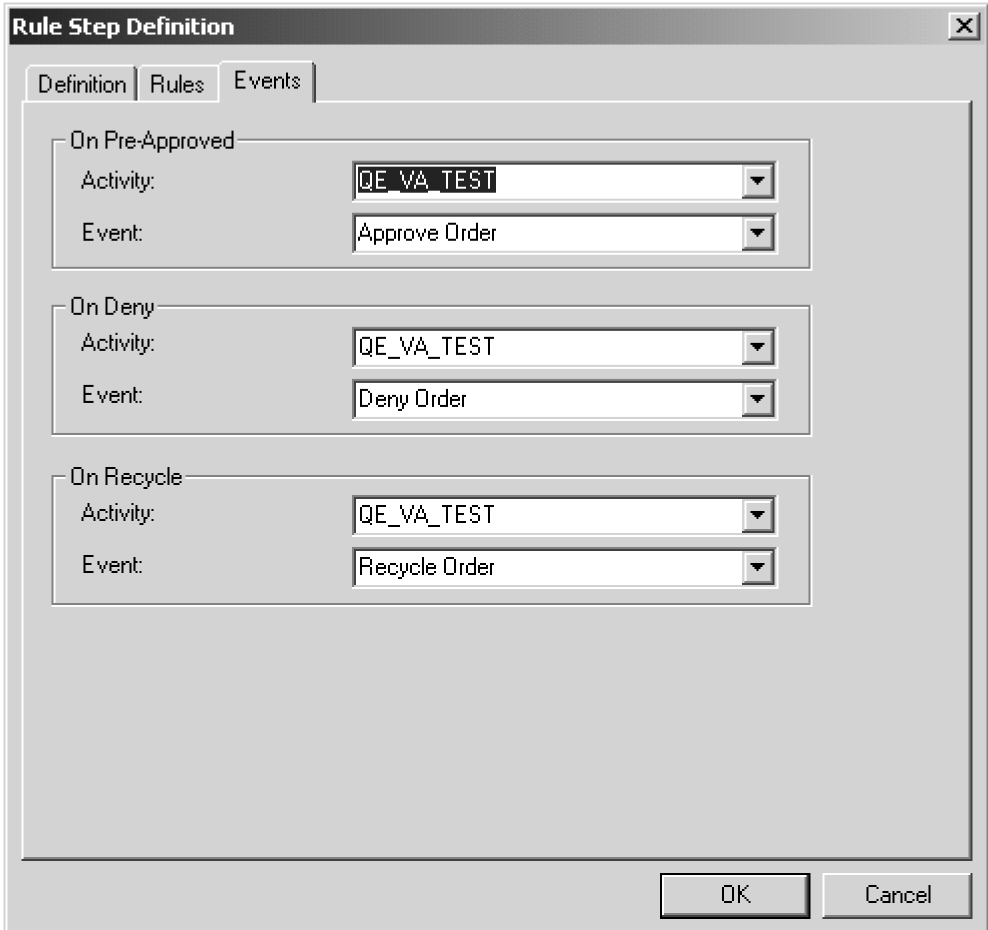
  For example, if you use the PeopleSoft HRMS applications, which store extensive data on reporting relationships within the organization, you can use a SQL object to specify that a manager is authorized to approve only requisitions submitted by people in that manager's department. Using order_hdr.deptid as the bind variable, you can use the following SQL program:

  ```
  Select a.oprid from psoperalias a, ps_dept_tbl b where a.emplid = b.emplid and⇒
   b.deptid = :1
  ```

- You can specify more than one authorization rule for any rule other than SQL object. To add additional authorization rules, enter data in multiple grid rows. For example, you can base the routing on more than one route control field. The number in the Seq (sequence) field is incremented for each rule that you add. You can also use multiple authorization types for a single step. In this case, the user can only authorize transactions that meet *all* of the specified rules for this step.

Specifying Rule Step Events

This section discusses how to specify rule step events.



Rule Step Definition dialog box, Events tab

To specify rule step events:

1. Select the Events tab to specify which business events are triggered, depending on the action of the approver at this step.

   At each step in an approval process, the person reviewing a transaction has three options: approve it, reject it, or send it back to the previous step (recycle). The Pre-Approved Activity/Event box specifies what happens when the person approves the request. You can also specify deny and recycle activities and events. For example, if a request is denied, you might trigger an event that sends an email message to the requester.

   If you don’t select an event for these actions, the system changes the status of the transaction, but doesn’t route it anywhere.

2. In the Pre-Approved Activity/Event group box, select the business event to trigger when this approver approves the transaction.

   For the first step in the process, this is the event to trigger when a user enters a new transaction. For subsequent steps, it’s the event to trigger when the user who is performing the current step approves the transaction, but it requires further approval. In either case, the event must forward the transaction to the next step. These settings are required; you must identify a preapproved activity and event.

   Define each event as part of an activity in PeopleSoft Application Designer. Select the activity name in the Activity list box and the event name in the Event Name box.

Note. Virtual Approver triggers this event when the transaction requires further approval—when the user who approves it doesn't have sufficient authority to make a final approval, according to the rules that you defined on the previous page. If the user has the authority to approve the transaction, Virtual Approver triggers the Approval Activity/Event for this approval rule set, which you specify in the properties for the overall approval rule set.

---

3. Specify which events to trigger if the user denies or recycles the transaction.
4. Repeat this entire procedure for each step in the approval process.
5. Click OK to close the properties.

Maintaining Approval Rules

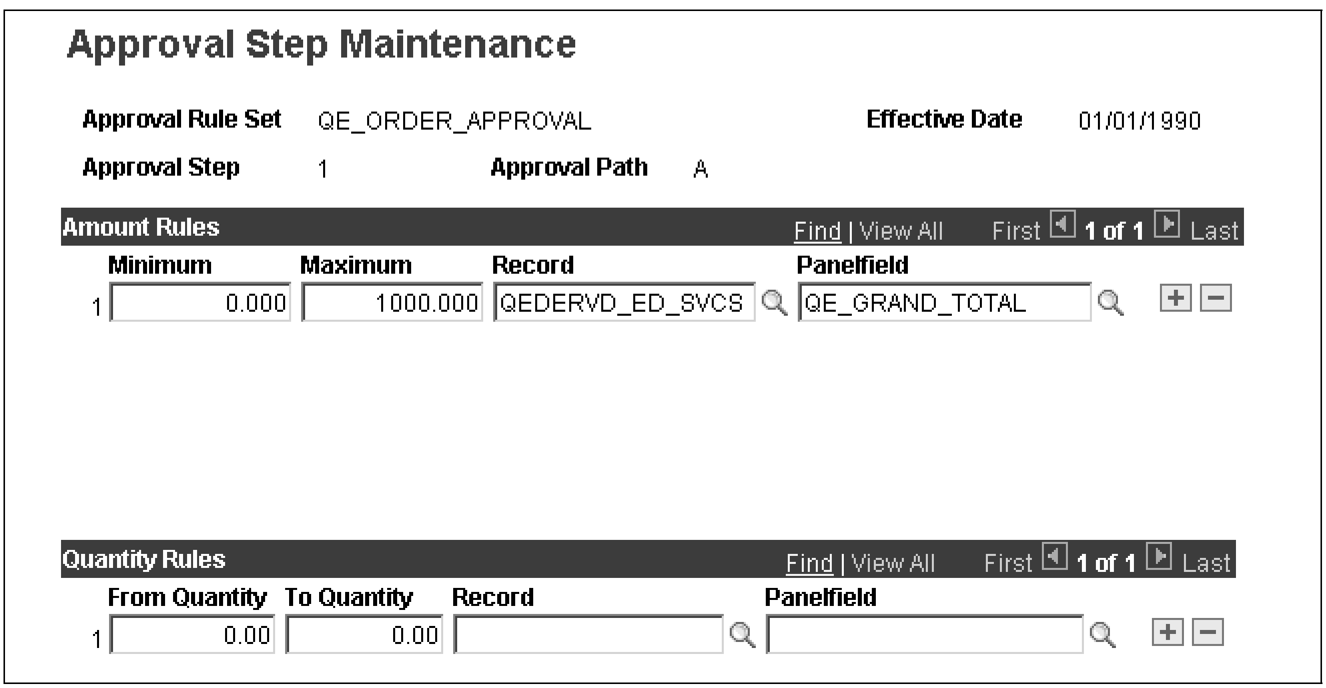
Maintain approval rules in PeopleSoft Pure Internet Architecture.

Page Used to Maintain Approval Rules

Page Name	Object Name	Navigation	Usage
Approval Step Maintenance	APPR_STEP_MAINT	PeopleTools, Workflow, Approvals, Maintain Approval Rules	Maintain approval rule steps.

Maintaining Approval Rule Steps

This section discusses how to maintain approval rules in PeopleSoft Pure Internet Architecture.



Approval Step Maintenance page

Over time, your business rules might change. Perhaps you once required managerial approval for purchases over USD 100 and now you require approval only for purchases over USD 500.

You can maintain approval rules in the same place that you create them—on the rules tab of the rule step property sheet. I you prefer to expose the rules to your users so that they can update the rules without using PeopleSoft Application Designer, you can use the Approval Step Maintenance page.

To maintain approval rules:

1. Navigate to the Approval Step Maintenance page.
2. Search for an existing approval rule set, approval path, and approval step.

   Use the standard search method to identify your approval rule and access the Approval Step Maintenance page.

   Note. This page shows only one rule at a time; the page does not provide an overview of how all of the rules fit together in the approval rule set. Therefore, to use this page effectively, users must be able to identify the approval rule sets and their embedded paths and steps.

   ---

3. Update the amount rules.

   If approval requirements are based on a monetary amount, enter the amount rules.

   The user can authorize transactions whose monetary amount is between the values in the Minimum and Maximum fields.

   Note. The Minimum and Maximum fields support 23.3 decimal precision. That is, 23 digits can appear to the left of the decimal, and 3 digits can appear to the right of the decimal.

   The monetary amount that is evaluated comes from the associated Record and Panelfield (field). Normally you don't change these values on the page, as doing so might require additional modifications that can be made only in PeopleSoft Application Designer.

4. Update the quantity rules.

   If approval criteria are based on a (nonmonetary) quantity, enter the quantity rule.

   The user can authorize transactions whose monetary amount is between the values in the From Quantity and To Quantity fields.

   The quantity that is evaluated comes from the associated Record and Panelfield (field). Normally, you don't change these values on the page, as doing so might require additional modifications that can be made only in PeopleSoft Application Designer.

5. Review all of the rules.

   If you specify more than one authorization rule for any step, users can only authorize transactions that meet *all* of the specified rules.

6. Save the page.

Triggering Virtual Approver Routings

Once you create approval rule sets, the steps for developing a Virtual Approver approval process are basically the same as for any other business process. You define roles, events, and routings. When you set event triggers, however, instead of using the TriggerBusinessEvent PeopleCode function, you use a pair of functions that trigger routings based on the approval rule set that you specify. To access these functions, you must first add special work pages to the component where the event is triggered.

Adding Workflow Work Pages

Every component that uses Virtual Approver PeopleCode must include the pages WF_FUNCTIONS_01 and APPR_WRK_01. These special work pages load several important Workflow PeopleCode functions into memory. For example, if you're using route controls, WF_FUNCTIONS_01 enables the system to determine which route control types are relevant for the event that you're triggering.

To add work pages to a component:

1. In PeopleSoft Application Designer, open the component.
2. Add WF_FUNCTIONS_01 and APPR_WRK_01 to the list of pages in the component.
3. Save the component.

Note. Under normal circumstances, after adding a page to a component, you use PeopleTools Security to grant users access to the page. However, because WF_FUNCTIONS_01 and APPR_WRK_01 are work pages, you don't want users to see them or have access to them.

Note. The derived/work record APPR_FIELDS_WRK includes the field PREV_ROLEUSER, which is typically used to identify the previous approver if the process is recycled. If your approval process includes parallel paths, note that if the process recycles from the step above the parallel path, PREV_ROLEUSER is the user who approved at the highest path of the previous step. If this person recycles the process again, it will go through the lower path on the same step, then to the prior step. If the process recycles from a parallel step without an approval, then PREV_ROLEUSER is the user who approved the previous step, and the application must take care of the worklist on the other path of this step.

Adding Virtual Approver PeopleCode

PeopleSoft designed Virtual Approver to simplify the PeopleCode that you must write for approval processes. Rather than writing complex PeopleCode programs, you define the approval rules using pages in the Workflow Administrator, then use two simple PeopleCode functions to check those rules.

After you add the Virtual Approver work pages to the component with the page where the triggering event occurs, you must add both SaveEdit PeopleCode and Workflow PeopleCode to the record definition that is associated with that page.

- The SaveEdit PeopleCode uses the Virtual_Approver PeopleCode library function to check the approval rules that you defined in the Workflow Administrator and determine whether an item must be routed for approval.
- The Workflow PeopleCode uses the Virtual_Router PeopleCode function to route items to the next step in the approval process.

Note. The Virtual_Router PeopleCode library function is located in the FieldFormula event of the APPR_VA0_WRK.FUNCLIB_02 record field. The Virtual_Approver function is located on the FieldFormula event of the APPR_VA0_WRK.FUNCLIB_01 record field.

You must add the SaveEdit and Workflow PeopleCode to the same record field.

SaveEdit PeopleCode

This is the general structure of the SaveEdit PeopleCode program:

1. Declare the external workflow functions Get_RoleUser and Virtual_Approver.
2. Set values in the APPR_FIELDS_WRK work record to give the Virtual_Approver function the data it needs to check the approval rules.

   Set these values:

   - The name of the role user attempting to approve the transaction.
   - The business process and approval rule set you want Virtual_Approver to use.
   - The approval action that the current user gave to the current work item. The valid status values are A (Approve), D (Deny), or R (Recycle).
3. Use the Virtual_Approver function.
4. Set the approval status record field to the value that Virtual_Approver returns: A (Approved), D (Denied), and P (Pending).

   Enter the following code exactly as it’s shown, replacing the values in angled brackets with the values that are appropriate for your application.

```
/* Declare the Virtual Approver workflow functions */
declare function Get_RoleUser PeopleCode APPR_VA0_WRK.ROLEUSER FieldChange;
declare function Virtual_Approver PeopleCode APPR_VA0_WRK.FUNCLIB_01 FieldFormula;
/* Get the role user name for the current user */
&USERID = %UserId;
Get_RoleUser(&USERID, &EMAILID, &FORMID, &EMPLID, &ROLEUSER);
/* Set values in the work record for Virtual_Approver */
APPR_FIELDS_WRK.ROLEUSER = &ROLEUSER;
APPR_FIELDS_WRK.BUSPROCNAME = BUSPROCESS.<BusProcessName>;
APPR_FIELDS_WRK.APPR_RULE_SET = <approval_rule_set>;
APPR_FIELDS_WRK.APPR_ACTION = <approval_action>;
APPR_FIELDS_WRK.APP_ROW_NUMBER = <current_row_number>;
/* Call the Virtual Approver */
Virtual_Approver();
/* Set the application record’s approval status field to the value  */ /* Virtual_⇒
Approver returns */
<status_record_field> = APPR_FIELDS_WRK.APPR_STATUS;
```

The variables in this code are:

BusProcessName	The name of the business process whose approval rules to use.
Approval_rule_set	The name of the approval rule set that you want Virtual_Approver to use to determine whether an item needs further approval.

Approval_action

The approval action to provide Virtual_Approver as input. Usually, *approval_action* is the name of the record field in which the user sets the approval status. It can also be one of the string constants: P, D, or R.

Note. If the user specifies the approval action at level 0 on the page—that is, if the user specifies a single approval action for the entire page—it's preferable to include the field APPR_FIELDS_WRK.APPR_ACTION on the page and let the user set it directly. However, this direct approach doesn't work if the user must specify approval actions for each row in a scroll. You must have the user set the action in another field, then transfer the value to the APPR_ACTION field before the Virtual_Approver call.

Current_row_number

The current row number in the scroll. Setting this field is not necessary at level 0.

APPR_ROW_NUMBER is only required when Virtual Approver is triggered on a non level-0 scroll.

Status_record_field

The record field that holds the approval status of the transaction, such as Purchase Request Approval Status.

The user can store the APPR_INSTANCE in the application table and pass it to the Virtual Approver. For example, APPR_FIELDS_WRK.APPR_INSTANCE = <application table>.APPR_INSTANCE. Optionally, the user can also pass the VA_BEHAVIOR_TYPE: APPR_FIELDS_WRK.VA_BEHAVIOR_TYPE = "1". Only the value of *1* is supported. The user can check the field value of APPR_FIELDS_WRK.VA_BEHAVIOR_STATUS after calling Virtual_Approver():

- If the approval process has been denied, the value is *1*.
- If the approval process has been completed, the value is *2*.
- If the operation is at a lower step which has already been approved, the value is *3*.

  If the user is on a step that has been approved by another user, the status of the "Resubmit VA Worklist" flag determines if this is allowed.

  See Chapter 15, "Administering PeopleSoft Workflow," Submitting Approval for Reassigned Worklist Items , page 127.

Virtual Approver PeopleCode

The Virtual Approver PeopleCode looks like:

```
declare function Virtual_Router PeopleCode APPR_VA0_WRK.FUNCLIB_02
            FieldFormula;
APPR_FIELDS_WRK.APPR_VR_ROW = <scroll_info>;
Virtual_Router();
if None(APPR_INSTANCE) then
  <application record name>.APPR_INSTANCE = APPR_FIELDS_WRK.APPR_INSTANCE;
endif;
```

The *scroll_info* is a number. If you're calling the router from level 0, *scroll_info* is 0; if you're calling it from a scroll, *scroll_info* is the row number of the current row in the scroll. If you're calling from a level 1 to level 3 scroll, use the CurrentRowNumber PeopleCode function.

The if statement assigns an instance ID to a transaction if it doesn't already have one.

Reviewing Approval History

The Approval Instance log in the Workflow Administrator enables you to see the history of a work item as it passed through the steps of the approval process. You can determine which role users reviewed the item, what action they took, and the item's status.

Page Used to Review Approval History

Page Name	Object Name	Navigation	Usage
Approval Instance Log	APPR_INST_LOG	PeopleTools, Workflow, Approvals, Review Approval History	Review approvals.

Reviewing Approval Instances

To review a work item's approval history:

1. Navigate to the Approval Instance Log page.
2. Enter the approval instance ID of the work item in which you're interested.

   A work item's approval instance ID is part of its worklist entry. Find it by viewing the worklist entry on the Worklist page (if you have access to the worklist) or by using the Worklist Monitor.

   When you enter the approval instance ID, the Approval Instance Log page displays the data for the specified item.
3. Scroll through the steps in the process.

   When you first open this page, it displays information about how the work items entered the workflow (step 0, with the status Initiated). Scroll to review information for each subsequent step. The approval instance status for the last available step is the current status of the work item.

Using GetApprovers PeopleCode

GetApprovers PeopleCode determines the entire list of required approvals based on the rules that are defined in an approval rule set. GetApprovers evaluates all approval steps at once so that you receive a complete list of approvers from the entire approval chain.

Typically, you include GetApprovers in the Workflow PeopleCode for the transaction that requires approval.

GetApprovers

Syntax

GetApprovers (*approval_rule_set, evaluation_fields_rowset, approvers_rowset, approvers_record*)

Description

The **GetApprovers** function:

- Evaluates each step in the approval rule set.
- Ignores a step when the rules for the step indicate that no approver is necessary.
- Obtains the role users for a step when the rules for the step indicate that an approver is required.

  GetApprovers identifies the role users using the method defined in the step: with either a SQL object or a route control.

Once every step has been evaluated, the results are returned to the calling program as a rowset object.

Parameters

Parameter	Description
approval_rule_set	The approval rule set name.
evaluation_fields_rowset	The rowset containing the fields that the rules evaluate. The records and fields referenced by the approval rule set must be at the current level—that is, the same level as the call to **GetApprovers.**
approvers_rowset	A rowset created from the record APPR_USERLIST. **GetApprovers** adds rows for each required approval.
approvers_record	The name of the record in which the returned approver data is stored.

Returns

Returns a rowset with the following data for each required approver:

- ROLEUSER
- ROLENAME
- STEP
- PATH

GetApprovers also inserts this data into a record that you specify.

Example

```
GetApprovers("ORDER_APPROVAL", GetLevel0(), GetLevel0()(1).GetRowset(Scroll.APPR_⇒
USERLIST), "APPR_USERLIST")
```

CHAPTER 11

Designing Activity Guides

This chapter discusses how to develop activity guides.

Understanding Activity Guides

Activity guides are navigational aids for end users. An activity guide integrates a single map into the related transactional pages. Although activity guides can benefit all users, they are particularly appropriate for guiding untrained users through self-service transactions.

An activity guide appears as a navigation bar across the top of a page. The bar displays each step that is involved in the activity. Clicking a step takes you to the page where you can complete the step; the navigation bar remains visible as you move from page to page.

Developing Activity Guides

Creating an activity for an activity guide is similar to creating an activity for a workflow application. You create the new activity and add steps corresponding to the pages that make up the activity. You must, however, set a few extra options.

After you create an activity guide, modify the target pages for each step so that those pages display the activity guide.

The pages don't show the activity guide when you use the standard PeopleSoft portal navigational structures. Therefore, your final task is to create a mechanism for users to access the activity.

Creating and Defining Activities

This section discusses how to:

- Create an activity.
- Define activity attributes.
- Define activity guide options.

Creating an Activity

To create an activity:

1. Select File, New in PeopleSoft Application Designer. When prompted, select Activity. Save the activity.
2. Access the Use tab on the Activity Properties dialog box.

To open the properties dialog box, double-click in the map (but not on an item in the map).

3. Select Activity Guide.
4. (Optional) Select Automatically sequence steps.

   After you add steps to an activity, you arrange the steps into a logical sequence using connecting arrows, and assign each step a number.

   If you select Automatically sequence steps, the step numbers (and the path numbers) are automatically assigned when you save. The step and path numbers are based on the order in which you draw the connecting arrows. This is an efficient way to order the steps.
5. Add steps corresponding to the pages that make up the activity.
6. Arrange the steps, using connectors to put the steps in order.

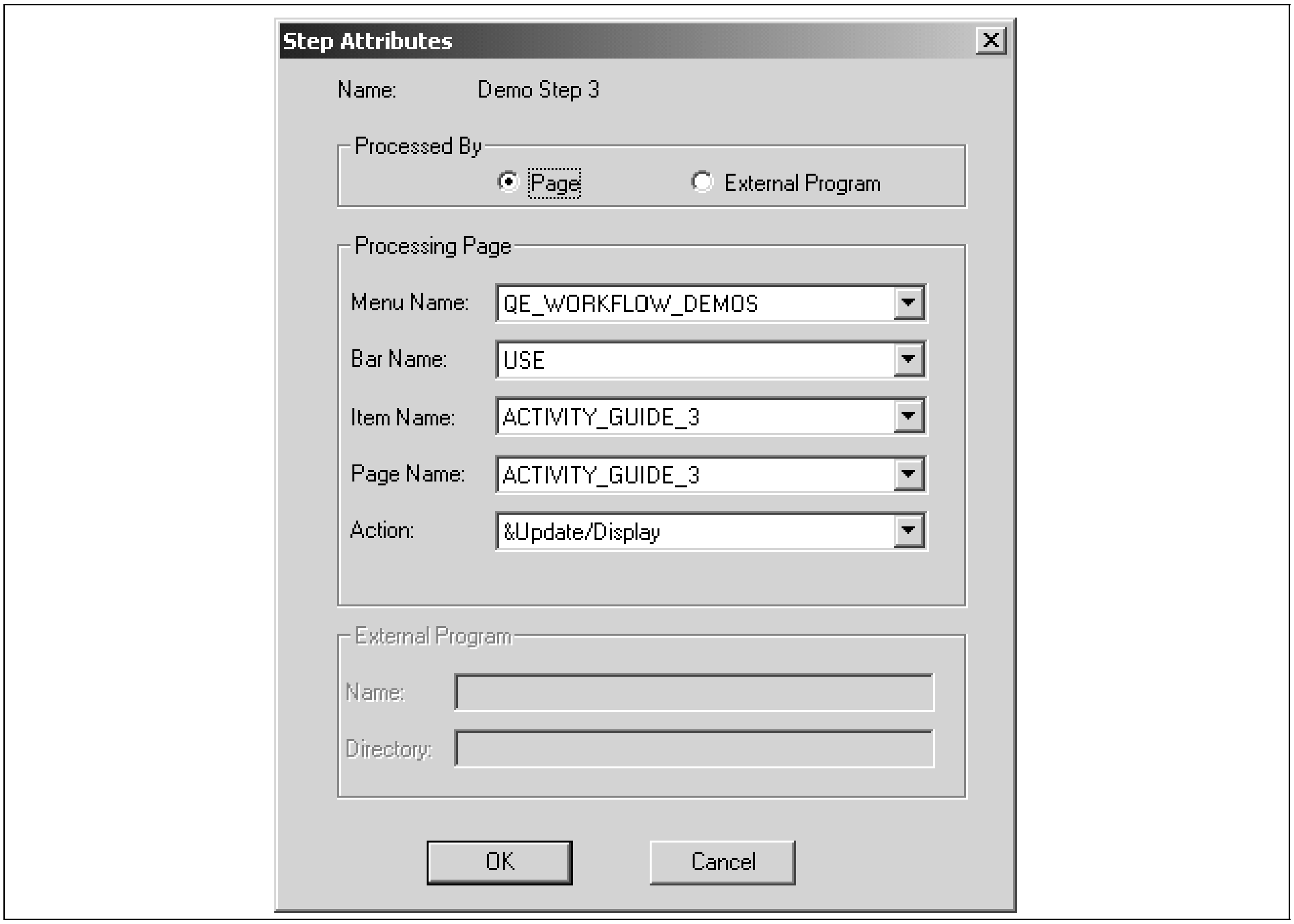
   To connect two steps:

   a. Click the Link button.
   b. Click the first step.
   c. Click the second step.
7. Repeat until all steps are connected.

   You have two options when you arrange the steps: sequential or parallel paths. In a sequential path, the steps form one unbroken sequence. When you create parallel paths, the steps appear in the activity guide as a single row, but the user has more flexibility in choosing which step to do. This is because the user can go directly to any step whose immediate predecessor has been finished.

Defining Step Attributes

Define step attributes on the Step Attributes page.



Step Attributes dialog box

To define step attributes:

1. Double-click a step, or right-click and select Item Properties..

   The Step Definition dialog box appears.

2. Enter a name and icon description.

3. Enter the step and path numbers for each step.

   If you're manually ordering steps, enter a step and path for each step in the activity.

   If you're automatically sequencing steps, the step and path number are automatically updated when you save the activity. However, even if you use this feature, check the step and path number after saving to verify that the steps are in the intended ordered.

4. Select Attributes.

   The Step Attributes dialog box appears.

5. Indicate that the step is processed by a page.

   Select Page in the Processed by group box of the dialog box. The External Program option is not supported for activity guides.

6. Provide directions for starting the page.

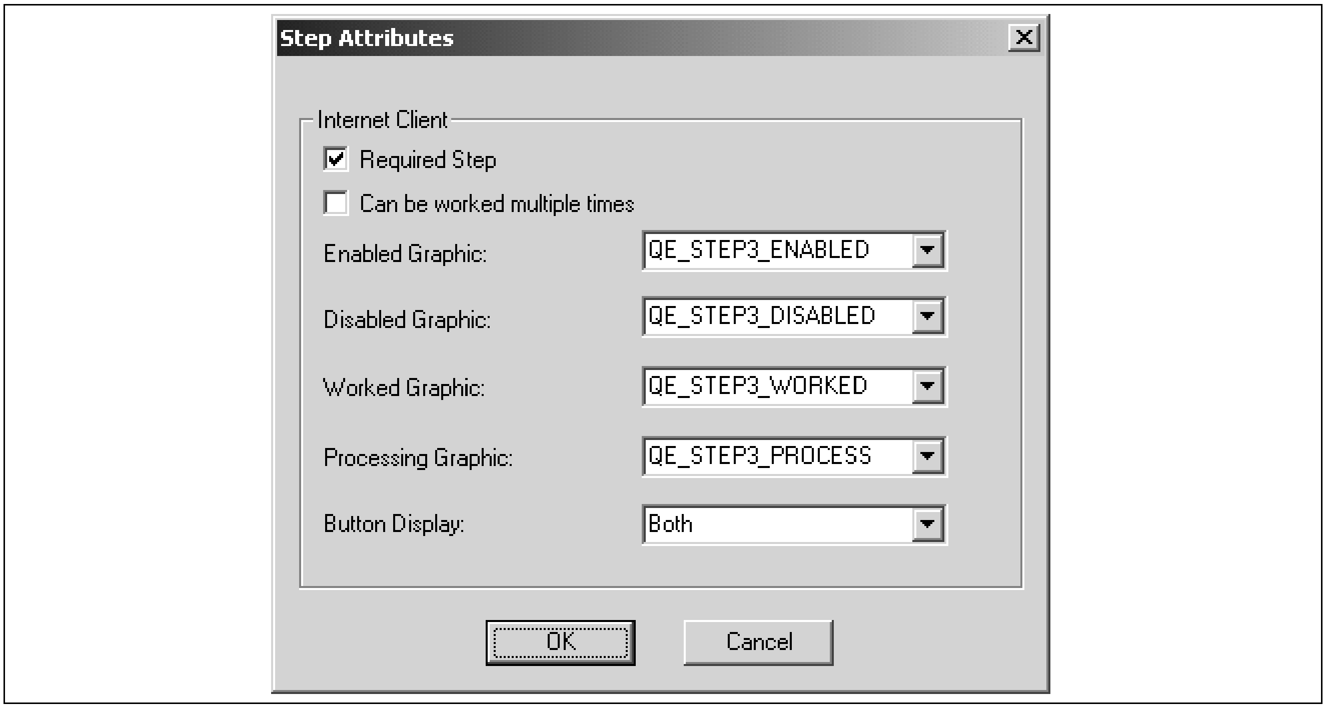
   Select the page from the list boxes in the Processing Page group box.

In the Action list box, select the type of activity that the user must perform on the database. When a user selects this step, the system displays the specified page in the specified action mode.

7. Click OK to close the Step Attributes dialog box.

Defining the Activity Guide Options

Define activity guide options on the Step Attributes dialog box.



Step Attributes dialog box

To define activity guide options:

1. Select Activity Guide.
2. Configure activity guide options.

Required Step is not currently used by activity guides. However, to create your own programs to enforce required steps, you can use this option to identify them.

Select Can be worked multiple times to permit a user to return to an already worked step. When this option is selected, the activity guide link that opens the step remains active, even after the step is worked. When this option is cleared, the link is unavailable after the user finishes the step.

The button display determines what users see as they use the activity guide.

Link	Select to represent each step with the text that you used as the icon description. This text becomes a link to take the user to the page that is represented by the step.
Graphic	Select to represent each step with an icon. The icons are not links, so if you select this option, the user cannot use the activity guide to navigate between pages. Instead, the user must rely on the Back and Next buttons that appear in related pages. Use this option if you want the Back and Next buttons to be the only navigation objects in the activity guide.
Both	Select to display both icons and links. This is the default option.

3. (Optional) Add graphics to represent the possible statuses of the step.

   If you display graphics in activity guides, you must specify which graphics to use. Specify four graphics: one for each possible step status. You can use the same graphic for multiple statuses.

Enabled Graphic	Use for the next step after the step that is currently in process. If you've defined parallel paths, multiple steps can be enabled simultaneously. If you've enabled both graphics and links, the accompanying link is active.
Disabled Graphic	Use for steps that the user cannot yet start. If you've enabled both graphics and links, the accompanying link is inactive.
Worked Graphic	Use for steps that the user has completed. If you've enabled both graphics and links, the accompanying link is inactive, unless you marked the step as one that can be worked multiple times.
Processing Graphic	Use for steps on which the user is currently working. If you've enabled both graphics and links, the accompanying link is inactive.

   You can select any graphic in the PeopleSoft image catalog. To use a custom graphic, you must first add it to the catalog.

4. Repeat for each step in the activity.
5. Save the activity guide.

Creating Activity Guide Pages

The pages that are accessible through activity guides are standard PeopleSoft pages. However, for the page to appear in an activity guide, it needs two elements that aren't otherwise present:

- Across the top, a bar displays an overview of all the steps in the activity. In addition to providing information about the activity, this bar provides navigational links to take the user to the pages that are associated with each step.
- Back and Next buttons appear in the main transaction area. These buttons provide an alternate means of navigating from step to step.

Note. Even after you've added the two activity guide elements to a page, you can continue to keep that page accessible through the regular PeopleSoft menu structure. The activity guide elements aren't visible when the page is accessed that way.

These modifications are visible only when you access the page in activity mode. If you use the PeopleSoft portal navigation, the activity guide modifications are invisible. This enables you to use the same pages in activity guides as you do throughout your PeopleSoft system.

To add an activity guide to a page:

1. Open the page in PeopleSoft Application Designer.
2. Add the ACTIVITY_GUIDE_SBP subpage to the page.

   The PeopleSoft convention is to place the ACTIVITY_GUIDE_SBP subpage across the top of the page.
3. Add the ACTIVITY_NEXT_SBP where you want the Back and Next buttons to appear.

   The PeopleSoft convention is to place the ACTIVITY_NEXT_SBP subpage in the lower, right-hand corner of the page.
4. Save the page.

The two subpages that you've added appear only when a user navigates to the page in activity guide mode. If you navigate to the page in regular page mode, these sections are hidden, and the page looks like it did before the activity guide subpages were added to the page.

Setting Up Access to Pages

The pages that are accessible through activity guides are standard PeopleSoft pages that you access through the PeopleSoft portal. If you access the pages in a special activity guide mode, you see the activity guide functionality. If you access the pages using standard PeopleSoft menu navigation, the activity guide functionality is invisible. This means that you can use the same pages in both the standard navigation and activity guides.

This section discusses how to access pages in activity guide mode.

Understanding Activity Guide Mode

The page itself is viewable in activity mode or in regular page mode. For a user to access an activity guide, the link that takes the user there must be specially constructed. So, the last task that you must perform when developing activity guides is setting up that access, either by creating a worklist item or by constructing a custom link.

Accessing Activity Guides Through Worklists

Worklist links are generated when a transaction triggers a workflow event that sends a routing to the worklist. The workflow event is part of a business process and activity that were defined when the workflow application was built.

In worklist links, the &ActName value is the name of the workflow activity where the event is triggered, not the name of the activity guide that works the item. However, when resolving a worklist link (identifiable because the ICType=Worklist), PeopleSoft determines the name of the activity that works the event and, if that event is an activity guide, puts the page in activity guide mode.

Notice that you can direct users to activity guides from their worklists. To do this, build a workflow application with a page on which the user initiates the workflow event. The user then receives a routing—either in a worklist or by email—with a link that takes the user to the activity guide.

For example, you can create a page on which users update marital status. This page isn't part of an activity guide; it's a regular PeopleSoft page accessible through regular portal navigation. Behind the page, you create a workflow application that is worked by the Marriage activity. If the Marriage activity is marked as an activity guide, the workflow link that takes users to this activity allows users to see the page in activity guide mode.

The advantage of using workflow to access activity guides is that the necessary link is automatically created by standard workflow processing. You don't need to create the link manually or understand the syntax of the link.

The downside to using workflow to access activity guides is that, from your users' perspectives, there are two separate transactions involved: the one that triggers the workflow routing and, after the user has received the routing, the one that works the item.

Accessing Activity Guides Through Custom Links

If you don't want to use a workflow application to provide access to an activity guide, you must provide users with custom navigation that enables them to reach the page in activity guide mode.

The advantage of using custom navigation is that users can complete all of the steps in one session. They don't have to go from the PeopleSoft system to a workflow notification and back to the PeopleSoft system.

The downside of using a custom link is that you can't rely on PeopleSoft to create the link for you; you must understand the proper link syntax and manually code the link in PeopleCode.

The following procedure outlines one approach to creating custom links.

To transfer a user to an activity guide:

1. Set up a component with a single blank page. This page acts as a transfer point only; users accessing the page are automatically transferred elsewhere without ever seeing the blank page.
2. Add the component to a portal registry.
3. Transfer the user from the blank page to the activity guide.

Understanding Step Status

As you proceed through the steps, the icons and text in the activity guide change to indicate the status of the step. Depending on how the activity is defined, up to four different statuses are possible, each with its own icon.

Status	Link	Comments
Disabled	Inactive	You cannot yet start this step. Before you can start this step, you must complete the previous step. This status is used when you must complete the steps in sequence; it is used for future steps.
Enabled	Active	You have not started the step, but you can start now. You normally see this status when: • An activity includes parallel steps—that is, steps that you can complete in any order. • You finish working on one step and haven't started working on another.
In Process	Inactive	You are currently working on this step.
Worked	Active or inactive	You have completed the step. If you are permitted to work the step multiple times, the link is active; if you are not permitted to work the step multiple times, the link is inactive. You can always return to a worked step using the Back button on the page.

CHAPTER 12

Designing PeopleSoft Navigator Maps

This chapter discusses how to:

- Design Navigator maps.
- Establish Navigator homepages.
- Upgrade maps to work with PeopleSoft Navigator.

Understanding PeopleSoft Navigator

PeopleSoft Navigator enables end users to see workflow maps according to their hierarchical relationships. Users can browse the maps and navigate to individual pages by clicking the map elements representing the pages.

Users access PeopleSoft Navigator in PeopleSoft Pure Internet Architecture by selecting PeopleTools, Worklist, Navigator, which causes the Navigator structure to appear in place of the standard PeopleSoft portal structure. In the Navigator structure, users see a tree representing the hierarchical relationships of the workflow maps that fall under the high-level map that is used as the Navigator homepage.

As the user clicks the business processes and activities in the tree, the corresponding maps appear on the right-hand side of the screen. When the user clicks a step—the map element corresponding to a single page—the corresponding page appears on the right-hand side of the screen.

Maps that are used for workflow are visible through PeopleSoft Navigator; you can also create additional maps (which are not part of workflow) specifically for use in Navigator. In this context, the maps are commonly called Navigator maps, rather than workflow maps.

Designing Navigator Maps

The mechanics of creating Navigator maps are the same as those for creating all other workflow maps. Of course, you omit workflow-specific elements, such as events and routings, if PeopleSoft Workflow does not also use the map.

However, because Navigator maps serve a different purpose than maps designed for workflow purposes, there are additional design considerations:

- Navigator is organized hierarchically.

  Users drill down from business processes to activities (or other business processes), then down to steps. A well-designed hierarchy of business processes and activities is important for usability.
- You need a business process that can serve as the Navigator homepage—the first map that users see.

Users can drill down only to maps that are hierarchically related to this homepage. Therefore, the homepage hierarchy is also important for security.

- Because the maps are visible to end users, good graphic design is important.

  For example, icon position within maps and aesthetic elements on maps, while irrelevant to workflow, can help users understand the maps and the processes that they represent.

Establishing Navigator Homepages

A Navigator homepage is the first business process that a user sees after accessing PeopleSoft Navigator. Normally the homepage is a business process composed of all other business processes that are to be visible in PeopleSoft Navigator. However, if only one business process is to be visible, you can use it as the homepage.

Navigator homepages are associated with individuals through permission lists, which are associated with a user's profile, as defined in PeopleSoft Security.

To establish a user's homepage:

1. Mark a business process as available for use as a homepage.
2. Identify the business process as the homepage that is associated with a permission list.
3. Associate the permission list with the user's profile.

Preparing a Business Process to be a Navigator Homepage

To prepare a business process to be a Navigator homepage:

1. In PeopleSoft Application Designer, open the business process to use as the homepage.
2. Right-click in the map (but not on an item in the map) and select Definition Properties. The Business Process Properties dialog box appears.
3. Select the Use tab.
4. Select Can be used as a Navigator home page .
5. Click OK to close the dialog box.
6. Save the business process.

Associating a Permission List With a Navigator Homepage

To associate a permission list with a Navigator homepage:

1. In PeopleSoft Pure Internet Architecture, select PeopleTools, Security, Permissions & Roles, Permission Lists.
2. Open the permission list to associate with this homepage.
3. On the General page, specify a Navigator homepage.

   You can select any business process for which Can be used as a Navigator home page is selected.
4. Save the permission list.

Upgrading Maps to Work With PeopleSoft Navigator

If you have maps that were created with versions prior to PeopleTools 8.12, run the following upgrade procedure in PeopleSoft Application Designer.

To upgrade Workflow maps for use in Navigator:

1. Start PeopleSoft Application Designer.
2. Select Tools, Upgrade, Convert Business Process Images.
3. Click Yes when prompted to start the conversion process.

   The conversion process begins. The Application Designer output window logs the progress of the conversion process, including error messages.

CHAPTER 13

Using Notification Templates

This chapter discusses how to:

- Define component variables and templates.
- Define generic templates.
- Delete templates.
- Access notification templates.
- Send email notifications in the user's preferred language.

Understanding Notification Templates

Use templates to establish a common format for ad hoc notifications. Users can create two types of notification templates:

- Component templates that are used for specific PeopleSoft components.
- Generic templates that can be used from any component.

Understanding Template Variables

Defining template variables is the first step in setting up component templates. Template variables are page buffer variables that are always accessible to the component for which the template is being created. Creating component template variables requires an in-depth knowledge of component buffers. Although there can be multiple templates for a component, there is only one set of component template variables.

Use the Define Template Variables page to define:

- Component data variables that are populated from specific locations on the component buffers.
- Component URL variables that are expanded into URLs in the outgoing notification to help in navigating to the PeopleSoft system.

  Component URL variables enable users to navigate to a specific PeopleSoft page when the template containing the variable is activated. You can specify a portal, node, menu, component, market, page, and action for the URL, as well as key values for navigating to a specific target transaction for the selected component. These values come from the search record keys in the component and must be resolved to bypass the search page.

  By default, when creating new template variables, the first URL variable is set to the URL for the current component. This assumes that all of the search record fields were found as part of the component buffers. If this is not the case, you must create component data variables and enter the data variable name in the Value column to link the URL variable field name with a data variable.

- External URL variables that are expanded into non-PeopleSoft component URLs, such as an iScript URL or www.yahoo.com.

You can add as many variables as necessary to meet your notification needs.

Note. All variables are resolved at runtime, so you should limit the number of variables to those that you really need.

Defining Template Variables

This section describes how to:

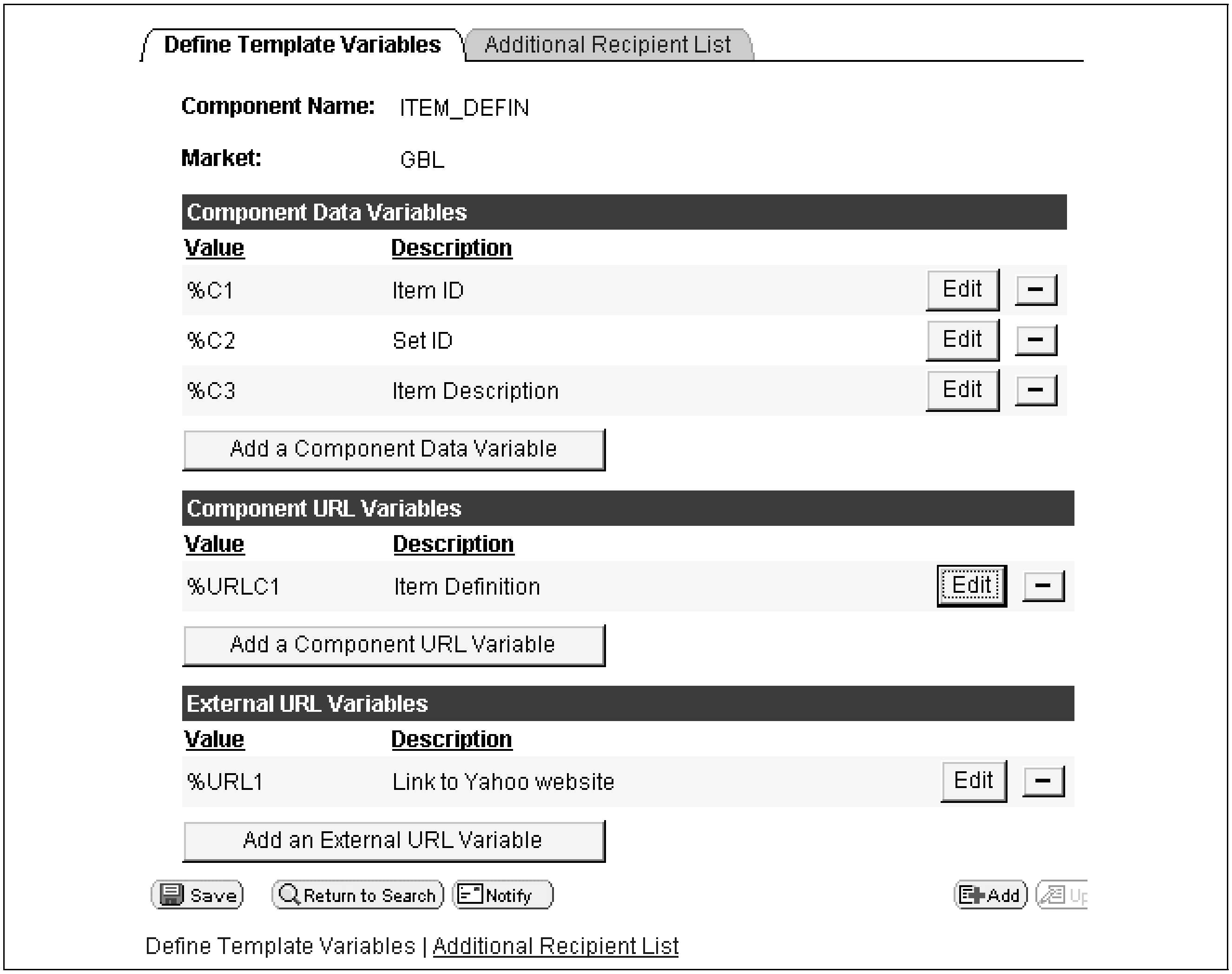
- Define template variables.
- Define additional recipients..

Pages Used to Define Template Variables

Page Name	Object Name	Navigation	Usage
Define Template Variables	WL_TEMPLATE_VAR	PeopleTools, Workflow, Notifications, Template Variables, Define Template Variables	Define template variables on a component.
Additional Recipient List	WL_DISTR_GRP	PeopleTools, Workflow, Notifications, Template Variables, Additional Recipient List	Define additional recipients of notifications for each template.
Component Data Variables	WL_TEMPL_CMPVAR	PeopleTools, Workflow, Notifications, Template Variables, Define Template Variables, Component Data Variables, Edit	Define component data variables for the template.
Component URL Variables	WL_TEMPL_URLVAR	PeopleTools, Workflow, Notifications, Template Variables, Define Template Variables, Component URL Variables, Edit	Define component URL variables for the template.
External URL Variables	WL_TEMPL_XURL	PeopleTools, Workflow, Notifications, Template Variables, Define Template Variables, External URL Variables, Edit	Define external URL variables for the template.

Defining Template Variables

Define template variables on the Define Template Variables page.



Define Template Variables page.

Add a Component Data Variable Click to add a component data variable to the template. Click Edit to specify information about the variable.

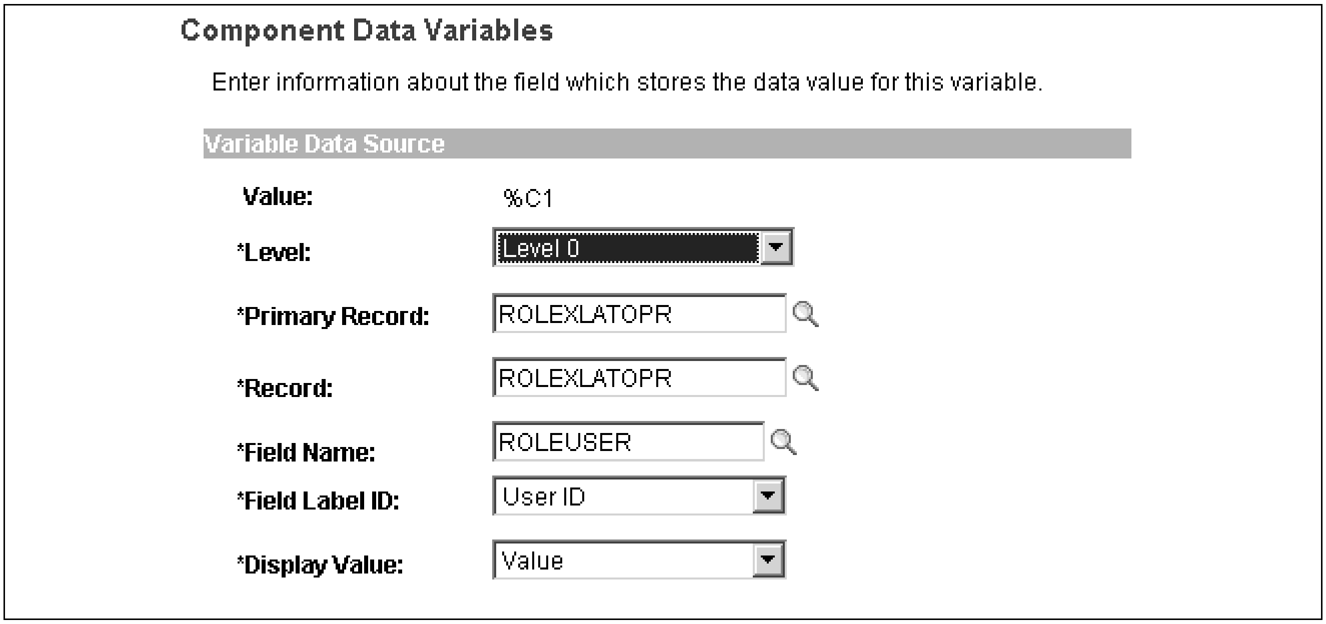
Add a Component URL Variable Click to add a component URL variable to the template. Click Edit to specify information about the variable.

Add an External URL Variable Click to add an external URL variable to the template. Click Edit to specify information about the variable.

Note. Notification template variables do not indicate the true order of the variables. The order of template variables is determined by the sequence of the variables specified in the message text on the Define Template page. If the sequence of the variables in the message text is not in ascending, numerical order, then the template variables you have declared must follow the order in the message text. If you do not synchronize the order of the template variables and the order they appear in the message text, the system does not resolve the unordered variables.

Defining Component Data Variables

Define component data variables on the Component Data Variables page.



Component Data Variables page

Level

Select the level of the component buffer: Level 0 or Level 1.

Primary Record

Specify the record name where the data on the component buffer will be. This might be the same as the primary record name within a scroll area or a grid.

Record

Specify the record name where the data on the component buffer will be. This might be the same as the primary record name within a scroll area or a grid.

Field Name

Specify the name of the field where the data on the component buffer will be.

Field Label ID

Select the label that the user who creates the component template sees in the variable list.

Display Value

Select from the drop-down list Display Values. The most common choice is *Value*, which is the data value of the field you selected in Field Name. This is the only valid choice when using Component Templates from the Notify toolbar button.

If you are using component templates from custom PeopleCode, you have two additional options:

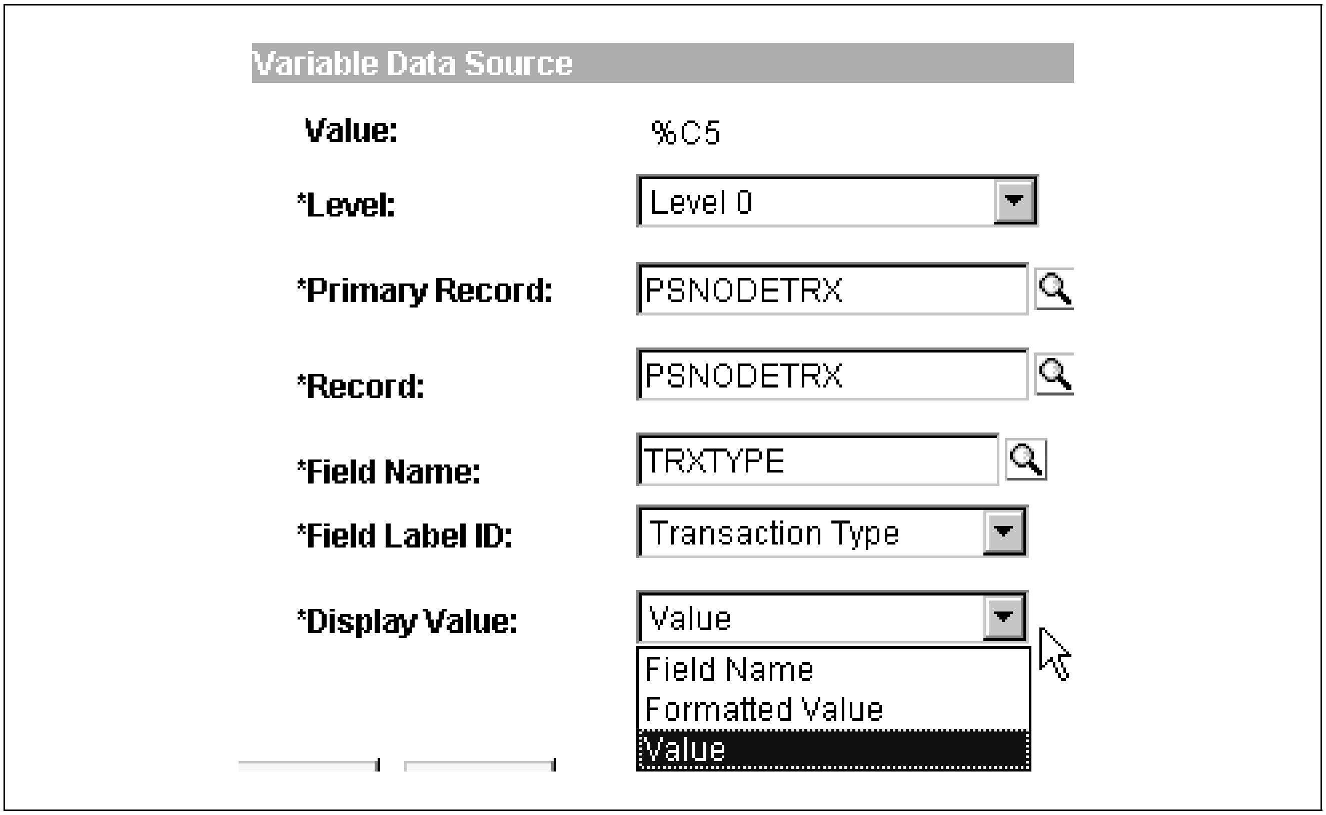
Formatted Value: The value that is used is exactly what the user sees on the page, but it is not necessarily the actual value that is stored in the field. For example, if the page field is displaying Xlat values, the template variable is populated with the Xlat value. If the page field shows a formatted date, the template variable is populated with the formatted date. If the page field shows a value from a prompt table, the template variable is populated with the value of the prompt table being shown on the page.

Field Name: The template variable is populated with the long description of the field label that is selected in the Field Label ID field. If no field label exists, it uses the field name in the database table (for example, TRXTYPE).

How Display Values are Used

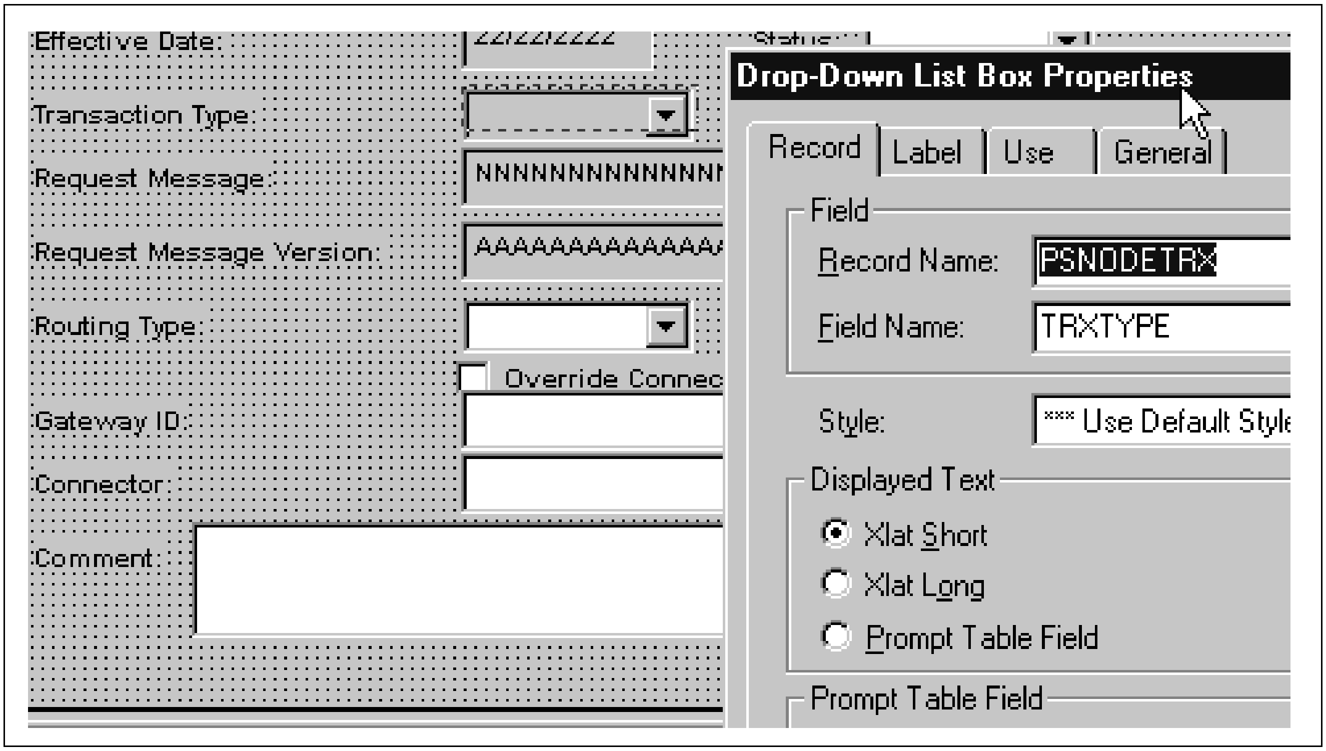
The value format for component template variables is %C1, %C2, and so on.

If you specify the Display Value as Value, then the variable will resolve to be the value that is stored in the database for that field. In the following screen, note that the value %C5 is assigned a label ID of Transaction Type and the Display Value is Value (values for this field can be IA, IS, OA, or OS, as defined in the translate table).



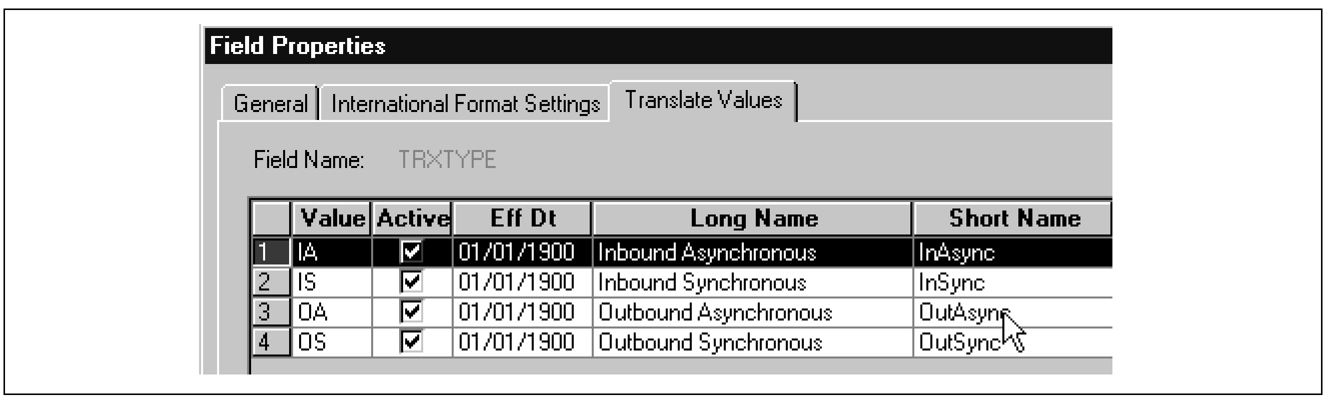
Example of the Value display value

If the Display Value is set to Formatted Value, then the variable will resolve to be the value that the end user sees on the page for that field.



Example of the Displayed Text property

In this example, if the Display Value selected was Formatted Value and the field property Displayed Text is Xlat Short, %C5 values could be InAsync, Insync and so on (as shown in the following Field Properties screen).



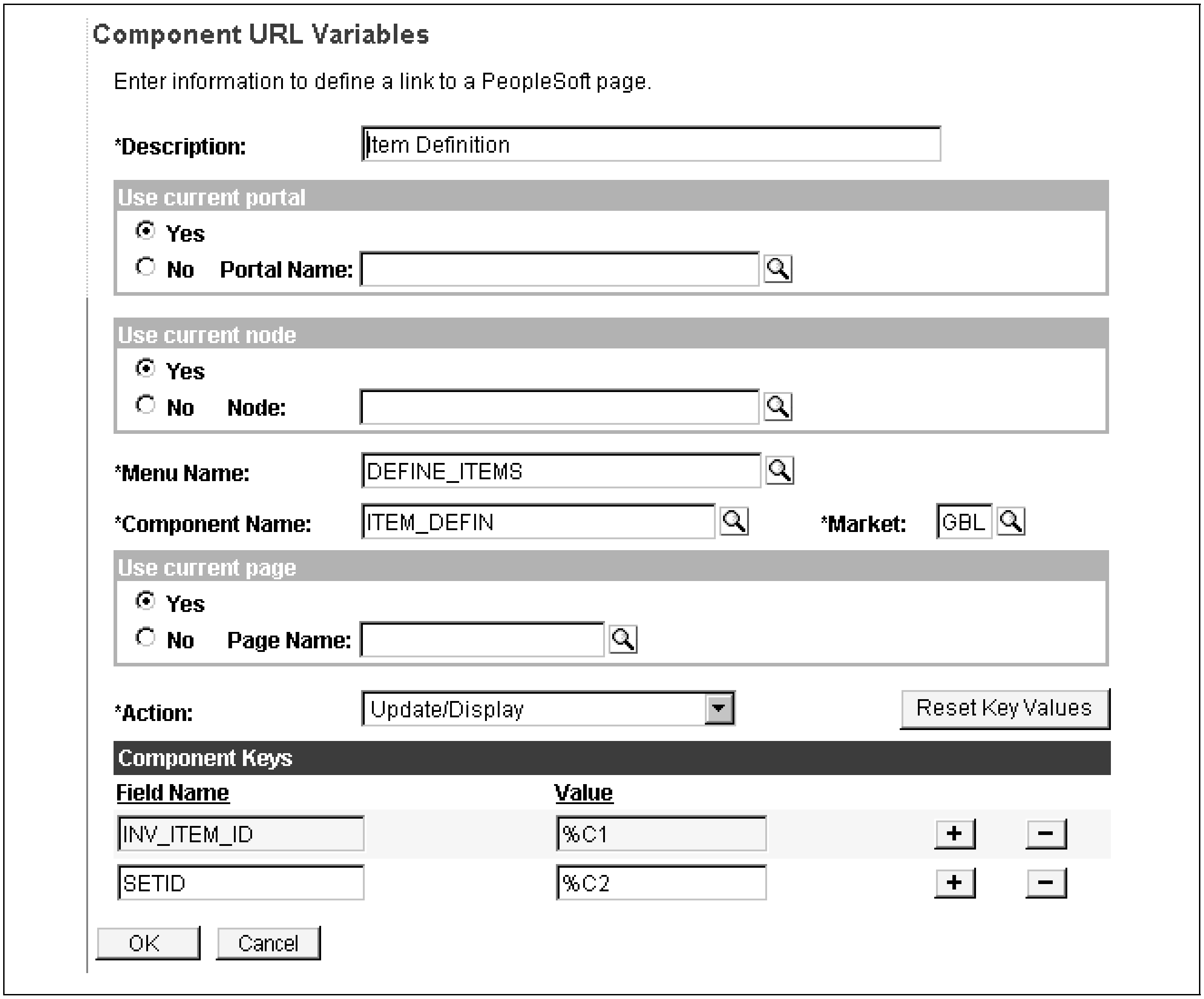
Example of Translate Values

If you set the Display Value to Field Name, then the variable will resolve to be the Field Label of that field. If no Field Label exists, then it will resolve to be the Field Name in the database table (for example, TRXTYPE).

Note. If the component template is activated by a Notify button (not using user-defined PeopleCode), the Display Values of Field Name and Formatted Value are not used (the variable will always resolve to the field Value).

Defining Component URL Variables

Click the Add a Component URL Variable button on the Define Template Variables page to access the Component URL Variables page. The name format for component URL variables is %URLC1, %URLC2, and so on.



Component URL Variables

Use current portal	If using the current portal for a link, select Yes. If using another portal, select No and enter the portal name.
Use current node	If the current node contains the URL, select Yes. If using another node, activate No and enter the node name.
Use current page	If you want the URL to dynamically include the page that the user has open, select Yes. If you want the URL to include a specific page, select No and enter the page name.
Action	Specify the action for the URL variables: Update/Display, Add, or Correction.
Component Keys	If the component is in the current node, click the Reset Key Values button to populate the Field Name column based on the component metadata. If the component is in another node, set the field names of the component keys yourself.

In the Value column, specify a reference to a component data variable that has been defined on the Component Data Variables page (for example, %C1, %C2, or %C3).

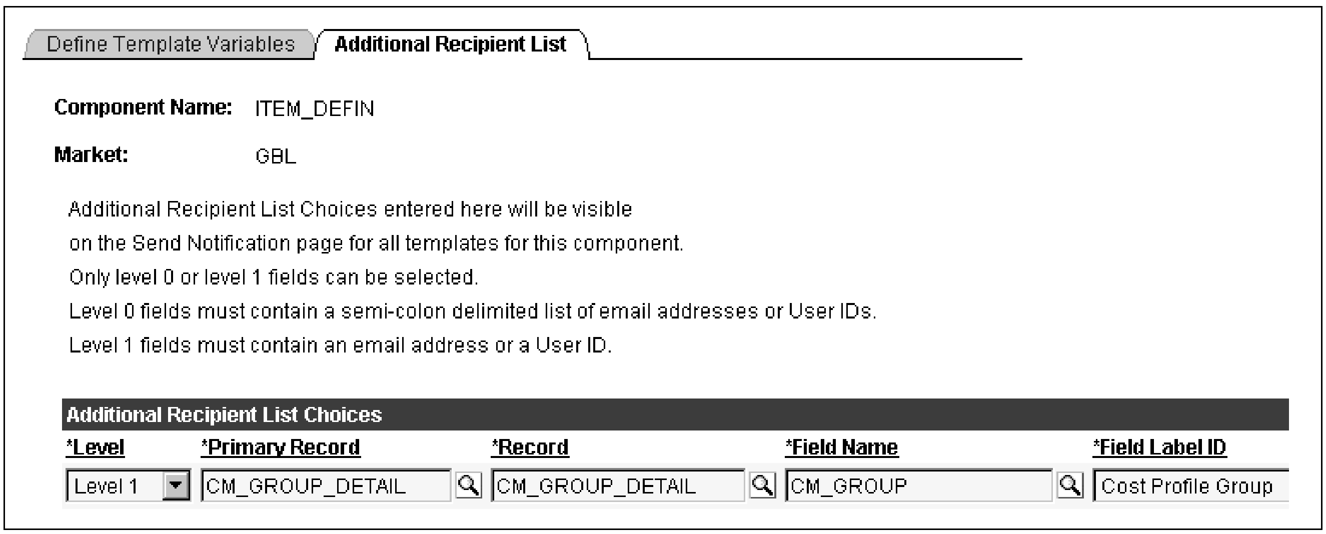
If you do not specify the component key field names and values, the URL displays the Search Dialog page to the user.

Defining External URL Variables

The name format for external URL variables is %URL1, %URL2, and so on.

Specify the complete URL on the External URL Variables page, along with a description.

Specifying an Additional Recipient List



Additional Recipient List page

The additional recipients list contains email addresses or user IDs that the system uses at runtime to send notifications. You set specific fields in a component for this purpose while defining template variables. Whoever defines template variables must know which fields will contain the recipient lists.

After the values are specified on this page, the additional recipient list appears on the Notification page when a notification is sent. Then users can select values from the additional recipient list for the To, CC, or BCC fields.

Level Select level 0 or 1.

Primary Record For level 1, this is usually the name of the primary record on the grid or scroll area. For level 0, this is the same as the record name.

Record Specify the name of the record containing the field that stores the list.

Field Name Specify the name of the field that stores the list.

Field Label ID Select the label that the user sending the notification sees in the additional recipients list.

Defining Notification Templates

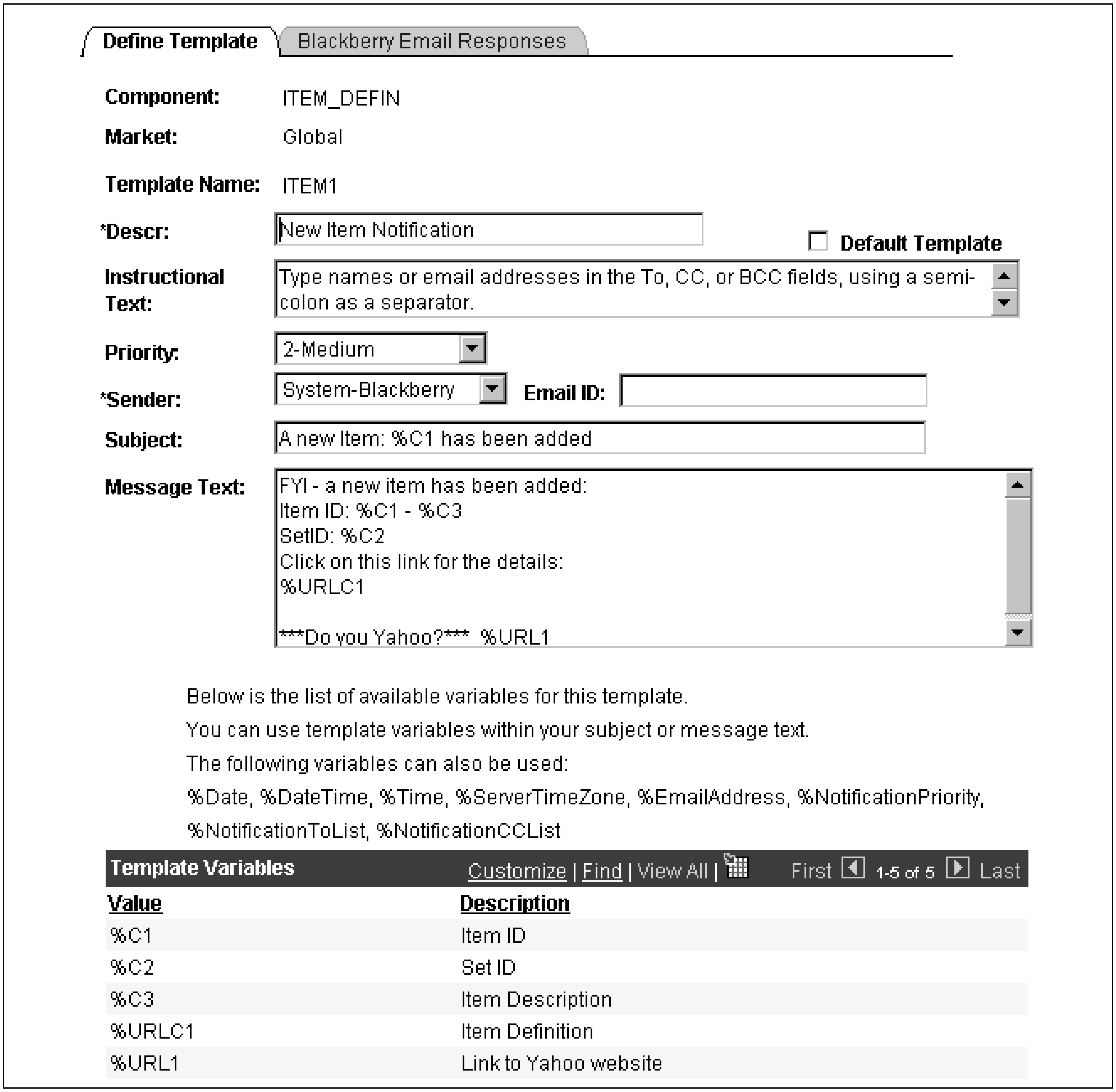
This section discusses how to define notification templates.

Pages Used to Define Notification Templates

Page Name	Object Name	Navigation	Usage
Define Template	WL_TEMPLATE	PeopleTools, Workflow, Notifications, Notification Templates, Define Template	Define componenet notification templates.
Blackberry Email Responses	WL_TEMPL_RESP	PeopleTools, Workflow, Notifications, Notification Templates, Blackberry Email Responses	Define email responses for use with the RIM Blackberry device.

Defining Component Notification Templates

After you define template variables, you can create notification templates. You can define more than one template for a component.



Define Template page

Descr (description)	Enter a template description to appear on the Send Notification page if more than one template is defined for the component.
Default Template	Select to identify one template per component as the default template. This is informational only.
Instructional Text	Enter text to appear at the top of the Send Notification page for this template.
Priority	(Optional) Set a default priority for this notification.
Sender	Select:
	User: Send value to the email address of the user who performs the send.

System: Send to the email address of the application server setting SMTPSender.

System-Blackberry: Send to the email address of the application server setting SMTPBlackberryReplyTo.

Other: Send to the value in the Email ID field.

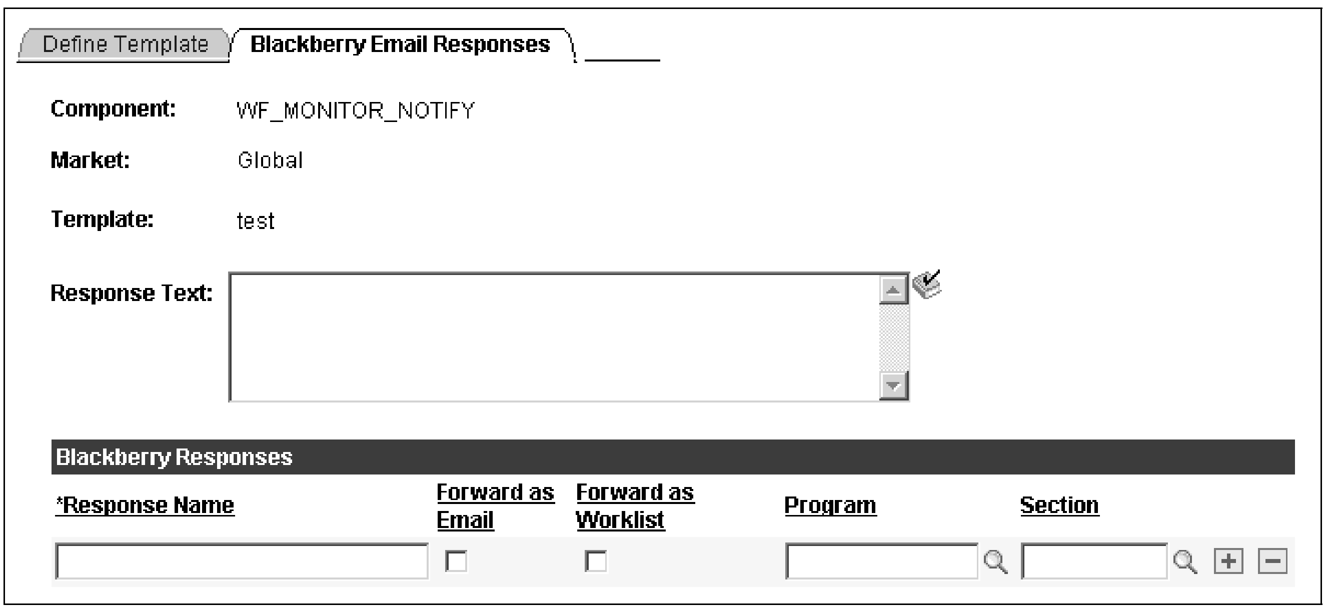
Email ID If you selected Other for the sender, enter an email address (for example, CustomerSupport@ABCcompany.com).

Subject and Message Text Specify text or any of the available variables (for example, %C1 or %Date) to include in the subject and message.

If BlackBerry responses are entered, the Sender field on the Define Templates page is automatically set to System-BlackBerry. This is the only valid value for a BlackBerry template. The Email ID field is blank so that the receiver of the BlackBerry notification replies always replies to a specific email address. The BlackBerry Email Response program polls that one email address.

Defining Blackberry Email Responses

Define RIM Blackberry email responses on the Blackberry Email Responses page.



Blackberry Email Responses page

Response Text Enter text to add to the template message text. The responses do not appear in the BlackBerry email device until the user selects Reply To. This provides a chance to add a reminder to the message text.

Response Name Enter up to 10 possible responses. Each of these is associated with the Forward as Email and Forward as Worklist check boxes. Run an Application Engine program section to process the response.

Forward as Email and Forward as Worklist Select to forward the response email message to the user who sent the notification.

Program and Section (Optional) Used by the BlackBerry Email Response Program to call specific user sections based on the response detected on incoming BlackBerry email messages. These fields are not required, as users can decide that an email message or worklist entry is enough processing for each BlackBerry response.

Calling Component Templates with PeopleCode

As with generic templates, component templates can be called directly with PeopleCode, or with the DoModalComponent, as follows:

```
import PT_WF_NOTIFICATION:NotificationTemplate;
&name = "MYCOMPONENTTEMPLATE";
&mynotifytemplate = create NotificationTemplate(%Component, %Market, &name, "C");
&xmlVars = &mynotifytemplate.SetupCompVarsAndRcpts(GetLevel0());
PT_WF_NOTIFY.RAWXML = &xmlVars;
PT_WF_NOTIFY.MENUNAME = %Menu;
PT_WF_NOTIFY.COMPONENT_ID = %Component;
PT_WF_NOTIFY.MARKET = %Market;
PT_WF_NOTIFY.PANELNAME = %Panel;
PT_WF_NOTIFY.WL_TEMPLATE_ID = &name;
PT_WF_NOTIFY.WL_TEMPLATE_TYPE = "C";
PT_WF_NOTIFY.NOTIFY_TO = "targetemail@peoplesoft.com";
DoModalComponent(MenuName.WORKFLOW_ADMINISTRATOR, BarName.USE, Item⇒
Name.NOTIFICATION, Page.PT_WF_NOTIFY, "U", Record.PT_WF_NOTIFY);
```

See Also

Chapter 13, “Using Notification Templates,” Using PeopleCode with Generic Templates, page 115

Defining Generic Templates

This section discusses how to:

- Define generic templates.
- Use PeopleCode with generic templates.

Understanding Generic Templates

You can call generic templates from any PeopleCode program. Use generic templates when a component template does not meet your requirements. For example, you might use generic templates when developing:

- Application Engine PeopleCode.
- Application Message Subscription PeopleCode.
- Notifications being sent "behind the scenes" in a component, where the user is not prompted with the Send Notification page.
- Applications that need to have more control of the Send Notification page to set default To, CC or BCC values, or to set default message text that is editable.
- Applications that need to send HTML email.

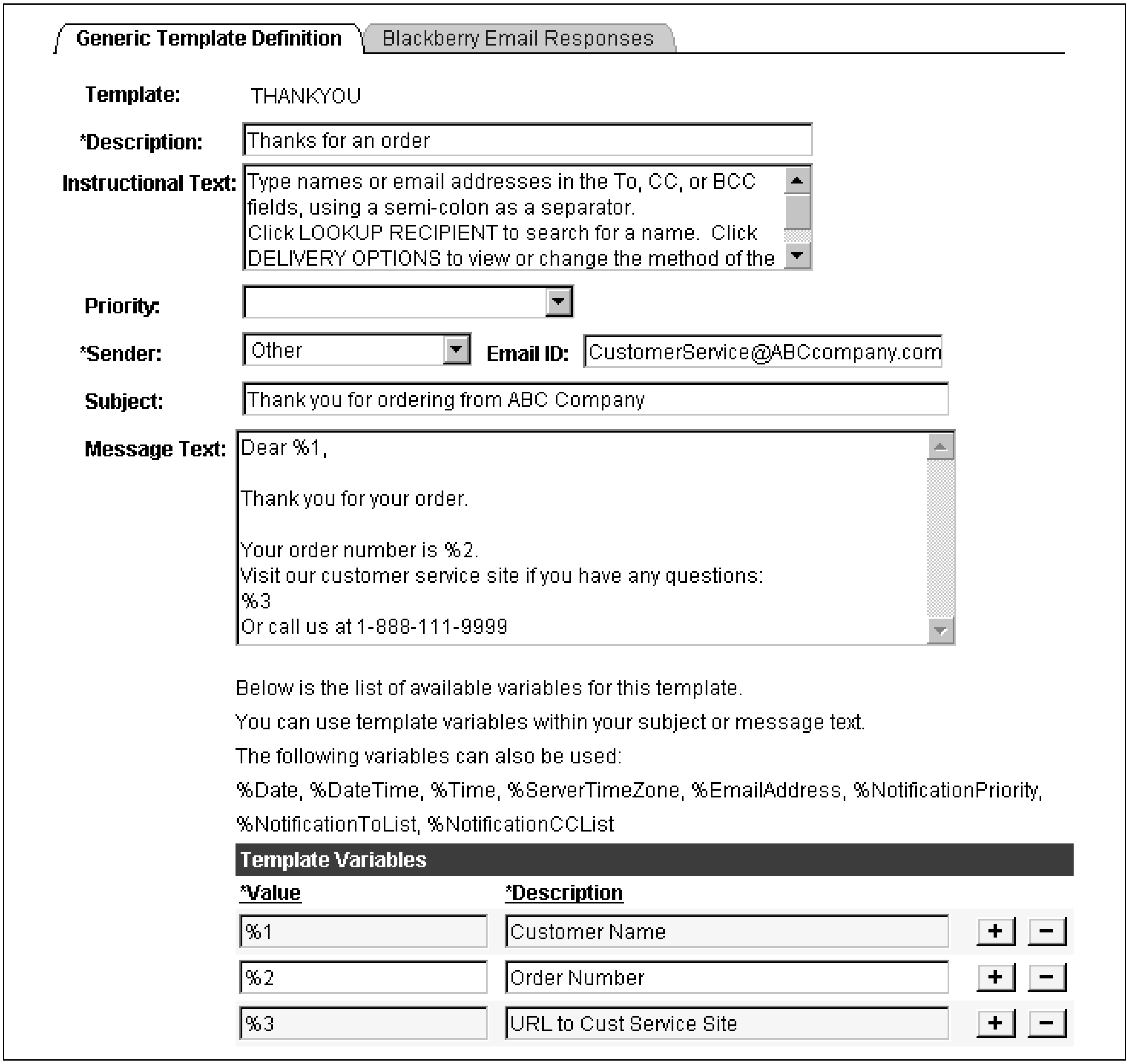
Note. The SYSTEMDEFAULT generic template is a special case. It is used by the Notify toolbar button on all components if there are no other component templates defined for that component. You cannot add template variables for SYSTEMDEFAULT. Two template variables are available for this template: %1, which generates a component URL for the page with only search keys from which the Notify button is selected; and %2, which generates a component URL for the page with both search keys and alternate search keys. Do not change this template unless you want to make a system-wide change.

Pages Used to Define Generic Templates

Page Name	Object Name	Navigation	Usage
Generic Template Definition	WL_TEMPLATE_GEN	PeopleTools, Workflow, Notifications, Generic Templates, Generic Template Definition	Define generic notification templates.
Blackberry Email Responses	WL_TEMPL_GEN_RESP	PeopleTools, Workflow, Notifications, Generic Templates, Blackberry Email Responses	Define email responses for RIM Blackberry devices.

Defining Generic Templates

Define generic templates on the Generic Template Definition page.



Generic Template Definition page

The pages and fields in the Generic Template component are the same as when defining the component templates, except for two key differences:

- A generic template does not reference any information from the template variables component. Add template variables directly to the generic template explicitly by adding rows in the template variables grid.
- A generic template does not support Additional Recipients. This is because the generic template is not used to launch the Send Notification page (which is where the Additional Recipients are displayed).

To use a generic template from a component, you do not select a Notify check box in the component properties dialog box. You must create a button and use PeopleCode to specify which generic template to use. Furthermore, you must pass in data that is needed by the template to populate template variables.

Template variables are placeholders in the template that can be populated with data passed in with PeopleCode. The order of the data being passed must match the order of the corresponding variables in the Template Variables grid. Thus, the suggested naming for these variables is %1, %2, and so on?this is consistent with the Message Catalog use of variables.

Using PeopleCode with Generic Templates

Generic templates other than SYSTEMDEFAULT are usually used only in PeopleCode calls. The following sample code shows how to use a generic template called MYTEMPLATE to send out a notification:

```
import PT_WF_NOTIFICATION:NotificationAddress;
import PT_WF_NOTIFICATION:Notification;
import PT_WF_NOTIFICATION:NotificationTemplate;
Local array of string &aryValues;
Local array of NotificationAddress &mynotifyto;
Local NotificationAddress &mynotifyaddress;
Local Notification &mynotification;
&mynotifyto = CreateArrayRept(&mynotifyaddress, 0);
&emailid = "targetperson@peoplesoft.com";
&mynotifyaddress = create NotificationAddress("", "", "", &emailid, "Email");
&mynotifyto.Push(&mynotifyaddress);
&mynotifytemplate = create NotificationTemplate("","", "MYTEMPLATE", "G");
/* Populate an array to contain the values needed by the template */
&aryValues = CreateArrayRept("", 0);
&aryValues.Push("FIRST VALUE");
&aryValues.Push("SECOND VALUE");
&xmlVars = &mynotifytemplate.SetupGenericVars(&aryValues);
&mynotifytemplate.GetAndExpandTemplate(%Language, &xmlVars);
/* At this point, the &mynotifytemplate should have every value resolved */
&mynotification = create Notification("sourceperson@peoplesoft.com", %Datetime,⇒
 %Language);
&mynotification.NotifyTo = &mynotifyto;
&mynotification.Subject = &mynotifytemplate.Subject;
&mynotification.Message = &mynotifytemplate.Text;
&mynotification.Send();
```

Note. You can also use this code for component templates by replacing the *G* with a *C*. Then, populate the component name and market when calling the template as follows. The template variables are all assumed to be in the page buffers.

```
&mynotifytemplate = create NotificationTemplate(%Component, %Market,⇒
 "MYCOMPONENTTEMPLATE", "C");
&xmlVars = &mynotifytemplate.SetupCompVarsAndRcpts(GetLevel0());
&mynotifytemplate.GetAndExpandTemplate(%Language, &xmlVars);
```

Deleting Templates

You can delete componènt templates, but not generic templates.

To delete a component template:

1. Select PeopleTools, Workflow, Notifications, Delete Notification Templates.

   The Delete Notification Templates page displays all of the component templates defined in the system.
2. Select the Select check box for templates that you want to delete.
3. Click the Delete button.

Note. This does not remove the template variables.

Accessing Notification Templates

To access notification templates and use the Notify feature, select the Notify check box in the Selected Toolbar Actions group box in the Component Properties dialog box for each component. This causes the Notify button to appear on each browser page of the component.

When you click the Notify button, the system saves the component information and displays the Send Notification page. Add notification details on the Send Notification page before you send the notification as an email message or worklist item.

You can also access notification templates through user-defined PeopleCode. At runtime, users can select the type of template (generic or notification [component]), the actual template, and the data that populates the template variables.

Note. Spell check is enabled for notification templates and generic templates to verify message text and response text.

Sending Email Notifications in a User's Preferred Language

If your organization has PeopleSoft users who speak multiple languages, you can send email notifications in a user's preferred language. You have these options:

- Sending Email Notifications using SetLanguage( ).
- Storing preconfigured Email text in the Message Catalog.

When developing custom notifications involving multiple languages, consider the following:

- The PeopleSoft system *does not* translate email text from one language to another. This discussion assumes that you implement one of the methods described in this section to route emails to users in their preferred language.
- When calling the SetLanguage ( ) online, only the language of the sender can be accessed. The page buffer only contains the language of the user currently accessing the component. If used in an Application Engine program (in batch mode), multiple languages can be accessed.
- The Notification class does *not* support multiple languages for each recipient. The system sends the email in the language of the sender and not each individual recipient. The page buffer only contains the language of the user currently accessing the component.
- If you do not implement any custom email notifications to deal with multiple languages, the system only sends email notifications in the language last used (the language of the sender).

See Also

Enterprise PeopleTools 8.45 PeopleBook: PeopleCode API Reference, “Notification Classes,” Understanding Notification Classes

Enterprise PeopleTools 8.45 PeopleBook: System and Server Administration, “Using PeopleTools Utilities,” Message Catalog

Sending Email Notifications using SetLanguage( )

When sending email, PeopleSoft does not translate email content. However you can use predefined text in the message catalog or Notification templates to accomodate different languages. Using the the SetLanguage( ) PeopleCode function enables the system to read the user profile language preference of the intended recipient and send an email in that user’s preferred language.

If there are multiple recipients with different language preferences, then individual emails could be sent to each recipient using a loop around the SetLanguage( ) and TriggerBusinessEvent ( ) function calls. The same method could be applied to SendMail.

As an example, assuming the TO field is a Role mapped to a field SEND_TO_ROLE without route control, you can make the following changes:

To send email notifications using SetLanguage( ).

1. Change the Field Map for the TO field in Activity email routing to "Roleuser by Oprid Qry" or "Rouser by Roleuser Qry.”
2. Map the bind variable to a field on the page (the value of which will be formatted at runtime in PeopleCode).

   For this example, assume the field to be RECEIVER_ID. It can be a field of a derived/work record.
3. In the event where the TriggerBusinessEvent, or SendMail, is called, use the following code as a model, and modify the emphasized variables.

   ```
   Local Rowset &ROLE_USER;

   /* 1. Retrieve the TO user list */
   /* Create a rowset to retrieve all users for the role */
   &ROLE_USER = CreateRowset(Record.ROLEUSER_VW);
   &ROLE_USER.Fill("where ROLENAME= :1", SEND_TO_ROLE);

   /* Loop through user list to send email in their language code */
   For &i = 1 To &ROLE_USER.ActiveRowCount
      RECEIVER_ID = &ROLE_USER(&i).ROLEUSER_VW.OPRID.Value;

      /* 2. Get the user language code and set the language code*/
      SQLExec("Select LANGUAGE_CD FROM PSOPRDEFN where OPRID = :1", &OPRID, &LAN_CD);
      &temp = SetLanguage(&LAN_CD);
   /* check return code &temp for error .....*/

   /* 3. Retrieve text from message catalog for the language code */
   &subject = MsgGetText(msg_set, msg_num_subject, "");
   &text = MsgGetText(msg_set, msg_num_text, "");
   /*..... Format fields mapped in email route for translation .....*/
   /* RECORD.FIELD_SUBJECT.Value = &subject; */
   ```

```
/* RECORD.FIELD_TEXT.Value = &text; */

   /* 4. Call TriggerBusinessEvent or SendMail to send email */
&temp = TriggerBusinessEvent(BusProcess."bus_proc_name",
BusActivity."activity_name", BusEvent."event_name");
/* &temp = SendMail(0, RECEIVER_ID, "", "", &subject, &text); */

End-For;

/* 5. Set language code back to current user */
SQLExec("Select LANGUAGE_CD FROM PSOPRDEFN where OPRID = :1", %OperatorId,⇒
 &ORIGINAL_LANGCD);
&temp = SetLanguage(&ORIGINAL_LANGCD);
/*..... Or &temp = SetLanguage(%Language).....*/
%OperatorId, &ORIGINAL_LANGCD);
&temp = SetLanguage(&ORIGINAL_LANGCD);
/*..... Or &temp = SetLanguage(%Language).....*/
```

Storing Preconfigured Email text in the Message Catalog

For generic email notifications, such as “An item has been added to your worklist” you can store copies of the text of this email in the message catalog for as many languages as you support. During the notification, you include PeopleCode to use the appropriate text based on a user’s preferred language.

Note. This method can run online.

CHAPTER 14

Designing BlackBerry Email Responses

This chapter discusses how to:

- Set properties for BlackBerry email responses.
- Create an Application Engine program for responses.

Understanding BlackBerry Email Responses

The BlackBerry Email Response feature enables customers to extend PeopleSoft transactions to a mobile device. By replying to predefined emails, BlackBerry Wireless handheld users can perform transactions in the PeopleSoft system. For example, they can approve sales quotes, accept field service tickets, and so on.

Before you can use the BlackBerry Email Responses feature in an application, you must:

- Define a notification template to send email messages from a specific component.
- Develop an Application Engine program to handle the responses.

Setting Properties for BlackBerry Responses

This section discusses application server Simple Mail Transfer Protocol (SMTP) settings for sending email messages and how to:

- Specify a gateway.
- Set transaction properties.

Application Server SMTP Settings for Sending Email Messages

At runtime, the Send Notification feature depends on application server configuration settings for SMTP. These settings can be changed using PSADMIN.exe.

The following settings are used for BlackBerry response email notifications:

SMTPGuaranteed

0: (Default) Indicates that the SMTP call is done synchronously (while the user waits).

1: Indicates that the SMTP call is done in a message subscription (message name = EMAIL_MSG).

Enter 1 if you want TriggerBusinessEvent email PeopleCode to be delivered through the messaging system.

SMTPBlackBerryReplyTo Use when the sender on the template is set to System (which is always the case for BlackBerry) and BlackBerry email responses are defined for the template (Define Template page).

Enter the internet address that you want to be the reply-to address for Blackberry email responses. This must be a valid address, such as user1@xyzcorp.com.

The default is null.

Note. The node MCF_GETMAIL is delivered with the PeopleSoft system. It has all of the transactions in the following table. Users must configure the user, password, and server for their environments.

Transaction Name	Description
EMAIL_REQ_MSGCOUNT	MessageCount retrieves the number of email messages that are available on a POP3 server.
EMAIL_REQ_READALL	ReadAll reads all messages from a POP3 server.
EMAIL_REQ_READDELALL	ReadAndDelete reads all messages from a POP3 server and deletes all messages.
EMAIL_REQ_READMSG	ReadMessage reads a specific message from a POP3 server.
EMAIL_REQ_DELMSG	DeleteMessage deletes a specific message from a POP3 server.
EMAIL_REQ_READHDR	ReadHeaders reads headers for messages from a POP3 server.
EMAIL_REQ_READHDRATT	ReadHeadersWithAttach reads headers and attachment information from a POP3 server.
EMAIL_REQ_READMSGATT	ReadMessageWithAttach reads a specific message with attachments from a POP3 server.

See Also

Enterprise PeopleTools 8.45 PeopleBook: System and Server Administration, “Using the PSADMIN Utility”

Specifying a Gateway

To specify a gateway:

1. Select PeopleTools, Integration Broker, Gateways.
2. Enter the gateway URL.
3. Select Node Definitions and enter the node name PT_MAIL_POP3.

The MCF_GETMAIL node is delivered with your software. You must set properties for various transactions on this node.

Setting Transaction Properties

This section describes transaction properties.

To set transaction properties:

1. Select the Transactions tab from the Node Info page. The Transactions page appears.
2. Click the Edit link for a transaction. The Transaction Detail page appears.
3. Select the Connectors tab. The Connectors page appears.
4. Enter the property name and value for each property ID.

   These values are available during the software installation. If you do not have these values, contact your system administrator. The POP3 server to which the node connects has a user, password, and server name.
5. Click Save.

Creating an Application Engine Program for Responses

This section discusses how to:

- Activate the Send Notification component.
- Run a BlackBerry response Application Engine process.

Understanding Application Engine Programs for Responses

Once you determine the valid responses for a transaction, code a separate Application Engine program section to handle each response. The program sections require that:

- The Application Engine program that contains the called sections must be tagged as a library. Each section must have public access.
- The program must include the WL_RIMRESP_AET and WL_RIMRESP2_AET state records.
- The called section accesses all of the fields from the WL_RIMRESP2_AET state record:
- The called section need not perform database commits. The calling program does this.

The following table lists fields that may be included in Blackberry response state records.

EMAIL_FROM	The email address of the person replying to the BlackBerry email message.
WL_SUBJECT	The email subject.
WL_RESPONSE	The response from the BlackBerry pager, as it was extracted from the email body.
EMAIL_TEXTLONG	The complete email body.
WL_PROCESS_FLAG	This field is used to mark a BlackBerry transaction as having been worked. If the application requires that multiple BlackBerry responses be processed, the

	called Application Engine user section must set this field to *N* before ending. The main Application Engine program then updates the appropriate table.
COMPONENT_ID	The component of the template that was used in the originating email message (if any).
MARKET	The market of the template that was used in the originating email message (if any).
WL_TEMPLATE_ID	The template ID.
LANGUAGE_CD	The language of the original email message.
NOTIFY_TO	A listing of the user IDs that were used when the original email message was sent.
EMAIL_SENDER2	The value of SMTPBlackBerryReplyTo that was used in the application server configuration file when the initial email message was sent to the pager.

Activating the Send Notification Component

To activate the Send Notification component:

1. Select the component for which you created the template.

   You must have previously created a component template and associated it with a component. Navigate to that component page on your browser. You should see a Notify button in the lower part of the screen.

2. Click the Notify button.

   This saves the transaction and opens the Send Notification component. The text from the template appears on this page and shows that all of the variables have been resolved.

   Note. BlackBerry responses do not appear in the template text section.

3. Enter the names or email addresses of the recipients in the To, CC, or BCC fields.
4. Enter the message text in the Message Text field.
5. Click the Send button.

Additional Notes about Send Notification

Activating the Send Notification component validates recipient names (not email addresses) and then determines if any BlackBerry email responses must be appended to the message text.

If the template includes BlackBerry email responses, a GUID (unique identifier) is generated and linked to the NOTIFY_ID. The GUID is appended to the subject text so that it is available in the reply email message. The system sorts the users by preferred language and sends the notifications by language to the recipients.

The send method in the notification application class determines whether the send is Worklist, Email, or Both (based on the values that the recipient sets in the workflow routing preferences user profile).

All notifications are saved to the database and keyed by NOTIFY_ID and LANG_CD.

Running a BlackBerry Response Application Engine Process

The BlackBerry Response program processes email messages that have been returned from BlackBerry devices. Typically, users set up the BlackBerry Response program to run automatically every few minutes within the process scheduler. The run frequency depends on the individual installation and on the amount of expected traffic of BlackBerry pager email responses.

To perform a BlackBerry response from a run control page:

1. Select PeopleTools, Workflow, Notifications, BlackBerry Response Program.
2. Add a new run control ID.
3. Set the node field name to MCF_GETMAIL.
4. Click the Run button.

Possible Errors Encountered

The BlackBerry Response program processes only email messages that contain the GUID in the subject line. All other emails are ignored and will be left in the POP3 server. The presence of the GUID indicates that the email message is a BlackBerry pager response.

If the program encounters unexpected conditions while running, it logs error information for each email message and the error count increments:

- Find the error count in the Message Catalog for each run of the program.
- Find the error details in the BlackBerry error log, accessible from the BlackBerry Error Log component.

  This component enables users to identify unprocessed BlackBerry pager response email messages. Search for errors by the run process ID of the BlackBerry Pager Response program. The page shows the error condition that was encountered.

Some errors cause the program to terminate abnormally (error numbers 200−299). If this happens, restart the program to process email messages that were left unfinished.

Error	Description
101	No row was found in table PS_PT_WF_NOTFYGUID. This table should always contain a row for the GUID being processed.
102	The email ID of the response email message was not found as a user ID in table PS_PT_WF_NOTFY_TBL.
103	No email ID was found for the current OPRID.
104	The response returning in the email message was not found in the template.
105	No row was found in PS_PT_WF_NOTFY_TBL for the current GUID.

Error	Description
202	The node name was left blank or was invalid in the run control of the program.
203	The call to Synchrequest failed. Unable to connect to the POP3 connector or the POP3 server.
204	An email message with a valid GUID did not return from the POP3 connector with a UIDL. Normally, the POP3 server always returns a UIDL for each email message. If the POP3 server does not offer a UIDL, BlackBerry Pager Response processing can not function. This is a requirement.
205	Failed to delete the email message from the POP3 server.

CHAPTER 15

Administering PeopleSoft Workflow

This chapter discusses how to:

- Set workflow routing defaults.
- Define workflow messages.
- Schedule workflow processes.
- Monitor workflow.
- Set notification options.

Setting Workflow Routing Defaults

This section discusses how to:

- Set workflow system defaults.
- Submit approval for reassigned work items.

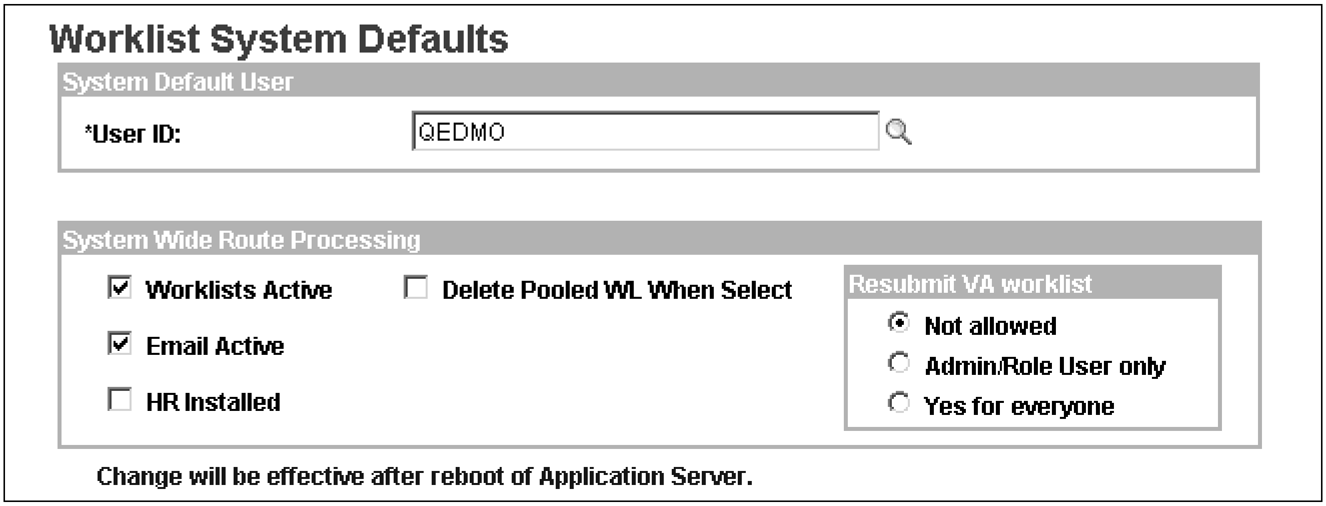
Before you start routing work items, you should perform some administration tasks. Unlike most administration tasks, you must perform this set of tasks only once (or at least infrequently).

Page Used to Set Workflow Defaults

Page Name	Object Name	Navigation	Usage
Worklist System Defaults	WF_SYS_DEFAULTS	PeopleTools, Workflow, Defaults & Messages, Set Workflow Defaults	Set worklist system defaults.

Setting Workflow System Defaults

Set workflow system defaults on the Worklist System Defaults page.



Worklist System Defaults page

To set workflow routing defaults:

1. Navigate to the Worklist System Defaults page.

   The Worklist System Defaults page appears. Use this page to provide default routing information.

2. Select a system default user.

   The system default user is the person who receives work items that aren't assigned to some other role user. Select a user ID from the list box.

   When you define a role as a query, the system determines who should receive work items at runtime. It's possible that no users meet the criteria for the role. For instance, a query that returns the buyer assigned to work with the vendor of the ordered item might fail to return a user if someone orders an item from a new vendor.

   The default user should be someone in your information systems department who is an expert in PeopleSoft Workflow. This administrator is typically responsible for reassigning the work items to another user and for updating the route control information so that future items are routed appropriately.

3. Specify which types of routings are active.

   PeopleSoft Workflow can route work to users through the user's worklist or by email message. You can suspend all routings of a particular type by clearing the appropriate option in the System Wide Route Processing group box: Worklists Active or Email Active . Before PeopleSoft Workflow performs a routing, it checks these settings.

   • Worklists Active: Enables worklists for your users.

   • Email Active: Enables the system to sent email to workflow users. You application server SMTP system needs to be configured prior to sending email notifications.

4. Specify whether you're using PeopleSoft HRMS applications.

   If so, select the HR Installed check box. The system uses this setting to determine a role user's supervisor:

   • If cleared, a Supervisory Role User field appears on the user's profile.

     The system uses the user ID in this field when it must forward a work item to a user's supervisor.

   • If selected, the system determines a user's supervisor as it does throughout PeopleSoft HRMS applications: from the user's PERSONAL_DATA record.

5. Specify how the system should handle pooled worklists.

The Delete Pooled WL When Select option allows the user to specify when the system should remove pooled worklists from another user’s queue. The Previous User field only reflects the last UserID assigned to a worklist item. The system updates the value when a user accesses the Worklist and Worklist Detail pages, the Worklist tab for a user profile, or the Worklist Entry Updates page. If you have developed any custom worklist maintenance pages, you must update this field manually.

6. Specify how the system should handle reassigned worklist items using the Resubmit VA worklist group.

   The last field for thise group box controls how Virtual Approver handles reassigned and resubmitted approval process.

7. Save the page.

Submitting Approval for Reassigned Worklist Items

On the Worklist System Defaults page there is a group box called Resubmit VA worklist. To understand the options within this group box, the following scenarios are provided, which assume the process is already at manager level.

Scenario	Description
A	In this scenario, a worklist item is reassigned to a user within the supervisor level. The previous behavior of the system in this scenario is as follows. Upon approval, a message appears stating that the Worklist needs Manager Approval (if a Message Catalog is used in the Approval Rule Set). At this point Virtual Approver will send the worklist to the manager again. The worklist will be dropped from the user’s list.
B	In this scenario, the worklist item is reassigned to a user with no approval authority. The previous behavior of the system in this scenario is as follows. Upon approval, the system completely drops the worklist from the user’s list with no message shown.
C	In this scenario, the worklist is reassigned to a user within the president level, who can then approve the item.

Note. These three scenarios also apply for a user accessing the approval page directly, in which case the worklist will not be dropped from the list.

The Resubmit VA worklist options are:

Not allowed In scenario A, the system presents an error notifying the user that this approval had been submitted before. The system will not allow the user to resubmit for approval. In scenario B, the system presents an error expressing the fact that the user to which the worklist is being assigned does not have the appropriate approval authority. In both scenario A and B, the transaction can’t be completed and saved.

Admin/Role User only Only an administrator or the user that has the appropriate role on one of the approval steps can save and resubmit worklists for approval

Yes for everyone The system does not present error messages. All users can save and resubmit worklists for approval.

Defining Workflow Messages

This section discusses how to:

- Define a default message.
- Send a message.
- Receive and respond to worklist messages.

Understanding Workflow Messages

PeopleSoft Workflow administrators frequently communicate information to system users. For example, one might send everyone the backup schedule or send managers a weekly update about the work that their groups performed. Workflow Administrator provides a page for creating and sending this kind of general message. You can send the message by email or to the users' worklists.

For standard messages that you send out regularly to the same people, Workflow Administrator enables you to define default messages and default routings for those messages, so that you need only type them once.

A default message is a saved version of a common message that you can use over and over. When you open the Worklist/Email Message page to send a message, you can select from the list of default messages. Then, you can add to or change the message before sending it.

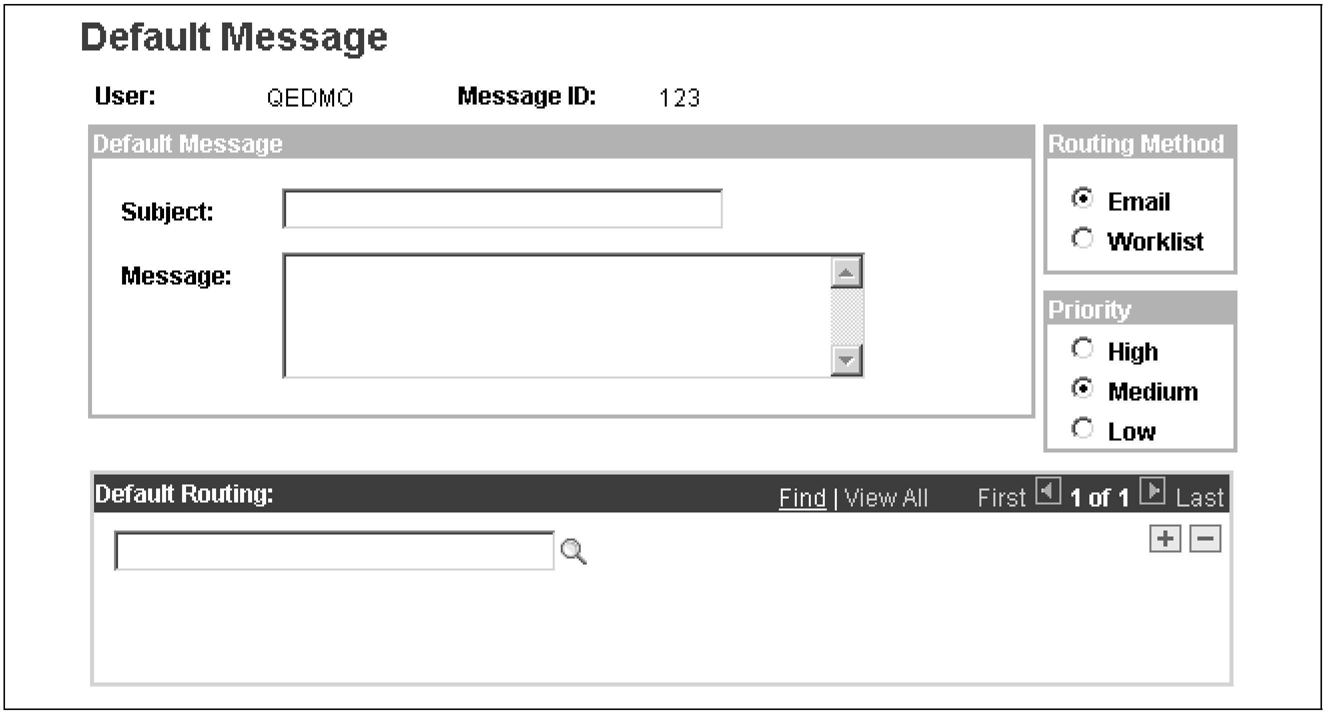
Default messages are also a good way of defining standard mailing lists. You can define default messages without default text, but they are addressed to a default list of users, such as all managers. When you're ready to send a message to the managers, you select the default message and add the text; thus, you don't have to select the managers individually each time.

Pages Used to Define Workflow Messages

Page Name	Object Name	Navigation	Usage
Default Message	GEN_MSG_DEFN	PeopleTools, Workflow, Defaults & Messages, Worklist/Email Default Msg	Define default messages for worklists.
Worklist/Email Message	GEN_MSG_SEND	PeopleTools, Workflow, Defaults & Messages, Worklist/Email Message	Define a message to be sent to a user.

Defining a Default Message

Dfine a default workflow message on the Default Message page.



Default Message page

To define a default message:

1. Navigate to the Default Message page.
2. Search for an existing message ID, or add a new one.

   Use the standard search or add method to enter the message ID and access the Default Message page.

   Note. Messages are keyed by user ID and message ID.

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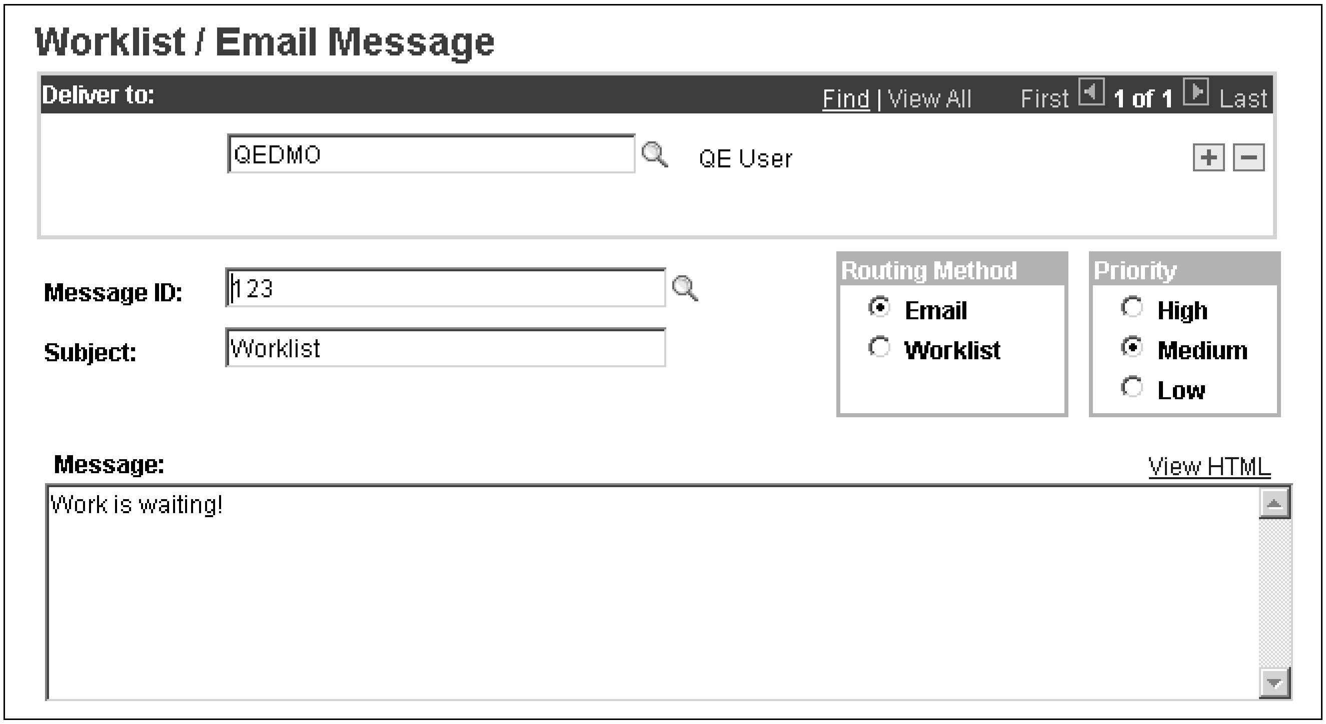
3. Enter a subject line and message text in the Subject and Message boxes.

   You can enter as much or as little of this information as necessary. You can enter the remaining information when you actually send the message.
4. Specify whether to send the message by email or to a worklist.
5. Assign a routing priority to the message.

   Select *High*, *Medium*, or *Low*.
6. If you always send this message to the same set of users, select their role user names in the Default Routing box.
7. Click the plus button to add additional role users. You can enter as many or as few users as needed. You can change the list when you actually send the message.
8. Save the page.

Sending a Message

Send a message from the Worklist/Email Message page.



Worklist/Email Message page

To send a message (either default or ad hoc):

1. Navigate to the Worklist/Email Message page.

   The Worklist/Email Message page appears. Use this page to send a message to the role users that you specify.

2. If a default message contains the text to deliver to users, select its message ID.

   The information from the default message appears on the page. You can add or change this information without affecting the default message.

3. Enter a subject and message text.

   The subject that you enter appears as the subject line of an email message or the description of a worklist entry.

4. Select a routing option and priority.

5. Select the role users to whom you want to send the message.

6. Click the plus button to add (or the minus button to remove) role users from the list. You can enter as many or as few users as needed.

7. To preview a message, click View HTML.

8. To send the message, save the page.

Receiving and Responding to Worklist Messages

To receive and respond to worklist messages:

1. In your worklist, select the message to answer. You can also access the message by accessing the Worklist/Email Reply page.

   The Worklist/Email Reply page appears.

2. To reply to the original sender, click the Reply button and complete the message on the Reply to Message page.

   By using the Reply button, rather than the alternate means of navigation, you populate the Subject and Reply To fields based on the original message. Normally, you accept the default Subject and Reply To values. If they don't appear properly, or if you prefer different values, make the necessary changes.

3. To forward the message to another user, click the Forward button and complete the message on the Forward Message page.

   By using the Forward button, rather than the alternate means of navigation, you populate the Subject field based on the original message. Normally you accept the default subject. If it doesn't appear properly, or if you prefer a different subject, make the necessary changes.

4. Click Save to send the message.

Scheduling Workflow Processes

You can run several types of processes to monitor workflow applications. These processes can perform a variety of monitoring tasks, such as checking worklists for timed-out work items. PeopleSoft delivers some workflow processes (discussed in the following section), and you can add your own.

Although the processes that PeopleSoft delivers are already defined in PeopleSoft Process Scheduler, that doesn't start them running. You must still submit Process Scheduler requests to specify when, where, and how often to run each process.

You must schedule Application Engine programs that you've built to facilitate batch workflow processing. This includes both programs that you've created and several predefined Application Engine programs that are used to monitor workflow.

When you initiate a workflow, you usually set up these processes to run on a recurring schedule. If you do, you don't need to start the processes every time that you want them to run. You must only restart them if the schedule that you specify expires or to change their schedule.

Monitoring Workflow

Perhaps the most important responsibility of a workflow administrator is ensuring that work items continue to flow smoothly through the business processes. If work items stall halfway through processing, you lose the benefits of an automated workflow.

This section discusses how to:

- Monitor worklist volumes.
- Check for worklist timeouts.
- Review work items online.
- Run workflow reports.

Pages Used to Monitor Worklists

Page Name	Object Name	Navigation	Usage
Setup	WF_MONITOR_SETUP	PeopleTools, Workflow, Monitor Worklist, Configure Worklist Monitor	Configure a worklist volume monitor.
Worklist Volume Monitor	RUN_WL_MONITOR_DBA	PeopleTools, Workflow, Monitor Worklist, Sched Worklist Volume Monitor	Schedule a worklist volume monitor.
Review Notification	WF_MONITOR_NOTIFY	PeopleTools, Workflow, Monitor Worklist, Review Notification	Review worklist notifications.
Timeout Exceptions	WF_RUN_TIMEOUT	PeopleTools, Workflow, Monitor Worklist, Process Timeout Exceptions.	View timeout exceptions.
Search Critieria	WF_MONITOR_01	PeopleTools, Workflow, Monitor Worklist, Review Work Items, Search Criteria	Search for worklist entries.
Worklist Entries	WF_MONITOR_02	PeopleTools, Workflow, Monitor Worklist, Review Work Items, Worklist Entries	View worklist entries.
Search Criteria	WF_MONITOR_03	PeopleTools, Workflow, Monitor Worklist, Review Work Items via Context, Search Criteria	Search for worklist entries by context.
Worklist Entries	WF_MONITOR_02	PeopleTools, Workflow, Monitor Worklist, Review Work Items via Context, Worklist Entries	View worklist entries.
Worklist Averages	WF_REPORT_01	PeopleTools, Workflow, Worklist Reports, Worklist Averages	Run workflow reports.
Worklist Totals	WF_REPORT_02	PeopleTools, Workflow, Worklist Reports, Worklist Totals	Run workflow reports.

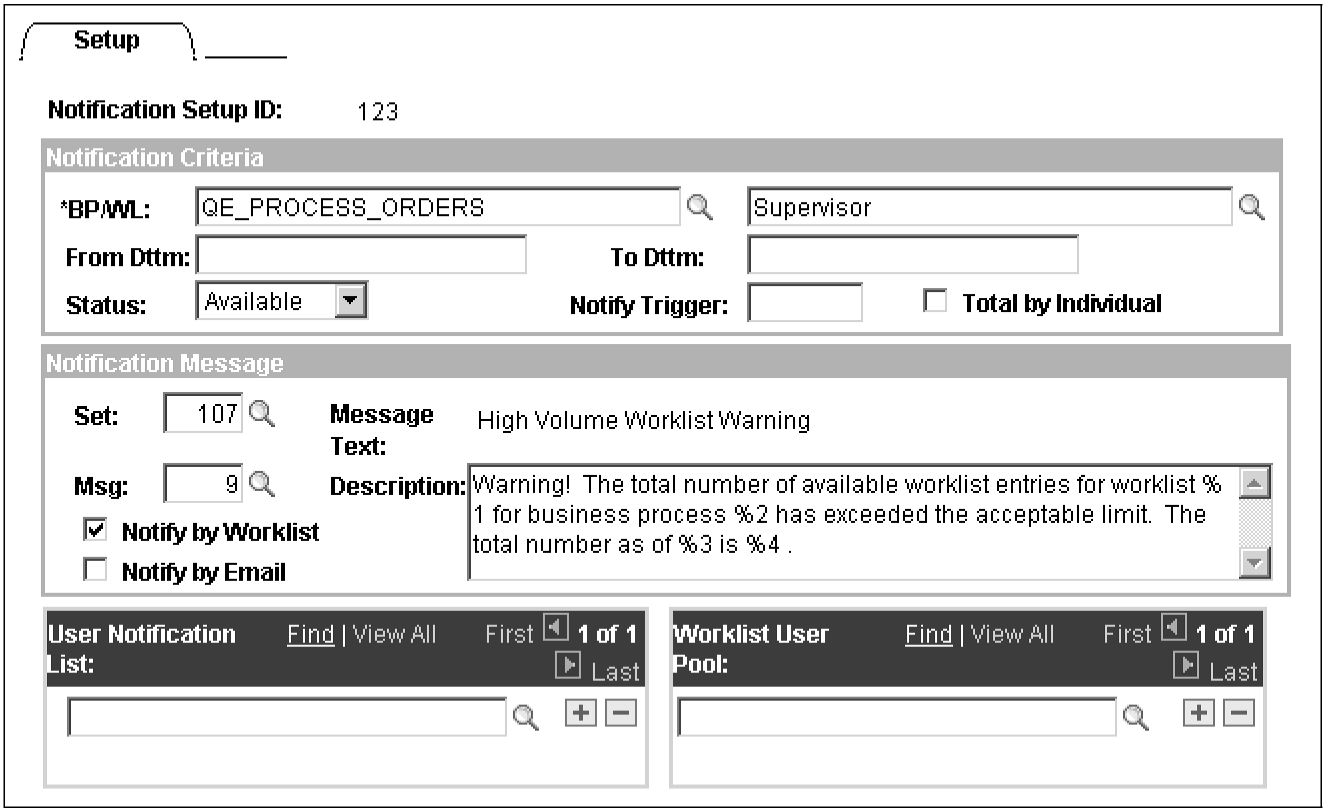
Monitoring Worklist Volumes

To help you identify bottlenecks, Workflow Administrator includes an Application Engine program that monitors for overloaded worklists. The program checks for worklists that contain more than a specified number of work items and sends you a warning message when overloaded worklists are found.

To use this program, you define the monitoring parameters. Each set of monitoring parameters is considered a separate worklist volume monitor. You must set up separate worklist volume monitors for different worklists. You can create one or more for each worklist that you want to monitor.

Configuring a Worklist Volume Monitor

Configure worklist volume monitors on the worklist volume monitor Setup page.



Setup page

To configure a worklist volume monitor:

1. Navigate to the Worklist Monitor Setup page.
2. Search for an existing business process name, worklist name, or worklist monitor setup ID, or add a new one.

   Use this page to specify which worklist to monitor, how many work items to allow in the worklist, and which message to send when the worklist exceeds the threshold.
3. In the Notification Message box, specify when you want the worklist volume monitor to inform you about the number of worklist entries.

   Use the two drop-down list boxes on the first line to identify the worklist that you want to monitor. In the left box, select the business process; in the right box, select the worklist name.
4. Specify a date and time range during which the monitor counts work items.

   By default, the worklist volume monitor counts work items added to the worklist starting from today, the day that you define it, through two years from now. To count work items that are already in the worklist, change the From Dttm value to an earlier date.
5. Specify which work items to count.

   The Status box specifies which work items to count, based on their status. Available values are *Available* (default), *Selected*, *Worked*, and *Cancelled*.
6. In the Notify Trigger box, enter the number of work items that constitute the worklist's threshold.

   When the worklist contains this number of entries, the worklist volume monitor sends a warning message.
7. Specify whether to measure the threshold by an individual user's number of work items or the number of total work items.

If you enter the threshold for each individual user, select Total by Individual. If you enter the threshold for the entire worklist, clear the check box.

For example, if a worklist has work items that wait for a manager's approval, you can monitor how many work items are in each manager's worklist or how many are in all managers' worklists.

8. In the Worklist User Pool box, select the users whose work items you want to include in the count.

   When the worklist volume monitor counts work items, it includes only those assigned to a user ID that appears in this box. Click the Add button to add as many users as needed.

9. Set the notification message.

   The Notification Message box defines the message that the worklist volume monitor sends when a worklist contains too many work items. The default message is fine for most circumstances, but you can select any message from the PeopleTools Message Catalog. When you select the set and message, the subject and text of the message appear to the right.

   Note. The subject of the message is always High Volume Worklist Warning.

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10. Specify how to deliver the message.

    The worklist volume monitor delivers messages to a user's worklist, through email, or both. Select Notify by Worklist or Notify by Email.

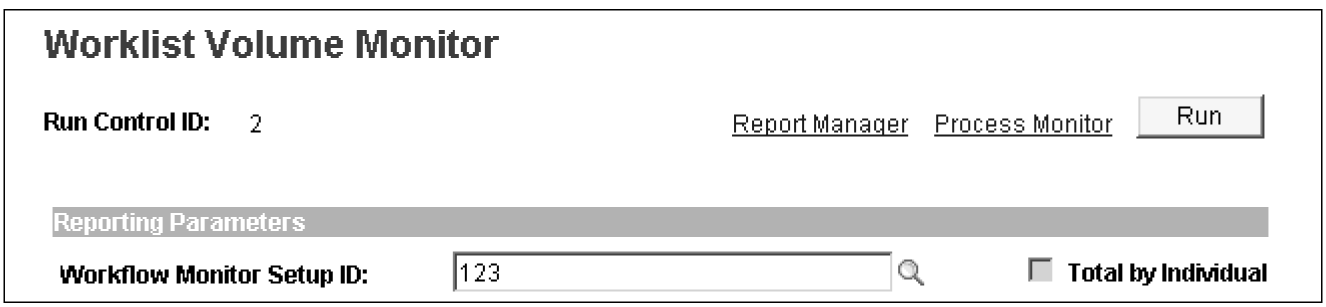
11. Specify to whom to send the message.

    In the User Notification List box, enter the users to whom you want the monitor to send the warning message.

12. Save the page.

Scheduling Worklist Volume Monitors to Run

Schedule worklist volume monitors to run on the Worklist Volume Monitor page.



Worklist Volume Monitor page

To schedule worklist volume monitors to run:

1. Navigate to the Worklist Volume Monitor page.
2. Search for an existing run control ID, or add a new one.

   Use the standard search or add method to enter a run control ID and access the Worklist Volume Monitor page. Use this page to select which worklist volume monitor to start.

3. In the Workflow Monitor Setup ID field, select one of the worklist volume monitors that you defined.

   When you define a worklist volume monitor, you can specify the volume threshold either as the number of work items that an individual user has or as the number of total work items. The Total by Individual check box indicates which option you specified for the selected worklist volume monitor. This information is important on the Process Scheduler Request page.

4. Click the Run button.

   The Process Scheduler Request page appears.

5. Select a program to run.

   The Application Engine program determines whether to monitor by group or by individual, based on whether the Total by Individual check box is selected in the worklist volume monitor that you're processing.

6. Complete the Process Scheduler Request page.

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleSoft Process Scheduler*, "Submitting and Scheduling Process Requests".

Reviewing Notifications Sent by the Volume Monitor

To review notifications sent by the volume monitor:

1. Navigate to the Review Notification page.
2. Search for existing WL Monitor Setup ID and DateTime Created values.

   Because one volume monitor can send multiple notifications, you need both values to identify a notification.

3. Review the notification.

   Use the standard search method to access the Notify page.

Total Counted	Indicates how many worklist items the worklist volume monitor found. Notifications are sent only when the number of worklist items exceeds the specified threshold.
Subject and Message	Indicate the text of the notification. If the message specified in the Worklist Monitor Setup page included bind variables, the variables are resolved in this message.
Notification Criteria, User Notification List, and Worklist User Pool	Indicate the original Worklist Monitor setup parameters that triggered this notification.

Checking for Worklist Timeouts

When you define a worklist, you can set a timeout condition, which specifies how long a work item can remain unworked in a worklist before the system forwards it to another worklist. Define this in PeopleSoft Application Designer in the Worklist Attributes dialog box.

The system uses an Application Engine program to check for work items that have timed out and to forward them according to the timeout parameters. You must schedule the Application Engine program to activate this process.

Checking for Worklist Timeouts

To check for worklist timeouts:

1. Navigate to the Timeout Exceptions page.
2. Search for an existing run control ID, or add a new one.

   Use the standard search or add method to enter a run control ID and access the Timeout Exceptions page. This page displays the run control ID but doesn't contain editable controls.

3. Click the Run button.

   The Process Scheduler Request page appears.

4. Select the WL_TIMEOUT Application Engine program.
5. Complete the page.

See *Enterprise PeopleTools 8.45 PeopleBook: PeopleSoft Process Scheduler*, “Submitting and Scheduling Process Requests”.

Checking Timeout Worklist Data

Timeout parameters include an option to send timeout notifications to the user’s timeout worklist.

When users open items in their timeout worklists, they are transferred to the Timeout Worklist Data page for that work item. On this page, the user can view information about the timed-out work item, enter comments about the item, or reassign the item to another user ID.

You can also access this page directly by selecting PeopleTools, Workflow, Monitor Worklist, Update Timeout Data.

Reviewing Work Items Online

Worklist Monitor enables you to review the work items in a workflow, regardless of where they are. It provides detailed status information about each item and enables you to update individual work items by:

- Assigning them to different users.
- Changing their status.
- Editing their worklist entries.

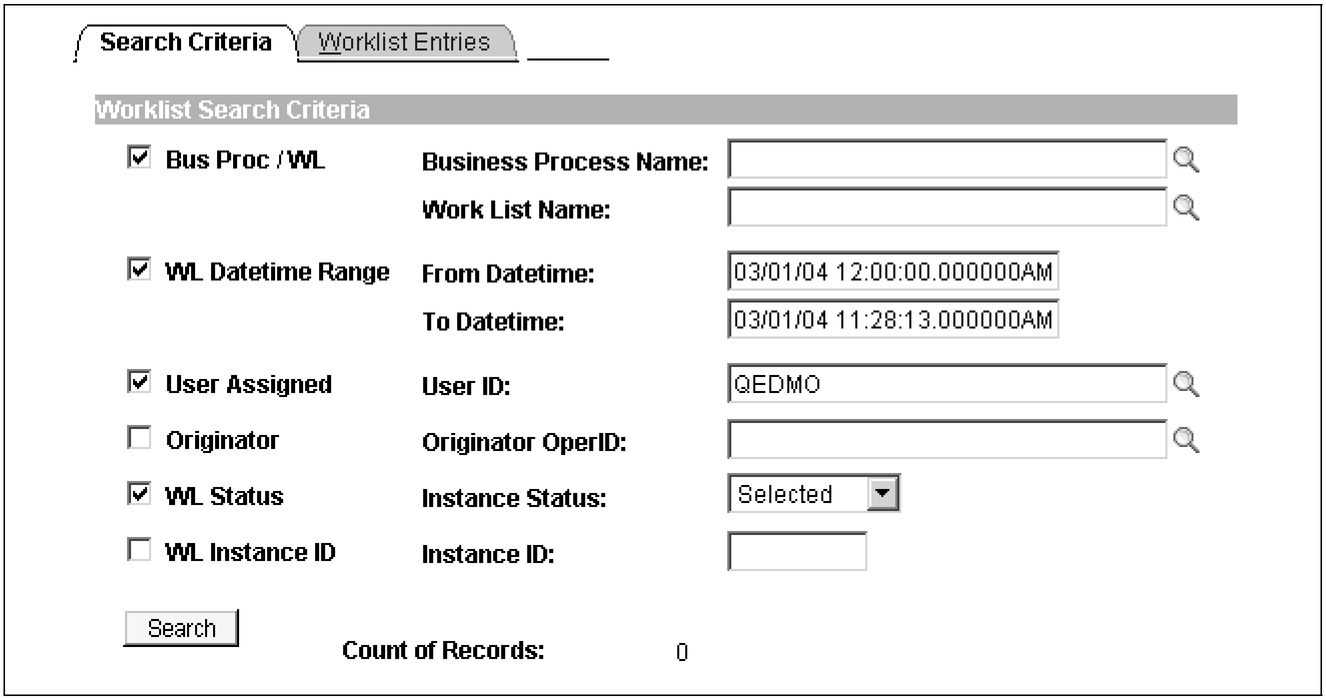
Depending on how you want to search for work items, you can access Worklist Monitor based on the:

- Item workflow properties, such as status or the user to whom it’s assigned. You can find items wherever they are in the workflow.
- Fields in the item worklist entry.

  You can search for items within a single worklist.

Searching for Work Items Based on Workflow Properties

Search for work items on the Review Work Items Search Criteria page.



Search Criteria page

To search for work items based on workflow properties:

1. Navigate to the Review Work Items Search Criteria page.

   The Search Criteria page appears. Worklist Monitor searches for work items based on the properties that are selected.

2. Select the check boxes for the properties to include in the search, and enter search criteria in the corresponding controls.

   To search for all worklist entries, clear all of the check boxes.

Bus Proc / WL (business process and worklist)	Work items in the worklist specified in the Business Process Name and Work List Name list boxes.
WL Datetime Range	Work items that were created during the time period between the From Datetime and To Datetime values.
User Assigned	Work items assigned to the specified user ID.
Originator	Work items that entered the workflow because of an action taken by the specified user ID.
WL Status	Work items with the specified instance status.
WL Instance ID	The work item with the specified ID.

3. Click the Search button to perform the search.

   When the search is complete, Worklist Monitor displays the total worklist entries that it found; that is, the number of worklist entries that meet your criteria.

4. Move to the Worklist Entries page.

   The Worklist Entries page appears, displaying the entries that meet your search criteria. Each line displays information for one worklist entry, including the business process, work list, instance ID, status, and user ID (Oprid).

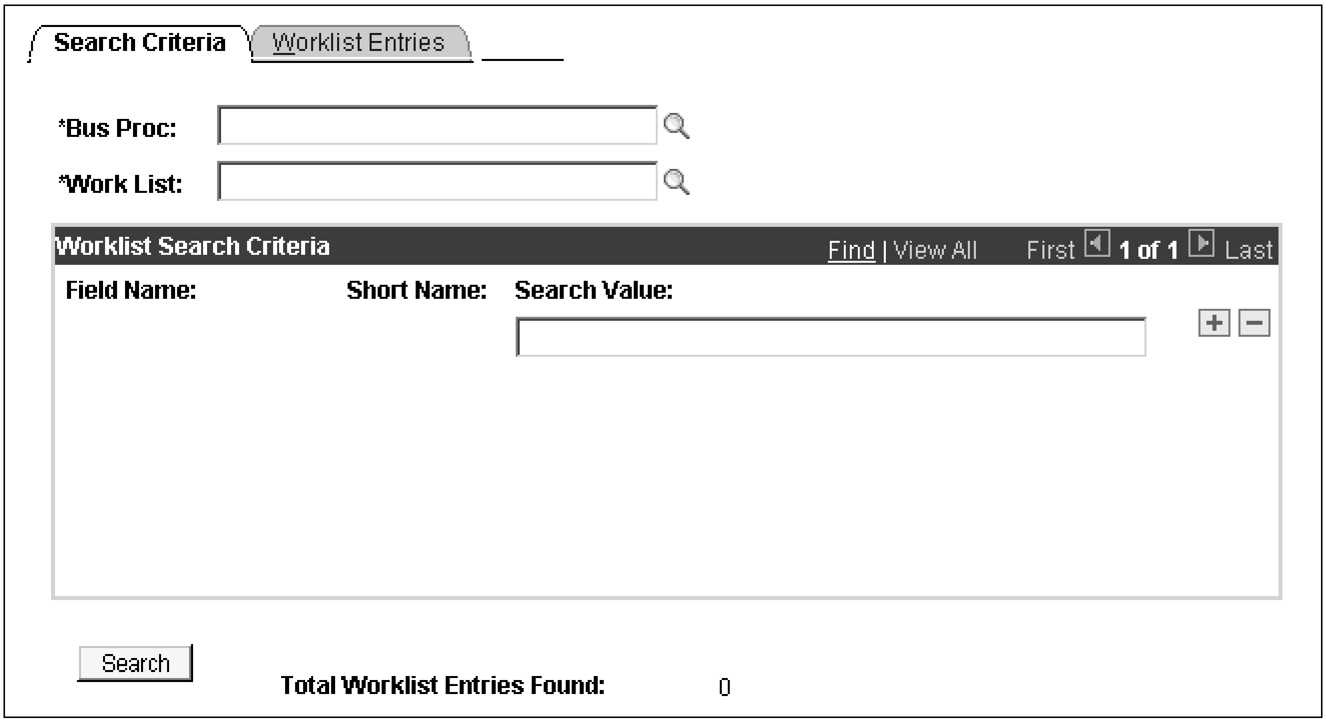
5. (Optional) Review additional information about an entry.

   The buttons at the end of each line provide additional processing.

C	Displays additional context information about the work item in the WL Context box at the bottom of the page.
T	Transfers you to the page group used to work on the work item. You can work the work item just as if you selected it from its worklist.
U	Displays the update page so that you can update this work item.

Searching for Work Items Within a Worklist

Search for work items within a worklist from the Review Work Items via Context Search Criteria page.



Search Criteria page

To search for work items within a worklist:

1. Navigate to the Review Work Items via Context Search Criteria page.

   The Search Criteria page appears.

2. Select the business process and worklist to search.

   After you select the worklist, the user-defined fields from the worklist record definition appear in the Worklist Search Criteria box. A Search Value box is beside each field.

3. Enter search criteria in as many or as few of the boxes as needed.

4. Click the Search button.

   Worklist Monitor displays the total worklist entries that it found; that is, the number of worklist entries that meet your criteria.

5. Move to the Worklist Entries page.

The Worklist Entries page displays the entries that meet your search criteria. See the previous procedure for details about this page.

Updating Work Items

To update work items:

1. Click the U button on the Worklist Entries page, or select PeopleTools, Workflow, Monitor Worklist, Update Worklist Entries.

   The Update page appears. This page enables you to change the worklist entry for a work item.

2. Update the work item information.

   You can change the user to whom it's assigned, its status in the worklist, or its description. You can also change the date and time information that the system usually updates, although it's not as common. One reason to change the date and time information is to delay the processing of a work item. To do this, change the Available Dttm value to a future time.

   Note. The Worklist Entry Updates page enables you to reassign individual work items by changing the assigned user. To reassign all items that are assigned to a user, however, this method can be tedious. You can use PeopleTools Security to reassign all work items from one user to another.

   See *Enterprise PeopleTools 8.45 PeopleBook: Security Administration*, "Administering User Profiles," Specifying Workflow Settings.

3. Save the page.

Running Workflow Reports

PeopleSoft delivers standard reports that provide status information about the work that your users are accomplishing. The reports fall into two categories:

- Worklist Averages reports, which provide average processing times for completed work items.
- Worklist Totals reports, which count work items by status.

For both types of reports, you can see information about all of your users for all of your business processes, or you can focus the report on specific users or business processes.

The following table describes the available reports and notes required parameters.

Report	Description	Required Parameters
WFA0001 Workflow - Avg by BP/WL	Reports average processing time for all business processes for a given list of users, grouping them based on Business Process and Worklist.	WL User Reporting Pool
WFA0002 Workflow - Avg by BP/WL/Oper	Reports average processing time for all business processes for all users, grouping them based on User , Business Process, and Worklist.	
WFA0003 Workflow - Avg by Operator	Reports average processing time for all business processes for a given list of users, grouping them based on User , Business Process, and Activity.	WL User Reporting Pool

Report	Description	Required Parameters
WFA0004 Workflow- Avg by BP/WL All Opr	Reports average processing time for all business processes for all users, grouping them based on Business Process and Activity.	
WFA0005 Workflow - Avg for a Single BP	Reports average processing time for the specified business process for a specified list of users.	WL User Reporting Pool, Business Process Name

To run workflow reports:

1. Navigate to the Worklist Averages or Worklist Totals page.
2. Search for an existing run control ID, or add a new one.

   Use the standard search and add methods to enter a run control ID and access the Worklist Averages or Worklist Totals page.

   Note. Because the two types of reports have similar reporting parameters, the pages look similar. The pages behave differently, however. Worklist Averages reports the work items completed during the specified time range, and Worklist Totals reports the work items in the worklists by status.

3. Enter the time span for the report to cover.

   The two date and time boxes specify the time period for the report. On the Worklist Averages Run page, enter Worked Datetime From and Worked Datetime To values. The reports include only work items that are marked as worked during the specified time period. On the Worklist Totals Run page, enter Available Datetime From and Available Datetime To values. The reports include only work items that are added to the worklists during the time period.

4. Specify the business process on which to report.

   Most of the reports include data about all your business processes, broken down by worklist, by user, or both. However, you do have the option of reporting on a single business process. If you only want the data for one business process, select its name from the Business Process Name list box.

5. Specify which users' work items to include in the report.

   By default, the reports include work items that are assigned to all users. Limit the report to a specific set of users by selecting their user IDs in the WL User Reporting Pool box. If this box doesn't list users, the report includes all work items. If it lists users, the reports include only work items that are assigned to those users.

6. Click Run.

   The Process Scheduler Request page appears. The list box at the bottom of the page displays the available reports.

7. Select the reports to run.

   The reports differ in how they organize the data. Both Worklist Averages and Worklist Totals offer reports organized by:

- Business process and worklist.
- Business process, worklist, and user.
- User.
- Business process and worklist with all users.

- Information for a single business process only.
- Complete the Process Scheduler request.

Setting Notification Options

This section discusses how to:

- Enable the Notify toolbar button.
- Set workflow routing options.
- Set delivery options.

Enabling the Notify Toolbar Button

To enable an end user to send notifications from Peoplesoft components, the Notify toolbar button must be enabled on the Component Properties dialog box.

To enable the Notify toolbar button:

1. Open PeopleSoft Application Designer in PeopleTools.
2. Open the component definition for which you want to enable the Notify button.
3. Open the Component Properties dialog box by selecting File, Definition Properties.
4. Select the Internet tab in the Component Properties dialog box.
5. Select the Notify check box in the Selected Toolbar Actions group box.
6. Save the component definition.

   If the Notify check box is cleared, the Notify toolbar is not visible for that component. If the Disable Toolbar check box is selected in the component properties, the Notify toolbar is not visible for that component.

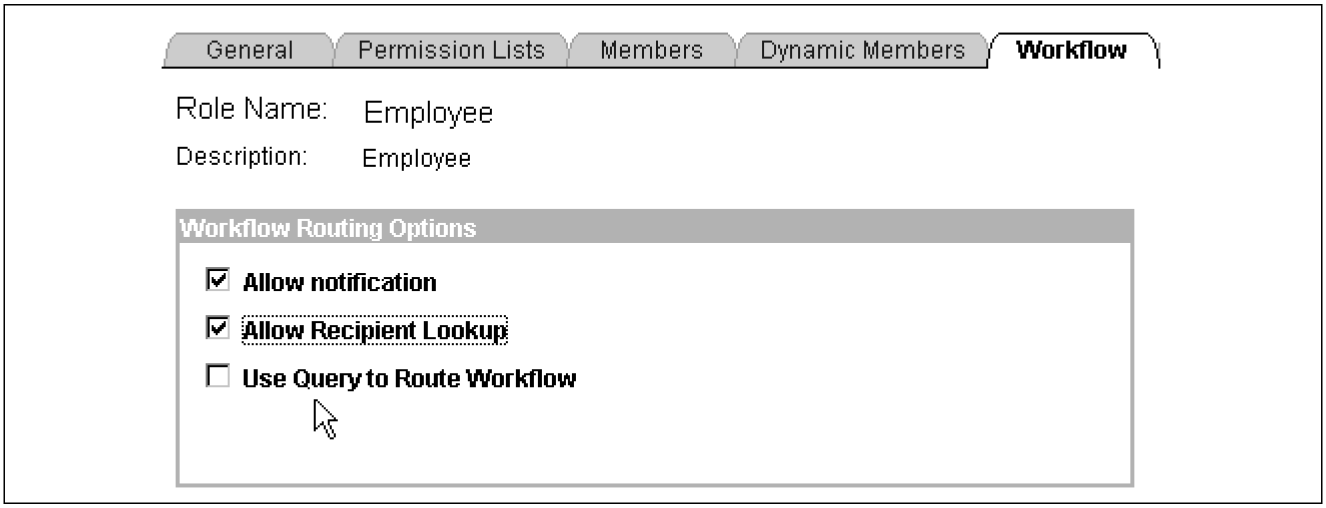
Setting Workflow Routing Options

After enabling the Notify toolbar button, set the workflow routing options on the Permissions and Roles page of the Maintain Security component.

If the Notify check box is selected in the component properties and the Allow Notifications check box is selected for the role, the Notify toolbar (the Notify icon at the bottom of the component's browser page) is available in that component for all users in that role.

If the Allow Notifications check box is cleared for the role, the Notify toolbar is not visible for all components for all users in that role.

If the Allow Recipient Lookup check box is selected, all users in the role can search for recipients by prompting against the User Profile table or the Lightweight Directory Access Protocol (LDAP) address book.



Setting Workflow Routing options page

To set workflow routing options:

1. Select PeopleTools, Security, Permissions & Roles, Roles, Workflow.
2. Select Allow Notification and Allow Recipient Lookup.
3. Save the page.

Setting Delivery Options

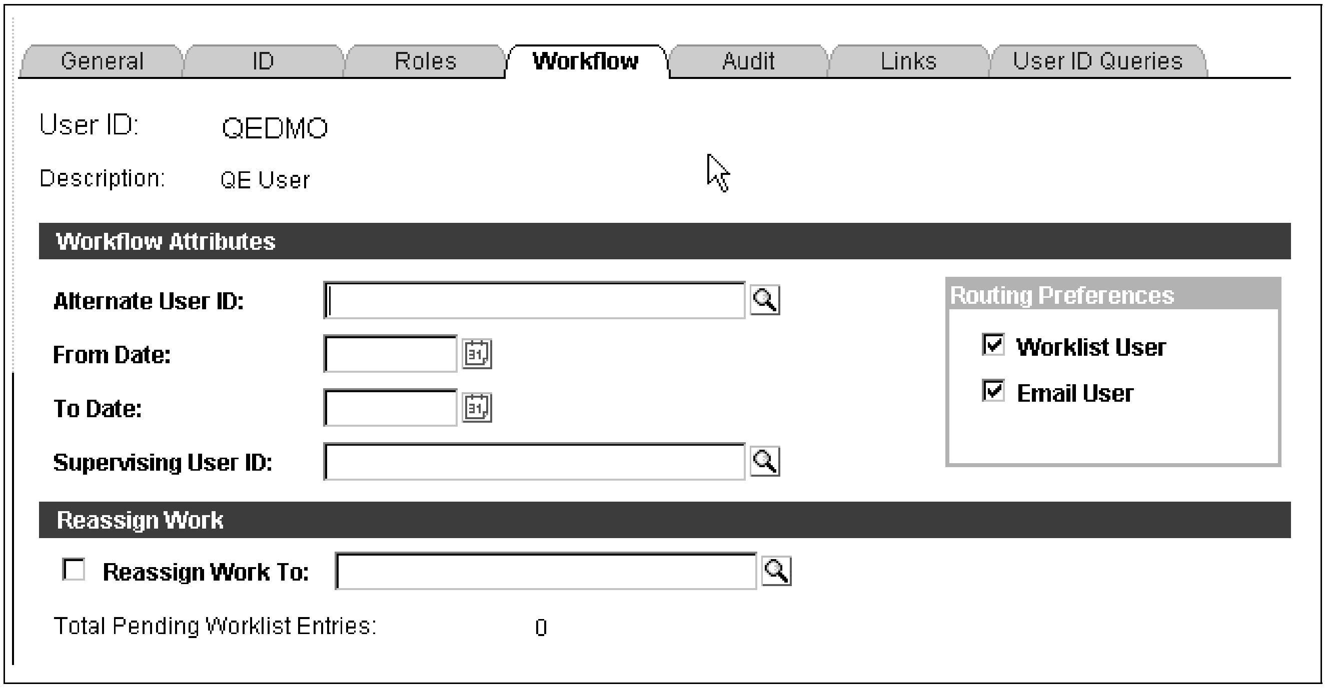
At runtime, the Send Notification page references the routing preferences for each recipient to determine the default delivery options. Therefore, the system assumes that:

- Security administrators have set this value for any user on the User Profile page.
- Users have set this value on their My System Profile pages.

Setting Preferences on the User Profile Page

To set preferences on the User Profile page:

1. Select PeopleTools, Security, User Profiles, User Profiles.
2. Enter the user ID.
3. Select the Workflow tab.
4. In the Routing Preferences group box, select the Worklist User check box, the Email User check box, or both.



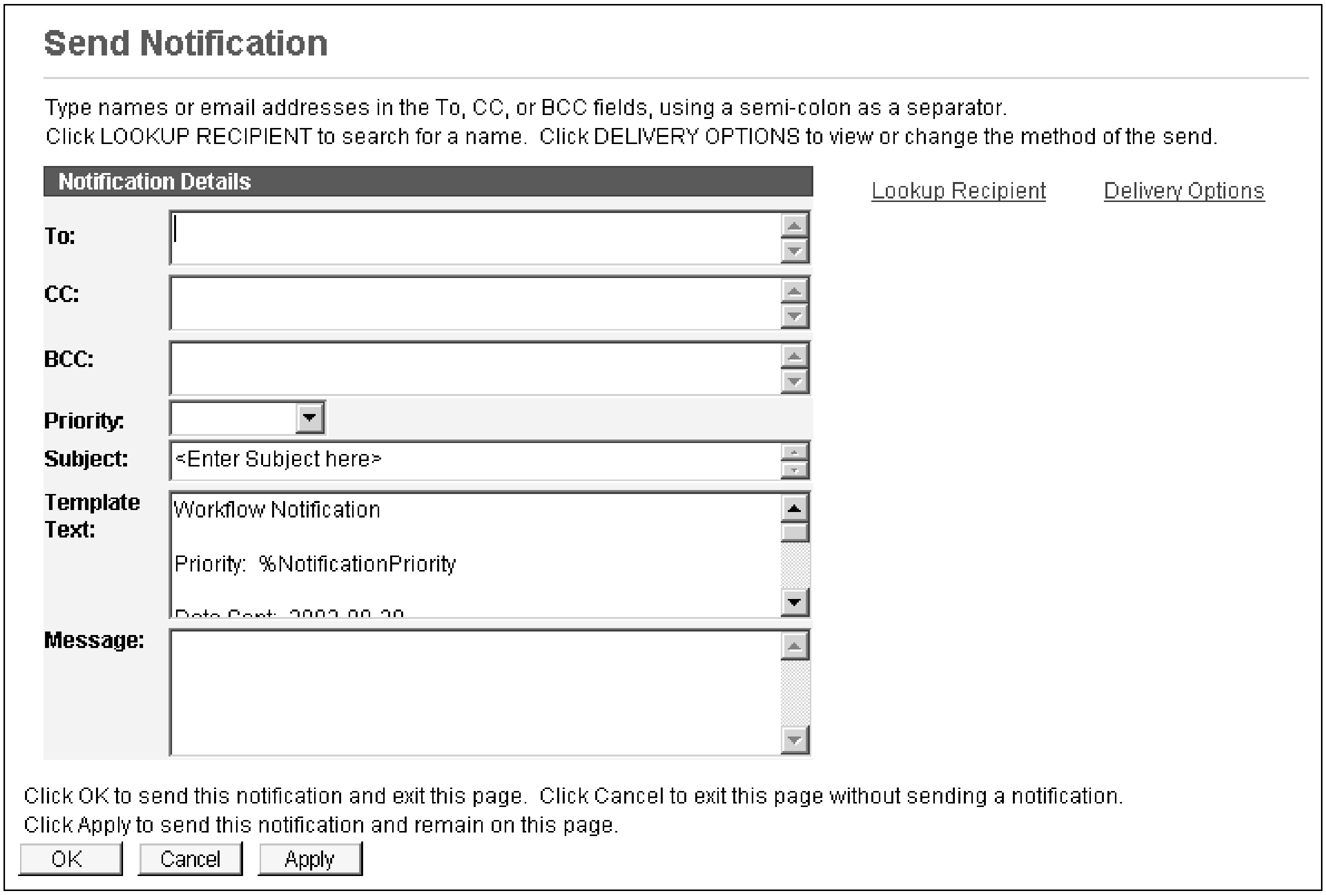
Routing preferences in User Profile

Setting Preferences on the My System Profile Page

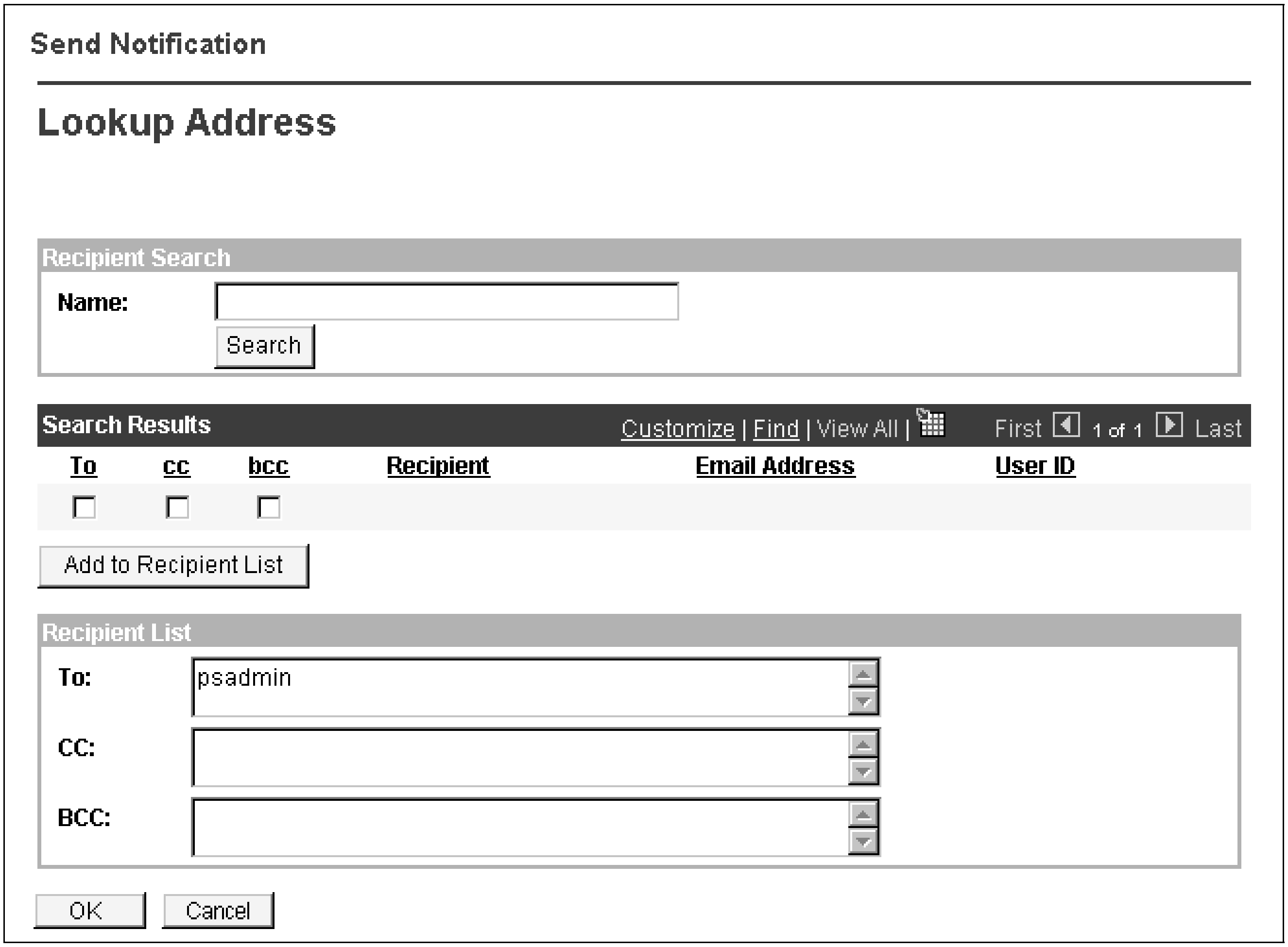
To set preferences on the My System Profile page:

1. Select PeopleTools, My System Profile.
2. In the Workflow Attributes group box, select the Email User check box, the Worklist User check box, or both.

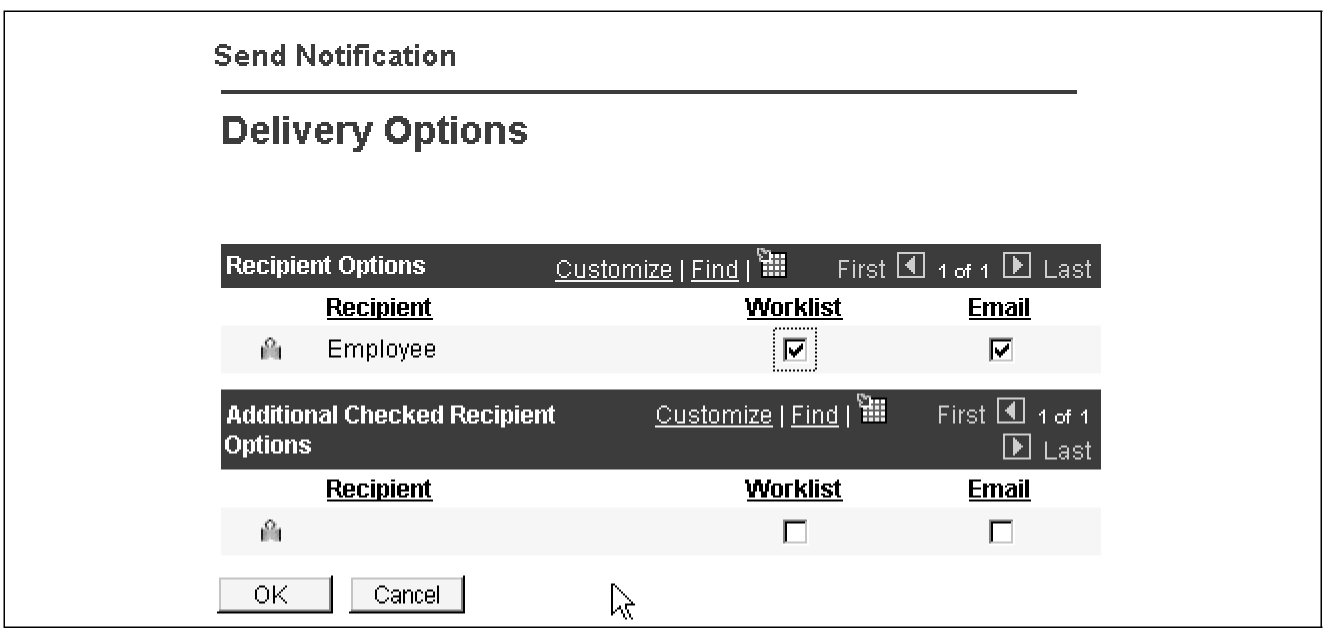
   Based on the routing preferences, the Delivery Options check boxes are set for each recipient, as shown:



Send Notification page



Lookup Address page (from Lookup Recipient Link)



Delivery Options page

APPENDIX A

ISO Country and Currency Codes

PeopleBooks use International Organization for Standardization (ISO) country and currency codes to identify country-specific information and monetary amounts.

This appendix discusses:

- ISO country codes.
- ISO currency codes.

See Also

About This PeopleBook, “About This PeopleBook Preface,” Typographical Conventions and Visual Cues

ISO Country Codes

This table lists the ISO country codes that may appear as country identifiers in PeopleBooks:

ISO Country Code	Country Name
ABW	Aruba
AFG	Afghanistan
AGO	Angola
AIA	Anguilla
ALB	Albania
AND	Andorra
ANT	Netherlands Antilles
ARE	United Arab Emirates
ARG	Argentina
ARM	Armenia
ASM	American Samoa
ATA	Antarctica

ISO Country Code	Country Name
ATF	French Southern Territories
ATG	Antigua and Barbuda
AUS	Australia
AUT	Austria
AZE	Azerbaijan
BDI	Burundi
BEL	Belgium
BEN	Benin
BFA	Burkina Faso
BGD	Bangladesh
BGR	Bulgaria
BHR	Bahrain
BHS	Bahamas
BIH	Bosnia and Herzegovina
BLR	Belarus
BLZ	Belize
BMU	Bermuda
BOL	Bolivia
BRA	Brazil
BRB	Barbados
BRN	Brunei Darussalam
BTN	Bhutan
BVT	Bouvet Island
BWA	Botswana
CAF	Central African Republic
CAN	Canada
CCK	Cocos (Keeling) Islands

ISO Country Code	Country Name
CHE	Switzerland
CHL	Chile
CHN	China
CIV	Cote D’Ivoire
CMR	Cameroon
COD	Congo, The Democratic Republic
COG	Congo
COK	Cook Islands
COL	Colombia
COM	Comoros
CPV	Cape Verde
CRI	Costa Rica
CUB	Cuba
CXR	Christmas Island
CYM	Cayman Islands
CYP	Cyprus
CZE	Czech Republic
DEU	Germany
DJI	Djibouti
DMA	Dominica
DNK	Denmark
DOM	Dominican Republic
DZA	Algeria
ECU	Ecuador
EGY	Egypt
ERI	Eritrea
ESH	Western Sahara

ISO Country Code	Country Name
ESP	Spain
EST	Estonia
ETH	Ethiopia
FIN	Finland
FJI	Fiji
FLK	Falkland Islands (Malvinas)
FRA	France
FRO	Faroe Islands
FSM	Micronesia, Federated States
GAB	Gabon
GBR	United Kingdom
GEO	Georgia
GHA	Ghana
GIB	Gibraltar
GIN	Guinea
GLP	Guadeloupe
GMB	Gambia
GNB	Guinea-Bissau
GNQ	Equatorial Guinea
GRC	Greece
GRD	Grenada
GRL	Greenland
GTM	Guatemala
GUF	French Guiana
GUM	Guam
GUY	Guyana
GXA	GXA - GP Core Country

ISO Country Code	Country Name
GXB	GXB - GP Core Country
GXC	GXC - GP Core Country
GXD	GXD - GP Core Country
HKG	Hong Kong
HMD	Heard and McDonald Islands
HND	Honduras
HRV	Croatia
HTI	Haiti
HUN	Hungary
IDN	Indonesia
IND	India
IOT	British Indian Ocean Territory
IRL	Ireland
IRN	Iran (Islamic Republic Of)
IRQ	Iraq
ISL	Iceland
ISR	Israel
ITA	Italy
JAM	Jamaica
JOR	Jordan
JPN	Japan
KAZ	Kazakstan
KEN	Kenya
KGZ	Kyrgyzstan
KHM	Cambodia
KIR	Kiribati
KNA	Saint Kitts and Nevis

ISO Country Code	Country Name
KOR	Korea, Republic of
KWT	Kuwait
LAO	Lao People’s Democratic Rep
LBN	Lebanon
LBR	Liberia
LBY	Libyan Arab Jamahiriya
LCA	Saint Lucia
LIE	Liechtenstein
LKA	Sri Lanka
LSO	Lesotho
LTU	Lithuania
LUX	Luxembourg
LVA	Latvia
MAC	Macao
MAR	Morocco
MCO	Monaco
MDA	Moldova, Republic of
MDG	Madagascar
MDV	Maldives
MEX	Mexico
MHL	Marshall Islands
MKD	Fmr Yugoslav Rep of Macedonia
MLI	Mali
MLT	Malta
MMR	Myanmar
MNG	Mongolia
MNP	Northern Mariana Islands

ISO Country Code	Country Name
MOZ	Mozambique
MRT	Mauritania
MSR	Montserrat
MTQ	Martinique
MUS	Mauritius
MWI	Malawi
MYS	Malaysia
MYT	Mayotte
NAM	Namibia
NCL	New Caledonia
NER	Niger
NFK	Norfolk Island
NGA	Nigeria
NIC	Nicaragua
NIU	Niue
NLD	Netherlands
NOR	Norway
NPL	Nepal
NRU	Nauru
NZL	New Zealand
OMN	Oman
PAK	Pakistan
PAN	Panama
PCN	Pitcairn
PER	Peru
PHL	Philippines
PLW	Palau

ISO Country Code	Country Name
PNG	Papua New Guinea
POL	Poland
PRI	Puerto Rico
PRK	Korea, Democratic People’s Rep
PRT	Portugal
PRY	Paraguay
PSE	Palestinian Territory, Occupie
PYF	French Polynesia
QAT	Qatar
REU	Reunion
ROU	Romania
RUS	Russian Federation
RWA	Rwanda
SAU	Saudi Arabia
SDN	Sudan
SEN	Senegal
SGP	Singapore
SGS	Sth Georgia & Sth Sandwich Is
SHN	Saint Helena
SJM	Svalbard and Jan Mayen
SLB	Solomon Islands
SLE	Sierra Leone
SLV	El Salvador
SMR	San Marino
SOM	Somalia
SPM	Saint Pierre and Miquelon
STP	Sao Tome and Principe

ISO Country Code	Country Name
SUR	Suriname
SVK	Slovakia
SVN	Slovenia
SWE	Sweden
SWZ	Swaziland
SYC	Seychelles
SYR	Syrian Arab Republic
TCA	Turks and Caicos Islands
TCD	Chad
TGO	Togo
THA	Thailand
TJK	Tajikistan
TKL	Tokelau
TKM	Turkmenistan
TLS	East Timor
TON	Tonga
TTO	Trinidad and Tobago
TUN	Tunisia
TUR	Turkey
TUV	Tuvalu
TWN	Taiwan, Province of China
TZA	Tanzania, United Republic of
UGA	Uganda
UKR	Ukraine
UMI	US Minor Outlying Islands
URY	Uruguay
USA	United States

ISO Country Code	Country Name
UZB	Uzbekistan
VAT	Holy See (Vatican City State)
VCT	St Vincent and the Grenadines
VEN	Venezuela
VGB	Virgin Islands (British)
VIR	Virgin Islands (U.S.)
VNM	Viet Nam
VUT	Vanuatu
WLF	Wallis and Futuna Islands
WSM	Samoa
YEM	Yemen
YUG	Yugoslavia
ZAF	South Africa
ZMB	Zambia
ZWE	Zimbabwe

ISO Currency Codes

This table lists the ISO country codes that may appear as currency identifiers in PeopleBooks:

ISO Currency Code	Description
ADP	Andorran Peseta
AED	United Arab Emirates Dirham
AFA	Afghani
AFN	Afghani
ALK	Old Lek
ALL	Lek
AMD	Armenian Dram

ISO Currency Code	Description
ANG	Netherlands Antilles Guilder
AOA	Kwanza
AOK	Kwanza
AON	New Kwanza
AOR	Kwanza Reajustado
ARA	Austral
ARP	Peso Argentino
ARS	Argentine Peso
ARY	Peso
ATS	Schilling
AUD	Australian Dollar
AWG	Aruban Guilder
AZM	Azerbaijanian Manat
BAD	Dinar
BAM	Convertible Marks
BBD	Barbados Dollar
BDT	Taka
BEC	Convertible Franc
BEF	Belgian Franc
BEL	Financial Belgian Franc
BGJ	Lev A/52
BGK	Lev A/62
BGL	Lev
BGN	Bulgarian LEV
BHD	Bahraini Dinar
BIF	Burundi Franc
BMD	Bermudian Dollar

ISO Currency Code	Description
BND	Brunei Dollar
BOB	Boliviano
BOP	Peso
BOV	Mvdol
BRB	Cruzeiro
BRC	Cruzado
BRE	Cruzeiro
BRL	Brazilian Real
BRN	New Cruzado
BRR	Brazilian Real Dollar
BSD	Bahamian Dollar
BTN	Ngultrum
BUK	N/A
BWP	Pula
BYB	Belarussian Ruble
BYR	Belarussian Ruble
BZD	Belize Dollar
CAD	Canadian Dollar
CDF	Franc Congolais
CHF	Swiss Franc
CLF	Unidades de fomento
CLP	Chilean Peso
CNX	Peoples Bank Dollar
CNY	Yuan Renminbi
COP	Colombian Peso
CRC	Costa Rican Colon
CSD	Serbia Dinar

ISO Currency Code	Description
CSJ	Krona A/53
CSK	Koruna
CUP	Cuban Peso
CVE	Cape Verde Escudo
CYP	Cyprus Pound
CZK	Czech Koruna
DEM	Deutsche Mark
DJF	Djibouti Franc
DKK	Danish Krone
DOP	Dominican Peso
DZD	Algerian Dinar
ECS	Sucre
ECV	Unidad de Valor
EEK	Kroon
EGP	Egyptian Pound
EQE	Ekwele
ERN	Nakfa
ESA	Spanish Peseta
ESB	Convertible Peseta
ESP	Spanish Peseta
ETB	Ethiopian Birr
EUR	euro
FIM	Markka
FJD	Fiji Dollar
FKP	Falklands Isl. Pound
FRF	French Franc
GBP	Pound Sterling

ISO Currency Code	Description
GEK	Georgian Coupon
GEL	Lari
GHC	Cedi
GIP	Gibraltar Pound
GMD	Dalasi
GNE	Syli
GNF	Guinea Franc
GNS	Syli
GQE	Ekwele
GRD	Drachma
GTQ	Quetzal
GWE	Guinea Escudo
GWP	Guinea-Bissau Peso
GYD	Guyana Dollar
HKD	Hong Kong Dollar
HNL	Lempira
HRD	Dinar
HRK	Kuna
HTG	Gourde
HUF	Forint
IDR	Rupiah
IEP	Irish Pound
ILP	Pound
ILR	Old Shekel
ILS	New Israeli Sheqel
INR	Indian Rupee
IQD	Iraqi Dinar

ISO Currency Code	Description
IRR	Iranian Rial
ISJ	Old Krona
ISK	Iceland Krona
ITL	Italian Lira
JMD	Jamaican Dollar
JOD	Jordanian Dinar
JPY	Yen
KES	Kenyan Shilling
KGS	Som
KHR	Riel
KMF	Comoro Franc
KPW	North Korean Won
KRW	Won
KWD	Kuwaiti Dinar
KYD	Cayman Islands dollar
KZT	Tenge
LAJ	Kip Pot Pol
LAK	Kip
LBP	Lebanese Pound
LKR	Sri Lanka Rupee
LRD	Liberian Dollar
LSL	Loti
LSM	Maloti
LTL	Lithuanian Litas
LTT	Talonas
LUC	Convertib Francl
LUF	Luxembourg Franc

ISO Currency Code	Description
LUL	Financial Franc
LVL	Latvian Lats
LVR	Latvian Ruble
LYD	Libyan Dinar
MAD	Moroccan Dirham
MAF	Mali Franc
MDL	Moldovan Leu
MGF	Malagasy Franc
MKD	Denar
MLF	Mali Franc
MMK	Kyat
MNT	Tugrik
MOP	Pataca
MRO	Ouguiya
MTL	Maltese Lira
MTP	Maltese Pound
MUR	Mauritius Rupee
MVQ	Maldive Rupee
MVR	Rufiyaa
MWK	Malawian Kwacha
MXN	Mexican Peso
MXP	Mexican Peso
MXV	Mexican UDI
MYR	Malaysian Ringgit
MZE	Mozambique Escudo
MZM	Metical
NAD	Namibia Dollar

ISO Currency Code	Description
NGN	Naira
NIC	Cordoba
NIO	Cordoba Oro
NLG	Netherlands Guilder
NOK	Norwegian Krone
NPR	Nepalese Rupee
NZD	New Zealand Dollar
OMR	Rial Omani
PAB	Balboa
PEI	Inti
PEN	Nuevo Sol
PES	Sol
PGK	Kina
PHP	Philippine Peso
PKR	Pakistan Rupee
PLN	Zloty
PLZ	Zloty
PTE	Portuguese Escudo
PYG	Guarani
QAR	Qatari Rial
ROK	Leu A/52
ROL	Leu
RUB	Russian Ruble
RUR	Russian Federation Rouble
RWF	Rwanda Franc
SAR	Saudi Riyal
SBD	Solomon Islands

ISO Currency Code	Description
SCR	Seychelles Rupee
SDD	Sudanese Dinar
SDP	Sudanese Pound
SEK	Swedish Krona
SGD	Singapore Dollar
SHP	St Helena Pound
SIT	Tolar
SKK	Slovak Koruna
SLL	Leone
SOS	Somali Shilling
SRG	Surinam Guilder
STD	Dobra
SUR	Rouble
SVC	El Salvador Colon
SYP	Syrian Pound
SZL	Lilangeni
THB	Baht
TJR	Tajik Ruble
TJS	Somoni
TMM	Manat
TND	Tunisian Dinar
TOP	Pa’anga
TPE	Timor Escudo
TRL	Turkish Lira
TTD	Trinidad Dollar
TWD	New Taiwan Dollar
TZS	Tanzanian Shilling

ISO Currency Code	Description
UAH	Hryvnia
UAK	Karbovanet
UGS	Uganda Shilling
UGW	Old Shilling
UGX	Uganda Shilling
USD	US Dollar
USN	US Dollar (Next day)
USS	US Dollar (Same day)
UYN	Old Uruguay Peso
UYP	Uruguayan Peso
UYU	Peso Uruguayo
UZS	Uzbekistan Sum
VEB	Bolivar
VNC	Old Dong
VND	Dong
VUV	Vatu
WST	Tala
XAF	CFA Franc BEAC
XAG	Silver
XAU	GOLD
XBA	European Composite Unit
XBB	European Monetary Unit
XBC	European Unit of Account 9
XBD	European Unit of Account 17
XCD	East Caribbean Dollar
XDR	SDR
XEU	EU Currency (E.C.U)

ISO Currency Code	Description
XFO	Gold-Franc
XFU	UIC-Franc
XOF	CFA Franc BCEAO
XPD	Palladium
XPF	CFP Franc
XPT	Platinum
XTS	For Testing Purposes
XXX	Non Currency Transaction
YDD	Yemeni Din
YER	Yemeni Rial
YUD	New Yugoslavian Dinar
YUM	New Dinar
YUN	Yugoslavian Dinar
ZAL	Financial Rand
ZAR	Rand
ZMK	Zambian Kwacha
ZRN	New Zaire
ZRZ	Zaire
ZWC	Rhodesian Dollar
ZWD	Zimbabwe Dollar

Glossary of PeopleSoft Terms

absence entitlement This element defines rules for granting paid time off for valid absences, such as sick time, vacation, and maternity leave. An absence entitlement element defines the entitlement amount, frequency, and entitlement period.

absence take This element defines the conditions that must be met before a payee is entitled to take paid time off.

accounting class In PeopleSoft Enterprise Performance Management, the accounting class defines how a resource is treated for generally accepted accounting practices. The Inventory class indicates whether a resource becomes part of a balance sheet account, such as inventory or fixed assets, while the Non-inventory class indicates that the resource is treated as an expense of the period during which it occurs.

accounting date The accounting date indicates when a transaction is recognized, as opposed to the date the transaction actually occurred. The accounting date and transaction date can be the same. The accounting date determines the period in the general ledger to which the transaction is to be posted. You can only select an accounting date that falls within an open period in the ledger to which you are posting. The accounting date for an item is normally the invoice date.

accounting split The accounting split method indicates how expenses are allocated or divided among one or more sets of accounting ChartFields.

accumulator You use an accumulator to store cumulative values of defined items as they are processed. You can accumulate a single value over time or multiple values over time. For example, an accumulator could consist of all voluntary deductions, or all company deductions, enabling you to accumulate amounts. It allows total flexibility for time periods and values accumulated.

action reason The reason an employee's job or employment information is updated. The action reason is entered in two parts: a personnel action, such as a promotion, termination, or change from one pay group to another—and a reason for that action. Action reasons are used by PeopleSoft Human Resources, PeopleSoft Benefits Administration, PeopleSoft Stock Administration, and the COBRA Administration feature of the Base Benefits business process.

action template In PeopleSoft Receivables, outlines a set of escalating actions that the system or user performs based on the period of time that a customer or item has been in an action plan for a specific condition.

activity In PeopleSoft Enterprise Learning Management, an instance of a catalog item (sometimes called a class) that is available for enrollment. The activity defines such things as the costs that are associated with the offering, enrollment limits and deadlines, and waitlisting capacities.

In PeopleSoft Enterprise Performance Management, the work of an organization and the aggregation of actions that are used for activity-based costing.

In PeopleSoft Project Costing, the unit of work that provides a further breakdown of projects—usually into specific tasks.

In PeopleSoft Workflow, a specific transaction that you might need to perform in a business process. Because it consists of the steps that are used to perform a transaction, it is also known as a step map.

agreement	In PeopleSoft eSettlements, provides a way to group and specify processing options, such as payment terms, pay from a bank, and notifications by a buyer and supplier location combination.
allocation rule	In PeopleSoft Enterprise Incentive Management, an expression within compensation plans that enables the system to assign transactions to nodes and participants. During transaction allocation, the allocation engine traverses the compensation structure from the current node to the root node, checking each node for plans that contain allocation rules.
alternate account	A feature in PeopleSoft General Ledger that enables you to create a statutory chart of accounts and enter statutory account transactions at the detail transaction level, as required for recording and reporting by some national governments.
AR specialist	Abbreviation for *receivables specialist.* In PeopleSoft Receivables, an individual in who tracks and resolves deductions and disputed items.
arbitration plan	In PeopleSoft Enterprise Pricer, defines how price rules are to be applied to the base price when the transaction is priced.
assessment rule	In PeopleSoft Receivables, a user-defined rule that the system uses to evaluate the condition of a customer's account or of individual items to determine whether to generate a follow-up action.
asset class	An asset group used for reporting purposes. It can be used in conjunction with the asset category to refine asset classification.
attribute/value pair	In PeopleSoft Directory Interface, relates the data that makes up an entry in the directory information tree.
authentication server	A server that is set up to verify users of the system.
base time period	In PeopleSoft Business Planning, the lowest level time period in a calendar.
benchmark job	In PeopleSoft Workforce Analytics, a benchmark job is a job code for which there is corresponding salary survey data from published, third-party sources.
book	In PeopleSoft Asset Management, used for storing financial and tax information, such as costs, depreciation attributes, and retirement information on assets.
branch	A tree node that rolls up to nodes above it in the hierarchy, as defined in PeopleSoft Tree Manager.
budgetary account only	An account used by the system only and not by users; this type of account does not accept transactions. You can only budget with this account. Formerly called "system-maintained account."
budget check	In commitment control, the processing of source transactions against control budget ledgers, to see if they pass, fail, or pass with a warning.
budget control	In commitment control, budget control ensures that commitments and expenditures don't exceed budgets. It enables you to track transactions against corresponding budgets and terminate a document's cycle if the defined budget conditions are not met. For example, you can prevent a purchase order from being dispatched to a vendor if there are insufficient funds in the related budget to support it.
budget period	The interval of time (such as 12 months or 4 quarters) into which a period is divided for budgetary and reporting purposes. The ChartField allows maximum flexibility to define operational accounting time periods without restriction to only one calendar.
business event	In PeopleSoft Receivables, defines the processing characteristics for the Receivable Update process for a draft activity.

	In PeopleSoft Sales Incentive Management, an original business transaction or activity that may justify the creation of a PeopleSoft Enterprise Incentive Management event (a sale, for example).
business unit	A corporation or a subset of a corporation that is independent with regard to one or more operational or accounting functions.
buyer	In PeopleSoft eSettlements, an organization (or business unit, as opposed to an individual) that transacts with suppliers (vendors) within the system. A buyer creates payments for purchases that are made in the system.
catalog item	In PeopleSoft Enterprise Learning Management, a specific topic that a learner can study and have tracked. For example, "Introduction to Microsoft Word." A catalog item contains general information about the topic and includes a course code, description, categorization, keywords, and delivery methods. A catalog item can have one or more learning activities.
catalog map	In PeopleSoft Catalog Management, translates values from the catalog source data to the format of the company's catalog.
catalog partner	In PeopleSoft Catalog Management, shares responsibility with the enterprise catalog manager for maintaining catalog content.
categorization	Associates partner offerings with catalog offerings and groups them into enterprise catalog categories.
channel	In PeopleSoft MultiChannel Framework, email, chat, voice (computer telephone integration [CTI]), or a generic event.
ChartField	A field that stores a chart of accounts, resources, and so on, depending on the PeopleSoft application. ChartField values represent individual account numbers, department codes, and so forth.
ChartField balancing	You can require specific ChartFields to match up (balance) on the debit and the credit side of a transaction.
ChartField combination edit	The process of editing journal lines for valid ChartField combinations based on user-defined rules.
ChartKey	One or more fields that uniquely identify each row in a table. Some tables contain only one field as the key, while others require a combination.
checkbook	In PeopleSoft Promotions Management, enables you to view financial data (such as planned, incurred, and actual amounts) that is related to funds and trade promotions.
Class ChartField	A ChartField value that identifies a unique appropriation budget key when you combine it with a fund, department ID, and program code, as well as a budget period. Formerly called *sub-classification.*
clone	In PeopleCode, to make a unique copy. In contrast, to *copy* may mean making a new reference to an object, so if the underlying object is changed, both the copy and the original change.
collection	To make a set of documents available for searching in Verity, you must first create at least one collection. A collection is set of directories and files that allow search application users to use the Verity search engine to quickly find and display source documents that match search criteria. A collection is a set of statistics and pointers to the source documents, stored in a proprietary format on a file server. Because a collection can only store information for a single location, PeopleSoft maintains a set of collections (one per language code) for each search index object.

collection rule	In PeopleSoft Receivables, a user-defined rule that defines actions to take for a customer based on both the amount and the number of days past due for outstanding balances.
compensation object	In PeopleSoft Enterprise Incentive Management, a node within a compensation structure. Compensation objects are the building blocks that make up a compensation structure's hierarchical representation.
compensation structure	In PeopleSoft Enterprise Incentive Management, a hierarchical relationship of compensation objects that represents the compensation-related relationship between the objects.
condition	In PeopleSoft Receivables, occurs when there is a change of status for a customer's account, such as reaching a credit limit or exceeding a user-defined balance due.
configuration parameter catalog	Used to configure an external system with PeopleSoft. For example, a configuration parameter catalog might set up configuration and communication parameters for an external server.
configuration plan	In PeopleSoft Enterprise Incentive Management, configuration plans hold allocation information for common variables (not incentive rules) and are attached to a node without a participant. Configuration plans are not processed by transactions.
content reference	Content references are pointers to content registered in the portal registry. These are typically either URLs or iScripts. Content references fall into three categories: target content, templates, and template pagelets.
context	In PeopleCode, determines which buffer fields can be contextually referenced and which is the current row of data on each scroll level when a PeopleCode program is running. In PeopleSoft Enterprise Incentive Management, a mechanism that is used to determine the scope of a processing run. PeopleSoft Enterprise Incentive Management uses three types of context: plan, period, and run-level.
control table	Stores information that controls the processing of an application. This type of processing might be consistent throughout an organization, or it might be used only by portions of the organization for more limited sharing of data.
cost profile	A combination of a receipt cost method, a cost flow, and a deplete cost method. A profile is associated with a cost book and determines how items in that book are valued, as well as how the material movement of the item is valued for the book.
cost row	A cost transaction and amount for a set of ChartFields.
current learning	In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's in-progress learning activities and programs.
data acquisition	In PeopleSoft Enterprise Incentive Management, the process during which raw business transactions are acquired from external source systems and fed into the operational data store (ODS).
data elements	Data elements, at their simplest level, define a subset of data and the rules by which to group them. For Workforce Analytics, data elements are rules that tell the system what measures to retrieve about your workforce groups.
dataset	A data grouping that enables role-based filtering and distribution of data. You can limit the range and quantity of data that is displayed for a user by associating dataset rules with user roles. The result of dataset rules is a set of data that is appropriate for the user's roles.

delivery method In PeopleSoft Enterprise Learning Management, identifies the primary type of delivery method in which a particular learning activity is offered. Also provides default values for the learning activity, such as cost and language. This is primarily used to help learners search the catalog for the type of delivery from which they learn best. Because PeopleSoft Enterprise Learning Management is a blended learning system, it does not enforce the delivery method.

In PeopleSoft Supply Chain Management, identifies the method by which goods are shipped to their destinations (such as truck, air, rail, and so on). The delivery method is specified when creating shipment schedules.

delivery method type In PeopleSoft Enterprise Learning Management, identifies how learning activities can be delivered—for example, through online learning, classroom instruction, seminars, books, and so forth—in an organization. The type determines whether the delivery method includes scheduled components.

directory information tree In PeopleSoft Directory Interface, the representation of a directory's hierarchical structure.

document sequencing A flexible method that sequentially numbers the financial transactions (for example, bills, purchase orders, invoices, and payments) in the system for statutory reporting and for tracking commercial transaction activity.

dynamic detail tree A tree that takes its detail values—dynamic details—directly from a table in the database, rather than from a range of values that are entered by the user.

edit table A table in the database that has its own record definition, such as the Department table. As fields are entered into a PeopleSoft application, they can be validated against an edit table to ensure data integrity throughout the system.

effective date A method of dating information in PeopleSoft applications. You can predate information to add historical data to your system, or postdate information in order to enter it before it actually goes into effect. By using effective dates, you don't delete values; you enter a new value with a current effective date.

EIM ledger Abbreviation for *Enterprise Incentive Management ledger.* In PeopleSoft Enterprise Incentive Management, an object to handle incremental result gathering within the scope of a participant. The ledger captures a result set with all of the appropriate traces to the data origin and to the processing steps of which it is a result.

elimination set In PeopleSoft General Ledger, a related group of intercompany accounts that is processed during consolidations.

entry event In PeopleSoft General Ledger, Receivables, Payables, Purchasing, and Billing, a business process that generates multiple debits and credits resulting from single transactions to produce standard, supplemental accounting entries.

equitization In PeopleSoft General Ledger, a business process that enables parent companies to calculate the net income of subsidiaries on a monthly basis and adjust that amount to increase the investment amount and equity income amount before performing consolidations.

event A predefined point either in the Component Processor flow or in the program flow. As each point is encountered, the event activates each component, triggering any PeopleCode program that is associated with that component and that event. Examples of events are FieldChange, SavePreChange, and RowDelete.

In PeopleSoft Human Resources, also refers to an incident that affects benefits eligibility.

event propagation process In PeopleSoft Sales Incentive Management, a process that determines, through logic, the propagation of an original PeopleSoft Enterprise Incentive Management event and creates a derivative (duplicate) of the original event to be processed by other objects.

	Sales Incentive Management uses this mechanism to implement splits, roll-ups, and so on. Event propagation determines who receives the credit.
exception	In PeopleSoft Receivables, an item that either is a deduction or is in dispute.
exclusive pricing	In PeopleSoft Order Management, a type of arbitration plan that is associated with a price rule. Exclusive pricing is used to price sales order transactions.
fact	In PeopleSoft applications, facts are numeric data values from fields from a source database as well as an analytic application. A fact can be anything you want to measure your business by, for example, revenue, actual, budget data, or sales numbers. A fact is stored on a fact table.
forecast item	A logical entity with a unique set of descriptive demand and forecast data that is used as the basis to forecast demand. You create forecast items for a wide range of uses, but they ultimately represent things that you buy, sell, or use in your organization and for which you require a predictable usage.
fund	In PeopleSoft Promotions Management, a budget that can be used to fund promotional activity. There are four funding methods: top down, fixed accrual, rolling accrual, and zero-based accrual.
generic process type	In PeopleSoft Process Scheduler, process types are identified by a generic process type. For example, the generic process type SQR includes all SQR process types, such as SQR process and SQR report.
group	In PeopleSoft Billing and Receivables, a posting entity that comprises one or more transactions (items, deposits, payments, transfers, matches, or write-offs). In PeopleSoft Human Resources Management and Supply Chain Management, any set of records that are associated under a single name or variable to run calculations in PeopleSoft business processes. In PeopleSoft Time and Labor, for example, employees are placed in groups for time reporting purposes.
incentive object	In PeopleSoft Enterprise Incentive Management, the incentive-related objects that define and support the PeopleSoft Enterprise Incentive Management calculation process and results, such as plan templates, plans, results data, user interaction objects, and so on.
incentive rule	In PeopleSoft Sales Incentive Management, the commands that act on transactions and turn them into compensation. A rule is one part in the process of turning a transaction into compensation.
incur	In PeopleSoft Promotions Management, to become liable for a promotional payment. In other words, you owe that amount to a customer for promotional activities.
item	In PeopleSoft Inventory, a tangible commodity that is stored in a business unit (shipped from a warehouse). In PeopleSoft Demand Planning, Inventory Policy Planning, and Supply Planning, a noninventory item that is designated as being used for planning purposes only. It can represent a family or group of inventory items. It can have a planning bill of material (BOM) or planning routing, and it can exist as a component on a planning BOM. A planning item cannot be specified on a production or engineering BOM or routing, and it cannot be used as a component in a production. The quantity on hand will never be maintained. In PeopleSoft Receivables, an individual receivable. An item can be an invoice, a credit memo, a debit memo, a write-off, or an adjustment.
KPI	An abbreviation for *key performance indicator.* A high-level measurement of how well an organization is doing in achieving critical success factors. This defines the data value or calculation upon which an assessment is determined.

LDIF file — Abbreviation for *Lightweight Directory Access Protocol (LDAP) Data Interchange Format file.* Contains discrepancies between PeopleSoft data and directory data.

learner group — In PeopleSoft Enterprise Learning Management, a group of learners who are linked to the same learning environment. Members of the learner group can share the same attributes, such as the same department or job code. Learner groups are used to control access to and enrollment in learning activities and programs. They are also used to perform group enrollments and mass enrollments in the back office.

learning components — In PeopleSoft Enterprise Learning Management, the foundational building blocks of learning activities. PeopleSoft Enterprise Learning Management supports six basic types of learning components: web-based, session, webcast, test, survey, and assignment. One or more of these learning component types compose a single learning activity.

learning environment — In PeopleSoft Enterprise Learning Management, identifies a set of categories and catalog items that can be made available to learner groups. Also defines the default values that are assigned to the learning activities and programs that are created within a particular learning environment. Learning environments provide a way to partition the catalog so that learners see only those items that are relevant to them.

learning history — In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's completed learning activities and programs.

ledger mapping — You use ledger mapping to relate expense data from general ledger accounts to resource objects. Multiple ledger line items can be mapped to one or more resource IDs. You can also use ledger mapping to map dollar amounts (referred to as *rates*) to business units. You can map the amounts in two different ways: an actual amount that represents actual costs of the accounting period, or a budgeted amount that can be used to calculate the capacity rates as well as budgeted model results. In PeopleSoft Enterprise Warehouse, you can map general ledger accounts to the EW Ledger table.

library section — In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan (or template) and that is available for other plans to share. Changes to a library section are reflected in all plans that use it.

linked section — In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan template but appears in a plan. Changes to linked sections propagate to plans using that section.

linked variable — In PeopleSoft Enterprise Incentive Management, a variable that is defined and maintained in a plan template and that also appears in a plan. Changes to linked variables propagate to plans using that variable.

load — In PeopleSoft Inventory, identifies a group of goods that are shipped together. Load management is a feature of PeopleSoft Inventory that is used to track the weight, the volume, and the destination of a shipment.

local functionality — In PeopleSoft HRMS, the set of information that is available for a specific country. You can access this information when you click the appropriate country flag in the global window, or when you access it by a local country menu.

location — Locations enable you to indicate the different types of addresses—for a company, for example, one address to receive bills, another for shipping, a third for postal deliveries, and a separate street address. Each address has a different location number. The primary location—indicated by a *1*—is the address you use most often and may be different from the main address.

logistical task — In PeopleSoft Services Procurement, an administrative task that is related to hiring a service provider. Logistical tasks are linked to the service type on the work order so that different types of services can have different logistical tasks. Logistical tasks include both preapproval tasks (such as assigning a new badge or ordering a new laptop) and postapproval tasks (such as scheduling orientation or setting up the service provider email). The logistical tasks can be mandatory or optional. Mandatory preapproval tasks must be completed before the work order is approved. Mandatory postapproval tasks, on the other hand, must be completed before a work order is released to a service provider.

market template In PeopleSoft Enterprise Incentive Management, additional functionality that is specific to a given market or industry and is built on top of a product category.

match group In PeopleSoft Receivables, a group of receivables items and matching offset items. The system creates match groups by using user-defined matching criteria for selected field values.

MCF server Abbreviation for *PeopleSoft MultiChannel Framework server.* Comprises the universal queue server and the MCF log server. Both processes are started when *MCF Servers* is selected in an application server domain configuration.

merchandising activity In PeopleSoft Promotions Management, a specific discount type that is associated with a trade promotion (such as off-invoice, billback or rebate, or lump-sum payment) that defines the performance that is required to receive the discount. In the industry, you may know this as an offer, a discount, a merchandising event, an event, or a tactic.

meta-SQL Meta-SQL constructs expand into platform-specific Structured Query Language (SQL) substrings. They are used in functions that pass SQL strings, such as in SQL objects, the SQLExec function, and PeopleSoft Application Engine programs.

metastring Metastrings are special expressions included in SQL string literals. The metastrings, prefixed with a percent (%) symbol, are included directly in the string literals. They expand at run time into an appropriate substring for the current database platform.

multibook In PeopleSoft General Ledger, multiple ledgers having multiple-base currencies that are defined for a business unit, with the option to post a single transaction to all base currencies (all ledgers) or to only one of those base currencies (ledgers).

multicurrency The ability to process transactions in a currency other than the business unit’s base currency.

national allowance In PeopleSoft Promotions Management, a promotion at the corporate level that is funded by nondiscretionary dollars. In the industry, you may know this as a national promotion, a corporate promotion, or a corporate discount.

node-oriented tree A tree that is based on a detail structure, but the detail values are not used.

pagelet Each block of content on the home page is called a pagelet. These pagelets display summary information within a small rectangular area on the page. The pagelet provide users with a snapshot of their most relevant PeopleSoft and non-PeopleSoft content.

participant In PeopleSoft Enterprise Incentive Management, participants are recipients of the incentive compensation calculation process.

participant object Each participant object may be related to one or more compensation objects.

See also *compensation object*.

partner A company that supplies products or services that are resold or purchased by the enterprise.

pay cycle In PeopleSoft Payables, a set of rules that define the criteria by which it should select scheduled payments for payment creation.

pending item In PeopleSoft Receivables, an individual receivable (such as an invoice, a credit memo, or a write-off) that has been entered in or created by the system, but hasn’t been posted.

PeopleCode	PeopleCode is a proprietary language, executed by the PeopleSoft application processor. PeopleCode generates results based upon existing data or user actions. By using business interlink objects, external services are available to all PeopleSoft applications wherever PeopleCode can be executed.
PeopleCode event	An action that a user takes upon an object, usually a record field, that is referenced within a PeopleSoft page.
PeopleSoft Internet Architecture	The fundamental architecture on which PeopleSoft 8 applications are constructed, consisting of a relational database management system (RDBMS), an application server, a web server, and a browser.
performance measurement	In PeopleSoft Enterprise Incentive Management, a variable used to store data (similar to an aggregator, but without a predefined formula) within the scope of an incentive plan. Performance measures are associated with a plan calendar, territory, and participant. Performance measurements are used for quota calculation and reporting.
period context	In PeopleSoft Enterprise Incentive Management, because a participant typically uses the same compensation plan for multiple periods, the period context associates a plan context with a specific calendar period and fiscal year. The period context references the associated plan context, thus forming a chain. Each plan context has a corresponding set of period contexts.
plan	In PeopleSoft Sales Incentive Management, a collection of allocation rules, variables, steps, sections, and incentive rules that instruct the PeopleSoft Enterprise Incentive Management engine in how to process transactions.
plan context	In PeopleSoft Enterprise Incentive Management, correlates a participant with the compensation plan and node to which the participant is assigned, enabling the PeopleSoft Enterprise Incentive Management system to find anything that is associated with the node and that is required to perform compensation processing. Each participant, node, and plan combination represents a unique plan context—if three participants are on a compensation structure, each has a different plan context. Configuration plans are identified by plan contexts and are associated with the participants that refer to them.
plan template	In PeopleSoft Enterprise Incentive Management, the base from which a plan is created. A plan template contains common sections and variables that are inherited by all plans that are created from the template. A template may contain steps and sections that are not visible in the plan definition.
planned learning	In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's planned learning activities and programs.
planning instance	In PeopleSoft Supply Planning, a set of data (business units, items, supplies, and demands) constituting the inputs and outputs of a supply plan.
portal registry	In PeopleSoft applications, the portal registry is a tree-like structure in which content references are organized, classified, and registered. It is a central repository that defines both the structure and content of a portal through a hierarchical, tree-like structure of folders useful for organizing and securing content references.
price list	In PeopleSoft Enterprise Pricer, enables you to select products and conditions for which the price list applies to a transaction. During a transaction, the system either determines the product price based on the predefined search hierarchy for the transaction or uses the product's lowest price on any associated, active price lists. This price is used as the basis for any further discounts and surcharges.
price rule	In PeopleSoft Enterprise Pricer, defines the conditions that must be met for adjustments to be applied to the base price. Multiple rules can apply when conditions of each rule are met.

price rule condition In PeopleSoft Enterprise Pricer, selects the price-by fields, the values for the price-by fields, and the operator that determines how the price-by fields are related to the transaction.

price rule key In PeopleSoft Enterprise Pricer, defines the fields that are available to define price rule conditions (which are used to match a transaction) on the price rule.

process category In PeopleSoft Process Scheduler, processes that are grouped for server load balancing and prioritization.

process group In PeopleSoft Financials, a group of application processes (performed in a defined order) that users can initiate in real time, directly from a transaction entry page.

process definition Process definitions define each run request.

process instance A unique number that identifies each process request. This value is automatically incremented and assigned to each requested process when the process is submitted to run.

process job You can link process definitions into a job request and process each request serially or in parallel. You can also initiate subsequent processes based on the return code from each prior request.

process request A single run request, such as a Structured Query Report (SQR), a COBOL or Application Engine program, or a Crystal report that you run through PeopleSoft Process Scheduler.

process run control A PeopleTools variable used to retain PeopleSoft Process Scheduler values needed at runtime for all requests that reference a run control ID. Do not confuse these with application run controls, which may be defined with the same run control ID, but only contain information specific to a given application process request.

product category In PeopleSoft Enterprise Incentive Management, indicates an application in the Enterprise Incentive Management suite of products. Each transaction in the PeopleSoft Enterprise Incentive Management system is associated with a product category.

programs In PeopleSoft Enterprise Learning Management, a high-level grouping that guides the learner along a specific learning path through sections of catalog items. PeopleSoft Enterprise Learning Systems provides two types of programs—curricula and certifications.

progress log In PeopleSoft Services Procurement, tracks deliverable-based projects. This is similar to the time sheet in function and process. The service provider contact uses the progress log to record and submit progress on deliverables. The progress can be logged by the activity that is performed, by the percentage of work that is completed, or by the completion of milestone activities that are defined for the project.

project transaction In PeopleSoft Project Costing, an individual transaction line that represents a cost, time, budget, or other transaction row.

promotion In PeopleSoft Promotions Management, a trade promotion, which is typically funded from trade dollars and used by consumer products manufacturers to increase sales volume.

publishing In PeopleSoft Enterprise Incentive Management, a stage in processing that makes incentive-related results available to participants.

record group A set of logically and functionally related control tables and views. Record groups help enable TableSet sharing, which eliminates redundant data entry. Record groups ensure that TableSet sharing is applied consistently across all related tables and views.

record input VAT flag Abbreviation for *record input value-added tax flag.* Within PeopleSoft Purchasing, Payables, and General Ledger, this flag indicates that you are recording input VAT on the transaction. This flag, in conjunction with the record output VAT flag, is used to determine the accounting entries created for a transaction and to determine how a transaction is reported on the VAT return. For all cases within Purchasing and Payables where VAT information is tracked on a transaction, this flag is set to Yes. This flag is not used in PeopleSoft Order Management, Billing, or Receivables, where it is assumed that you are always recording only output VAT, or in PeopleSoft Expenses, where it is assumed that you are always recording only input VAT.

record output VAT flag
Abbreviation for *record output value-added tax flag.*

See *record input VAT flag.*

reference data
In PeopleSoft Sales Incentive Management, system objects that represent the sales organization, such as territories, participants, products, customers, channels, and so on.

reference object
In PeopleSoft Enterprise Incentive Management, this dimension-type object further defines the business. Reference objects can have their own hierarchy (for example, product tree, customer tree, industry tree, and geography tree).

reference transaction
In commitment control, a reference transaction is a source transaction that is referenced by a higher-level (and usually later) source transaction, in order to automatically reverse all or part of the referenced transaction's budget-checked amount. This avoids duplicate postings during the sequential entry of the transaction at different commitment levels. For example, the amount of an encumbrance transaction (such as a purchase order) will, when checked and recorded against a budget, cause the system to concurrently reference and relieve all or part of the amount of a corresponding pre-encumbrance transaction, such as a purchase requisition.

regional sourcing
In PeopleSoft Purchasing, provides the infrastructure to maintain, display, and select an appropriate vendor and vendor pricing structure that is based on a regional sourcing model where the multiple ship to locations are grouped. Sourcing may occur at a level higher than the ship to location.

relationship object
In PeopleSoft Enterprise Incentive Management, these objects further define a compensation structure to resolve transactions by establishing associations between compensation objects and business objects.

remote data source data
Data that is extracted from a separate database and migrated into the local database.

REN server
Abbreviation for *real-time event notification server* in PeopleSoft MultiChannel Framework.

requester
In PeopleSoft eSettlements, an individual who requests goods or services and whose ID appears on the various procurement pages that reference purchase orders.

role
Describes how people fit into PeopleSoft Workflow. A role is a class of users who perform the same type of work, such as clerks or managers. Your business rules typically specify what user role needs to do an activity.

role user
A PeopleSoft Workflow user. A person's role user ID serves much the same purpose as a user ID does in other parts of the system. PeopleSoft Workflow uses role user IDs to determine how to route worklist items to users (through an email address, for example) and to track the roles that users play in the workflow. Role users do not need PeopleSoft user IDs.

roll up
In a tree, to roll up is to total sums based on the information hierarchy.

run control
A run control is a type of online page that is used to begin a process, such as the batch processing of a payroll run. Run control pages generally start a program that manipulates data.

run control ID
A unique ID to associate each user with his or her own run control table entries.

run-level context In PeopleSoft Enterprise Incentive Management, associates a particular run (and batch ID) with a period context and plan context. Every plan context that participates in a run has a separate run-level context. Because a run cannot span periods, only one run-level context is associated with each plan context.

search query You use this set of objects to pass a query string and operators to the search engine. The search index returns a set of matching results with keys to the source documents.

section In PeopleSoft Enterprise Incentive Management, a collection of incentive rules that operate on transactions of a specific type. Sections enable plans to be segmented to process logical events in different sections.

security event In commitment control, security events trigger security authorization checking, such as budget entries, transfers, and adjustments; exception overrides and notifications; and inquiries.

serial genealogy In PeopleSoft Manufacturing, the ability to track the composition of a specific, serial-controlled item.

serial in production In PeopleSoft Manufacturing, enables the tracing of serial information for manufactured items. This is maintained in the Item Master record.

session In PeopleSoft Enterprise Learning Management, a single meeting day of an activity (that is, the period of time between start and finish times within a day). The session stores the specific date, location, meeting time, and instructor. Sessions are used for scheduled training.

session template In PeopleSoft Enterprise Learning Management, enables you to set up common activity characteristics that may be reused while scheduling a PeopleSoft Enterprise Learning Management activity—characteristics such as days of the week, start and end times, facility and room assignments, instructors, and equipment. A session pattern template can be attached to an activity that is being scheduled. Attaching a template to an activity causes all of the default template information to populate the activity session pattern.

setup relationship In PeopleSoft Enterprise Incentive Management, a relationship object type that associates a configuration plan with any structure node.

share driver expression In PeopleSoft Business Planning, a named planning method similar to a driver expression, but which you can set up globally for shared use within a single planning application or to be shared between multiple planning applications through PeopleSoft Enterprise Warehouse.

single signon With single signon, users can, after being authenticated by a PeopleSoft application server, access a second PeopleSoft application server without entering a user ID or password.

source transaction In commitment control, any transaction generated in a PeopleSoft or third-party application that is integrated with commitment control and which can be checked against commitment control budgets. For example, a pre-encumbrance, encumbrance, expenditure, recognized revenue, or collected revenue transaction.

SpeedChart A user-defined shorthand key that designates several ChartKeys to be used for voucher entry. Percentages can optionally be related to each ChartKey in a SpeedChart definition.

SpeedType A code representing a combination of ChartField values. SpeedTypes simplify the entry of ChartFields commonly used together.

staging A method of consolidating selected partner offerings with the offerings from the enterprise’s other partners.

statutory account Account required by a regulatory authority for recording and reporting financial results. In PeopleSoft, this is equivalent to the Alternate Account (ALTACCT) ChartField.

step In PeopleSoft Sales Incentive Management, a collection of sections in a plan. Each step corresponds to a step in the job run.

storage level In PeopleSoft Inventory, identifies the level of a material storage location. Material storage locations are made up of a business unit, a storage area, and a storage level. You can set up to four storage levels.

subcustomer qualifier A value that groups customers into a division for which you can generate detailed history, aging, events, and profiles.

Summary ChartField You use summary ChartFields to create summary ledgers that roll up detail amounts based on specific detail values or on selected tree nodes. When detail values are summarized using tree nodes, summary ChartFields must be used in the summary ledger data record to accommodate the maximum length of a node name (20 characters).

summary ledger An accounting feature used primarily in allocations, inquiries, and PS/nVision reporting to store combined account balances from detail ledgers. Summary ledgers increase speed and efficiency of reporting by eliminating the need to summarize detail ledger balances each time a report is requested. Instead, detail balances are summarized in a background process according to user-specified criteria and stored on summary ledgers. The summary ledgers are then accessed directly for reporting.

summary time period In PeopleSoft Business Planning, any time period (other than a base time period) that is an aggregate of other time periods, including other summary time periods and base time periods, such as quarter and year total.

summary tree A tree used to roll up accounts for each type of report in summary ledgers. Summary trees enable you to define trees on trees. In a summary tree, the detail values are really nodes on a detail tree or another summary tree (known as the *basis* tree). A summary tree structure specifies the details on which the summary trees are to be built.

syndicate To distribute a production version of the enterprise catalog to partners.

system function In PeopleSoft Receivables, an activity that defines how the system generates accounting entries for the general ledger.

TableSet A means of sharing similar sets of values in control tables, where the actual data values are different but the structure of the tables is the same.

TableSet sharing Shared data that is stored in many tables that are based on the same TableSets. Tables that use TableSet sharing contain the SETID field as an additional key or unique identifier.

target currency The value of the entry currency or currencies converted to a single currency for budget viewing and inquiry purposes.

template A template is HTML code associated with a web page. It defines the layout of the page and also where to get HTML for each part of the page. In PeopleSoft, you use templates to build a page by combining HTML from a number of sources. For a PeopleSoft portal, all templates must be registered in the portal registry, and each content reference must be assigned a template.

territory In PeopleSoft Sales Incentive Management, hierarchical relationships of business objects, including regions, products, customers, industries, and participants.

TimeSpan A relative period, such as year-to-date or current period, that can be used in various PeopleSoft General Ledger functions and reports when a rolling time frame, rather than a specific date, is required. TimeSpans can also be used with flexible formulas in PeopleSoft Projects.

trace usage
In PeopleSoft Manufacturing, enables the control of which components will be traced during the manufacturing process. Serial- and lot-controlled components can be traced. This is maintained in the Item Master record.

transaction allocation
In PeopleSoft Enterprise Incentive Management, the process of identifying the owner of a transaction. When a raw transaction from a batch is allocated to a plan context, the transaction is duplicated in the PeopleSoft Enterprise Incentive Management transaction tables.

transaction state
In PeopleSoft Enterprise Incentive Management, a value assigned by an incentive rule to a transaction. Transaction states enable sections to process only transactions that are at a specific stage in system processing. After being successfully processed, transactions may be promoted to the next transaction state and “picked up” by a different section for further processing.

Translate table
A system edit table that stores codes and translate values for the miscellaneous fields in the database that do not warrant individual edit tables of their own.

tree
The graphical hierarchy in PeopleSoft systems that displays the relationship between all accounting units (for example, corporate divisions, projects, reporting groups, account numbers) and determines roll-up hierarchies.

unclaimed transaction
In PeopleSoft Enterprise Incentive Management, a transaction that is not claimed by a node or participant after the allocation process has completed, usually due to missing or incomplete data. Unclaimed transactions may be manually assigned to the appropriate node or participant by a compensation administrator.

universal navigation header
Every PeopleSoft portal includes the universal navigation header, intended to appear at the top of every page as long as the user is signed on to the portal. In addition to providing access to the standard navigation buttons (like Home, Favorites, and signoff) the universal navigation header can also display a welcome message for each user.

user interaction object
In PeopleSoft Sales Incentive Management, used to define the reporting components and reports that a participant can access in his or her context. All Sales Incentive Management user interface objects and reports are registered as user interaction objects. User interaction objects can be linked to a compensation structure node through a compensation relationship object (individually or as groups).

variable
In PeopleSoft Sales Incentive Management, the intermediate results of calculations. Variables hold the calculation results and are then inputs to other calculations. Variables can be plan variables that persist beyond the run of an engine or local variables that exist only during the processing of a section.

VAT exception
Abbreviation for *value-added tax exception.* A temporary or permanent exemption from paying VAT that is granted to an organization. This terms refers to both VAT exoneration and VAT suspension.

VAT exempt
Abbreviation for *value-added tax exempt.* Describes goods and services that are not subject to VAT. Organizations that supply exempt goods or services are unable to recover the related input VAT. This is also referred to as exempt without recovery.

VAT exoneration
Abbreviation for *value-added tax exoneration.* An organization that has been granted a permanent exemption from paying VAT due to the nature of that organization.

VAT suspension
Abbreviation for *value-added tax suspension.* An organization that has been granted a temporary exemption from paying VAT.

warehouse
A PeopleSoft data warehouse that consists of predefined ETL maps, data warehouse tools, and DataMart definitions.

work order In PeopleSoft Services Procurement, enables an enterprise to create resource-based and deliverable-based transactions that specify the basic terms and conditions for hiring a specific service provider. When a service provider is hired, the service provider logs time or progress against the work order.

worksheet A way of presenting data through a PeopleSoft Business Analysis Modeler interface that enables users to do in-depth analysis using pivoting tables, charts, notes, and history information.

worklist The automated to-do list that PeopleSoft Workflow creates. From the worklist, you can directly access the pages you need to perform the next action, and then return to the worklist for another item.

XML schema An XML definition that standardizes the representation of application messages, component interfaces, or business interlinks.

yield by operation In PeopleSoft Manufacturing, the ability to plan the loss of a manufactured item on an operation-by-operation basis.

zero-rated VAT Abbreviation for *zero-rated value-added tax.* A VAT transaction with a VAT code that has a tax percent of zero. Used to track taxable VAT activity where no actual VAT amount is charged. Organizations that supply zero-rated goods and services can still recover the related input VAT. This is also referred to as exempt with recovery.

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