

HP Project and Portfolio Management Center

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HP Deployment Management User's Guide

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Contents

1	Getting Started with HP Deployment Management	9
	Introduction to HP Deployment Management	9
	Overview of an HP Deployment Management Process	10
	HP Deployment Management Terms and Concepts	13
	Standard Interface, PPM Workbench, and HP Deployment Management	13
	Packages and Object Types	14
	Workflows and Workflow Steps	16
	Releases	17
	HP Deployment Management Environments	18
	Integrating HP Deployment Management	19
	Related Documents	21
2	Understanding Packages	23
	About Packages	23
	Packages in the Standard Interface	27
	Package Detail Page, Header Section	29
	Package Detail Page, Status Section	29
	Package Detail Page, Notes Section	30
	Package Detail Page, References Section	30
	Packages in the PPM Workbench	31
	Package Window, Package Information Section	32
	Package Window, Package Lines Tab	33
	Package Window, Status Tab	34
	Accessing the Line Execution Log	35
	Accessing the Package Execution History	36
	Graphical View	36
	Viewing Line Permissions	37
	Viewing Line Transaction History	38

Viewing the Decision Detail	38
Viewing the Workflow Step Information URL	38
Package Window, Notes Tab	39
Package Window, References Tab	40
Reference Relationships	41
Predecessor Relationships	46
Successor Relationships	46
3 Creating Packages	47
Overview of Creating Packages	47
Before You Create Packages	47
Selecting Workflows	48
Verifying Environments	51
Verifying Object Types	52
Opening an Object Type	54
Creating Packages	55
Creating Packages Using the PPM Workbench	55
Creating Packages by Copying Existing Packages	57
Creating Packages as References from Packages	60
Creating Packages as References from Requests	62
Entering General Information for Packages	63
Adding Lines to Packages	64
Adding Notes to Packages	68
Adding References to Packages from the Package Workbench	69
Adding Attachments as Package References	70
Adding Existing Packages as Package References	72
Adding New Packages as Package References	73
Attaching Programs as Package References	75
Attaching Projects as Package References	76
Adding Releases as References	78
Adding Existing Requests as Package References	80
Adding New Requests as Package References	82
Adding Tasks as Package References	83
Adding URLs as Package References	85
Submitting Packages	86

4 Processing Packages	87
Overview of Processing Packages	87
Using the Standard Interface to Process Packages	88
Opening Packages from the Standard Interface	89
Opening Packages from the Search Packages Page	89
Opening Packages from the My Packages Portlet	90
Opening Packages Using Notification Links	90
Approving Packages in the Standard Interface	90
Adding Notes to Packages in the Standard Interface	93
Adding References to Packages from the Standard Interface	94
Adding Attachments as References	95
Adding Existing Packages as Package References	96
Adding New Packages as Package References	98
Attaching Programs as Package References	100
Attaching Projects as Package References	101
Adding Releases as Package References	102
Adding Existing Requests as Package References	103
Adding New Requests as Package References	104
Adding Tasks as Package References	106
Adding URLs as Package References	107
Processing Packages Using the PPM Workbench	108
Opening Packages from the PPM Workbench	108
Checking Package Status	109
Acting on Eligible Steps	110
Processing a Workflow Step	111
Acting on Decision Workflow Steps	113
Acting on Execution Workflow Steps	115
Adding Notes	117
Adding, Updating, and Deleting References	118
Adding References	118
Updating Reference Relationships	119
Deleting References	120
Adding a Package Line to an In-Progress Package	120

5	Managing Packages	121
	Managing Packages in HP Deployment Management	121
	Merging Packages	121
	Creating New Package Groups	123
	Editing Package Groups	125
	Deleting Packages	127
	Cancelling Package Lines	128
	Index	129

1 Getting Started with HP Deployment Management

Introduction to HP Deployment Management

HP Deployment Management is an HP Project and Portfolio Management Center (PPM Center) product that automates the migration and deployment of software code, configurations, and content. HP Deployment Management groups these objects into packages and routes the packages along business processes modeled in HP's configurable workflow. The workflow automatically moves each package through required steps, which typically include system build, testing, quality assurance, staging, and final deployment.

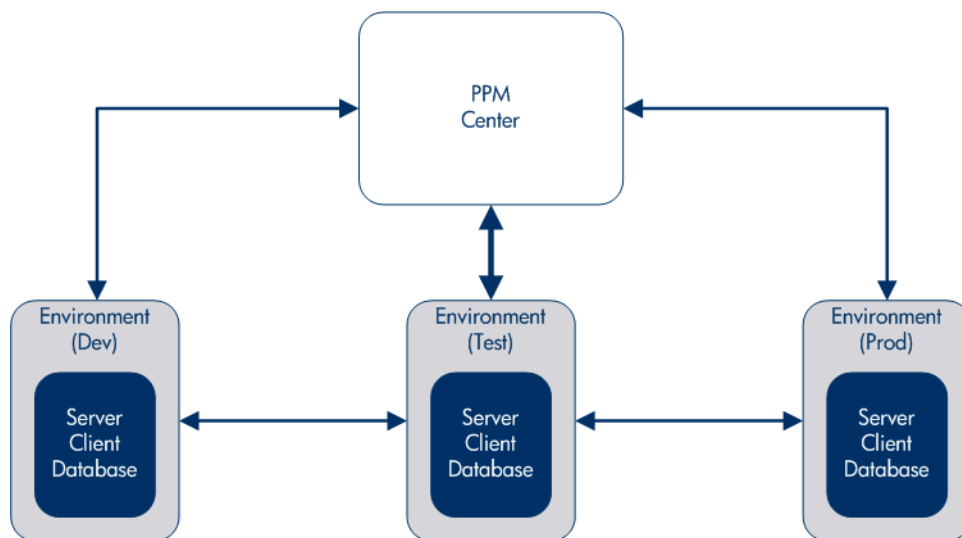
HP Deployment Management automatically deploys the application components (such as XML content, HTML files, Java™ programs, and Oracle® application configurations) that each package requires. For example, HP Deployment Management connects to the development environment, copies Java files from the version control repository, and transfers the files to the quality assurance environment. It then uses the Java compiler to compile and pack all of the files into a single Java program. The customer can use a built-in scheduler to schedule deployments. HP Deployment Management maintains an audit trail for all activities, including package information, application components altered, approvals obtained, and deployments performed.

Overview of an HP Deployment Management Process

HP Deployment Management is an enterprise application designed to deploy and audit software changes to mission-critical applications. It does this by gathering all information required for a successful deployment (for example, information on environments and objects to be migrated) into a single logical unit called a *package*.

The package is the fundamental work unit in HP Deployment Management. A package consists of the objects that are processed through a business workflow. This results in a successful, easy-to-track software change.

Figure 1-1. HP Deployment Management overview

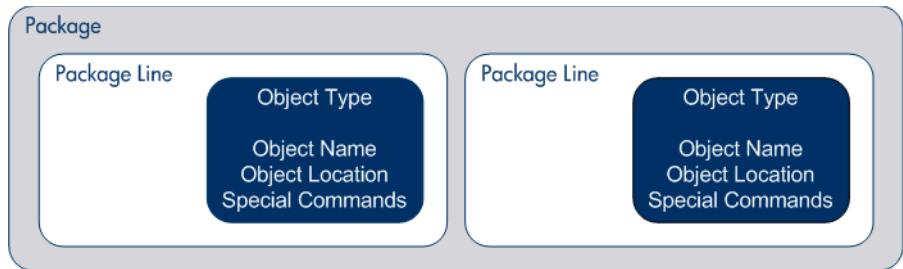


A package consists of a group of objects, each of which belongs to an object type. Each object type is associated with a set of parameters that defines the information the package requires, and any additional information it can accept.

For a more complete overview of packages, see [Chapter 2, Understanding Packages](#), on page 23.

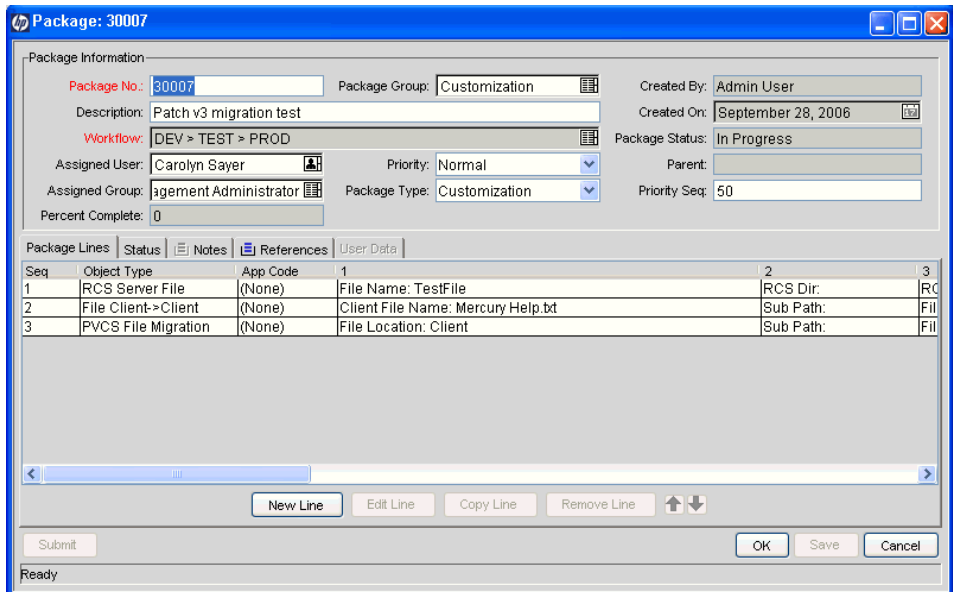
For example, the File Migration object is a standard object type that copies files (objects) from one environment to another.

Figure 1-2. A package



Although each package line can be acted upon separately, the group of package lines and objects represent a logical unit that is moved and tracked as a unit. The way a package is processed depends on the specific workflow applied to it. *Figure 1-3* shows a sample package in the Package window of the Package Workbench.

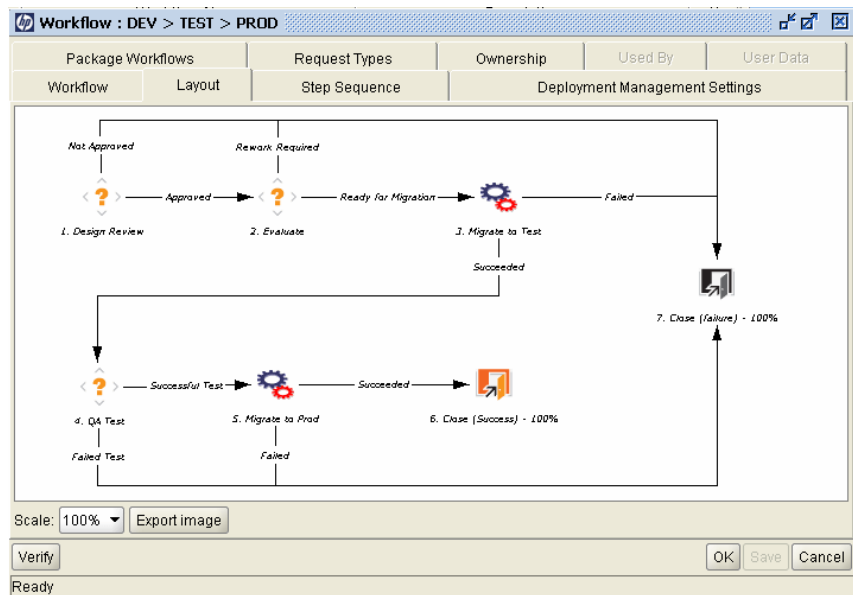
Figure 1-3. Sample package in the Package window



A workflow represents the business process associated with the package. Workflows consist of a logical series of steps that define the path that the objects in a package follow. Some of those workflow steps might represent decision-making processes; for example, code reviews and management approvals. Usually, at least one workflow step represents, or actually performs, the migration of the objects from one environment to another environment.

In *Figure 1-4*, the workflow step Migrate to Test represents the migration of package objects from one environment to another. The workflow steps Design Review and Evaluate represent business package-related decisions.

Figure 1-4. Package workflow



HP Deployment Management Terms and Concepts

Standard Interface, PPM Workbench, and HP Deployment Management

HP Deployment Management provides two different interfaces for working with packages. In the standard interface, HP Deployment Management provides the package detail page. In the PPM Workbench, HP Deployment Management provides the Package Workbench. Although these two interfaces have common functionality, a package detail page does not have all of the functionality of the Package Workbench.

The key difference between the Package Workbench and the detail page for a package is that you can use the Package Workbench to add package lines and submit a package. You cannot add package lines and submit a package from a detail page.

The Package Workbench is designed to allow engineers or developers to create and submit packages. Creating and submitting packages requires specialized knowledge. In some cases, it requires passwords to production servers. Some of this information is not available to the resources making decisions about a package. Additionally, not everyone who makes decisions about a package requires access to the PPM Workbench.

► For instructions on how to create and submit packages to deploy software and application changes, see [Chapter 3, *Creating Packages*, on page 47](#).

From a package detail page, and with the required permissions, you can process a package through its workflow. You can add notes and references to the package and make decisions about package status. However, you cannot change or delete a package from the detail page.

► For information about the licenses and access grants required to work with packages in HP Deployment Management, see the *Security Model Guide and Reference*. For information on how to move packages through their associated workflows, see [Chapter 4, *Processing Packages*, on page 87](#). For instructions on how to work with (copy, cancel, merge, and so on) packages, see [Chapter 5, *Managing Packages*, on page 121](#).

Packages and Object Types

Packages are the fundamental work units of HP Deployment Management. A package consists of the objects that are processed through a business workflow.

While each package line can be acted upon separately, the group of package lines and objects represent a logical unit that should be moved and tracked together. The processing of a package and package lines can vary greatly depending upon the workflow specified for that package. *Figure 1-5* shows a sample package in the Package window.

Figure 1-5. Sample package in the Package window

The screenshot shows the 'Package: 30007' window. The 'Package Information' section includes:

- Package No.: 30007
- Package Group: Customization
- Created By: Admin User
- Description: Patch v3 migration test
- Created On: September 28, 2006
- Workflow: DEV > TEST > PROD
- Package Status: In Progress
- Assigned User: Carolyn Sayer
- Priority: Normal
- Parent: (empty)
- Assigned Group: Management Administrator
- Package Type: Customization
- Priority Seq: 50
- Percent Complete: 0

The 'Package Lines' section contains a table with the following data:

Seq	Object Type	App Code	1	2	3
1	RCS Server File	(None)	File Name: TestFile	RCS Dir:	RC
2	File Client->Client	(None)	Client File Name: Mercury Help.bt	Sub Path:	Fill
3	PVCS File Migration	(None)	File Location: Client	Sub Path:	Fill

At the bottom of the window, there are buttons for 'New Line', 'Edit Line', 'Copy Line', 'Remove Line', 'Submit', 'OK', 'Save', and 'Cancel'. The status bar at the very bottom shows 'Ready'.

Each object belongs to an object type. An object type can also have associated commands that determine its behavior as it moves from one environment to another. Commands are used to define what a migration means for each type of object. For example, a File Object Type might only require that a file be copied, while a Database Script Object Type might require the copying of a file and executing it against the destination database.

Object types are user-configurable. HP Deployment Management and its extensions also provide libraries of predefined object types, falling under one of the following categories:

- **Standard Objects.** Standard objects are predefined object types that are shipped with HP Deployment Management or one of the HP Deployment Management Extensions. These object types encapsulate the basic functionality that manages crucial actions; for example, migrating and executing file system-level objects and operating system commands, or applying patches to an Oracle applications instance. A standard object type is the File Migration object, which copies a file from one environment to another. A more complex standard object type is the SQL Script, which not only copies the file but also executes the script against the destination database.
- **Custom Objects.** Customers must often customize standard object types, or produce entirely new object types, in order to handle the requirements of their software environments and deployment management processes. A custom objects category is provided to help distinguish these customized object types from those that come with HP Deployment Management or its extensions. Such object types, designed by the customer or by consultants, are often used for integration with third-party tools or in-house products.
- **PPM Center Migrator Objects.** PPM Center migrator objects are object types that contain functionality to export and import configuration information. You can use these for several purposes, including:
 - To transfer configuration information between distinct PPM Center instances
 - To extract information from a PPM Center database schema into an XML file
 - To load information from an XML file into a database schema

This means that you can migrate configuration information using standard deployment management test practices, processing a package through a workflow.

Workflows and Workflow Steps

A workflow consists of a logical series of steps that define the path to be followed by objects in a package. Workflow configuration and routing can be customized, and the workflow engine can handle virtually any business practice. This allows a department to generate workflows to automate existing processes, rather than forcing users to adopt a new set of processes to perform their work.

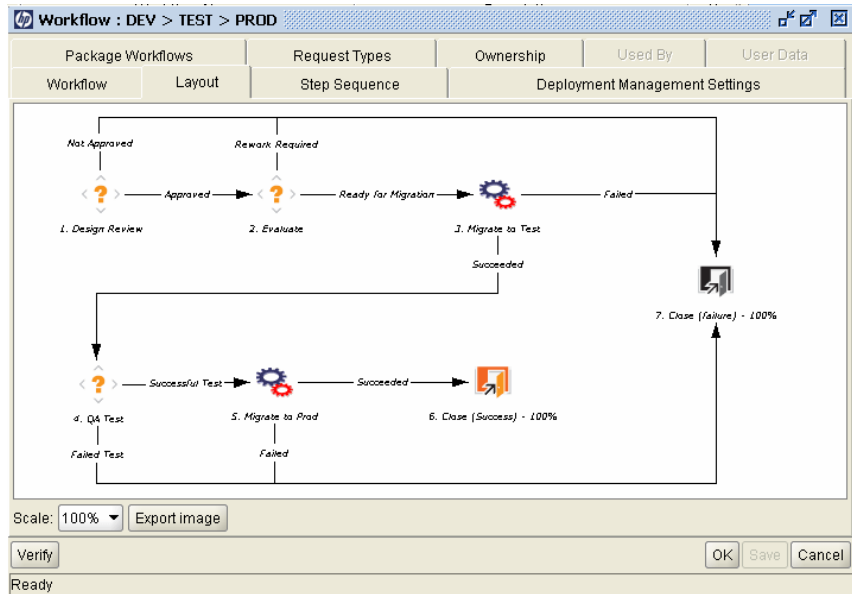
Workflow steps can range in usage from functional approvals to actual migrations. For example, migration steps automatically move specified objects from source environments to destination environments.

Workflow steps are events that are linked together to form a complete workflow. HP Deployment Management uses the following four types of workflow steps:

- **Decision workflow steps.** In decision workflow steps, you or group of users must indicate a result or outcome; for example, work is approved or a review is completed.
- **Execution workflow steps.** In execution workflow steps, the system performs an action, and then updates the step with its result. The action can be as simple as calculating the value for a token, or as complex as copying files, running programs, or updating Web pages.
- **Condition workflow steps.** Condition workflow steps are logic steps used for complex workflow processing; for example, allowing a workflow to proceed only after all prerequisite steps are completed.
- **Subworkflow workflow steps.** Subworkflow workflow steps are entire workflows that have been enabled for use as subworkflows. Subworkflows are useful time savers in modeling business processes that include predefined procedures.

Figure 1-6 shows a sample package workflow.

Figure 1-6. Package workflow



Releases

In HP Deployment Management, you can configure releases to group packages and related requests that must be deployed together. For example, the software company XYZ Corporation has a product update release scheduled for five months from now. To ensure successful product delivery, they decide to use HP Deployment Management to create a release that lets them track all changes to their original code.

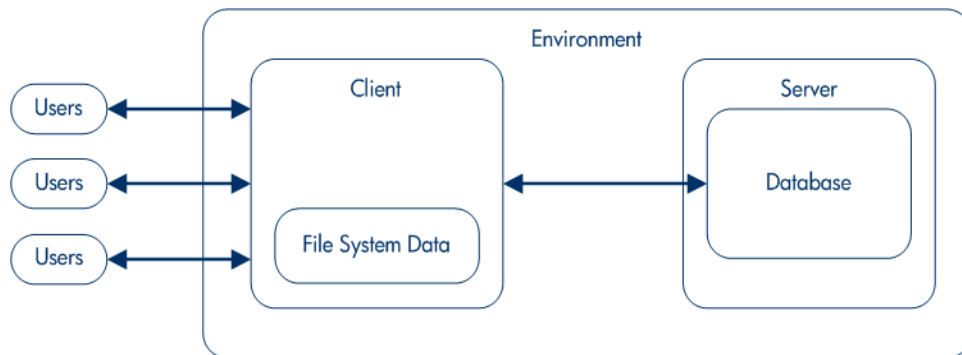
As developers complete their packages, the packages are included in the release and processed together. Because every required change is grouped in the release, the company can quickly and easily assess the product status and progress toward delivery.

For detailed information about releases, and how to create and configure them, see the *HP Deployment Management Configuration Guide*.

HP Deployment Management Environments

An HP Deployment Management environment is composed of a unique combination of server, client, database, and file system data that represent one logical group.

Figure 1-7. HP Deployment Management environment



The environment server represents the main host machine for the environment. This machine may be of any platform type; for example, UNIX® or Windows®. Typically, the server is a UNIX machine that also hosts the database for this environment.

The environment client represents a remote client machine that also serves to identify the specified environment. The client is typically defined if users are doing multiplatform development in a client/server environment, with some development done on UNIX, and some on Windows Server. The client can be a file server that stores client code accessed by users. Many programs, such as transactional forms, have both client and server components; for example, the user interface code and the database objects, respectively. [Figure 1-8 on page 19](#) shows an example of information displayed in the Environment window.

Figure 1-8. Sample environment

The screenshot displays the 'Environment : test_alpha' configuration window. It features a title bar with the environment name and standard window controls. Below the title bar, there are fields for 'Environment Name' (test_alpha), 'Description' (and database hosting the Kirtana application server), 'Location', and 'Enabled' (Yes/No). A tabbed interface at the top includes 'Host', 'Applications', 'Extension Data', 'Ownership', 'User Access', and 'User Data'. The main area is divided into three sections: 'Server', 'Client', and 'Database'. Each section has its own 'Enable' checkbox. The 'Server' section includes fields for Name, Type, Username, Password, NT Domain, Base Path, Connection Protocol, and Transfer Protocol. The 'Client' section has similar fields. The 'Database' section includes a 'Server Type' dropdown and fields for Host Name, Connect String, Username, Password, Oracle SID, Port Number, DB Link, Version, and JDBC URL. At the bottom, there are 'Check...', 'OK', 'Save', and 'Cancel' buttons, and a 'Ready' status indicator.

Integrating HP Deployment Management

Integration with Version Control

HP Deployment Management provides complete integration with all standard version control systems, including RCS, SCCS, PVCS, ClearCase, CCC/ Harvest, and Visual SourceSafe. The HP Deployment Management outbound API provides all check-in, check-out, and promotion functions during deployment.

File system objects can be deployed to new installations and updated in version control simultaneously. This synchronizes your version control repository, physical installations, and HP Deployment Management workflows.

Integration with HP Demand Management

HP Deployment Management manages the physical deployment of changes to your application environment, but equally important, it also gathers and analyzes issues (requests) related to system stability. To facilitate this request gathering, HP Deployment Management is integrated with HP Demand Management.

Like HP Deployment Management, HP Demand Management is a workflow-based system that features complete audit trail tracking of requests from submission to closure. The tight integration between HP Demand Management and HP Deployment Management allows packages to be automatically generated from requests.

The requests are then automatically updated upon package completion. This closed-loop integration ensures a coherent and consistent view of issue status and removes the need for redundant data across multiple applications.

Integration with Third-Party Applications through HP Deployment Management Extensions

HP Deployment Management Extensions are application-specific modules that automate the deployment and post-deployment steps of objects, files, and patches. Extensions are fully integrated with HP Deployment Management to provide a total solution for managing various enterprise applications. The following extensions are available:

- HP Deployment Management Extension for Oracle E-Business Suite
- HP Deployment Management Extension for Oracle Technology
- HP Deployment Management Extension for SAP® Solutions

Related Documents

You can find related information in the following documents:

- *HP Deployment Management Configuration Guide*
- *Commands, Tokens, and Validations Guide and Reference*
- *Reports Guide and Reference*
- *Security Model Guide and Reference*
- *HP-Supplied Entities Guide*

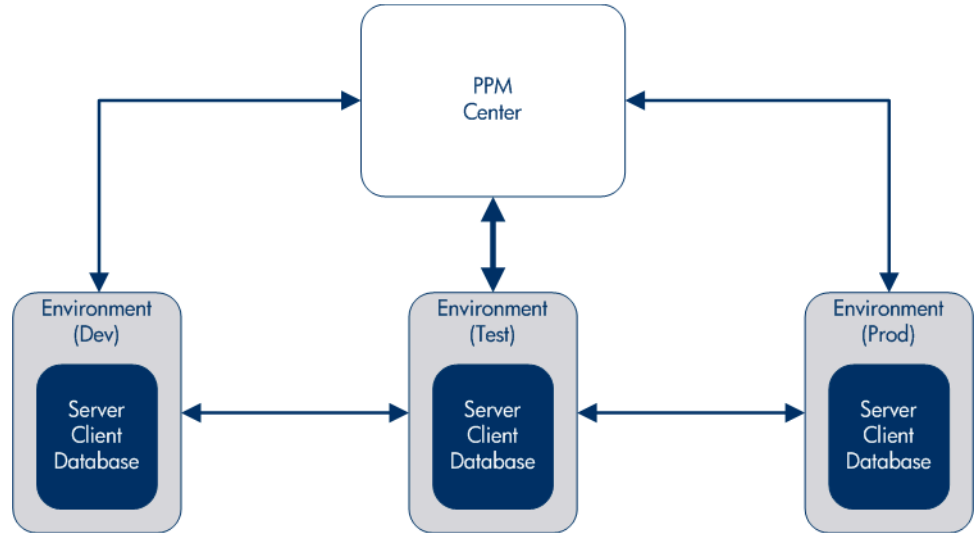
2 Understanding Packages

About Packages

HP Deployment Management automates the migration and deployment of software code, configurations, and content. These objects are grouped into packages and are routed along business processes (workflows) using the PPM Workbench and the standard interface. Workflows automate the movement of each package through their required steps.

For example, you want to copy an operating system patch from the development environment, Dev, to the test environment, Test. After the operating system patch is thoroughly tested, you can copy the patch to production environment, Prod.

Figure 2-1. Package processing in HP Deployment Management



A package is the fundamental work unit of HP Deployment Management. Each package follows a workflow (business process). As with any business process, decisions are made and actions taken that affect the package. Each decision or action becomes a workflow step.

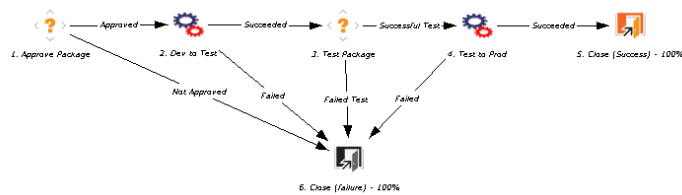
If a decision on a package is required, you must manually update a workflow step to reflect that decision. However, you can configure some actions (for example, migrating a file from one environment to another) to occur automatically. The basic components required to configure a workflow step to automatically migrate a file from one environment to another environment are as follows:

- A package, which defines the file name, location, and type, and the workflow to apply.
- A workflow, which determines the conditions that trigger file migration (workflow step), and the source and destination environments for the file migration.

When you create a package, you assign it a single workflow that defines the steps the package must take. *Figure 2-2* shows a sample workflow, with the following steps:

- Approve Package
- Dev to Test (migration)
- Test Package
- Test to Prod (migration)
- Exit

Figure 2-2. Package workflow and workflow steps



You must perform the Approve Package and Test Package workflow steps manually during the course of the workflow. You configure the Dev to Test and Test to Prod workflow steps to execute automatically.

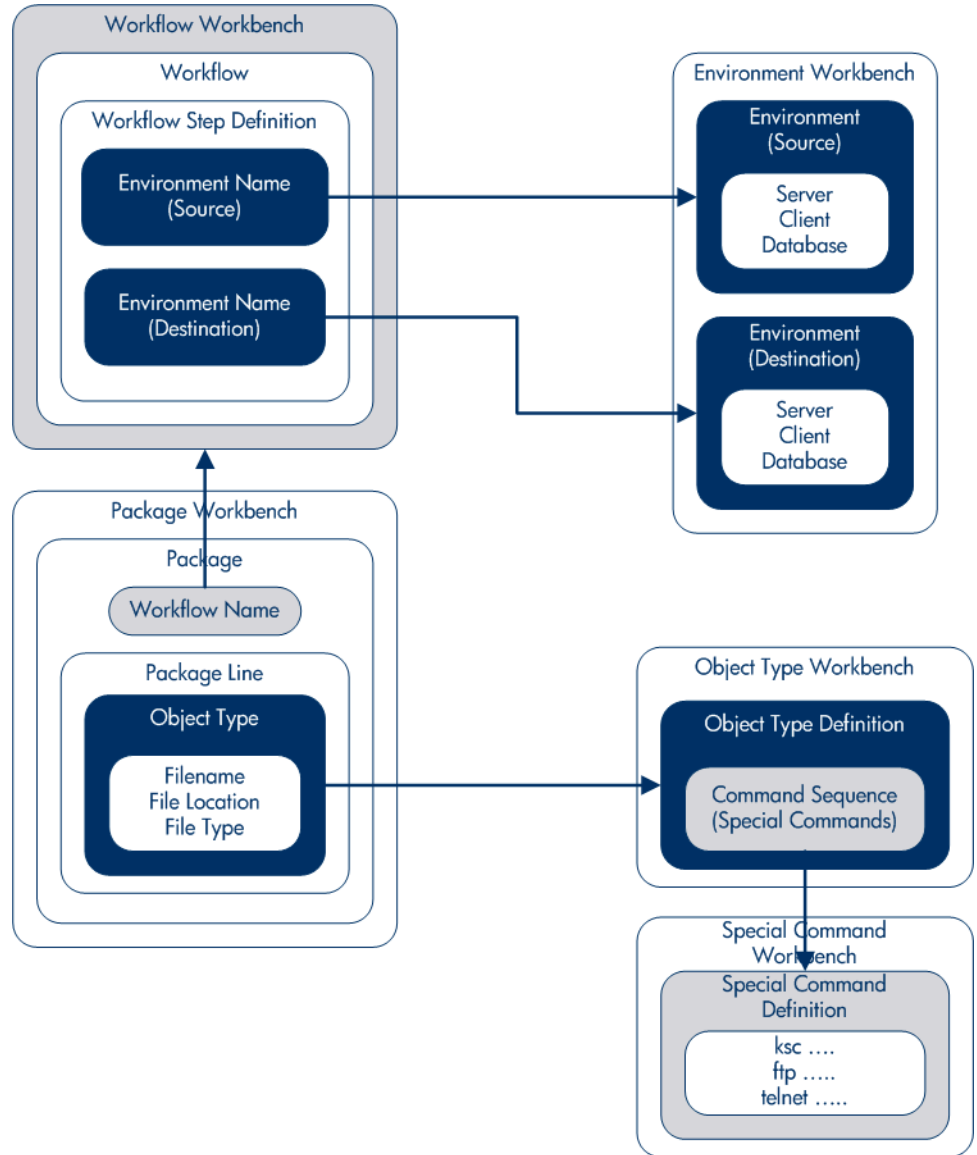


To assign a workflow to a package, you do not need to know how to configure a workflow step, or even a workflow. However, you do need to know how to access the information in a workflow, workflow step, and environment.

In *Figure 2-3* on page 26, the package displayed in the Package Workbench is associated with a workflow in the Workflow Workbench. The migration workflow steps are configured with source and destination environments. You access and configure environments using the Environment Workbench.

The package in *Figure 2-3* on page 26 is configured with a single package line, and then configured with an object type. A package line can contain only one object type. The object type contains the information required to migrate a file (an object), including the file name, location, and type (ASCII or binary). Depending on the object type definition, additional information may be required.

Figure 2-3. How a package comes together



Object types are defined in the Object Type Workbench. In the Object Type Workbench, you can open and access the command sequence used to migrate the object across environments. These command sequences include special commands defined in the Special Command Workbench.

To create a package, you must know the following:

- **Workflow.** Defined in the Workflow Workbench.
- **Environments.** Specified in the workflow step and defined in the Environment Workbench.
- **Object type.** Defined in the Object Type Workbench.

For information about the licenses and access grants required to work with packages in HP Deployment Management, see the *Security Model Guide and Reference*.

Packages in the Standard Interface

You can use the package detail page in the standard interface to view information for a package, add notes and references to the package, and process the package through its workflow. When you add a new package as a reference to a request, you do not access the Package window in the PPM Workbench. Instead, you access a New Package page in the standard interface.

Creating a new package using the New Package page does not create a complete package that you can submit. Instead, the New Package page opens and saves a package in the standard interface. Before you can submit the package, you must use the Package window in the PPM Workbench to add package lines to it. [Figure 2-4 on page 28](#) shows the detail page for a package that was created from the standard interface as a reference to a request, and contains no lines yet.

Figure 2-4. Package detail page

Package 30007

Save Reset

Header

Package No.: **Package Group:** **Created By:** Admin User

Description: **Created On:** September 28, 2006

Workflow: DEV > TEST > PROD **Status:** In Progress

Assigned User: **Priority:** **Parent:**

Assigned Group: **Package Type:** **Priority Seq:**

Percent Complete: 0

Status

View Lines: Pending Lines Only **View Steps:** Steps Waiting my Action

All Lines All Steps Refresh

View All Lines

Seq	Object Name	Object Type
This package does not have any Lines to show.		

Check All Clear All Line Details View Log

View Eligible Steps for DEV > TEST > PROD

Seq	Object Name	Object Type
This package does not have any Steps to show.		

Check All Clear All Workflow Action

◀ ◀◀ ◀◀◀ ▶▶▶ ▶▶ ▶

Notes

Notes to be added on save:

References

Projects

Name	Project Manager/Resource	Status	% Complete	Relationship	Relationship Details
<input checked="" type="checkbox"/> ERP Service Pack ...	Joseph Banks	Business Readiness Sig...	46%	<input type="text" value="Related to this Package"/>	Informational: Project 30091 is related to Package 30007
<input checked="" type="checkbox"/> Whirlwind 2	David Jones	In Planning	0%	<input type="text" value="Related to this Package"/>	Informational: Project 30222 is related to Package 30007

Reference Additions

New Reference: Add
 Highlighted items are actively controlling this Package

References to be added on Save:

Open Remove

Save Reset

Package Detail Page, Header Section

On the detail page for a package, the **Header** section displays general information such as who created the package, the date it was created, and its associated workflow. *Figure 2-5* shows a typical **Header** section.

Figure 2-5. Package detail page, Header section

Header			
Package No.:	<input type="text" value="30007"/>	Package Group:	<input type="text" value="Customization"/>
Description:	<input type="text" value="Patch v3 migration test"/>	Created By:	Admin User
Workflow:	DEV > TEST > PROD	Created On:	September 28, 2006
Assigned User:	<input type="text" value="Carolyn Sayer"/>	Priority:	<input type="text" value="Normal"/>
Assigned Group:	<input type="text" value="ITG Deployment Managemen"/>	Package Type:	<input type="text" value="Customization"/>
Parent:		Priority Seq:	<input type="text" value="50"/>
Percent Complete:	0		

Package Detail Page, Status Section

The **Status** section on a Package detail page displays the current package status. After a package is first created in the standard interface, the **Status** section does not exist. After the package is submitted, the **Status** section displays the package lines and all of the steps in the associated workflow. *Figure 2-6* shows the **Status** section on a package detail page.

Figure 2-6. Package detail page, Status section

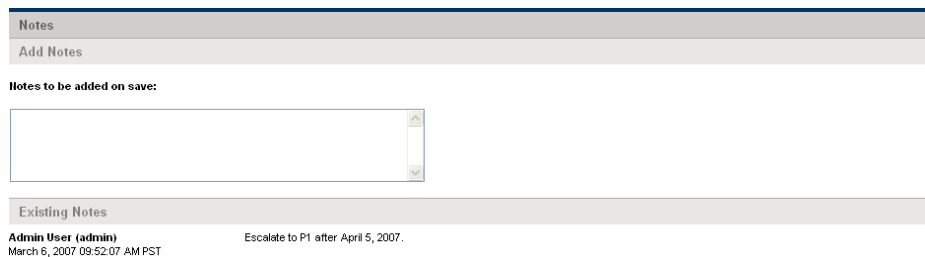
Status			
View Lines: <input type="radio"/> Pending Lines Only		View Steps: <input type="radio"/> Steps Waiting my Action	
<input checked="" type="radio"/> All Lines		<input checked="" type="radio"/> All Steps <input type="button" value="Refresh"/>	
View All Lines			View All Steps for DEV > TEST > PROD
Seq	Object Name	Object Type	<input type="radio"/> 1: Design Review <input type="radio"/> 2: Evaluate <input type="radio"/> 3: Migrate to Test <input type="radio"/> 4: QA Test
<input type="checkbox"/>	1 TestFile	RCS Server File	Eligible
<input type="checkbox"/>	3 KeyConcepts.pdf	PVCS File Migration	Eligible
<input type="checkbox"/>	4	File Client->Client	Eligible
<input type="button" value="Check All"/> <input type="button" value="Clear All"/> <input type="button" value="Line Details"/> <input type="button" value="View Log"/>			<input type="button" value="Check All"/> <input type="button" value="Clear All"/> <input type="button" value="Workflow Action"/> <input type="button" value="◀"/> <input type="button" value="◀◀"/> <input type="button" value="▶▶"/> <input type="button" value="▶"/>

Package Detail Page, Notes Section

The **Notes** section on a package detail page contains fields that you can use to provide package information that you want to store. The **Notes** section is included in the package creation process and continues with package until it is closed.

Figure 2-7 shows a typical **Notes** section. All **Notes** sections include the **Add Notes** subsection. The **Existing Notes** section is created after the first note is created for the request.

Figure 2-7. Package detail page, Notes section



The screenshot displays the 'Notes' section of a package detail page. It features a header bar with the word 'Notes' and a sub-header 'Add Notes'. Below this is a text area labeled 'Notes to be added on save:'. Underneath the text area is a list of 'Existing Notes'. The first note is from 'Admin User (admin)' dated 'March 5, 2007 09:52:07 AM PST' with the content 'Escalate to P1 after April 5, 2007.'

Package Detail Page, References Section

A package's detail page **References** section contains additional information about the package. For example, you might add a URL to a package or delete an outdated document from a package. The **References** section is included in the package creation process and continues with the package until the package is closed. References can be added or deleted from the package.

Use the **Reference Additions** section to add a reference to the package. Saved references are organized by reference type; for example, all saved reference packages are saved in the **Packages** section. For some references, a functional dependency between the package the referenced entity can be created. For more information about references and their functional dependencies, see [Reference Relationships on page 41](#).

Figure 2-8 shows the **References** section on the Package detail page.

Figure 2-8. Package detail page, References section

References

Reference Additions

New Reference: Attachment Add

References to be added on Save:

Open Remove

Packages in the PPM Workbench

You can use the Package Workbench to view existing packages. From a Package window, you can add notes and references to the package, and process the package through its workflow. From the Package window, you can create and submit a package, process it through its workflow, cancel it, or delete it.

Figure 2-9 shows the detail page for a package.

Figure 2-9. Package window

Package: 30007

Package Information

Package No.: 30007 Package Group: Customization Created By: Admin User

Description: Patch v3 migration test Created On: September 28, 2006

Workflow: DEV > TEST > PROD Package Status: In Progress

Assigned User: Carolyn Sayer Priority: Normal Parent:

Assigned Group: Management Administrator Package Type: Customization Priority Seq: 50

Percent Complete: 0

Seq	Object Type	App Code	1	2	3
1	RCS Server File	(None)	File Name: TestFile	RCS Dir:	RC
2	File Client->Client	(None)	Client File Name: Mercury Help.bt	Sub Path:	File
3	PVCS File Migration	(None)	File Location: Client	Sub Path:	File

New Line Edit Line Copy Line Remove Line

Submit OK Save Cancel

Ready

Package Window, Package Information Section

The **Package Information** section of the Package window displays general information about the package; for example, who created the package, the date, and the associated workflow. The **Package Information** section is included in the package creation process and stays with the package. Typically, when creating a package, you must complete some fields in this section. *Figure 2-10* shows a typical general information section. The information in a package's detail page Header section is found in the Package window's general information section.

Figure 2-10. Package window, Package Information section

The screenshot shows a software window titled "Package: 30007" with a "Package Information" section. The fields are as follows:

- Package No.: 30007
- Package Group: Customization
- Created By: Admin User
- Description: Patch v3 migration test
- Created On: September 28, 2006
- Workflow: DEV > TEST > PROD
- Package Status: In Progress
- Assigned User: Carolyn Sayer
- Priority: Normal
- Parent: (empty)
- Assigned Group: Management Administrator
- Package Type: Customization
- Priority Seq: 50
- Percent Complete: 0

Below the fields is a table with columns: Seq, Object Type, App Code, File Name, RCS Dir, Client File Name, Sub Path, and File Location. The table contains three rows of data:

Seq	Object Type	App Code	File Name	RCS Dir	Client File Name	Sub Path	File Location
1	RCS Server File	(None)	TestFile				
2	File Client->Client	(None)	Mercury Help.bt				
3	PVCS File Migration	(None)					

At the bottom of the window, there are buttons for "New Line", "Edit Line", "Copy Line", "Remove Line", "Submit", "OK", "Save", and "Cancel". The status bar at the very bottom says "Ready".

Package Window, Package Lines Tab

The **Package Lines** tab lists the package lines associated with a package. Package lines define the object migrating from one environment to another environment. Each package line defines one object (file). Typically, objects (files) are defined by their object type (for example, **File Client > Client** or **File Migration**), filename, location, and file type. You cannot define multiple objects on a single package line. *Figure 2-11* shows the **Package Line** tab with package lines displayed.

Figure 2-11. Package window, Package Lines tab

The screenshot shows a software window titled "Package: 30007". The "Package Information" section includes fields for Package No. (30007), Package Group (Customization), Description (Patch v3 migration test), Workflow (DEV > TEST > PROD), Assigned User (Carolyn Sayer), Assigned Group (agement Administrator), Priority (Normal), Package Type (Customization), Created By (Admin User), Created On (September 28, 2006), Package Status (In Progress), Parent, and Priority Seq (50). The "Package Lines" tab is active, displaying a table with the following data:

Seq	Object Type	App Code	1	2	3
1	RCS Server File	(None)	File Name: TestFile	RCS Dir:	RC
2	File Client->Client	(None)	Client File Name: Mercury Help.bt	Sub Path:	Fill
3	PVCS File Migration	(None)	File Location: Client	Sub Path:	Fill

At the bottom of the window, there are buttons for "New Line", "Edit Line", "Copy Line", "Remove Line", "Submit", "OK", "Save", and "Cancel". The status bar at the bottom left shows "Ready".

Package Window, Status Tab

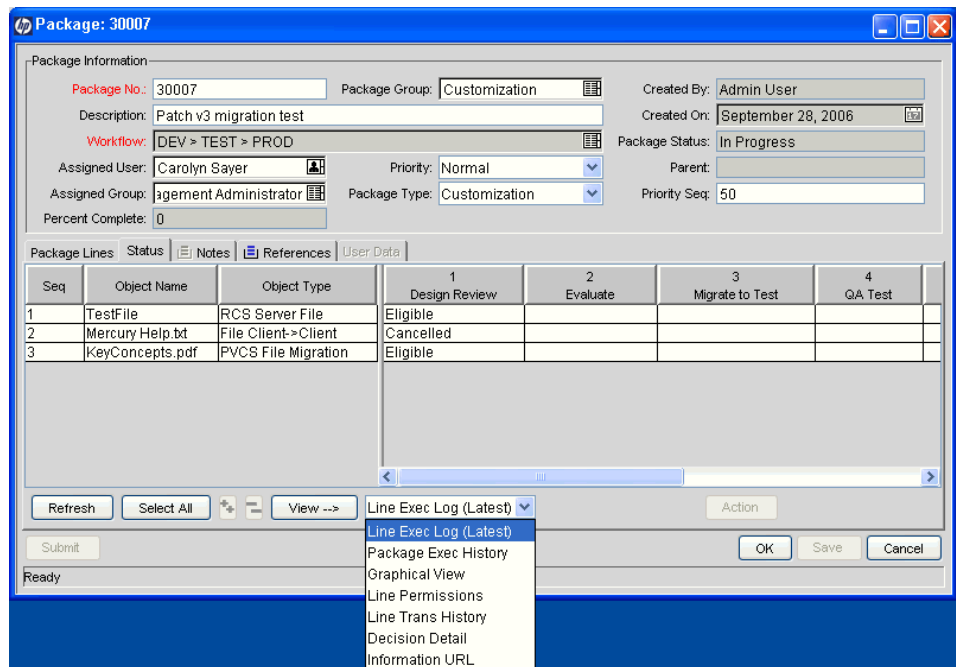
The **Status** tab in the Package window displays the current package status. When a package is first created, the **Status** tab displays the package lines. After the package is saved or submitted, the **Status** tab displays the package lines and all of the workflow steps in the associated workflow.

Use the **Status** tab to view:

- All the possible actions that can be performed on the package
- All the actions performed to date
- Pending actions that must be performed to resolve the package

After a package is submitted, you can use the **Status** tab to process it through the workflow. Each package line includes all of the steps in the workflow. If a workflow step is eligible for action, the **Initial Approval** field for that step displays the value **Eligible** (*Figure 2-12*).

Figure 2-12. Package window, Status tab



After a package is submitted, you can expand a package line to display any of the subworkflow steps defined in the workflow. To view the subworkflow steps, above the subworkflow step, click **Expand**.

To expand all subworkflows on the **Status** tab, click **Expand All**. To hide expanded subworkflow steps, above the subworkflow step, click **Collapse**. To hide all subworkflow steps, click **Collapse All**. Clicking **Expand** expands the package line horizontally to display all of the steps within the subworkflow.

The header text for subworkflow steps is displayed in a different color than the header for workflow steps. The step numbering includes additional decimal places to indicate the level of the workflow. For example, if step 3 of a top-level workflow is a subworkflow, its steps are numbered as 3.1, 3.2, 3.3, and so on. Similarly, if the second step in that subworkflow is also a subworkflow step, its steps are numbered as 3.2.1, 3.2.2, 3.2.3, and so on.

From the **Status** tab, you can access several log files, a graphical view of the workflow, transaction histories, and detail files related to the package. Use these files, views, and histories to help you as you process your package.

Accessing the Line Execution Log

You can select a package line and get the details of the execution of that particular line by viewing the line execution log. The line viewed is a subset of the overall execution batch log.

If the package line has been configured to migrate to multiple environments using an environment group, the execution log returns an execution summary and link for each destination environment. To view the detailed execution log for an environment, click the associated link.

Accessing the Package Execution History

The Package Execution History displays the execution history of each package line. It displays the workflow step name, execution date, and outcome (**Succeeded** or **Failed**) of each execution step.

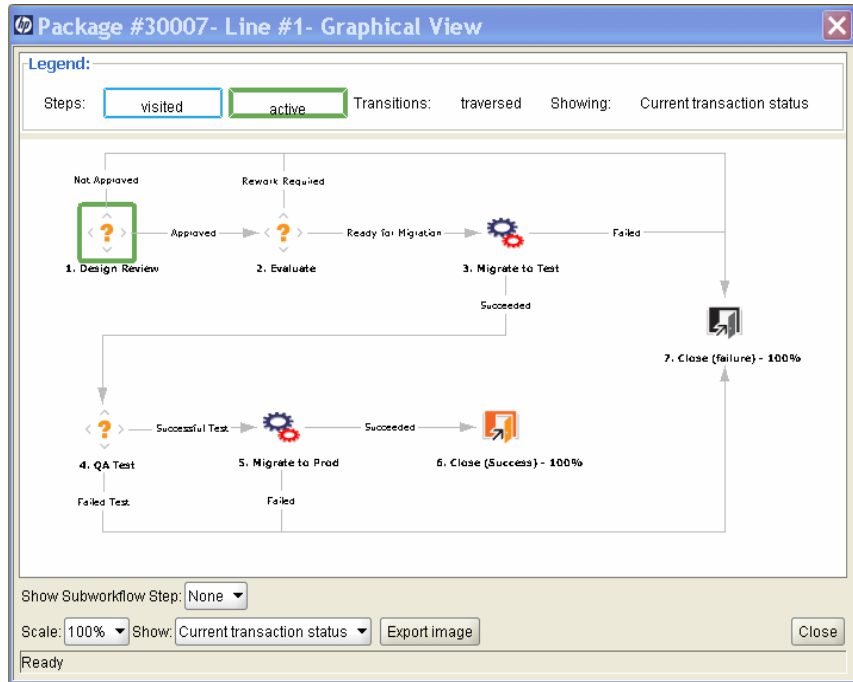
If the package line has been configured to migrate to multiple environments using an environment group, the execution log returns an execution summary and link for each destination environment. Click the link to get the detailed execution logs for each environment.

Graphical View

To view the workflow, select the Graphical View window (*Figure 2-13 on page 37*). Use the legend at the top of the window to determine which workflow steps have been visited and which steps are active. This image displays all of the workflow steps and subworkflows used in the workflow definition.

To obtain a graphical view of a particular subworkflow, select the subworkflow name from the **Show Subworkflow Step** list at the bottom of the window. This opens a new window that displays the graphical view of that subworkflow.

Figure 2-13. Graphical View window for a package



Viewing Line Permissions

Workflow permissions are established during the initial workflow configuration. The Line Permissions view lists all users in security groups that have been enabled for the related workflow step. If you have questions regarding the permissions set for a particular workflow step, see your application administrator.

Viewing Line Transaction History

You can view the transaction history of each package line. This provides detailed information on how the package line has proceeded through an HP Deployment Management workflow. Information; for example, as the date of the transaction event, the user linked to the workflow step, the workflow step name and number, status, and results are displayed.

To display information on the subworkflow steps that have been traversed more than once by a single package line, select **Full transaction history**.

Selecting **Current transaction status** displays only information on the most recent transaction up through that step.

Viewing the Decision Detail

The Decision Detail displays the decision history of each workflow step. It displays the date, resource, and decision of the decision workflow step.

Viewing the Workflow Step Information URL

Workflow steps can be configured to include a URL that provides information regarding the workflow step. If you administrator has linked an informational URL to a workflow step, you can view the URL in the Workflow Step Information URL window.

Package Window, Notes Tab

The **Notes** tab in the Package window (*Figure 2-14*) contains fields where notes on and information about the package can be entered and stored. The **Notes** section is included in the package creation process and continues with the package until it is closed. Typically, when creating a package, you do not need to add a note to the package.

Figure 2-14. Package window, Notes tab

Package: 30019

Package Information

Package No.: 30019 Package Group: Created By: Admin User

Description: Patch v3 migration test Created On: October 19, 2006

Workflow: DEV > TEST > PROD Package Status: New

Assigned User: Carolyn Sayer Priority: Normal Parent:

Assigned Group: Management Administrator Package Type: Customization Priority Seq: 50

Percent Complete: 0

Package Lines | Status | Notes | References | UserData

Existing Notes

Admin User (admin)
March 6, 2007 09:52:07 AM PST
Escalate to P1 after April 5, 2007.

New Notes

Enlarge

Submit OK Save Cancel

Ready

Package Window, References Tab

A package window's **References** tab (*Figure 2-15*) displays additional information about the package. For example, you might add a URL to a package or delete an outdated document from a package. The **References** tab is included in the package creation process and continues with the package until the package is closed. You can add references to or delete them from the package.

Use the **Reference Addition** section to add a reference to the package. Saved references are organized by reference type; for example, all saved reference packages are saved in the Packages section. For some references, a functional dependency between the package and the referenced entity can be created. For more information about references and their functional dependencies, see *Reference Relationships*.

Figure 2-15. Package window, References tab

Type	Name	Details	Status	% Complete	Descr
Project	ERP Service Pack - Sept 2006	ERP Service Pack - Sept 2006	Business Readiness Sign-Off	46%	
Project	Whirlwind 2	Whirlwind 2	In Planning	0%	
Package	30032	DEV > TEST > PROD	New	0%	Patch

Reference Relationships

For some references, you can create a functional dependency between the package and the referenced entity. For example, you can specify that a request is a predecessor to the package. This means the package cannot continue until the request is closed.

- **Predecessor Relationships.** Predecessor relationships dictate that action is not allowed on one entity until the referenced entity closes. For example, a package cannot complete any workflow action until the referenced task is closed (**Completed, Bypassed, or Cancelled**). The package status is **Pending Task**. After the task closes, the package can be acted upon after more. This does not stop other request fields from being edited.
- **Successor Relationships.** Successor relationships dictate that action is not allowed on the referenced entity until the entity closes. For example, a referenced task cannot change status until the original package is closed. The task status is **Pending Request**. When the package closes, the task can again be changed. This does not prevent other task fields from being edited.

Table 2-1 on page 42 lists the references, their definitions, and possible dependency relationships.

Table 2-1. References and relationships (page 1 of 4)

Reference	Reference Description	Possible Relationships	Relationship Description
Attachment	Attach a file from a local machine to the current package. The attached file is copied to the server.	Standard attachment interaction	(Informational) The attachment is related to this package.
Packages (Existing)	Reference an existing package.	Duplicate package	(Informational) The referenced package is a duplicate of the package.
		Run before this package in a release	(Informational) In a release, the selected package must be run before this package.
		Run after this package in a release	(Informational) In a release, the selected package must be run after this package.
		Predecessor	(Blocking) Action is not allowed on the package until the referenced package closes.
		Successor	(Blocking) Action is not allowed on the referenced package until the package closes.

Table 2-1. References and relationships (page 2 of 4)

Reference	Reference Description	Possible Relationships	Relationship Description
Packages (New)	New packages can also be created from a package. If configured as part of the workflow, you can spawn a package from a workflow step. When this happens, a reference to that package is automatically generated, establishing a two-way link between the packages.	Run before this package in a release	(Informational) In a release, the selected package must be run before this package.
		Run after this package in a release	(Informational) In a release, the selected package must be run after this package.
		Predecessor	(Blocking) Action is not allowed on the package until the referenced package closes.
		Successor	(Blocking) Action is not allowed on the referenced package until the package closes.
Programs	Reference a program in HP Program Management.	Related to This program	(Informational) Selected program is related to this package.
Projects	Reference a project in HP Project Management.	Related to This package	(Informational) Selected project is related to this package.
Releases	Reference a release in HP Deployment Management.	Contains this package	(Informational) The package is contained in the selected release.

Table 2-1. References and relationships (page 3 of 4)

Reference	Reference Description	Possible Relationships	Relationship Description
Request (Existing)	Reference an existing request.	Parent of this package	(Informational) The referenced request is the parent of the package.
		Related to this package	(Informational) Referenced request is related to this package.
		Predecessor	(Blocking) Action not allowed on this package until the referenced request closes.
		Successor	(Blocking) Action not allowed on the referenced request until this package closes.

Table 2-1. References and relationships (page 4 of 4)

Reference	Reference Description	Possible Relationships	Relationship Description
Requests (New)	<p>New packages can be created from existing packages.</p> <p>Also, if configured as part of the workflow, you can spawn a package from a package. When this happens, a reference to that package is automatically generated, establishing a two-way link between the packages.</p>	Parent of this package	(Informational) The referenced request is the parent of the package.
		Related to this package	(Informational) Referenced request is related to this package.
		Predecessor	(Blocking) Action not allowed on this package until the referenced request closes.
		Successor	(Blocking) Action not allowed on the referenced request until this package closes.
Tasks	Reference a task in HP Project Management.	Related to this package	(Informational) The referenced task is related to this package.
URL	Reference a Web address. Documents at the URL must be in MIME format.	Standard URL interaction	(Informational) The URL is related to this package.

Predecessor Relationships

Predecessor relationships dictate that action cannot be performed on one entity until the referenced entity closes. For example, a package cannot complete any workflow action until the referenced task is closed (**Completed**, **Bypassed**, or **Cancelled**). The package status is **Pending Task**. After the referenced task closes, the package can be acted on again. This does not prevent the editing of other request fields.

Successor Relationships

Successor relationships dictate that action is not allowed on a referenced entity until the entity closes. For example, a referenced task cannot change its status until the original package is closed. The task status is **Pending Request**. After the package closes, the task can be acted on. This does not stop other task fields from being edited.

3 Creating Packages

Overview of Creating Packages

This chapter provides instructions on how to create and submit packages to deploy software and application changes. Although you typically use the PPM Workbench to create packages, you can also create them by copying an existing package, or create them as referenced entities.

After you create a package, you must submit it to start the workflow (business process). For information on how to submit a package, see [Submitting Packages](#) on page 86.

Before You Create Packages

Before you create a package, make sure you understand the following:

- **Workflow.** Defined in the Workflow Workbench.
- **Environments.** Specified in the workflow step and defined in the Environment Workbench.
- **Object type.** Defined in the Object Type Workbench.

Selecting Workflows

Each package is processed through a predefined workflow. You must select a workflow to apply to each package you create. It is important that you route your packages through workflows that accurately model the appropriate business process.

To view the graphical layout of an HP Deployment Management workflow:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Configuration > Workflows**.

The Workflow Workbench window opens.

4. To display all of the workflows, in the Workflow Workbench, click **List**.

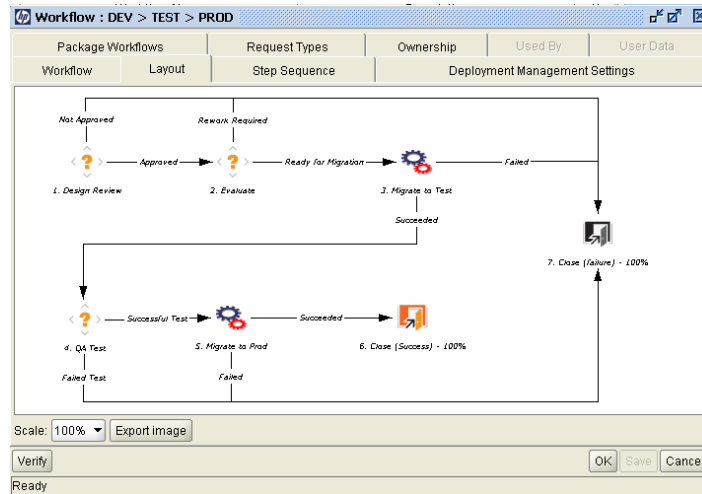


To restrict your search, you would specify one or more of the query parameters.

The **Results** tab lists all workflow records.

5. Select a workflow for which the **Workflow Scope** column displays **Packages**, and then click **Open**.

The Workflow <Workflow Name> window opens to the **Layout** tab, which displays a graphical representation of the workflow steps.



Check to ensure that the workflow follows the correct business process for your package. If it does not, open a different workflow.

6. Double-click a migration workflow step. For example, Migrate to Test or Migrate to Prod.

The Workflow Step window for that step opens to the **Properties** tab.

7. Verify that the source and destination environments listed on the tab are correct.

The screenshot shows the 'Workflow Step' dialog box with the 'Properties' tab selected. The 'Step Number' is 3 and the 'Step Name' is 'Migrate to Test'. The 'Source Type' is 'Execution' and the 'Source Name' is 'Copy(1) (R) DLV Execution (Manual)'. The 'Enabled' checkbox is checked, and the 'Display' dropdown is set to 'Always'. The 'Workflow Parameter' is 'NONE'. The 'Source Environment' and 'Dest Environment' fields are empty. The 'Authentication Required' dropdown is set to 'None'. The dialog box has 'OK', 'Apply', and 'Cancel' buttons at the bottom.

8. To view additional information in the Workflow Step window, click the following tabs:
 - **Security.** Use to define the security groups allowed to act on the selected step. All enabled security groups are displayed in either the **Available Security Groups** field or the **Linked Security Groups** field. Each user who belongs to a linked security group can perform the actions defined for that particular workflow step.
 - **Segregation of Duties.** Use to specify workflow steps to be segregated from the selected step in the workflow. This segregation prevents a given user from acting on both steps in the workflow. For example, you might use it to prevent the person who requests a change from then deploying that change to the production system without approval from a third party.

You can also use this tab to specify that the package creator cannot act on the selected workflow step.

- **Notifications.** Use to attach email notifications to the workflow step. Email messages can be sent whenever a particular event (for example, the step completes with a specific result) occurs at the step.
- **Timeout.** This tab displays timeout intervals set for this workflow step.
- **User Data.** This tab displays any custom fields for each workflow step.
- **Results.** This tab lists all of the possible valid results for the step.

9. Close the Workflow Step window.

Verifying Environments

Some workflow steps include specify source and destination environments. If you are not sure the specified environments are correct, you can open them in the Environment Workbench.

To access an environment:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench.**

The PPM Workbench opens.

3. From the shortcut bar, select **Environments > Environments.**

The Environment Workbench opens.

4. To display all of the environments, click **List.**

To restrict the search, specify one or more query parameters.

The **Results** tab lists the environment records.

5. Select one or more of the listed environments, and then click **Open.**

The Environment <*Environment Name*> window opens.

6. Check the settings for the server, client, and database.
7. Close the Environment window.

Verifying Object Types

When creating a package, the available object types are displayed in an auto-complete list. To view the available object types before you start to create a package, you can open an object type in the Object Type Workbench. *Table 3-1* lists the HP-supplied object types.



The HP Deployment Management Extensions provide additional object types.

Table 3-1. Object types (page 1 of 2)

Object Type	Description
File Client>Client	File copy from client to client.
File Migration	File copy from environment to environment.
PPM Data Source Migrator	Migrates a PPM Center data source migrator.
PPM Module Migrator	Migrates a PPM Center module from one PPM Center environment to another PPM Center environment.
PPM Object Type Migrator	Migrates a PPM Center object type from one PPM Center environment to another PPM Center environment.
PPM Overview Page Section Migrator	Migrates a PPM Center overview page section from one PPM Center environment to another PPM Center environment.
PPM Portlet Definition Migrator	Migrates a PPM Center portlet definition from one PPM Center environment to another PPM Center environment.
PPM Project Template Migrator	Migrates a PPM Center project template from one PPM Center environment to another PPM Center environment.
PPM Report Type Migrator	Migrates a PPM Center report type from one PPM Center environment to another PPM Center environment.
PPM Request Header Type Migrator	Migrates a PPM Center request header type from one PPM Center environment to another PPM Center environment.

Table 3-1. Object types (page 2 of 2)

Object Type	Description
PPM Request Type Migrator	Migrates a PPM Center request type from one PPM Center environment to another PPM Center environment.
PPM Special Command Migrator	Migrates a PPM Center special command from one PPM Center environment to another PPM Center environment.
PPM User Data Context Migrator	Migrates a PPM Center user data context from one PPM Center environment to another PPM Center environment.
PPM Validation Migrator	Migrates a PPM Center validation from one PPM Center environment to another PPM Center environment.
PPM Workflow Migrator	Migrates a PPM Center workflow from one PPM Center environment to another PPM Center environment.
OS/390 JCL Migration	Migrates an OS/390 JCL from a source environment to the destination environment.
PVCS File Migration	Migrates an object from the PVCS archive to the destination environment.
RCS File Migration	This object manages the check out and distribution of code in RCS.
RCS Server File	Old file will be checked in on the destination environment. New file will be checked in and checked out Read-Only on the destination environment.
SourceSafe File Migration	Manages the check out and promotion of files from the SourceSafe version control archive.

Opening an Object Type

To open an object type:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Object Types**.

The Object Type Workbench window opens to the **Query** tab.

4. To display all object types, click **List**.

To restrict the search, specify one or more query parameters.

5. Select one or more of the listed object types, and then click **Open**.

The Object Type *<Object Type Name>* window opens.

6. Click the **Commands** tab.
7. Check the commands that the object type calls.
8. Close the Object Type *<Object Type Name>* window.

Creating Packages

Although you typically use the PPM Workbench to create packages, you can also create one by copying an existing package, or by creating a new package as a referenced entity. This section provides information about how to use all three methods.

Creating Packages Using the PPM Workbench

Packages are used to deploy software and application changes. This section covers how to define the contents of a package, including adding package lines and specifying the appropriate deployment workflow. For each instance of a software migration submission, a new package needs to be created.

To create a package from the PPM Workbench:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Click **New Package**.

The Package window opens.

The screenshot shows a window titled "Package: 30007" with a blue title bar. The window is divided into two main sections: "Package Information" and "Package Lines".

Package Information:

- Package No.: 30007
- Package Group: Customization
- Created By: Admin User
- Description: Patch v3 migration test
- Created On: September 28, 2006
- Workflow: DEV > TEST > PROD
- Package Status: In Progress
- Assigned User: Carolyn Sayer
- Priority: Normal
- Parent: (empty)
- Assigned Group: Management Administrator
- Package Type: Customization
- Priority Seq: 50
- Percent Complete: 0

Package Lines:

Seq	Object Type	App Code	1	2	3
1	RCS Server File	(None)	File Name: TestFile	RCS Dir:	RC
2	File Client->Client	(None)	Client File Name: Mercury Help.bt	Sub Path:	Fill
3	PVCS File Migration	(None)	File Location: Client	Sub Path:	Fill

Below the table are buttons for "New Line", "Edit Line", "Copy Line", "Remove Line", and a scroll bar. At the bottom of the window are "Submit", "OK", "Save", and "Cancel" buttons. The status bar at the very bottom says "Ready".

5. In the **Package Information** section, complete the fields.

For information on how to complete the fields in section, see [Entering General Information for Packages](#) on page 63.

6. On the **Package Lines** tab, add the package lines to the package.

Package lines capture information specifically related to each object that you are migrating from one environment to another environment. For information on how to add package lines, see [Adding Lines to Packages](#) on page 64.

7. On the **Notes** tab, add any notes to the package.

For information on how to add notes, see [Adding Notes to Packages](#) on page 68.

8. On the **References** tab, you can add references to the package.

For information on how to add references, see *Adding References to Packages from the Package Workbench* on page 69.

9. To save the package and close the Package window, click **OK**. To save the package and leave the Package window open, click **Save**.

Creating Packages by Copying Existing Packages

You can create a package by copying an existing package (either new or saved). You can specify which sections of the existing package you want to include in the new package.

To create a package from an existing package:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

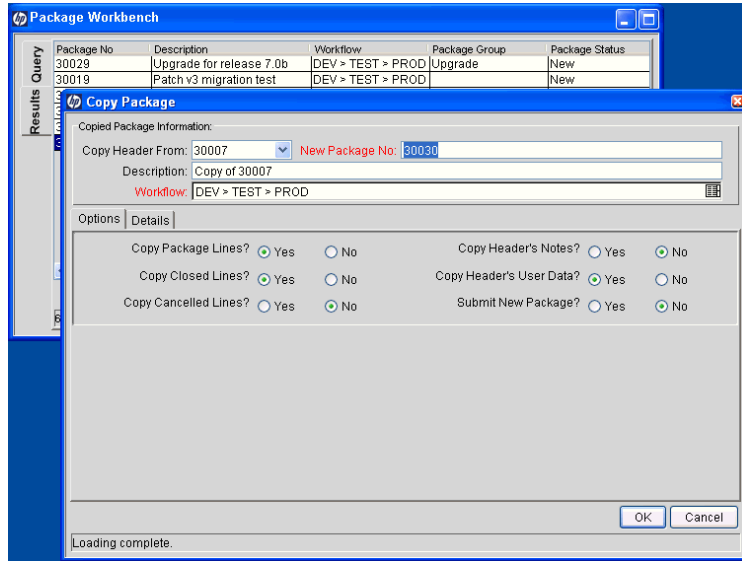
The Package Workbench opens.

4. On the **Query** tab, click **List**.

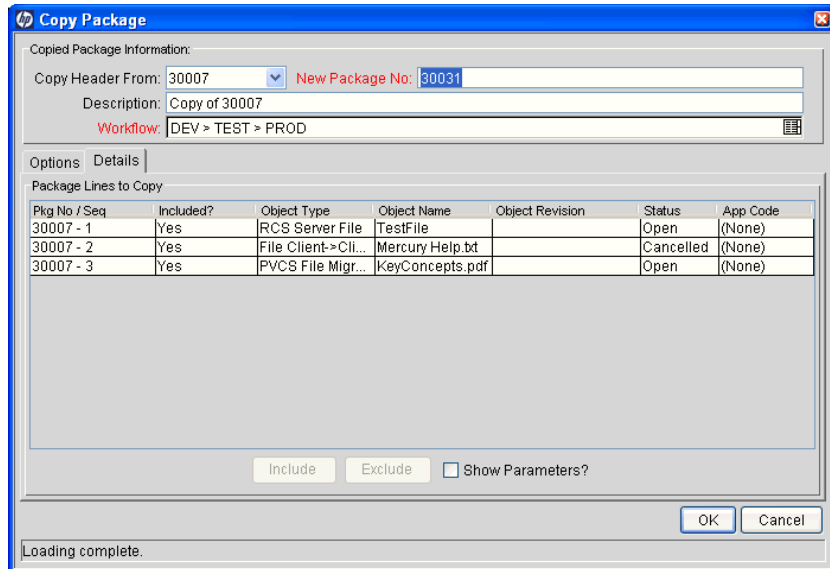
The Package Workbench **Results** tab lists all existing packages.

- On the **Results** tab, select a package, and then click **Copy**.

The Copy Package window opens to the **Options** tab. *Table 3-2* lists the options available on the tab.



- Select the sections to include in the new package, and then click the **Details** tab.



The **Details** tab lists all of the package lines that were copied from the original package. By default, all of these lines are included in the new package.

7. To exclude a listed package line from the new package:

- a. In the **Package Lines to Copy** table, select the line.
- b. At the bottom of the tab, click **Exclude**.

The Package window opens and displays the information you selected from the copied package.

8. To view the parameters that describe a listed package line:

- a. In the **Package Lines to Copy** table, select the line.
- b. At the bottom of the tab, select the **Show Parameters** checkbox.

Additional columns in the **Package Lines to Copy** table display the package line parameters.

- c. To view all of the parameters, use the horizontal scroll bar.

9. Click **OK**.

Table 3-2. Copy package options (page 1 of 2)

Option	Description
Copy Package Lines	Copies all of the package lines (with a status other than Closed or Cancel) in the existing package into the new package. The default is Yes .
Copy Closed Lines	Copies all of the closed package lines in the existing package into the new package. The default is Yes .
Copy Cancelled Lines	Copies all of the cancelled package lines in the existing package into the new package. The default is No .

Table 3-2. Copy package options (page 2 of 2)

Option	Description
Copy Header's Notes	Copies all of the notes attached to the existing package to the new package. Defaults to No .
Copy Header's User Data	If applicable, copy the user data from the existing package to the new package.
Submit New Package	After the package is copied, submit the package. The default is No . If you select No , your package is not submitted. To submit the package, you must open the copied package and click Submit .

Creating Packages as References from Packages

You can create a new package as part of referencing a new package to an entity such as a request or another package.

To create a new package as a reference to an existing package:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens to the **Query** tab.

4. Use the available fields to provide your search criteria, and then click **List**.

The **Results** tab lists the packages that match your search criteria.

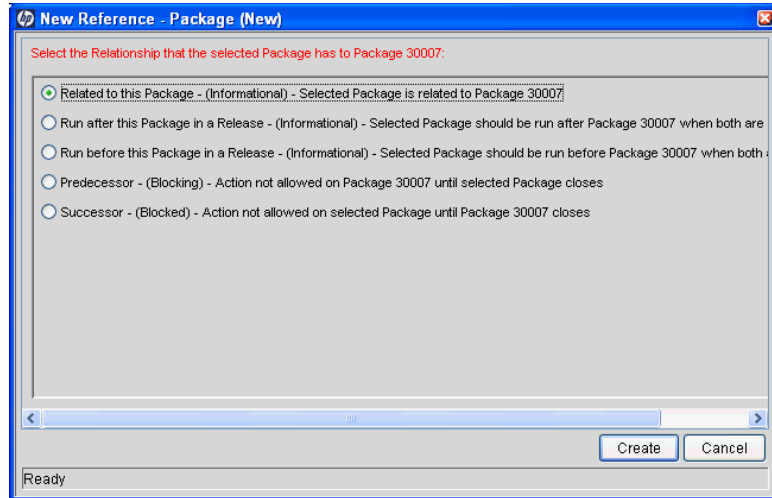
5. Double-click the row for the package you want to open.

The Package window opens.

6. Click the **References** tab.

7. From the **New Reference** list at the bottom on the tab, select **Package (New)**, and then click **Add**.

The New Reference - Package (New) window opens.



8. Under **Select the Relationship that the selected Package has to Package # <Package Number>**, select the option that describes the relationship that the new package is to have to the existing package, and then click **Create**.

A new Package window opens.

For descriptions of the possible relationships between referenced entities, see [Table 2-1 on page 42](#).

9. Provide all required information, and any optional information you want to associate with the new package, and then click **OK** or **Save**.
10. In the Package window that displays the original package, click **OK**.

Creating Packages as References from Requests

You can create a package as a reference from a request. When creating a package from a request, you do not open the PPM Workbench, even if you have the correct permissions. Instead, you work in the standard interface using the Create New Package and New Package pages. When you create a package as a reference from a request, you cannot add package lines, which means you cannot complete and submit the package. Adding package lines to a package and submitting a package requires using the Package Workbench.

To create a package as a reference from a request:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Demand Management > Search Requests**.
3. Locate, and then open a request.

You can open an existing request or create a new request from the menu bar. For information about how to open an existing request or create a request, see the *HP Demand Management User's Guide*.

The detail page for the request opens.

4. In the request's detail page, scroll to the **References** section.
5. From the **New Reference** list, select **Package (New)**, and then click **Add**.

The Create New Package page opens.

hp Close Window x

Create New Package

*Relationship:

- Child of this Request - (Informational) - The selected Package is the child of Request 30221
- Related to this Request - (Informational) - The selected Package is related to Request 30221
- Predecessor - (Blocking) - Action not allowed on Request 30221 until selected Package closes
- Successor - (Blocked) - Action not allowed on selected Package until Request 30221 closes

Create Cancel

6. Select the relationship, and then click **Create**.
The New Package page opens.
7. Select the workflow from the list.
8. Type any optional information that you want to keep as part of the record in the **Notes** tab, and then click **Save**.
9. On the detail page for the request, click **Save**.

Entering General Information for Packages

To complete the general information section for packages:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. From the **Query** tab, click **New Package**.

The Package window opens. You use the Package window to define the package contents. The package number is assigned automatically.

5. Complete the required fields.
6. Select the workflow from the auto-complete list.
7. In the Package window, click **OK** or **Save**.

The package line is added to the package.

Adding Lines to Packages

Package lines define the object migrating from one environment to another environment. Each package line defines just one object (often a file). Typically, objects are defined by their object type (for example, **File Client > Client** or **File Migration**), name, location, and, in the case of files, file type.

To add a line to package:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open or create a new package.

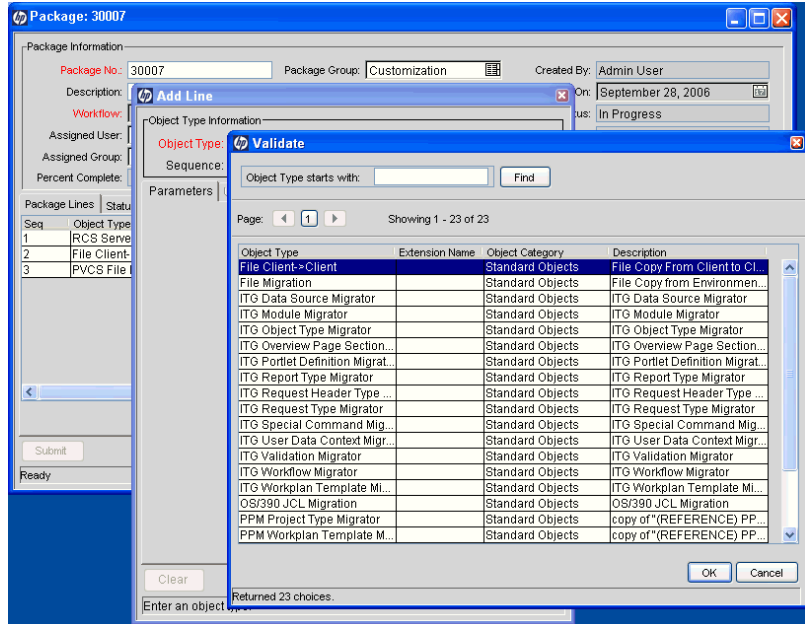
The Package window opens.

5. Click **New Line**.

The Add Line window opens.

- In the **Object Type** field, select the object type for the object (file) you plan to migrate using the auto-complete icon.

Selecting an object type dynamically updates the fields in the Add Line window.



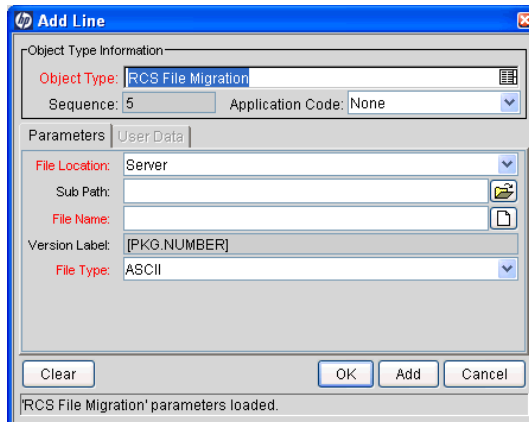
7. In the Add Line window, complete the associated fields, and then click **OK**.

In some cases, you can add multiple package lines from a single Add Line window. You can do this when you have multiple objects (files) to migrate that are in the same location.

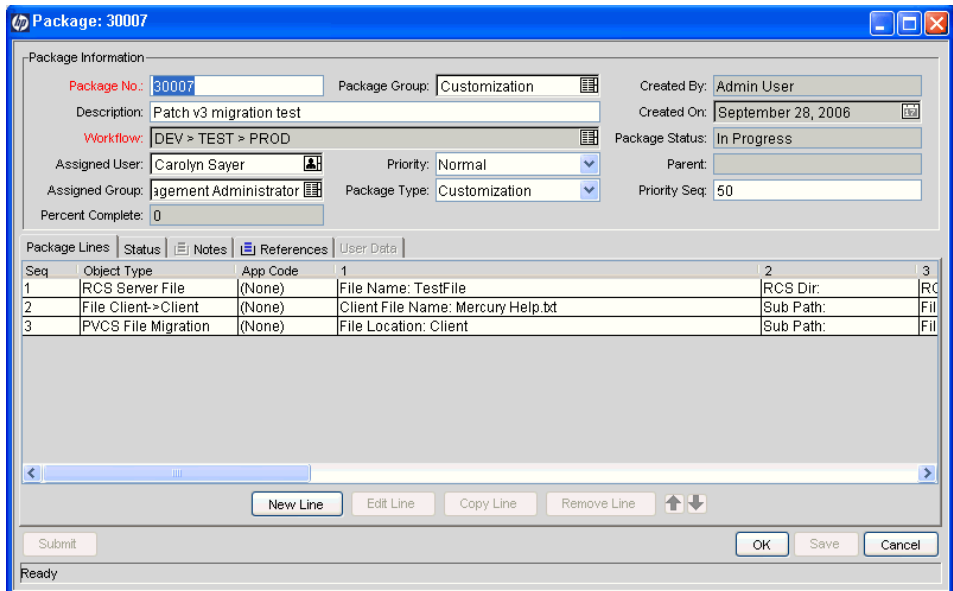
To add multiple lines from a single Add Line window, the following must be true:

- Package lines all follow the same workflow and use the same object type.
- The object type parameters include at least one auto-complete list field with an enabled **Multi** button.

By selecting multiple files, you add multiple package lines to the package. Remember, you cannot define multiple objects on a single package line.



The contents of the Add Line window are included in the Packages window as a package line. The Add Line window closes. In the Add Line window, clicking **Add** includes the package line in the Package window and the Add Line window remains open.



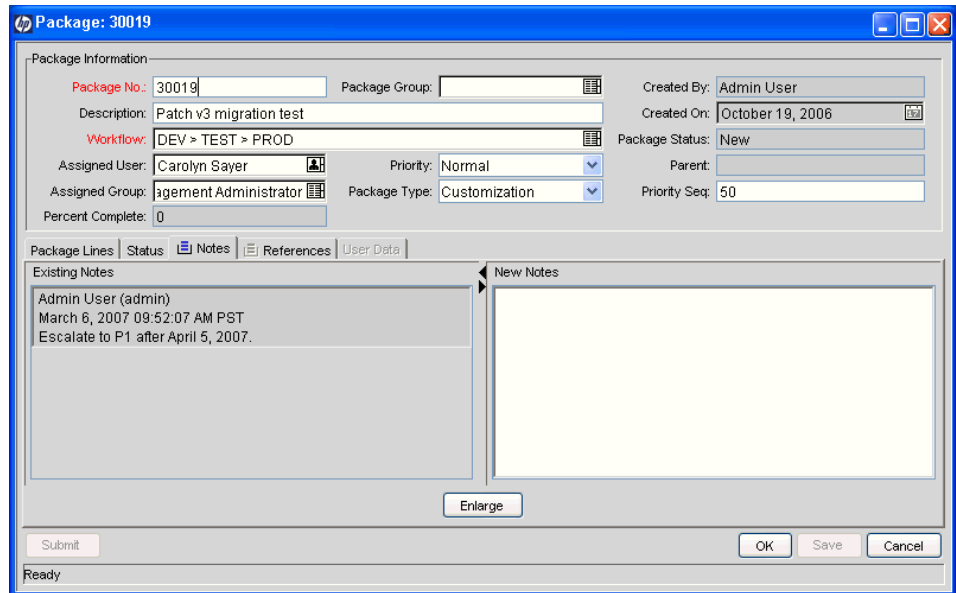
- In the Package window, click **OK** or **Save**.

The package line is added to the package. To start the package on its associated workflow, click **Submit**. Submitting the package to the workflow generates entries under the **Status** tab for each of the workflow steps defined for the workflow. As each step in the workflow is ready to be processed, the step shows an Eligible status. You can view the progress of each package line by clicking the **Status** tab. For information about how to submit a package, see *Submitting Packages* on page 86.

Adding Notes to Packages

In the Package window, the **Notes** tab (*Figure 3-1*) displays additional package information. Notes are attached to the package, and not to individual package lines. If you have a note that is specific to a package line, you must include the package line reference as part of the note text.

Figure 3-1. Package window, Notes section



You can add notes to existing packages, packages you are creating, and to submitted packages that have not been closed. You cannot add a note to a closed package.

To add a note, open a package and click the **Notes** tab. In the **New Notes** field, type the text of the note, and then click **Save**. The note is added to the **Existing Notes** field.

Adding References to Packages from the Package Workbench

You can use the **References** section of the package detail page to add references of several types to a package. For example, you might want to add a document or URL to a package. You can add the following types of references to a package:

- Attachments
- Packages (new and existing)
- Projects
- Releases
- Requests (new and existing)
- Tasks
- URLs

For some references (such as requests and other packages), you can create a functional dependency to the original package. For example, you can specify that a request is a predecessor to the package. This means the package cannot continue until the request is closed. For a list of the references and their possible dependency relationships, see [Reference Relationships](#) on page 41.

This section provides details on how to use the Package Workbench to add the different entity types as package references. For information on how to add package references from the standard interface, see [Adding References to Packages from the Standard Interface](#) on page 94.

Adding Attachments as Package References

This section provides the steps you use to add an attachment as a package reference.

To add an attachment as a package reference:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

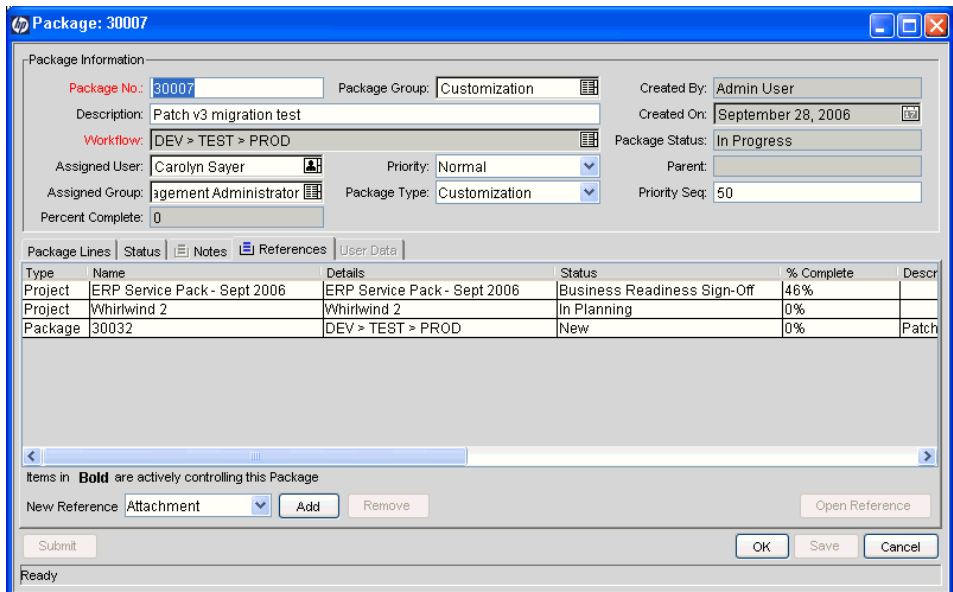
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open a package.

5. In the Package window, click the **References** tab.



The screenshot shows the 'Package: 30007' window. The 'Package Information' section includes fields for Package No. (30007), Package Group (Customization), Description (Patch v3 migration test), Workflow (DEV > TEST > PROD), Assigned User (Carolyn Sayer), Assigned Group (agement Administrator), Package Type (Customization), Created By (Admin User), Created On (September 28, 2006), Package Status (In Progress), Parent, and Priority Seq (50). The 'Package Lines' section has tabs for Status, Notes, References, and User Data. A table lists package lines with columns for Type, Name, Details, Status, % Complete, and Descr.

Type	Name	Details	Status	% Complete	Descr
Project	ERP Service Pack - Sept 2006	ERP Service Pack - Sept 2006	Business Readiness Sign-Off	46%	
Project	Whirlwind 2	Whirlwind 2	In Planning	0%	
Package	30032	DEV > TEST > PROD	New	0%	Patch

Items in **Bold** are actively controlling this Package

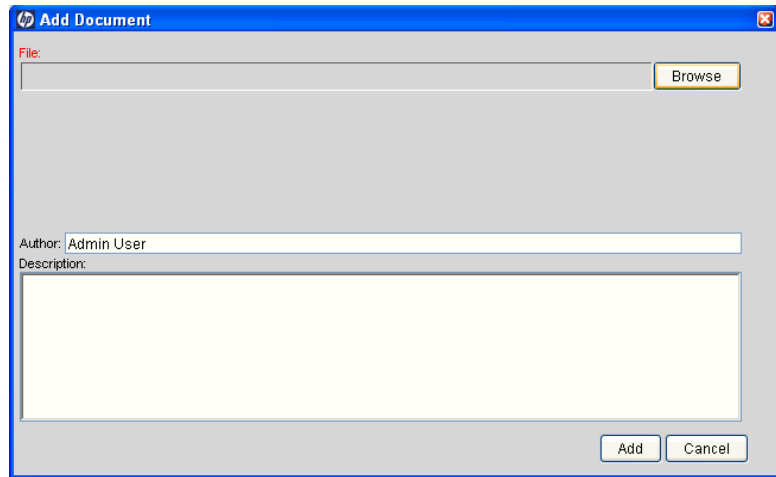
New Reference: Attachment [Add] [Remove] [Open Reference]

[Submit] [OK] [Save] [Cancel]

Ready

6. From the **New Reference** list, select **Attachment.**, and then click **Add.**

The Add Document window opens.



7. Attach the file, complete the fields, and then click **Add.**

The **References** tab lists the attachment.

8. Click **OK** or **Save.**

Adding Existing Packages as Package References

To add an existing package as a reference to a package:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

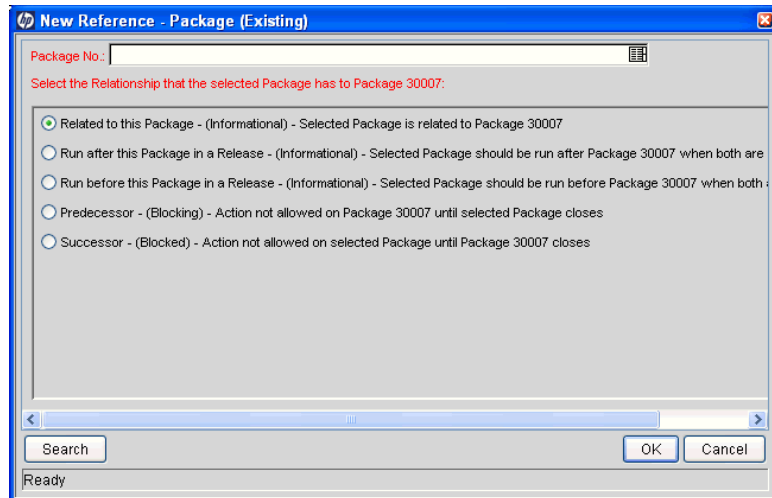
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open a package.
5. In the Package window, click the **References** tab.
6. From the **New Reference** list, select **Package (Existing)**, and then click **Add**.

The New Reference - Package (Existing) window opens.



7. Under **Select the Relationship that the selected Package has to Package <Package Number>**, select the option that describes the relationship that the packages have to the open package.

8. Select the existing packages from the **Package No.** auto-complete list.

The **Package No** field displays the number of the package you selected.

9. Under **Select the Relationship that the selected Package has to Package <Package Number>**, select the option that describes the relationship that the packages have to the open package, and then click **OK**.

The **References** tab lists the selected packages.

10. Click **OK** or **Save**.

Adding New Packages as Package References

You can reference a new package to a package.

To create a package to add as a package reference:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

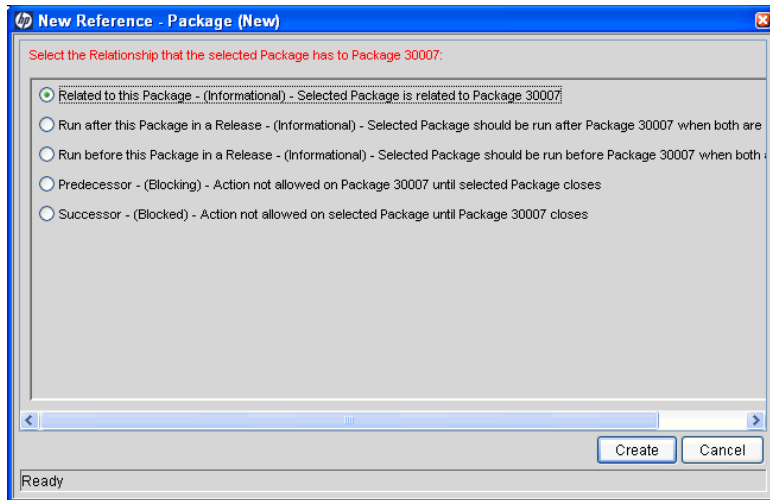
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open the package to which you want to add a reference.
5. In the Package window, click the **References** tab.
6. From the **New Reference** list, select **Package (New)**, and then click **Add**.

The New Reference - Package (New) window opens.



7. Under **Select the Relationship that the selected Package has to Package <Package Number>**, select the option that describes the relationship that the new package is to have to the package you opened, and then click **Create**.

A new Package window opens.

8. In the **Workflow** field, type the name of a workflow to apply to the new package.
9. Type any other information you want to record in the **Notes** tab, modify any values that you want to change, and then click **Save** or **OK**.

The **References** tab lists the new package reference.

10. Click **Save** to save the package.

Attaching Programs as Package References

You can reference existing programs to a package.

To reference an existing program:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

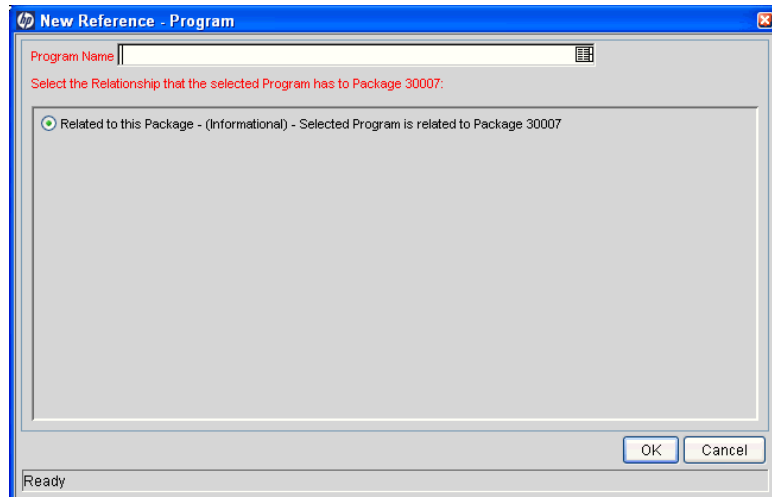
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open the package to which you want to add a reference.
5. In the Package window, click the **References** tab.
6. From the **New Reference** list, select **Program**, and then click **Add**.

The New Reference - Program window opens.



7. In the **Program Name** field, select the program from the auto-complete list.

The **Program Name** field displays the program you selected.

8. Under **Select the Relationship that the selected Program has to Package <Package Number>**, select the option that describes how the program is related to the package, and then click **OK**.

The **References** tab displays the program name.

9. Click **Save** to save the package.

Attaching Projects as Package References

To attach a project as a package reference:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

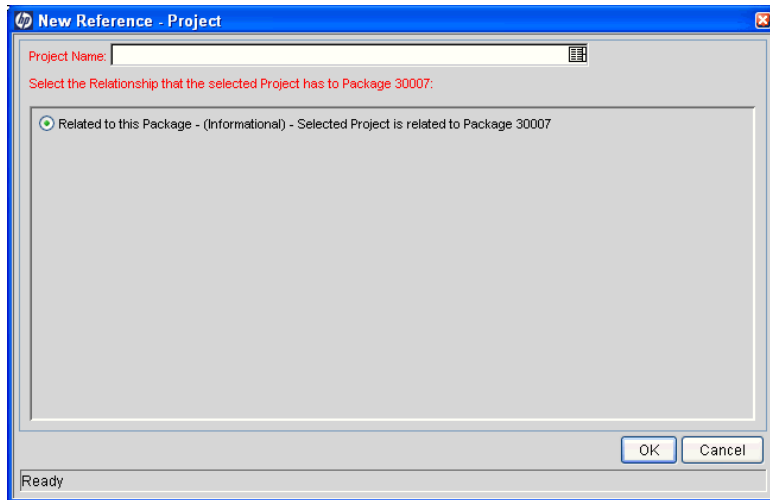
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open the package to which you want to add a reference.
5. In the Package window, click the **References** tab.
6. From the **New Reference** list, select **Project**, and then click **Add**.

The New Reference - Project window opens.



7. In the **Project Name** field, select a project name from the auto-complete list.
8. Under **Select the Relationship that the selected Project has to Package <Package Number>**, select the option that describes how the project is related to the package, and then click **OK**.

The **References** tab lists the selected project.

9. Click **Save** to save the package.

Adding Releases as References

You can reference existing releases to requests.

To reference a release:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

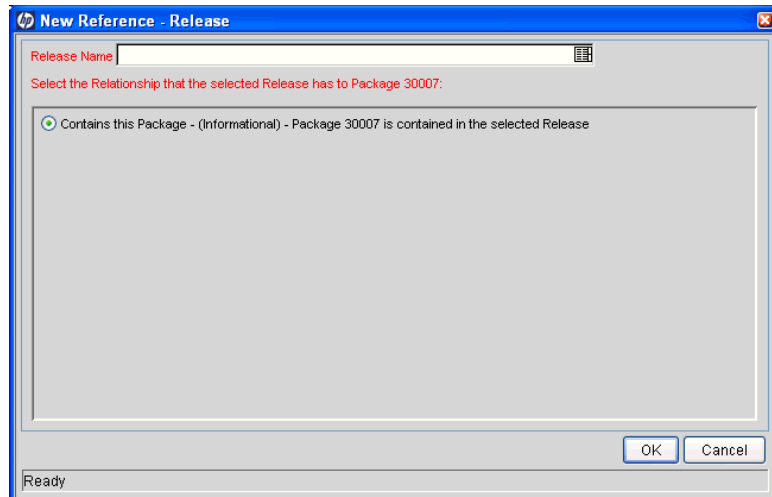
The Package Workbench opens.

4. Open the package to which you want to add a reference.

5. In the Package window, click the **References** tab.

6. From the **New Reference** list, select **Release**, and then click **Add**.

In the **Status** section, the New Reference - Release window opens.



7. To specify a release name in the **Release Name** field, use the auto-complete list.

8. Under **Select the Relationship that the selected Release has to Package <Package Number>**, select the option that describes how the release is related to the package, and then click **OK**.

The **References** tab lists the release.

9. Click **Save** to save the package.

Adding Existing Requests as Package References

You can reference existing requests to requests.

To reference an existing request:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

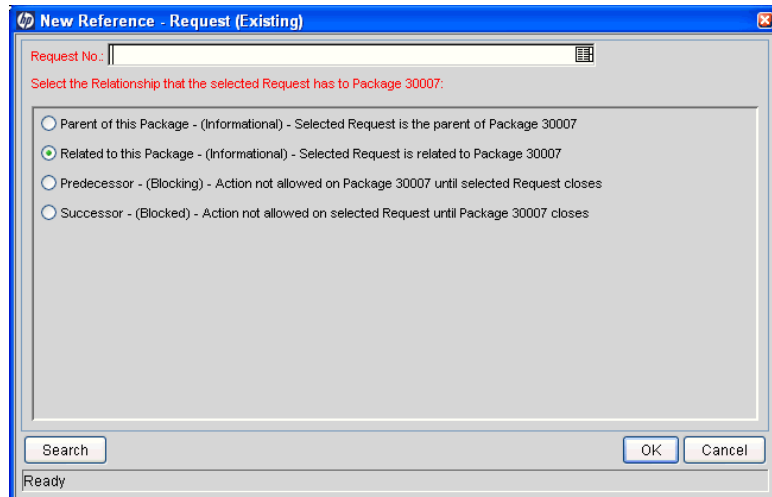
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open the package to which you want to add a reference.
5. In the Package window, click the **References** tab.
6. From the **New Reference** list, select **Request (Existing)**, and then click **Add**.

The New Reference - Request (Existing) window opens.



7. To specify the request name in the **Request No** field, use the auto-complete list.
8. Under **Select the Relationship that the selected Request has to Package <Package Number>**, select the option that describes how the request is related to the package, and then click **OK**.

The **References** tab lists the existing request.

9. Click **Save** to save the package.

Adding New Requests as Package References

You can create new requests and add them as package references.

To reference a new request:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

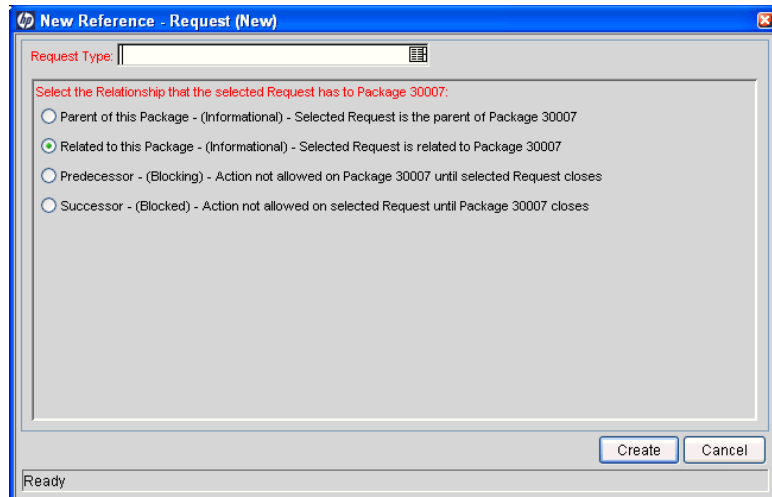
The Package Workbench opens.

4. Open the package to which you want to add a reference.

5. In the Package window, click the **References** tab.

6. From the **New Reference** list, select **Request (New)**, and then click **Add**.

The New Reference - Request (New) window opens.



7. To specify the type of request you want to create in the **Request Type** field, use the auto-complete list.
8. Under **Select the Relationship that the Request has to Package <Package Number>**, select the option that describes how the new request is related to the package, and then click **Create**.

The Create New Request page opens in a new browser window.

9. Complete all required fields (marked with a red asterisk).
10. In the optional fields and in the **Notes** tab, type any additional information about the request you want to make available to users.
11. Click **Submit**.

In the Package window, the **References** tab lists the new request.

12. Click **Save** to save the package.

Adding Tasks as Package References

You can add existing tasks as references to packages.

To reference an existing task:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open the package to which you want to add a reference.
5. From the **New Reference** list, select **Task**, and then click **Add**.

The New Reference - Task window opens.



6. To specify a task in the **Task Name** field, use the auto-complete list.
7. Under **Select the Relationship that the selected task has to Package <Package Number>**, select the option that describes how the task is related to the package, and then click **OK**.

In the Package window, the **References** tab lists the task.

8. Click **Save** to save the package.

Adding URLs as Package References

You can reference a URL to a package.

To reference a URL:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

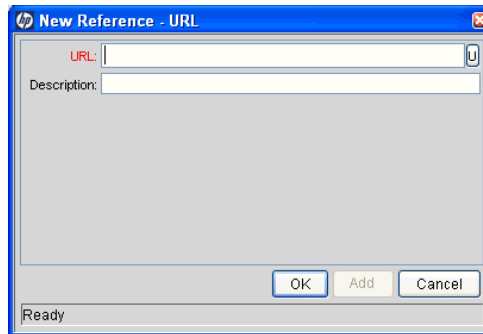
The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. Open the package to which you want to add a reference.
5. In the Package window, click the **References** tab.
6. From the **New Reference** list, select **URL**, and then click **Add**.

The New Reference URL window opens.



7. In the **URL** field, type the URL address.
8. To test the URL you specified, to the right of the **URL** field, click **U**.
9. In the **Description** field, you can type a description or an explanation of how the URL is related to the package, and then click **OK**.

In the Package window, the **References** tab displays the URLs.

10. Click **Save** to save the package.

Submitting Packages

After you complete a package, you can submit it. A complete package must have the following:

- A package number
- An associated workflow
- At least one package line

In the Package window, if a package is complete and eligible for submission, the **Submit** button is enabled in the bottom left corner.

To submit a completed package, click **Submit**.

4 Processing Packages

Overview of Processing Packages

In HP Deployment Management, after a package has been submitted, you can process and manage it. Processing packages refers to working with the package as the package progresses through its workflow.

You can locate packages that require attention using one of the following methods:

- **Use the Package Workbench.** Use the **Query** tab in the Package Workbench to specify search criteria to find a package. After the package is found, highlight the package and click **Open**. The selected package opens in the Package window.
- **Use Portlets in the Standard Interface.** The quickest way to locate relevant packages is through the standard interface. When included on a PPM Dashboard page, the My Packages portlet displays all the packages you have created or that are assigned to you. Click a package number to open the package in the standard interface.
- **Use Searches in the Standard Interface.** Using search in the standard interface is another way to find a package. In the standard interface, on the menu bar, select **Search > Packages**. The Package Search page opens. In the Package Search page, complete the search criteria, and then click **Search**. The Package Search Results page opens. In the Package Search Results page, click a package number to open the package in the standard interface.

- **Use Notifications.** As a package proceeds through its workflow, email notifications can be sent to alert you of pending actions. The notification might include a link to the package. Click the link to open the referenced package in the PPM Workbench. If you are not currently logged on to PPM Center, the Logon page opens.
- **Generate a Report on Open Packages (Standard Interface).** HP Deployment Management includes a predefined set of reports that generate HTML text and can be accessed by a Web browser. Among these reports is the Packages Pending Report, which reports on open packages with pending activity.

For information about generating and viewing HP Deployment Management reports, see the *Reports Guide and Reference*.

For detailed information on how to process packages in the standard interface, see *Using the Standard Interface to Process Packages*.

Using the Standard Interface to Process Packages

You can use the package detail page in the standard interface to process a package through its entire workflow. You can add notes and references to the package, and make decisions about package status. For information on how to process packages from the PPM Workbench, see *Processing Packages Using the PPM Workbench* on page 108.

Opening Packages from the Standard Interface

This section provides information on how to open packages from the standard interface using the Search Packages page, using portlets, or using the package links in email notifications.

Opening Packages from the Search Packages Page

To open a package using the Search Packages page:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Deployment Management > Search Packages**.

The Search Packages page opens.

3. Provide your search criteria, and then click **Search**.

The Package Search Results page lists the packages that match the criteria you specified.

4. In the **Pkg #** column, click the package number for the package you want to open.

The detail page for that package opens.

Opening Packages from the My Packages Portlet

If the My Packages portlet is not displayed on one of your PPM Dashboard pages, you can add it. For information on how to add portlets to PPM Dashboard pages, see the *Creating Portlets and Modules* guide.

To use the My Packages portlet to open a package that you have created or a package that is assigned to you:

1. Log on to PPM Center.
2. From the menu bar, select **Dashboard**, and then select the name of a PPM Dashboard page that displays the My Packages portlet.

The My Packages portlet lists all of the packages that you have created.

3. On the My Packages portlet, in the **Pkg #** column, select the number for the package you want to open.

The detail page for that package opens.

Opening Packages Using Notification Links

In some cases, as a package moves through the steps in its workflow, email notifications are sent to alert you of pending actions for a package. If the notification includes a link to the package, click the link to open the referenced package in the PPM Workbench. (If you are not logged on to PPM Center, the Logon page opens.)

Approving Packages in the Standard Interface

To approve a package using the standard interface:

1. Log on to PPM Center.

2. Open the package that you want to approve.

For information on how to open the details page, see *Opening Packages from the Standard Interface* on page 89.

Package 30007

Header

*Package No.: <input type="text" value="30007"/>	Package Group: <input type="text" value="Customization"/>	Created By: Admin User
Description: <input type="text" value="Patch v3 migration test"/>		Created On: September 28, 2006
Workflow: DEV > TEST > PROD		Status: In Progress

Assigned User: <input type="text" value="Carolyn Sayer"/>	Priority: <input type="text" value="Normal"/>	Parent:
Assigned Group: <input type="text" value="ITG Deployment Managemen"/>	Package Type: <input type="text" value="Customization"/>	Priority Seq: <input type="text" value="50"/>
Percent Complete: 0		

Status

View Lines: <input checked="" type="radio"/> Pending Lines Only	View Steps: <input checked="" type="radio"/> Steps Waiting my Action
<input type="radio"/> All Lines	<input type="radio"/> All Steps <input type="button" value="Refresh"/>

View All Lines	View Eligible Steps for DEV > TEST > PROD									
<table border="1" style="width: 100%;"><thead><tr><th>Seq</th><th>Object Name</th><th>Object Type</th></tr></thead><tbody><tr><td colspan="3" style="text-align: center;">This package does not have any Lines to show.</td></tr></tbody></table>	Seq	Object Name	Object Type	This package does not have any Lines to show.			<table border="1" style="width: 100%;"><thead><tr><th>Seq</th><th>Object Name</th><th>Object Type</th></tr></thead><tbody></tbody></table>	Seq	Object Name	Object Type
Seq	Object Name	Object Type								
This package does not have any Lines to show.										
Seq	Object Name	Object Type								
<input type="button" value="Check All"/> <input type="button" value="Clear All"/> <input type="button" value="Line Details"/> <input type="button" value="View Log"/>	<input type="button" value="Check All"/> <input type="button" value="Clear All"/> <input type="button" value="Workflow Action"/> <input type="button" value="Previous"/> <input type="button" value="Next"/>									

Notes

Notes to be added on save:

References

Projects					
Name	Project Manager Resource	Status	% Complete	Relationship	Relationship Details
<input checked="" type="checkbox"/> ERP Service Pack ...	Joseph Banks	Business Readiness Sig...	46%	<input type="text" value="Related to this Package"/>	Informational: Project 30091 is related to Package 30007
<input checked="" type="checkbox"/> Whirlwind 2	David Jones	In Planning	0%	<input type="text" value="Related to this Package"/>	Informational: Project 30222 is related to Package 30007

Reference Additions

New Reference: ■ Highlighted items are actively controlling this Package

References to be added on Save:

3. In the **Status** section, next to **View Lines**, do one of the following:
 - To display only the package lines that are eligible for action, click **Pending Lines Only**, and then click **Refresh**.
 - To display all of the package lines for the workflow, click **All Lines**, and then click **Refresh**.
4. In the **Status** section, next to **View Steps**, do one of the following:
 - To display only workflow steps that await action, click **Steps Waiting my Action**, and then click **Refresh**.
 - To display all workflow steps, click **All Steps**, and then click **Refresh**.

The screenshot shows the 'Status' section of a software interface. At the top, there are two sections: 'View All Lines' and 'View All Steps for DEV > TEST > PROD'. The 'View All Lines' section has a table with columns 'Seq', 'Object Name', and 'Object Type'. It lists three items: 1 TestFile (RCS Server File), 3 KeyConcepts.pdf (PVCS File Migration), and 4 File Client->Client. Each item has an 'Eligible' checkbox. The 'View All Steps' section has radio buttons for '1: Design Review', '2: Evaluate', '3: Migrate to Test', and '4: QA Test'. Below both sections are buttons for 'Check All', 'Clear All', 'Line Details', 'View Log', and 'Workflow Action', along with directional arrows.

Under the workflow name are the numbered steps that must be completed and approved to move the workflow to completion. To navigate forward or backward through the workflow steps, use the directional arrows.

5. In the **View Eligible Steps for <Workflow Name>** section, select the option button that corresponds to the numbered workflow step that you want to approve (or not), and then select the **Eligible** checkbox for the specific line you want to approve (or not).

To select all of the steps, click **Check All**.

To clear all eligible checkboxes for the workflow step, click **Clear All**.

6. If one or more package lines are selected for action, click **Workflow Action**.

The Package Workflow Action page opens.

7. In the **Action Required** section, select the outcome of the step.

Because the outcome is configurable, it can be different for each workflow step, depending on the configuration at your site. In the above example, the possible actions are:

- If the workflow step is ready for approval, select **Approved**.
- If the workflow step is not ready for approval, select **Not Approved**.

8. Click **OK**.

The package details page opens. Because you approved (or disapproved) the selected workflow steps, the workflow has moved on to the next step. This process continues until the package moves through all of its steps to resolution.

Adding Notes to Packages in the Standard Interface

The **Notes** section contains fields in which you can provide supplementary package information. To add a note, in the **Add Notes** subsection, type the information. To save the note, save the package.

View existing notes in the **Existing Notes** section. Existing notes are listed in chronological order with the most recent note listed first. You can filter existing notes, using **Show Only User Notes**, **Note Author**, and **Changed Fields**.

You cannot delete an existing note.

Figure 4-1. Notes section

The screenshot shows a web interface for adding and viewing notes. At the top, there is a header bar with the word "Notes". Below it is a sub-section titled "Add Notes". Underneath, there is a label "Notes to be added on save:" followed by a large, empty text input field. Below the input field is another sub-section titled "Existing Notes". This section contains one entry: "Admin User (admin) Escalate to P1 after April 5, 2007. March 5, 2007 09:52:07 AM PST".

Adding References to Packages from the Standard Interface

In some cases, it might be useful to reference a Web-accessible file, a document, or file from a local machine to the package. You can add such references to a package from the standard interface.

You can add the following entities as package references:

- Attachments
- Packages (new or existing)
- Projects
- Releases
- Requests (new or existing)
- Tasks
- URLs

For some reference types (such as requests and other packages), you can create a functional dependency to the reference. For example, you can specify that a request is a predecessor to the package. This means that the package cannot continue along its workflow until the referenced request closes. For more information about valid package references and the relationships they can have to packages, see [Reference Relationships on page 41](#).

This section provides information on how to add various types of references to a package from the standard interface. For information on how to add package references from the PPM Workbench, see [Adding References to Packages from the Package Workbench on page 69](#).

Adding Attachments as References

To add an attachment as a package reference:

1. Log on to PPM Center.
2. Open or create a package.



For information on how to open a package, see [Opening Packages from the Standard Interface on page 89](#).

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Attachment**, and then click **Add**.

The Add Document window opens.

The screenshot shows a dialog box titled "Add Document". It contains a "File:" field with a "Browse" button. Below that is an "Author:" field with the text "Admin User" and a "Description:" field with a large text area. At the bottom right, there are "Add" and "Cancel" buttons.

5. Next to the **File** field, click **Browse**, and then locate and select the document file you want to attach as a reference.
6. In the **Author** field, you can replace the default value with the name of the attachment author.
7. In the **Description** field, type a description of the attachment.

8. Click **Add**.

On the Package page, the **References to be added on Save** field lists the referenced attachment.

9. Click **Save**.

The attachment is added as a request reference.

Adding Existing Packages as Package References

You can reference existing packages to a package.

To specify an existing package as a package reference:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Package (Existing)**, and then click **Add**.

The Add References: Package window opens.

hp Close Window X

Add Reference: Package

Select which relationship the selected Packages will have to Package #30008:

- Related to this Package - (Informational) - Selected Package is related to Package 30008
- Run after this Package in a Release - (Informational) - Selected Package should be run after Package 30008 when both are in a Release
- Run before this Package in a Release - (Informational) - Selected Package should be run before Package 30008 when both are in a Release
- Predecessor - (Blocking) - Action not allowed on Package 30008 until selected Package closes
- Successor - (Blocked) - Action not allowed on selected Package until Package 30008 closes

Package Search Results Showing 1 - 7 of 7

Pkg # ▾	Workflow	Status	Priority	Assigned To	Pkg Lines	Description
<input type="checkbox"/> 30032	DEV > TEST > PROD	New	Normal	csayer		Patch v3 migration test
<input type="checkbox"/> 30029	DEV > TEST > PROD	New	Normal	hhaywood		Upgrade for release 7.0b
<input type="checkbox"/> 30019	DEV > TEST > PROD	New	Normal	csayer		Patch v3 migration test
<input type="checkbox"/> 30016	DEV > TEST > PROD	New	Normal	csayer		
<input type="checkbox"/> 30013	DEV > TEST > PROD	New	Normal	csayer		
<input type="checkbox"/> 30008	DEV > TEST > PROD	New	Normal	csayer	1	
<input type="checkbox"/> 30007	DEV > TEST > PROD	In Progress	Normal	csayer	4	Patch v3 migration test

Showing 1 - 7 of 7

Close Window X

5. Provide your search criteria, and then click **Search**.

The **Package Search Results** section lists the packages that match your search criteria.

6. Select the checkbox for the package that you want to add as a reference, and then click **Add**.

On the Package page, the **References to be added on Save** field lists the referenced package.

7. Click **Save**.

Adding New Packages as Package References

You can reference a new package to a package.

To add a new package as a package reference:

1. Log on to PPM Center.
2. Open a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Package (New)**, and then click **Add**.

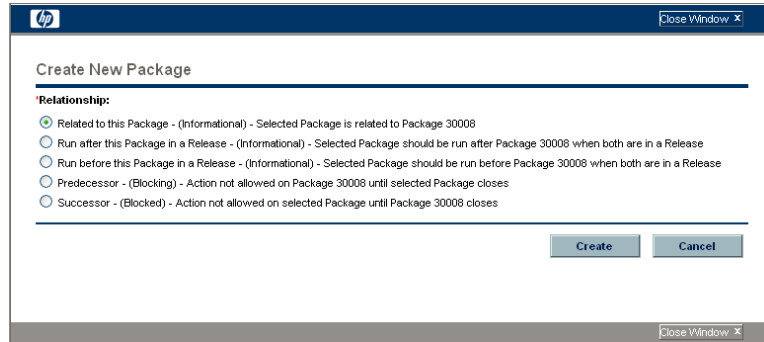
The Create New Package window opens.

5. Under **Relationship**, select the option that describes the relationship that the new package has to the open package.
6. Under **Select which Relationship the new Package will have to Package #**, select the option that describes the relationship that the new package has to the open package.

For information about the different types of reference relationships, see *Reference Relationships* on page 41.

7. Click **Create**.

The New Package window opens.



8. In the **Workflow** field, type the name of a workflow to apply to the new package.
9. Type any optional information you want to save, and modify any values that you want to change, and then click **Save**.

On the Package page, the **References to be added on Save** field lists the new referenced package.

10. Click **Save**.

Attaching Programs as Package References

You can reference existing programs to a package.

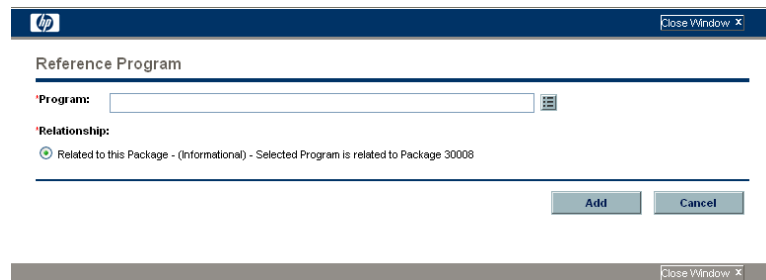
To specify a program as a package reference:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Program**, and then click **Add**.

The Reference Program window opens.



The screenshot shows a web-based window titled "hp Reference Program". The window has a dark blue header with the HP logo on the left and a "Close Window X" button on the right. Below the header, the text "Reference Program" is displayed. There is a "Program:" label followed by an empty text input field with a small list icon to its right. Below that is a "Relationship:" label. Underneath, there is a radio button that is selected, with the text "Related to this Package - (Informational) - Selected Program is related to Package 30008" next to it. At the bottom right of the form area, there are two buttons: "Add" and "Cancel". The window has a light gray border and a "Close Window X" button in the bottom right corner.

5. To specify the name of the program to reference in the **Program** field, select the name from the auto-complete list, and then click **Add**.

On the Package page, the **References to be added on Save** field lists the program you selected.

6. Click **Save**.

Attaching Projects as Package References

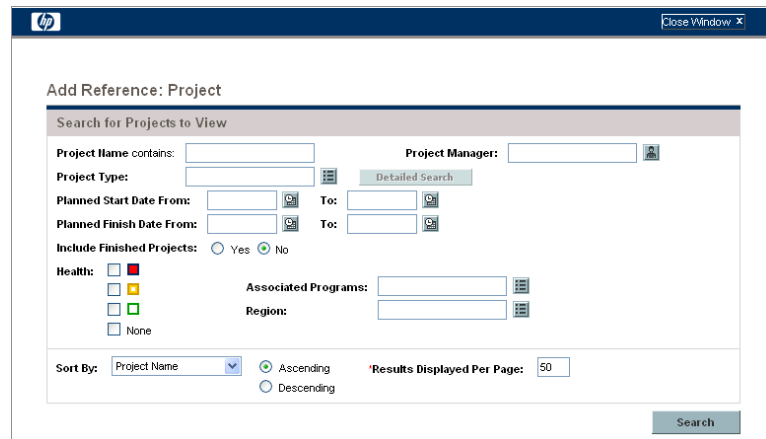
To specify a project as a package reference:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Project**, and then click **Add**.

The Add Reference: Project window opens.



5. Provide your search criteria in one or more of the available fields, and then click **Search**.

The Add Reference: Project window lists the projects that match the search criteria you specified.

6. In the **Select Project to View** section, select the checkbox for the project that you want to add as a package reference.

7. Click **Add**.

On the Package page, the **References to be added on Save** field lists the referenced project.

8. Click **Save**.

Adding Releases as Package References

You can add existing releases as package references.

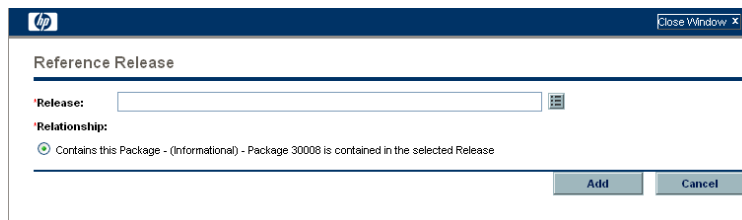
To reference an existing release to a package:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Release**, and then click **Add**.

The Reference Release window opens.



The screenshot shows a dialog box titled "Reference Release" with the HP logo in the top left and a "Close Window" button in the top right. The dialog contains a "Release:" field with a dropdown arrow, a "Relationship:" section with a radio button selected and the text "Contains this Package - (Informational) - Package 30008 is contained in the selected Release", and "Add" and "Cancel" buttons at the bottom right.

5. To specify the name of the release to reference in the **Release** field, select it from the auto-complete list, and then click **Add**.

On the Package page, the **References to be added on Save** field lists the referenced release.

6. Click **Save**.

Adding Existing Requests as Package References

You can reference existing requests to packages.

To reference an existing request:

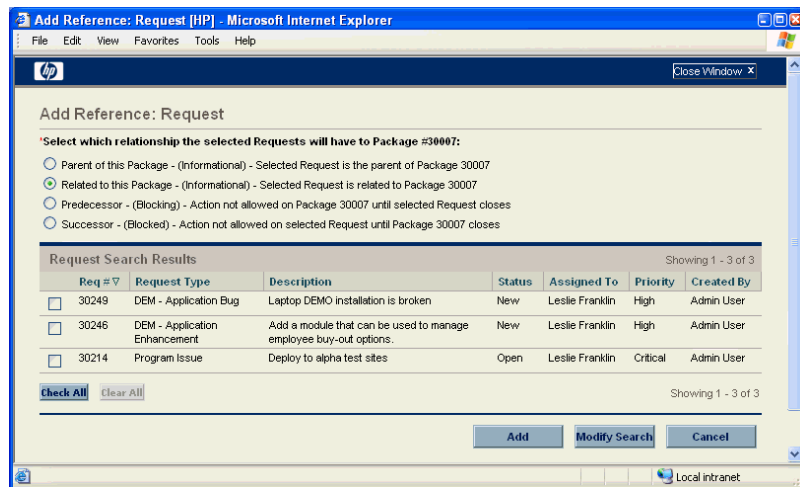
1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Request (Existing)**, and then click **Add**.

The Add Reference: Request window opens.

5. Specify search criteria for the request, and then click **Search**.



6. Under **Select which Relationship the selected Requests will have to Package #**, select the option that describes the relationship that the new request has to the open package.

For information about the different types of reference relationships, see [Reference Relationships on page 41](#).

7. Select the checkbox for the request that you want to add as a package reference, and then click **Add**.

On the Package page, the **References to be added on Save** field lists the referenced request.

8. Click **Save**.

Adding New Requests as Package References

To reference a new request:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see [Opening Packages from the Standard Interface on page 89](#).

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Request (New)**, and then click **Add**.

The Create New Request window opens.

hp Close Window x

Create New Request

*Request Type:

*Relationship:

Parent of this Package - (Informational) - Selected Request is the parent of Package 30008

Related to this Package - (Informational) - Selected Request is related to Package 30008

Predecessor - (Blocking) - Action not allowed on Package 30008 until selected Request closes

Successor - (Blocked) - Action not allowed on selected Request until Package 30008 closes

Create Cancel

5. From the **Request Type** list, select the type of request you want to create as a reference to the open package.
6. Under **Relationship**, select the option that describes the relationship that the new request has to the open package.

For a list of reference types, their definitions, and possible dependency relationships, see [Reference Relationships on page 41](#).

7. Click **Create**.

The Create New *<Request Type>* window opens.

8. Provide data in all of the required fields (marked with a red asterisk), and any optional data about the new request that you want to record.
9. Click **Submit**.

On the Package page, the **References to be added on Save** field lists the new request.

10. Click **Save**.

Adding Tasks as Package References

You can reference existing tasks to packages.

To reference an existing task:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **Task**, and then click **Add**.

The Add Reference: Task window opens.

5. Provide your search criteria in any of the available fields, and then click **Search**.

The Add Reference: Task window lists the tasks that match the search criteria you specified.

hp Close Window X

Add Reference: Task

Search for Tasks to View

Task Name starts with: Resource:

Include finished Tasks? Yes No Task Status:

Scheduled Start Date From: To:

Scheduled Finish Date From: To:

Show only tasks with exceptions? Yes No

Show only milestones? Yes No

Search in projects that meet the following criteria

Project Name: Project Manager:

Sort By: Ascending Descending *Results Displayed Per Page:

Search

6. In the **Select Task to View** section, select the checkbox for the task you want to add as a reference to the open package, and then click **Add**.

On the Package page, the **References to be added on Save** field lists the task you selected.

7. Click **Save**.

Adding URLs as Package References

You can reference an existing URL to a package.

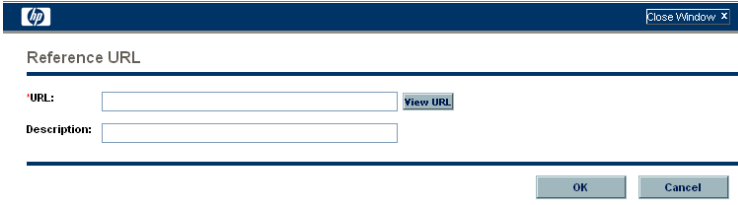
To add a URL as a package reference:

1. Log on to PPM Center.
2. Open or create a package.

For information on how to open a package, see *Opening Packages from the Standard Interface* on page 89.

3. Scroll to the **References** section.
4. From the **New Reference** list, select **URL**, and then click **Add**.

The Reference URL window opens.



Reference URL

URL: View URL

Description:

OK Cancel

5. In the **URL** field, type the URL address.
6. To test the URL you specified in your default browser window, to the right of the **URL** field, click **U**.
7. In the **Description** field, type a description or an explanation of how the URL is related to the package.

8. Click **OK**.

On the Package page, the **References to be added on Save** field lists the URL you specified.

9. Click **Save**.

Processing Packages Using the PPM Workbench

You can process submitted packages from the PPM Workbench using the Package window. You can use the Package window to process a submitted package through its workflow. You can add notes and references to the package, make decisions on package status, and execute actions for the package. You can also change or delete a package from the Package window.

Opening Packages from the PPM Workbench

To open a package from the PPM Workbench:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Packages Workbench opens.

4. To display all the existing packages, click **List**.

To restrict the search, provide information in one or more of the search fields.

5. Select a listed package, and then click **Open**.

Checking Package Status

Each package line must follow the business process defined by its assigned workflow. You can view all the workflow and subworkflow steps for each line on the **Status** tab in the Package window.

To view the status of a submitted package:

1. Open a submitted package.

For information on how to open a package, see *Opening Packages from the PPM Workbench* on page 108.

The Package window opens.

2. Click the **Status** tab.
3. Review the status of the package.

You can now review the status of each package line. The result of each workflow step is recorded in the package line row, so that you can quickly get an idea of which lines have closed with success or closed with a failure.

Although all the workflow steps are listed, a package line does not necessarily go through every step before it is resolved. For example, you might have a rework step that is only used if rework is required. For more information about the package, select one of the logs, views, or reports related to the package. For more information about the **Status** tab, see *Package Window, Status Tab* on page 34.

Acting on Eligible Steps

After a package is submitted, each package line has one or more workflow steps set to **Eligible**, as shown in *Figure 4-2* on page 110. This indicates that the execution or decision steps must be performed first in the resolution process for the package. If you have permission to act on the eligible step, the text in the **Status** column is displayed in bold text.

If the eligible step is:

- *Execution* workflow step, you must perform an action.
- *Decision* workflow step, you must specify a decision.

After you perform the action or make the decision, HP Deployment Management displays the outcome.

Figure 4-2. Status tab eligible steps

The screenshot shows the HP Package: 30007 Status tab. The Package Information section includes:

- Package No.: 30007
- Package Group: Customization
- Created By: Admin User
- Description: Patch v3 migration test
- Created On: September 28, 2006
- Workflow: DEV > TEST > PROD
- Package Status: In Progress
- Assigned User: Carolyn Sayer
- Priority: Normal
- Parent: (empty)
- Assigned Group: Management Administrator
- Package Type: Customization
- Priority Seq: 50
- Percent Complete: 0

The Package Lines table shows the following data:

Seq	Object Name	Object Type	1 Design Review	2 Evaluate	3 Migrate to Test	4 QA Test
1	TestFile	RCS Server File	Eligible			
2	Mercury Help.txt	File Client->Client	Cancelled			
3	KeyConcepts.pdf	PVCS File Migration	Eligible			
4		File Client->Client	Eligible			

At the bottom of the window, there are buttons for Refresh, Select All, View -->, Line Exec Log (Latest), Action, Submit, OK, Save, and Cancel. The status bar at the bottom left shows "Ready".

Processing a Workflow Step

To process a workflow step:

1. Open a submitted package.

For information on how to open a package, see *Opening Packages from the PPM Workbench* on page 108.

The Package window opens.

2. Click the **Status** tab.
3. Select one or more package lines.

You can select a single step for a single package line, or multiple steps for multiple lines. To select all the steps on all the open package lines that are eligible for action, click **Select All**.

You cannot act on multiple workflow steps at one time. If you select cells for multiple workflow steps, the **Action** button remains disabled. If you have the security privileges to perform the given workflow step, the button is enabled.

After you select a workflow step for which you have the security permission to act on the workflow step, the label on the button at the bottom-right of the **Status** tab changes from **Action** to the workflow step name.

4. To perform an action or decision on a selected step, click **Action**.

A decision window or the execution window opens.

Each step is configured with a selection of valid results.

5. If a decision window is open, from the **Result** list, select a decision result. If an execution window is open, in the list, select **Execute Now**, **Schedule Execution**, or **Bypass Execution**.

6. In the **Notes** field, you can type any comments you want to save.

For information about the decision window, see *Acting on Decision Workflow Steps* on page 113. For information about the execution window, see *Acting on Execution Workflow Steps* on page 115.

7. Click **OK**.

Whether the step is a decision or an execution, the result of the step is processed by the workflow engine and can lead to a number of changes. Based on the workflow definition (which can contain multiple workflow steps and subworkflows) the given workflow step result can cause additional workflow steps to become eligible, indicating the next actions to be performed in the package resolution process.

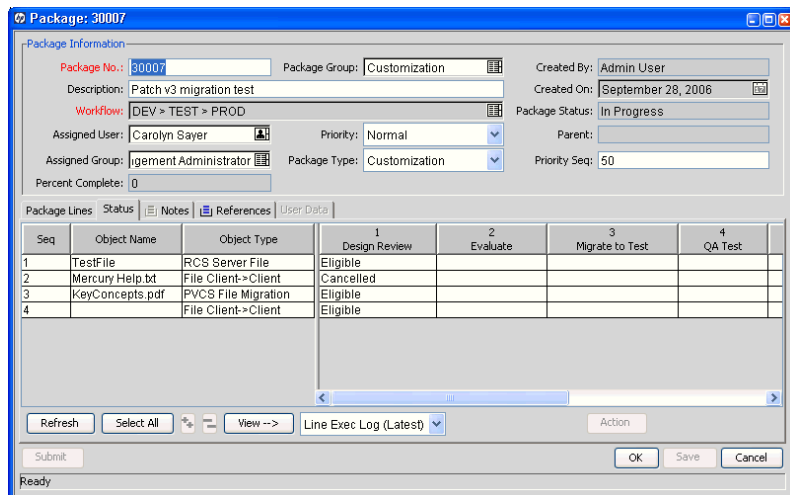
When subsequent steps become eligible, those steps are completed sequentially, making eligible the next workflow steps in line. This process continues until the package reaches its final state and is resolved, usually at a close step.

Acting on Decision Workflow Steps

Decision workflow steps are steps for which you (or a group) must indicate the outcome. For example, Approve Migration is an example of a decision workflow step. You can either act on the decision step yourself or delegate the decision.

To act on a decision workflow step:

1. In the Package window, select the **Status** tab.



2. Select an eligible decision workflow step.

For information on how to access the **Status** tab and select an eligible decision workflow step, see [Acting on Eligible Steps on page 110](#).

The **Action** button label changes, depending on the step selected. For example, if you click Eligible for QA Test, the Action button label changes to QA Test.



If you cannot see the **Action** button on the **Status** tab, that means that a security group has not been assigned to the workflow step.

3. Click the action button. For the example given in step 2, click **QA Test**.

The QA Test Package Decision window opens.

4. In the list, select the applicable action needed (**Decide Now** or **Delegate Decision**).
 - If you select **Decide Now**, you must make a decision about the decision workflow step; for example, **Approve**. To make a decision regarding the decision workflow step:
 - a. From the **Result** list, select the result.
 - b. In the **Notes** field, type helpful information about the decision you made, and then click **OK**.

The decision window closes. The decision results are added to the **Status** tab.

- If you select **Delegate Decision**, you must then assign the decision to someone. To delegate a decision:
 - a. To select a resource, use the **Delegate To** auto-complete list.
 - b. In the **Notes** field, type helpful information about the decision that needs to be made, and then click **OK**.

The decision window closes, and the results are listed on the **Status** tab.

5. Click **OK**.

The decision is entered into the system. If the workflow step was configured so that more than one person must decide on the result, the package line may not move to the next step until all required decisions are made. If a decision workflow step requires that more than one person decide on the result, you can view the current decision results for the workflow step using the Decision Detail view.

Acting on Execution Workflow Steps

Execution workflow steps are workflow steps where the HP Deployment Management system performs an action, and then updates the step with its result. These actions can be as simple as calculating the value for a token or as complex as copying files, running programs, or updating Web pages.

To act on an execution workflow step:

1. In the Package window, on the **Status** tab, select the eligible decision workflow step.

For information on how to access the Status tab and select an eligible decision workflow step, see [Acting on Eligible Steps on page 110](#).

The **Action** button is enabled. Notice that the button label changes with the step selected. For the following example, the action button label changed to **SAP_Export**.

The screenshot shows a window titled "Package: 30127" with a "Status" tab selected. The "Package Information" section includes fields for Package No. (30127), Package Group, Description, Workflow (Alpha With Email), Assigned User, Assigned Group, Package Type (Customization), Priority (Low), Package Status (In Progress), Parent, and Priority Seq (50). Below this is a table of Package Lines with columns: Seq, Object Name, Object Type, Package, Code Review, and SAP_EXPORT. The first row has Seq 1, Object Name a, Object Type File Client->Client, Package, Code Review Approved, and SAP_EXPORT Eligible. At the bottom, there are buttons for Refresh, Select All, View -->, Line Exec Log (Latest), and SAP_EXPORT, along with Submit, OK, Save, and Cancel buttons.

Seq	Object Name	Object Type	Package	Code Review	SAP_EXPORT
1	a	File Client->Client		Approved	Eligible

2. On the **Status** tab, click the action button, which for this example is **SAP_Export**.

The **SAP_Export** execution window opens.

3. In the list, select **Execute Now**, **Schedule Execution**, or **Bypass Execution**.
 - If you select **Execute Now** and click **OK**, you execute the workflow step. The Execution window closes. The result of the workflow step is displayed on the package line at the workflow step. This process could be a software migration, execution of a PL/SQL function, the closing of the package line, or other activity. The execution engine executes the step and sets the result accordingly.
 - If you select **Schedule Execution**, the **Execution Date** and **Execution Time** fields are visible. Select a date and time, and then click **OK**. The Execution window closes. The execution schedule is displayed on the package line at the workflow step. This process could be a software migration, execution of a PL/SQL function, the closing of the package line, or other activity. The execution engine executes the step and sets the results accordingly.
 - If you select **Bypass Execution**, the **Execution Result** field is visible. Select the results, and then click **OK**. The execution window closes and the selected result is displayed on the package line at the workflow step.
4. Click **OK**.

Adding Notes

In the Package window, the **Notes** tab (*Figure 4-3*) displays additional package information.

Figure 4-3. Notes tab in the Package window

Package: 30019

Package Information

Package No.: 30019 Package Group: Created By: Admin User

Description: Patch v3 migration test Created On: October 19, 2006

Workflow: DEV > TEST > PROD Package Status: New

Assigned User: Carolyn Sayer Priority: Normal Parent:

Assigned Group: agement Administrator Package Type: Customization Priority Seq: 50

Percent Complete: 0

Package Lines | Status | **Notes** | References | User Data

Existing Notes

Admin User (admin)
March 6, 2007 09:52:07 AM PST
Escalate to P1 after April 5, 2007.

New Notes

Enlarge

Submit OK Save Cancel

Ready

To add a note, type the text in the **New Notes** field, and then click **Save**. The note is added to the **Existing Notes** field.

Adding, Updating, and Deleting References

You can add and update package references from the **References** tab of the Package window in the PPM Workbench. The following sections provide information about how to add, update, and delete references.

Adding References

The Package window **References** section contains additional package information. For example, you might add a document or URL as a reference to a package. You can add the following entities as package references:

- Attachments
- Packages (New and Existing)
- Projects
- Releases
- Requests (New and Existing)
- Tasks
- URLs

For some references (such as requests and other packages), a functional dependency to the original package can be created. For example, you can specify that a request is a predecessor to the package. This means the package will not continue until the request is closed. For a list of the references and their possible dependency relationships, see [Reference Relationships](#) on page 41.

For information on how to add a reference, see [Adding References to Packages from the Package Workbench](#) on page 69 or [Adding References to Packages from the Standard Interface](#) on page 94.

Updating Reference Relationships

To update an existing reference relationship from the PPM Workbench:

1. Open a package.

For information on how to open a package, see *Opening Packages from the PPM Workbench* on page 108.

2. Click the **References** tab.
3. Click the **Relationship** field for the referenced entity, and then select an item from the displayed list.

The screenshot shows the 'Package: 30007' window in the PPM Workbench. The 'References' tab is active, displaying a table of package lines and a dropdown menu for selecting a relationship type.

Package Information:

- Package No.: 30007
- Package Group: Customization
- Created By: Admin User
- Description: Patch v3 migration test
- Created On: September 28, 2006
- Workflow: DEV > TEST > PROD
- Package Status: In Progress
- Assigned User: Carolyn Sayer
- Priority: Normal
- Parent:
- Assigned Group: Management Administrator
- Package Type: Customization
- Priority Seq: 50
- Percent Complete: 0

Package Lines Table:

Type	Name	Details	Status	% Complete	Description	Relationship
Package	30032	DEV > TEST > PROD	New	0%	Patch v3 migrati...	Related to this Package
Project	Whirlwind 2	Whirlwind 2	In Planning	0%		Run after this Package in a R...
Project	ERP Service Pack - ...	ERP Service Pack - Se...	Business Readiness Sign-Off	46%		Run before this Package in a Predecessor

Relationship Selection:

- Related to this Package
- Run after this Package in a R...
- Run before this Package in a Predecessor
- Successor

Items in Bold are actively controlling this Package

New Reference: Attachment [Add] [Remove] [Open Reference]

[Submit] [OK] [Save] [Cancel]

4. Click **OK** or **Save**.

The change to the package is saved.

Deleting References

To delete a reference from the PPM Workbench:

1. Open a package.

For information on how to open a package, see *Opening Packages from the PPM Workbench* on page 108.

2. Click the **References** tab.
3. Select the reference, and then click **Remove**.

The reference is deleted.

4. Click **Save** to confirm that you want to delete the reference(s).
5. Click **Cancel** to back out of the reference and cancel removing (or deleting) any references.

Adding a Package Line to an In-Progress Package

You may want to add a package line to a package that is already submitted. You can add package lines to a package that has a status of In Progress. For information on how to do this, see *Adding Lines to Packages* on page 64.

A new package line is not submitted until you save the package. After you save the package, the new package line is submitted to the first step in the workflow, and the user can process it separately until it catches up with the other lines in the package. At submission, the new package line is not automatically assigned the same status as the other lines.

5 Managing Packages

Managing Packages in HP Deployment Management

After a package is submitted in HP Deployment Management, it can be processed and managed. Package management involves copying, merging, grouping, editing, and deleting packages, modifying package groups, and cancelling package lines. The following sections address all of these tasks, except for copying packages. The procedure for copying packages is provided in *Creating Packages by Copying Existing Packages* on page 57.

Merging Packages

You can generate a new package by merging two or more existing packages. This is useful if you want to generate a single package consisting of certain package lines contained in separate packages.

To merge two packages:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

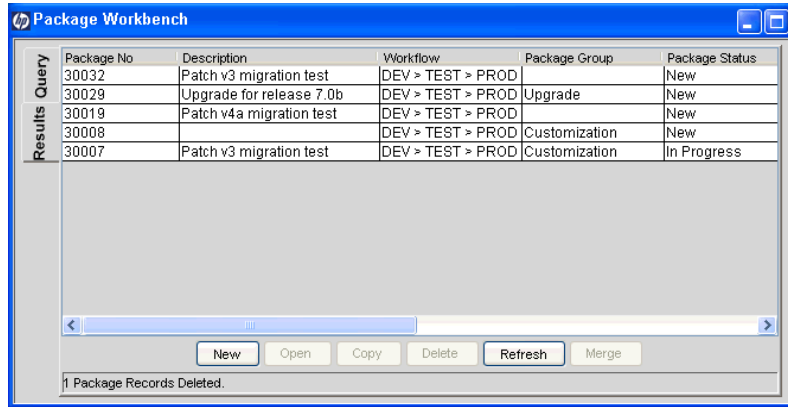
The Package Workbench opens.

4. On the **Query** tab, click **List**.

The **Results** tab lists all of the existing packages.

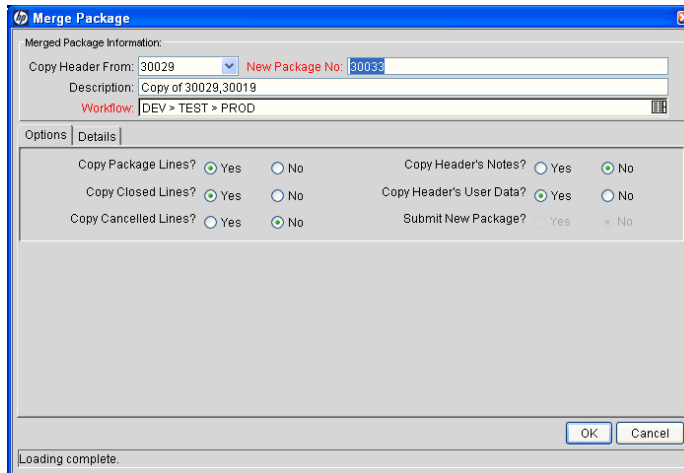
5. Select the packages to merge.

To select nonadjacent rows, use the **ctrl** key. To select adjacent rows, use the **shift** key.



6. On the **Results** tab, click **Merge**.

The Merge Package window opens to the **Options** tab.



7. In the **New Package Number** field, you can either leave the generated package number, or type a different unique package number.

8. In the **Workflow** field, you can leave the default workflow name, or select a different one in the auto-complete list.
9. On the **Options** tab, select **Yes** or **No** for the listed options.
10. Click **OK**.

The Package Workbench prompts you to indicate whether you want to edit the new (merged) package.

11. To edit the package, click **Yes**. To save and close the package, click **No**.

Creating New Package Groups

It is often useful to link a new package to a package group for tracking and reporting purposes. After you link packages to package groups, you can use the package group to search for packages or in building custom portlets. You create new package groups from the Package Workbench.

To create a package group:

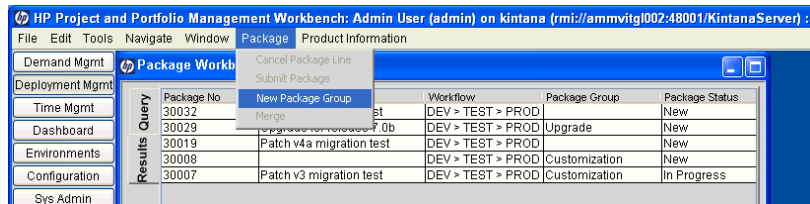
1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

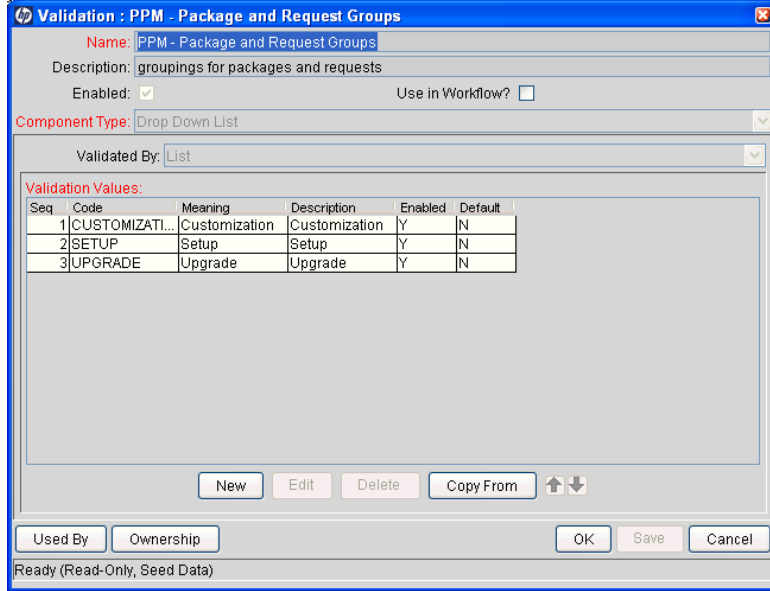
3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. From the **Package** menu, select **New Package Group**.

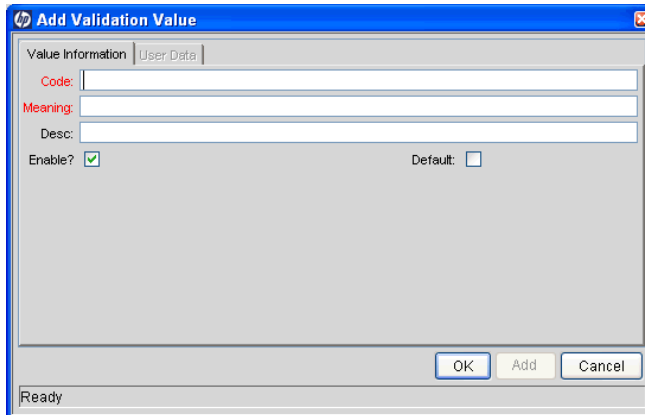


The Validation: KNTA - Package and Request Groups window opens and displays the existing groups for packages and requests.



5. Click **New**.

The Add Validation Value window opens to the **Value Information** tab.



6. In the **Code** field, type the token name for the new **Package Group** list item.

7. In the **Meaning** field, type the name to display for this item in the **Package Group** list.

8. In the **Desc** field, type a short description of the package group.
9. To disable the new list value, clear the **Enable?** checkbox.
10. To make this value the default selection in the **Package Group** list, select the **Default** checkbox.
11. Click **OK**.

Editing Package Groups

You can edit existing package groups from within the PPM Workbench. You can only change the KNTA Package and Request Groups Validation list if you have the required access grants and security privileges. For information about the licenses and access grants required to work with packages in HP Deployment Management, see the *Security Model Guide and Reference*.

Before you add or edit any package groups, consult your application administrator. Package groups are typically generated to adhere to specific business application standards.

To edit a package group:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

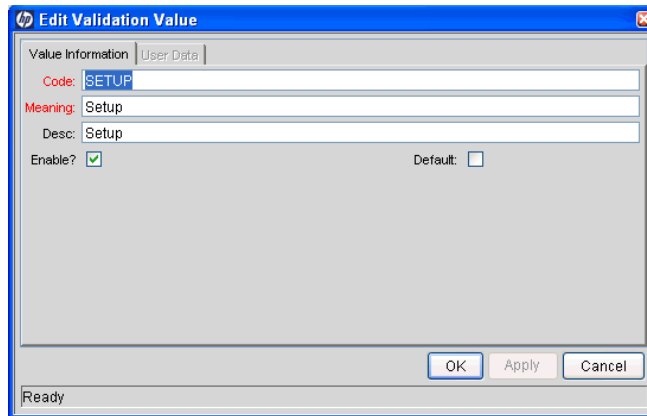
The Package Workbench opens.

4. Select **Package > New Package Group**.

The Validation: KNTA - Package and Request Groups window opens and lists existing package groups.

5. Select the package group you want to change, and then click **Edit**.

The Edit Validation Value window opens.



6. Edit the field values, as necessary, and then click **OK**.

The new validations are added to the Validation: KNTA - Package and Request Groups window.

7. Click **OK**.

Deleting Packages

You can delete packages from the Packages Workbench.

To delete a package:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages**.

The Package Workbench opens.

4. To see a list of all the packages, on the **Query** tab, click **List**.

The **Results** tab displays the packages list.

5. Select the packages you want to delete, and then click **Delete**.



To select nonadjacent rows, press and hold the **Ctrl** key. To select adjacent rows, press and hold the **Shift** key.

The Packages Workbench prompts you to confirm that you want to delete the package.

6. Click **Yes**.

Cancelling Package Lines

In some instances, you might want to cancel package lines because, for example, the files are out of date or are no longer required. You use the Package Workbench to cancel package line.

To cancel a package line:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench.**

The PPM Workbench opens.

3. From the shortcut bar, select **Deployment Mgmt > Packages.**

The Package Workbench opens.

4. To see a list of all of the packages, on the **Query** tab, click **List.**

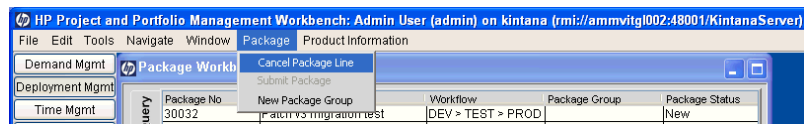
The **Results** tab displays the list.

5. Select a package that contains lines you want to cancel, and then click **Open.**

The Package window opens.

6. On the **Package Line** tab, select the package line to cancel.

7. From the menu bar, select **Package > Cancel Package Line.**



Index

A

accessing

- package decision detail in Workbench, [38](#)
- package execution history in the Workbench, [36](#)
- package graphical view in Workbench, [36](#)
- package line execution log in the Workbench, [35](#)
- package line permissions in the Workbench, [37](#)
- package line transaction history in Workbench, [38](#)
- package workflow step information URL in the Workbench, [38](#)

adding

- attachments to packages, [95](#)
- existing packages to packages, [96](#)
- existing packages to packages in Workbench, [72](#)
- existing requests to packages, [103](#)
- existing requests to packages in Workbench, [80](#)
- notes to packages in the standard interface, [93](#)
- notes to packages in Workbench, [68](#), [117](#)
- package line to in-progress package in Workbench, [120](#)
- package lines in Workbench, [64](#)
- packages to packages, [98](#)
- packages to packages in the Workbench, [73](#)
- programs to packages, [100](#)
- programs to packages in Workbench, [75](#)

- projects to packages, [101](#)
- projects to packages in Workbench, [76](#)
- references to packages, [94](#)
- references to packages in Workbench, [69](#), [118](#)
- releases to packages, [102](#)
- releases to packages in the Workbench, [78](#)
- requests to packages, [104](#)
- requests to packages in the Workbench, [82](#)
- tasks to packages, [106](#)
- tasks to packages in the Workbench, [83](#)
- URLs to packages, [107](#)
- URLs to packages in the Workbench, [85](#)

approving

- packages, [90](#)

attachments

- adding to packages from the standard interface, [95](#)

C

cancelling

- package lines in the Workbench, [128](#)

condition workflow steps, [16](#)

configuring

- package groups in Workbench, [125](#)
- package lines in Workbench, [64](#)
- packages general information in Workbench, [63](#)

copying

- creating packages in the Workbench, [57](#)

creating
 package groups in Workbench, **123**
 packages, **47**
 packages as references in the Workbench,
 60, 62
 packages in the Workbench, **55**
 packages using copy in the Workbench, **57**
custom object types definition, **15**

D

decision workflow steps, **16**
deleting
 package references in Workbench, **120**
 packages in Workbench, **127**
Demand Management
 integrating with Deployment Management,
 20
Deployment Management, **20**
 integrating, **19**
 integrating with version control, **19**
 integration with third-party applications,
 20
 packages, **10**
 process, **10**
 using the standard interface, **13**
 using the Workbench, **13**

Deployment management
 environment components, **18**

E

Environment Workbench, **51**
environments
 defined for packages, **48**
 for deployment management, **18**
 verifying in the Environment Workbench,
 51
execution workflow steps, **16**

I

integrating
 Deployment Management, **19**

integrating with Demand Management, **20**

M

managing
 packages in the Workbench, **121**
merging packages in Workbench, **121**
migrators, defined, **15**
My Packages portlet
 opening packages from, **90**

N

notes
 adding to packages from the standard
 interface, **93**
 adding to packages in Workbench, **68, 117**
notifications
 links to packages, **90**

O

object types
 custom objects definition, **15**
 defining in Workbench, **52**
 definition, **14**
 migrator definition, **15**
 standard objects definition, **15**
 where defined, **26**

opening
 packages, **89**
 packages from My Packages portlet, **90**
 packages from the Search Packages page,
 89
 packages in the Workbench, **108**

P

Package Information section
 Package window, **32**
Package window
 Package Information section, **32**
Package Workbench, **55**

packages

, **23**

accessing decision detail in Workbench, **38**

accessing graphical view in Workbench, **36**

accessing line execution log in the
Workbench, **35**

accessing line permissions in the
Workbench, **37**

accessing line transaction history in
Workbench, **38**

accessing package execution history in the
Workbench, **36**

accessing workflow step information URL
in the Workbench, **38**

adding attachments from the standard
interface, **95**

adding existing packages in Workbench, **72**

adding existing requests, **103**

adding existing requests in Workbench, **80**

adding line to in-progress package in
Workbench, **120**

adding notes from the standard interface,
93

adding notes in Workbench, **68, 117**

adding package lines in Workbench, **64**

adding packages, **98**

adding packages in the Workbench, **73**

adding programs, **100**

adding programs in Workbench, **75**

adding projects, **101**

adding projects in Workbench, **76**

adding references, **94**

adding references in Workbench, **69**

adding references to Workbench, **118**

adding releases, **102**

adding releases in the Workbench, **78**

adding requests, **104**

adding requests in the Workbench, **82**

adding tasks, **106**

adding tasks in the Workbench, **83**

adding to packages, **96**

adding URLs, **107**

adding URLs in the Workbench, **85**

approving, **90**

cancelling package lines in the Workbench,
128

checking status in the Workbench, **109**

configuring general information in
Workbench, **63**

creating, **47**

creating by copying in the Workbench, **57**

creating by referencing in the Workbench,
60, 62

creating in the Workbench, **55**

creating package groups in Workbench,
123

defined, **10, 14**

deleting in Workbench, **127**

deleting references in Workbench, **120**

editing package groups in Workbench, **125**
in the standard interface, **27**

in the Workbench, **31**

managing in the Workbench, **121**

merging in Workbench, **121**

opening, **89**

opening from email notification links, **90**
opening in the Workbench, **108**

package detail page header section, **29**

package detail page Notes section, **30**

package detail page Reference section, **30**

package detail page Status section, **29**

processing, **88**

processing in the Workbench, **108**

processing packages through decisions in
the Workbench, **113**

processing packages through executions in
the Workbench, **115**

processing steps in the Workbench, **110**

processing through workflow steps in
Workbench, **110**

reference relationships, **41**

submitting, **86**

submitting in the Workbench, **86**

updating references in the Workbench, **118**

Workbench package window Notes tab, **39**

Workbench package window Package
Lines tab, **33**

Workbench package window References
tab, **40**

- Workbench Package window Status tab, **34**
- workflows defining environments, **48**
- predecessor reference relationships, **41, 46**
- processing
 - packages, **88**
 - packages in the Workbench, **108, 110**
 - packages through decisions in the Workbench, **113**
 - packages through executions in the Workbench, **115**
 - packages through workflow steps in Workbench, **110**
- programs
 - adding to packages, **100**
 - adding to packages in Workbench, **75**
- projects
 - adding to packages, **101**
 - adding to packages in Workbench, **76**

R

- references
 - added to packages in Workbench, **118**
 - adding attachments to packages from the standard interface, **95**
 - adding existing packages to packages, **96**
 - adding existing packages to packages in Workbench, **72**
 - adding existing references to packages, **103**
 - adding existing requests to packages in Workbench, **80**
 - adding packages to packages, **98**
 - adding packages to packages in the Workbench, **73**
 - adding programs to packages, **100**
 - adding programs to packages in Workbench, **75**
 - adding projects to packages, **101**
 - adding projects to packages in Workbench, **76**
 - adding releases to packages, **102**
 - adding releases to packages in the Workbench, **78**
 - adding requests to packages, **104**

- adding requests to packages in the Workbench, **82**
- adding tasks to packages, **106**
- adding tasks to packages in the Workbench, **83**
- adding to packages, **94**
- adding to packages in Workbench, **69**
- adding URLs to packages, **107**
- adding URLs to packages in the Workbench, **85**
- creating packages in the Workbench, **60, 62**
- deleting in packages in Workbench, **120**
- package relationships, **41**
- predecessor relationships, **41, 46**
- relationships list, **42**
- successor relationships, **41, 46**
- updated in packages in the Workbench, **118**

- releases
 - adding to packages, **102**
 - adding to packages in the Workbench, **78**
- requests
 - adding to packages, **103, 104**
 - adding to packages in the Workbench, **82**
 - adding to packages in Workbench, **80**

S

- Search Packages page
 - opening packages, **89**
- Segregation of Duties tab, **50**
- standard interface
 - packages in, **27**
- standard object types definition, **15**
- submitting
 - packages, **86**
 - packages in the Workbench, **86**
- subworkflow workflow steps, **16**
- successor reference relationships, **41, 46**

T

- tasks

- adding to packages, **106**
- adding to packages in the Workbench, **83**

U

- updating
 - package references in the Workbench, **118**
- URLs
 - adding to packages, **107**
 - adding to packages in the Workbench, **85**

V

- version control
 - integrating with Deployment Management, **19**
- viewing
 - package status in the Workbench, **109**

W

- Workbench
 - processing packages, **108**
- workflow steps
 - condition, **16**
 - decision, **16**
 - execution, **16**
 - segregation of duties, **50**
 - subworkflow, **16**
- workflows
 - definition, **16**
 - packages and environments, **48**
 - processing packages in the Workbench, **110**
 - processing packages in Workbench, **110**
 - processing packages through decisions in the Workbench, **113**
 - processing packages through executions in the Workbench, **115**
 - workflow step definition, **16**
 - workflow step types, **16**

