PeopleSoft®

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Integration Testing Utilities and Tools

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Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Integration Testing Utilities and Tools
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Contents

About This PeopleBook

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

This preface discusses:

- PeopleSoft application prerequisites.
- PeopleSoft application fundamentals.
- Documentation updates and printed documentation.
- Additional resources.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common elements in PeopleBooks.

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

PeopleSoft Application Prerequisites

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

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

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

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

PeopleSoft Application Fundamentals

Each application PeopleBook provides implementation and processing information for your PeopleSoft applications.

Note. Application fundamentals PeopleBooks are not applicable to the PeopleTools product.

For some applications, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals PeopleBook. Most PeopleSoft product lines have a version of the application fundamentals PeopleBook. The preface of each PeopleBook identifies the application fundamentals PeopleBooks that are associated with that PeopleBook.

The application fundamentals PeopleBook consists of important topics that apply to many or all PeopleSoft applications across one or more product lines. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals PeopleBooks. They provide the starting points for fundamental implementation tasks.

Documentation Updates and Printed Documentation

This section discusses how to:

- Obtain documentation updates.
- Order printed documentation.

Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on the PeopleSoft Customer Connection website. Through the Documentation section of PeopleSoft Customer Connection, you can download files to add to your PeopleBook Library. You'll find a variety of useful and timely materials, including updates to the full PeopleSoft documentation that is delivered on your PeopleBooks CD-ROM.

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

See Also

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

Ordering Printed Documentation

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

- Web
- Telephone
- Email

Web

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

Telephone

Contact MMA Partners at 877 588 2525.

Email

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

See Also

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

Additional Resources

The following resources are located on the PeopleSoft Customer Connection website:

Resource	Navigation
Application maintenance information	Updates + Fixes
Business process diagrams	Support, Documentation, Business Process Maps
Interactive Services Repository	Interactive Services Repository
Hardware and software requirements	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation & Software, Hardware and Software Requirements
Installation guides	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation & Software, Installation Guides and Notes
Integration information	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation and Software, Pre-built Integrations for PeopleSoft Enterprise and PeopleSoft EnterpriseOne Applications
Minimum technical requirements (MTRs) (EnterpriseOne only)	Implement, Optimize + Upgrade, Implementation Guide, Supported Platforms
PeopleBook documentation updates	Support, Documentation, Documentation Updates
PeopleSoft support policy	Support, Support Policy
Prerelease notes	Support, Documentation, Documentation Updates, Category, Prerelease Notes
Product release roadmap	Support, Roadmaps + Schedules
Release notes	Support, Documentation, Documentation Updates, Category, Release Notes

Resource	Navigation
Release value proposition	Support, Documentation, Documentation Updates, Category, Release Value Proposition
Statement of direction	Support, Documentation, Documentation Updates, Category, Statement of Direction
Troubleshooting information	Support, Troubleshooting
Upgrade documentation	Support, Documentation, Upgrade Documentation and Scripts

Typographical Conventions and Visual Cues

This section discusses:

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

Typographical Conventions

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

Typographical Convention or Visual Cue	Description
Bold	Indicates PeopleCode function names, business function names, event names, system function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
Italics	Indicates field values, emphasis, and PeopleSoft or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply. We also use italics when we refer to words as words or letters as letters, as in the following: Enter the letter *O*.
KEY+KEY	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For ALT+W, hold down the ALT key while you press the W key.
`Monospace font`	Indicates a PeopleCode program or other code example.

Typographical Convention or Visual Cue	Description
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.

Visual Cues

PeopleBooks contain the following visual cues.

Notes

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

Note. Example of a note.

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

Important! Example of an important note.

Warnings

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

Warning! Example of a warning.

Cross-References

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

Country, Region, and Industry Identifiers

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

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

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

Country Identifiers

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

Region Identifiers

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

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

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

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

Currency Codes

Monetary amounts are identified by the ISO currency code.

Comments and Suggestions

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

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

Or send email comments to doc@peoplesoft.com.

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

Common Elements Used in PeopleBooks

As of Date	The last date for which a report or process includes data.
Business Unit	An ID that represents a high-level organization of business information. You can use a business unit to define regional or departmental units within a larger organization.
Description	Enter up to 30 characters of text.
Effective Date	The date on which a table row becomes effective; the date that an action begins. For example, to close out a ledger on June 30, the effective date for the ledger closing would be July 1. This date also determines when you can view and change the information. Pages or panels and batch processes that use the information use the current row.
Once, Always, and **Don't Run**	Select Once to run the request the next time the batch process runs. After the batch process runs, the process frequency is automatically set to Don't Run. Select Always to run the request every time the batch process runs. Select Don't Run to ignore the request when the batch process runs.
Process Monitor	Click to access the Process List page, where you can view the status of submitted process requests.
Report Manager	Click to access the Report List page, where you can view report content, check the status of a report, and see content detail messages (which show you a description of the report and the distribution list).
Request ID	An ID that represents a set of selection criteria for a report or process.
Run	Click to access the Process Scheduler request page, where you can specify the location where a process or job runs and the process output format.
SetID	An ID that represents a set of control table information, or TableSets. TableSets enable you to share control table information and processing options among business units. The goal is to minimize redundant data and system maintenance tasks. When you assign a setID to a record group in a business unit, you indicate that all of the tables in the record group are shared between that business unit and any other business unit that also assigns that setID to that record group. For example, you can define a group of common job codes that are shared between several business units. Each business unit that shares the job codes is assigned the same setID for that record group.
Short Description	Enter up to 15 characters of text.
User ID	An ID that represents the person who generates a transaction.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Process Scheduler

Enterprise PeopleTools 8.46 PeopleBook: Using PeopleSoft Applications

PeopleSoft Integration Testing Utilities and Tools Preface

This preface provides a general overview of the contents discussed in the Integration Testing Utilities and Tools PeopleBook.

Integration Testing Utilities and Tools

This PeopleBook describes how to use the Send Master utility, the Simple Post utility, automated integration point testing, and the Transformation Test utility. These tools and utilities are delivered with PeopleTools and are frequently used in conjunction with PeopleSoft Integration Broker.

CHAPTER 1

Getting Started with PeopleSoft Integration Testing Utilities and Tools

This chapter discusses implementing utilities and tools for testing integrations.

PeopleSoft Integration Testing Utilities and Tools Overview

This PeopleBook describes the following integration testing utilities and tools:

Send Master utility

The Send Master utility enables you to test PeopleSoft Integration Broker messaging interactions with PeopleSoft and third-party web servers, application servers, and integration gateways. It can test listening connector functionality, target connector functionality, connector introspection and transactions.

Send Master enables you to post any data format, including the PeopleSoft Multipurpose Internet Mail Extensions (MIME) message format, to web and application servers over HTTP and HTTPS. You can also use Send Master to simultaneously test groups of different types of messages, as well as to stress test your system.

Send Master also enables you to perform Get functions and ping application messaging gateways and third-party servers.

Simple Post utility

The Simple Post utility enables you to use shell scripts or a Java API to post XML messages from third-party systems to the integration gateway. The utility wraps the incoming messages in the PeopleSoft XML wrapper format and posts them to the HTTP listening connector.

The Simple Post utility reads ASCII, UTF-8 and UTF-16 file formats for incoming messages and converts them to UTF-8 format to send to the integration gateway.

Integration point test automation tools

PeopleSoft provides a means for automated integration point testing. You can use automated integration point testing to unit test, perform cross-application business process testing, or regression test integration points.

Automated integration point testing is suitable for testing integration points between different PeopleSoft systems, between PeopleSoft systems and third-party systems, and between PeopleSoft systems and open interfaces.

You can use automated integration point testing with the following PeopleSoft integration technologies:

- Messaging, including asynchronous and synchronous publishing and subscribing.
- Component interfaces.
- Flat files.
- Staging tables.

Transformation Test utility PeopleSoft Integration Broker provides the Transform Test utility, which you can use to test Application Engine transform programs without sending messages and with minimal development effort.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Integration Broker

PeopleSoft Integration Testing Utilities and Tools Implementation

The utilities and tools discussed in this PeopleBook are automatically installed with PeopleTools. Review the information provided in this section for additional requirements, prerequisites and considerations.

Implementing the Send Master Utility

To use the Send Master utility you should have an basic understanding PeopleSoft Integration Broker fundamentals, including:

- Integration gateway functionality.
- Target and listening connectors.
- Integration messaging formats.
  - Extensible Markup Language (XML).
  - Multipurpose Internet Mail Extensions (MIME).

Prior to using the Send Master utility, verify that the following are set up:

- Integration gateway, including security and logging settings.
- Integration metadata, including:
  - Messages
  - Nodes
  - Transactions

Implementing the Simple Post Utility

To use the Simple Post utility, you should understand the same Integration Broker fundamentals that are described in the previous section, Implementing the Send Master Utility. You should also verify that the integration gateway is set up, as well as integration metadata.

Implementing Integration Point Test Automation Tools

Before you use the integration point test automation tools:

- Identify the integrations you want to test.
- If testing HTTPS:
  - Set up a certificate repository.
  - Set up server-side certificates.
  - Set up external remote nodes.

Implementing the Transformation Test Utility

PeopleSoft provides a sample project, called PT_IBTRANSFORM_TEST, which you can use to run a sample test using the utility. You can also use the utility to test transformation programs that you have developed.

Other Sources of Information

In addition to implementation considerations presented in this section, take advantage of all PeopleSoft sources of information, including the installation guides, release notes, PeopleBooks, including the *PeopleTools 8.46 PeopleBook: PeopleSoft Integration Broker* and curriculum.

See Also

"PeopleSoft Integration Testing Utilities and Tools Preface," page xix

Enterprise PeopleTools 8.46 PeopleBook: Getting Started with PeopleTools

CHAPTER 2

Using the Send Master Utility

This chapter discusses the Send Master utility and describes how to:

- Start Send Master.
- Navigate in Send Master.
- Set display preferences.
- Set HTTP proxy and keystore options.
- Create Send Master projects.
- Enter header information in Send Master projects.
- Add input files to projects.
- Use input file projects.
- Use Integration Broker projects.
- Use EIP Test (Batch EIP) projects.
- Use MQSeries projects.
- Work with groups of projects.
- Ping remote nodes.
- View processing performance statistics.
- Export request messages for viewing.
- Allocate additional memory to accommodate posting large files.

Understanding Send Master

The Send Master utility enables you to test PeopleSoft Integration Broker messaging interactions with PeopleSoft and third-party web servers, application servers, and integration gateways. It can test listening connector functionality, target connector functionality, connector introspection and transactions.

Send Master enables you to post any data format, including the PeopleSoft Multipurpose Internet Mail Extensions (MIME) message format, to web and application servers over HTTP and HTTPS. You can also use Send Master to simultaneously test groups of different types of messages, as well as stress test your system.

Send Master also enables you to perform Get functions and to ping application messaging gateways and third-party servers.

Send Master is installed with the PeopleSoft Pure Internet Architecture on Windows and UNIX systems and is delivered as part of the Integration Broker Connector SDK. Send Master is also delivered as a Windows stand-alone batch file. The stand alone version enables you to use the utility without having to install an integration gateway.

Starting Send Master

You can start Send Master from the Integration Broker SDK or as a stand-alone version.

Starting Send Master from the Integration Broker SDK

The location of Send Master in the Integration Broker SDK is <PS_HOME>\webserv\<DOMAIN>.

The name of the Send Master startup script on Windows is StartSendMaster.bat; the name of the script on UNIX is StartSendMaster.sh.

Starting the Stand-Alone Version of Send Master

The standalone version of Send Master is located in the <PS_HOME>\Sendmaster folder, and is named StartSendMaster.bat. If you attempt to launch the batch file and Send Master does not open, you most likely need to set PS_HOME in the environment variables on your machine.

To set PS_HOME in the environment variables:

1. Close any DOS windows that might be open.
2. Right-click My Computer and click Properties.

   The System Properties dialog appears.
3. Click the Advanced tab.
4. In the Environment Variables section, click Environment Variables.
5. In the User variables for <user name> section, click New.

   A New User Variable dialog box appears.
6. In the Variable Name field enter *PS_HOME*.
7. In the Variable Value field, enter the path to your <PS_HOME> directory (for example, c:\PT846).
8. Click OK.

   The PS_HOME variable name and value appears in the User variables for <user name> section.
9. Click OK again and navigate to the standalone version of Send Master and double-click the StartSendMaster.bat file.

Navigating in Send Master

Send Master features drop-down menus that you use to create, save and delete projects, and to change your user and display preferences. It also features Project and Batch Processing work spaces where you specify project parameters, view output, and so on.

You can navigate in Send Master using:

- Send Master menus.
- The Project work space.
- The Send Master Batch work space.

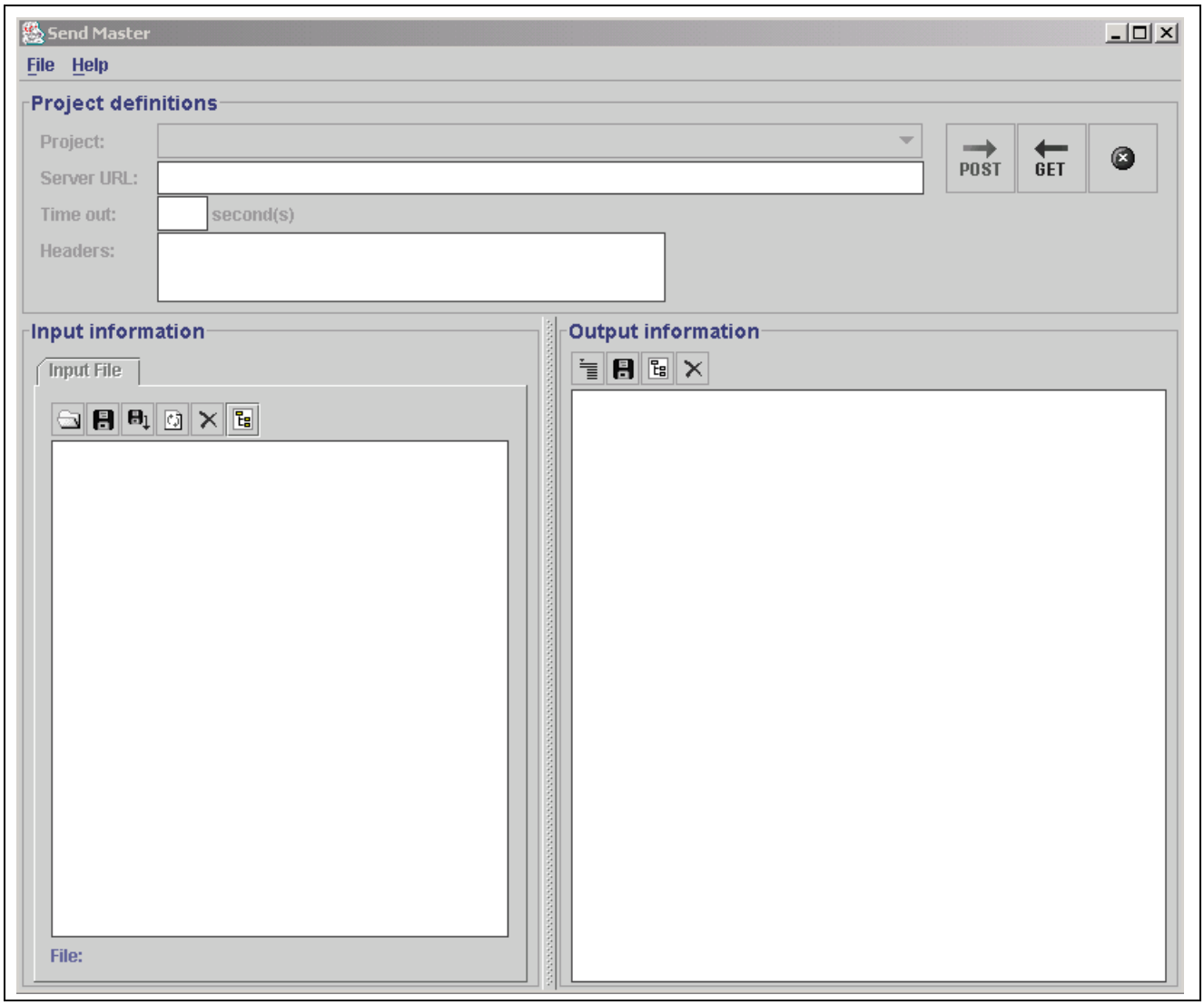
Using Send Master Menus

Send Master features two menus. This table describes the menus:

Menu	Menu Option	Shortcut	Action
File	New Project	ALT + N	Creates a new projects.
File	Save Project	ALT + S	Saves the current project.
File	Delete Project	ALT + D	Deletes the current project.
File	Batch Processing	ALT + B	Opens the Batch Processing work space.
File	Preferences	ALT + P	Opens the Preferences dialog box. from which you can: • Change user preferences. • Specify proxy and keystore information. • Specify the output directory and preferences for batch processing output.
File	Export IBRequest	ALT + E	Exports a message request to a file.
File	Exit	CTRL + E	Closes Send Master.
Help	About Send Master…	None	Displays Send Master version information.

Using the Project Work Space

When you open Send Master, the system displays the Project work space. You use the Project work space to define, modify, and test a Send Master project.



Project work space

The Send Master Project work space features the Project Definitions section, the Input Information section, and the Output Information section. No fields or buttons are enabled until you define or select a project.

Project Definition Section

Use the Project Definition section to add and define a new Send Master project. The information that you specify in this section includes the web server URL used in conjunction with Post and Get methods to work with messages.

Input Information Section

Depending on the type of task that you are performing with Send Master, the Input Information section enables you to create and format MIME messages, as well as specify input files, destination nodes. and more

You need to know the message format that the connectors, application servers, and so forth are expecting, and then incorporate the appropriate tags and components into the message body. For example, to communicate with PeopleSoft systems, you must specify the message name and requesting node.

This section features a toolbar with the following buttons:

Click the Open File button to open an existing file and display it in the Input Information area.

Click the Save File button to save the contents displayed in the Input Information area, using a filename and location that you specify.

Click the Save File As button to save the currently displayed file, using another name, location, or both, that you specify.

Click the Refresh the Current File button to reload and display the last saved version of the current file.

Click the Remove File Reference button to delete the contents of the Input Information area.

Click the If Valid XML, Format button to format the code displayed in the section to make it more readable. This button is valid only if the file displayed is an XML file.

Output Information Section

The Output Information section displays information that the system returns when you perform a GET or POST on a web server.

When you work with MIME messages, you can use the provided View drop-down list and choose whether to view the entire raw message response, message metadata, or individual sections of the response.

When you work with message types other than MIME, you can view the raw message response only.

This section features a toolbar with the following buttons:

Click the View Header Information button to display the HTTP headers returned during a POST or GET.

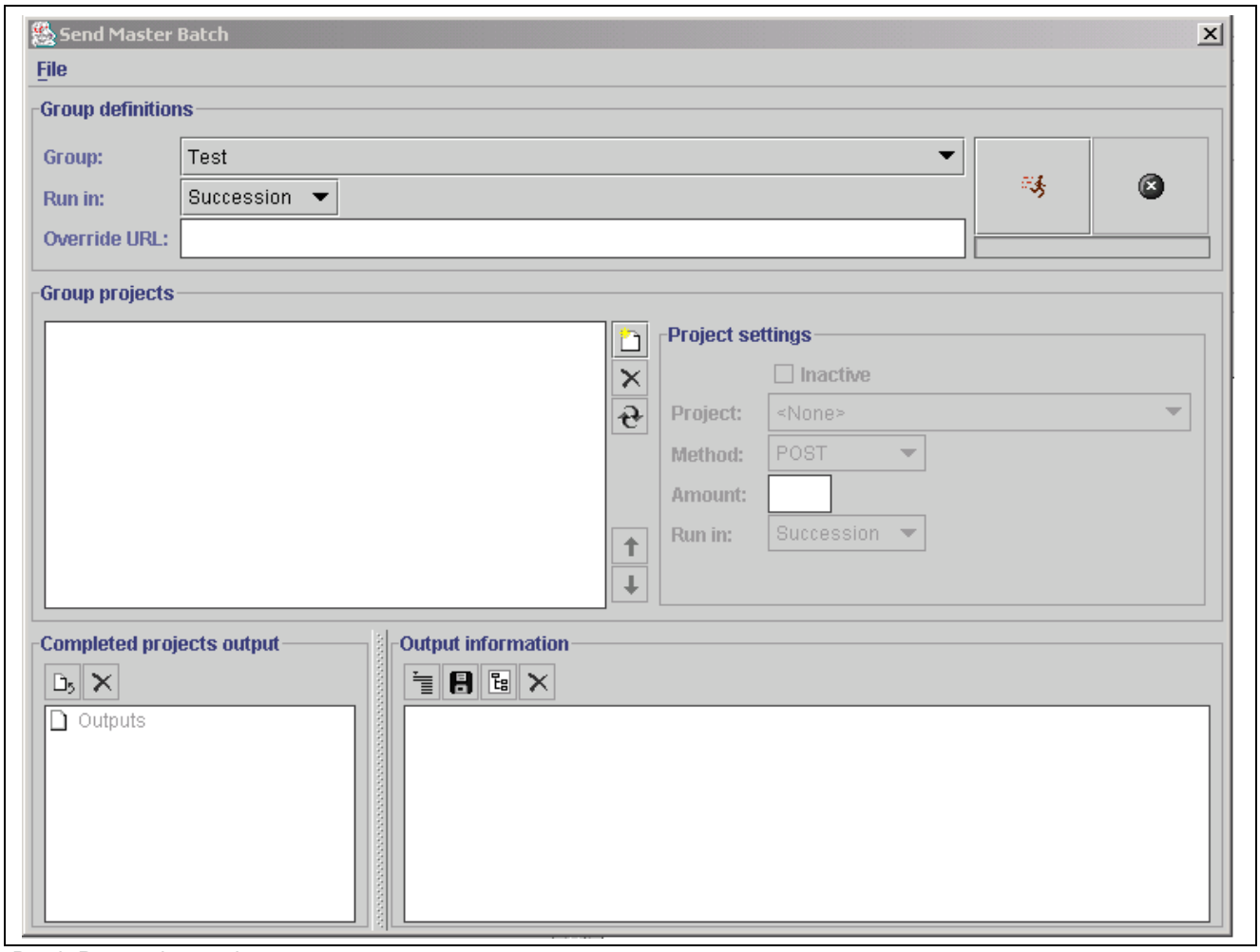
Click the Save Output button to save the information in the Output Information section using a filename and location that you specify.

Click the If Valid XML, Format button to format the code displayed in the section to make it more readable. This button is valid only if the file displayed is an XML file.

Click the Clear Output button to delete the contents of the Output Information area.

Using the Send Master Batch Work Space

The Send Master Batch work space enables you to test groups of projects, as well as stress test a project or group of projects. You can access the Batch Processing work space by starting Send Master and selecting File, Batch Processing.



Batch Processing work space

The Batch Processing work space features these sections:

- Group Definition
- Group Projects
- Completed Projects Output
- Output Information

Group Definitions Section

You use the Group Definitions section to create, select, or delete a group of projects. You can also use this section to specify whether to run the projects in the group all at once, in sequence, or at intervals that you specify.

This section features these two buttons:

Click the Start Projects button to start processing the defined group.

Click the Stop Projects button to stop processing the defined groups.

Group Projects Section

You use the Group Projects section to add, remove, and arrange projects in a group. For each project that you add to a group, you can select the method to invoke, such as GET or POST. You can also specify the number of times to run each project, and specify whether to run project instances all at once, in sequence, or at defined intervals.

This section features a toolbar with the following buttons:

Click the Add a New Project button to add a project to the group.

Click the Delete Selected Project button to delete the selected project from the group.

Click the Update Selected Project button to update the selected project with changes and modifications that were made to it since it was added to the group.

Click the Move Selected Project Up button to move the selected project up in the order sequence of projects in the group.

Click the Move Selected Project Down button to move the selected project down in the order sequence of projects in the group.

Completed Projects Output Section

The Completed Projects Output section provides processing information about each project in a group, including the number of project instances processed, total time to process all project instances, the average amount of time to process a project instance, and more.

This section features a toolbar with the following buttons:

Click the Export Results to File button to display a text file that contains processing information about the completed project, such as the number of messages processed, the total time to process the messages, the average time to process a message, and so forth.

Click the Clear Results button to clear the contents currently displayed.

Output Information Section

The Output Information section displays information that the system returns when you perform a Get or Post on a web server.

When you work with MIME messages, you can use the View drop-down list to view the entire raw message response, message metadata, or individual sections of the response.

When you are working with message types other than MIME, you can view the raw message response only.

This section features a toolbar with the following buttons:

Click the View Header Information button to display only the contents within the header tags of the selected message.

Click the Save Output button to save the contents of the Output Information area, using a filename and location that you specify.

Click the If Valid XML, Format button to format the code displayed in the section to make the contents more readable. This button is valid only if the file displayed is an XML file.

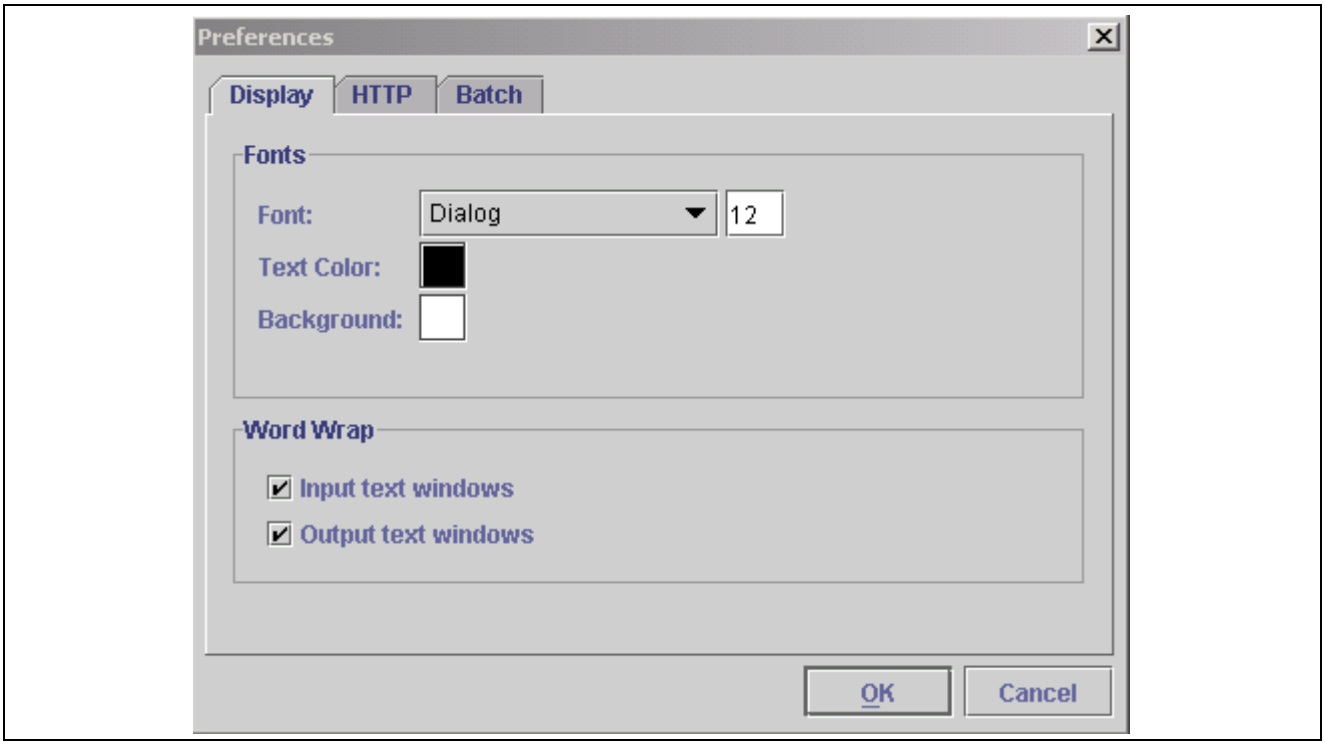
Click the Clear Output button to delete the contents of the Output Information area.

Setting Display Preferences

You can set these display preferences for Send Master:

- Display font, size, and color.
- Background color.
- Word-wrapping options.

To set display preferences, use the Display tab of the Preferences dialog box. To access this box, select File, Preference and click the Display tab.



Display tab of the Preferences dialog box

Setting the Display Font, Size and Color

To set the display font, size and color:

1. Access the Preferences dialog box and click the Display tab.
2. Set the display font, size and color.
   - To set the display font, in the Fonts section, from the Font drop-down list, select a font style.
   - To set the font size, in the field next to the font style, enter a font size.
   - To set the text color, in the Text Color field, click the color block.

     The Choose the Text Color box appears, from which you can select a color for the font.
3. Click OK to save the changes.

Setting the Background Color

This section describes how to set the background color of Send Master work spaces and sections.

To set the background color:

1. Access the Preferences dialog box and click the Display tab.
2. In the Font section, in the Background Color field, click the color block.

   The Choose the Text Background Color box appears, from which you can select a background color and click OK.
3. Click OK to save the changes.

Setting Word-Wrapping Options

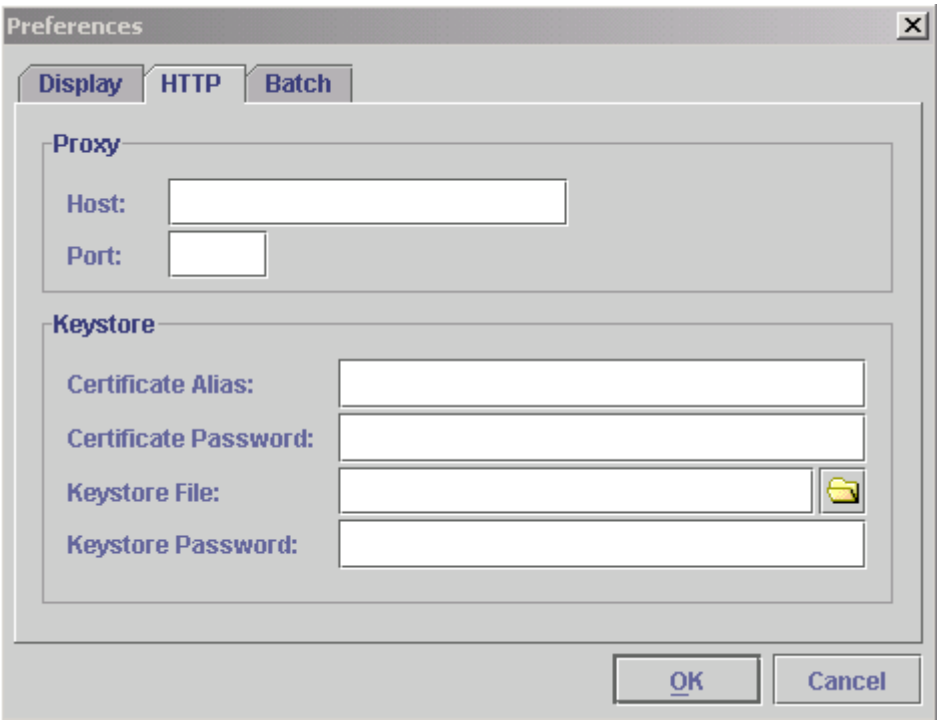
You can enable or disable word wrapping in Send Master input and output sections.

To set word-wrapping options:

1. Access the Preferences dialog box and click the Display tab.
2. In the Word Wrap section, enable or disable word wrapping.
   - To enable word wrapping in input windows, select Input Text Windows.
   - To enable word wrapping in output windows, select the Output Text Windows.
3. Click OK to save the changes.

Setting HTTP Proxy and Keystore Options

You can set up HTTP proxy and keystore options for use with Send Master. You set these options on the HTTP tab of the Preferences dialog box. To access the dialog box, select File, Preferences .



HTTP tab of the Preferences dialog box

Specifying HTTP Proxy Settings

To specify HTTP proxy settings for Send Master:

1. Access the Preferences dialog box and click the HTTP tab.
2. In the Proxy section of the dialog box, specify the following information:
    a. In the Host field enter the name of the proxy host.
    b. In the Port field, enter the appropriate port number.
3. Click the OK button.

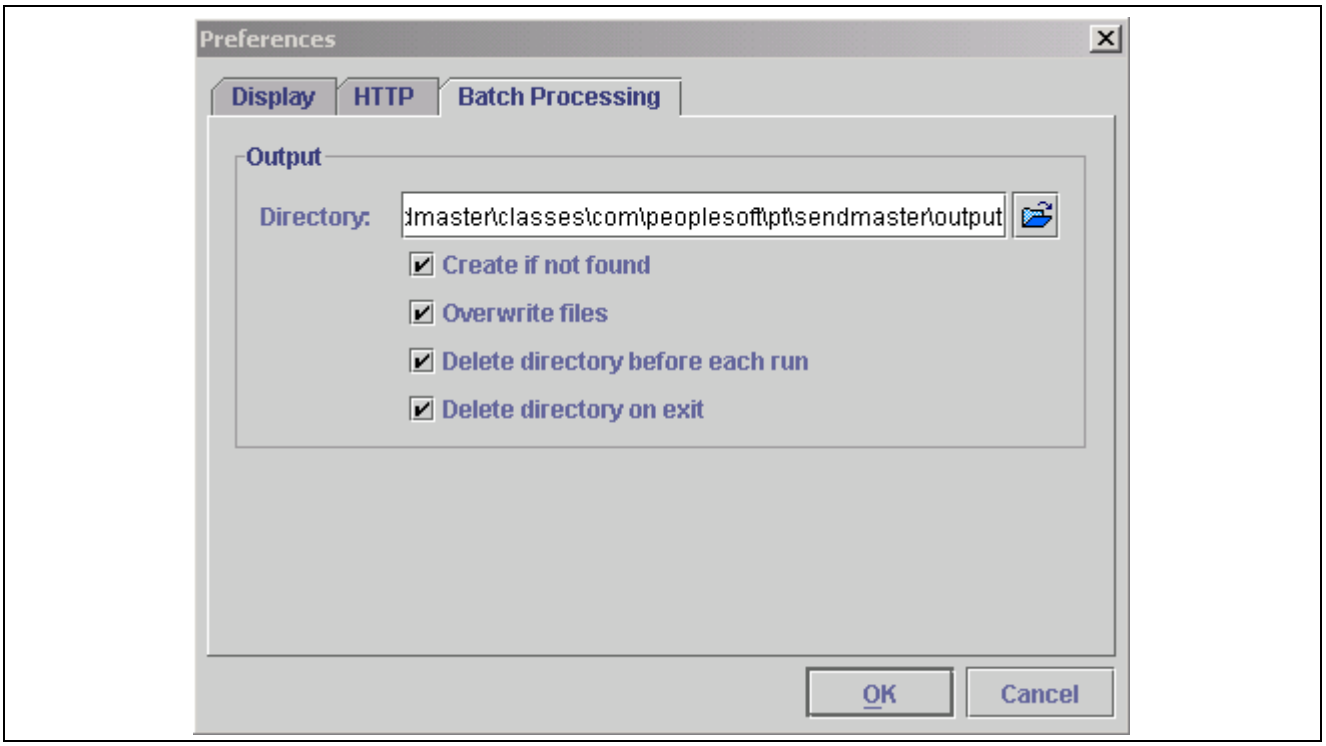
Specifying Keystore Settings

To specify keystore settings for Send Master:

1. Access the Preferences dialog box and click the HTTP tab.
2. In the Keystore section of the dialog box, specify the following information:
    a. In the Certificate Alias field, enter the certificate alias.
    b. In the Certificate Password field, enter the encrypted certificate password.
    c. In the Keystore File field, click the folder icon to specify a keystore file.
    d. In the Keystore Password field, enter the encrypted password for the keystore.
3. Click the OK button.

Setting Batch Processing Options

You use the Batch Processing tab to set output directory options related to the projects with which you work in the Batch work space.



Batch Processing tab of the Preferences dialog box

Directory	Specify the output directory for Batch project results.
Create if not found	Select this check box to create the directory specified in the Directory field if it does not exist.
Overwrite files	Select this check box to overwrite files of the same name in the output directory.
Delete directory before each run	Select this check box to delete the contents of the directory before you run each batch project.
Delete directory on exit	Select this check box to delete the contents of the directory each time that you exit the Batch work space.

Creating Send Master Projects

To test message and connector processing using Send Master, you use Send Master projects. A Send Master project is a collection of message components, values and parameters that defines what you want to test and how you want to test it.

Understanding Send Master Project Types

This table describes Send Master project types.

Input File	The Input File project type enables you to test servers that are expecting XML data over HTTP(S).

8.4 Integration Broker (MIME)

The 8.4 Integration Broker (MIME) project type enables you to test servers that are expecting MIME data over HTTP or HTTPS. Use this project type to test message and connector processing using the PeopleSoft listening connector and for integrations with systems that expect MIME data.

This project type is referred to as the Integration Broker (MIME) project type throughout this chapter.

8.4 Integration Broker (XML)

The 8.4 Integration Broker (XML) project type enables you to test servers that expect XML data in PeopleSoft format over HTTP or HTTPS. Use this project type to test message and connector processing using the HTTP listening connector and for integrations with systems that expect IBRequest XML— formatted data.

This project type is referred to as the Integration Broker (XML) project type throughout this chapter.

8.4 EIP Testing (Batch EIP)

The 8.4 EIP Testing (Batch EIP) project type enables you to test batches of messages from a file directory that you specify for automation testing, and enables you to test different transaction values.

This project type is referred to as the EIP Testing project type throughout this chapter.

8.4 MQSeries

The 8.4 MQSeries project type enables you to test and post synchronous and asynchronous messages to MQSeries queues.

This project type is referred to as the MQSeries project type throughout this chapter.

The following table describes the type of project to use based on the type of communication that you want to test.

Project Type	Usage
Input File	Use this project type to: • Use the Get method to ensure that URLs are valid. • Send non-PeopleSoft-formatted XML or MIME messages to web servers. • Test SOAP messages with the HTTP listening connector. • Test inbound and outbound transformations by posting non-XML data into PeopleSoft software. • Test integration points with PeopleSoft 8.1x systems as well as those systems that do not adhere to the PeopleSoft message format.

Project Type	Usage
Integration Broker (MIME)	Use this project type to: • Test PeopleSoft Integration Broker. After you create relationships, node transactions, message channels, messages, and PeopleCode, you can quickly add a few required fields and test the integration point. Instead of setting up another PeopleSoft system, you can interact with Send Master to shorten development time. • Test messaging PeopleCode such as subscriptions, OnRequest events, OnRouteReceive events, and so on. • Test target connectors on the integration gateway, including specifying connector overrides. For example, you can test an integration that needs to perform normal Integration Broker processing, but also output the file to disk. You can override the target connector and test the file creation process.
Integration Broker (XML)	Use this project type to: • Mimic an external system to test message processing using the HTTP listening connector. • Export data into the PeopleSoft XML IBRequest format to provide samples of data that PeopleSoft Integration Broker expects in request messages.
EIP Testing	You can use this project type to send a directory of MIME-formatted messages into PeopleSoft Integration Broker. This project type enables you to override requesting and destination nodes without having to alter every message.
MQSeries	Use this project type to POST messages to an MQSeries queue. This project type does not use the HTTP protocol, so no URL is provided.

Creating Send Master Projects

To create a Send Master project:

1. Launch Send Master.
2. Select File, New Project.
3. In the Project Name field, enter a name for the project.
4. From the Project Type drop-down list, select one of the following options:
   - Input File
   - 8.4 Integration Broker (MIME)

- 8.4 Integration Broker (XML)
- 8.4 EIP Testing (Batch EIP)
- 8.4 MQSeries

5. Click the OK button.

   The system populates the Input Information section with various tabs, based on the project type that you selected.

6. In the Server URL field, enter the server URL of the server with which to communicate.

   Note. This field is not used for MQSeries projects.

7. In the Time Out field, enter a timeout value.

   The timeout value determines the amount of time Send Master attempts to process a message. If the request does not complete in the time specified, processing stops. Usual timeout is about 60 seconds. The default is *0* (zero), meaning there is no timeout.

8. In the Headers box, enter pertinent HTTP header information for the message.
9. Select File, Save Project.

   Note. This field is not used for MQSeries projects.

The project name appears in the Project field and the type of the project appears in parentheses next to the project name. The content of the work space varies, based on the project type selected.

See Also

Chapter 2, “Using the Send Master Utility,” Understanding Send Master Project Types, page 15

Chapter 2, “Using the Send Master Utility,” Using Input File Projects, page 20

Chapter 2, “Using the Send Master Utility,” Using Integration Broker Projects, page 21

Chapter 2, “Using the Send Master Utility,” Using EIP Testing Projects, page 27

Chapter 2, “Using the Send Master Utility,” Using MQSeries Projects, page 30

Entering Header Information in Send Master Projects

Send Master enables you to specify HTTP, IBInfo, and connector headers. These headers are used in association with the following project types:

- Input File
- Integration Broker (MIME)
- Integration Broker (XML
- MQSeries

Use the information in the following table as a guide for entering header information in Send Master.

Header Type	Project Type	Location	Description
HTTP header	• Input File • Integration Broker (XML) **Note.** An HTTP header field is present when working with EIP Testing projects; however it is usually not used because you are using the PeopleSoft listening connector.	Project Definition section, Headers box.	Provides HTTP protocol header information about the message at the server level and relates to how you are sending an entire message. You can specify cookies, content-type, encoding, sending program information, and so forth.
Connector header	Integration Broker (MIME)	Input Information section, Connector tab.	Provides required and optional headers that connectors need to pass information and process message requests. You can specify information such as message compression, encoding, and so forth You can specify connector header information only while editing connector information in an Integration Broker (MIME) project type.
IBInfo header	• Integration Broker (MIME) • Integration Broker (XML)	Input Information section, Header Information, and Additional Header Cont. tabs.	Contains information that is required to route messages through PeopleSoft Integration Broker, including message name, message type, requesting node, and so on.

Adding Input Files to Projects

The information in this section applies to all project types except for the EIP Testing project type.

When working with EIP Testing projects, you specify file input and file output directories.

See Chapter 2, "Using the Send Master Utility," Specifying File Input and File Output Directories, page 27.

To add an input file to a project:

1. In the Input Information section, click the Input File tab (if necessary).

2. (Optional.) Select Base64 encode/compress to enable base64 encoding and compression.

   This option is not available when working with MQSeries projects.

3. (Optional.) Select Non Repudiation to enable nonrepudiation.

   This option is not available when working with MQSeries projects.

4. In the text box, compose the content of the message in the area provided, or import a file.

   To import a file, click the Open File button and select a file. The name of the imported file appears under the Input Information section.

5. Modify the message if necessary.
6. Click the Save button on the toolbar within the Input Information section.
7. Select File, Save Project.

After you create an input file, you can modify and format message content. Use the following tips when you work with input files. Note that all buttons referenced appear on the toolbar located within the Input Information section.

- Use the Refresh button to revert to the last saved version of the input file.
- If the message content is XML, use the Format button to indent lines of code.
- Use the Delete button to delete the contents of the section.

Using Input File Projects

This section describes using Input File projects and describes how to:

- Create Input File project types.
- Create and add input files to input file projects.
- Post the input file projects to a web server.

See Also

Chapter 2, "Using the Send Master Utility," Understanding Send Master Project Types, page 15

Creating Input File Project Types

The first step to using an input file project is creating the Input File project type. Information about how to complete this task is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Creating Send Master Projects, page 17.

Creating and Adding Input Files to Input File Projects

Information about creating and adding an input file to a project is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Adding Input Files to Projects, page 19.

Posting Input File Projects to Web Servers

After you create the Input File project type, add the input file to the project, and then click the Post button to post the file to the server.

Any server response to the message that you post appears in the Output Information section.

Using Integration Broker Projects

This section provides an overview of Integration Broker project types, and describes how to:

- Create Integration Broker project types (MIME and XML).
- Add header information to the project.
- Add an input file to the project.
- Specify connector information for the project.
- Post the project data to a web server.

Understanding Integration Broker Project Types

You can create two types of Integration Broker projects—an Integration Broker MIME project or an Integration Broker XML project.

When you create Integration Broker MIME projects, you use the Input Information section of the work space to supply Send Master with information to build the IBInfo section of the message. In addition, you also use the section to specify connector information, add cookie information, specify destination nodes, and so on. PeopleSoft Integration Broker uses the information to build the MIME structure in messages that are required to communicate with the PeopleSoft listening connector

For Integration Broker XML projects, Integration Broker uses the information to build the IBRequest.

See Also

Chapter 2, “Using the Send Master Utility,” Understanding Send Master Project Types, page 15

Understanding Input Information for Integration Broker Projects

This section discusses the options you can define when working with Integration Broker MIME and Integration Broker XML project types.

Header Information Tab

Use the Header Information tab to create message headers. This table describes the controls on the tab:

Requesting Node Identifies the name of the node that is making the request.

Message Name Identifies the name of the message.

Message Type Identifies the message type. Values are:

- *Sync*: Specifies that the message you are testing is synchronous.
- *Async*: Specifies that the message you are testing is asynchronous.

- *Ping*: Tests the application server to make sure it is available and accepting requests.

Message Version Indicates the version of the message.

Password (Optional.) Identifies the password as entered in the node definition, if password authentication is used.

Originating Node (Optional.) Identifies the name of the node that started the process.

Originating Process (Optional.) Identifies the name of the process where the publish event originated. For example, a message published from the Inventory definitions page would have a process name of *INVENTORY DEFIN*.

Originating User (Optional.) Identifies the user ID login from where the message was initially generated.

Channel (Optional.) Identifies the name of the PeopleSoft channel expecting the message.

Sub Channel (Optional.) Identifies subprocesses for the channel.

Visited Nodes (Integration Broker MIME project type only) (Optional.) Identifies nodes through which the message has passed. Separate the values by semicolons.

Visited nodes enable you to mimic visited node information populated when sending PeopleSoft messages through PeopleSoft Integration Broker.

Destination Nodes (Optional.) Identifies destination nodes for the message.

Final Destination Node (Optional.) Identifies the final destination node. Select this check box to specify the selected node as the final destination. Use this option when working with a hub configuration.

External Message ID (Optional.) A unique ID to eliminate duplicate messages from being delivered to PeopleSoft Integration Broker. The maximum length is 70 characters.

Headers Cont. Tab

You can work with the following controls on this tab.

Note. This tab appears only when you are working with Integration Broker MIME projects.

Cookies (Optional.) Identifies cookies that the server might require. Use semicolons to separate multiple cookies.

Gather Statistics Select this check box to gather statistics about system performance when posting messages using Send Master.

See Chapter 2, "Using the Send Master Utility," Viewing Send Master Processing Performance Statistics, page 36.

Input File Tab

Use this tab to add input files. You can also use this tab to apply nonrepudiation, and base64 encoding and compression. This section describes the controls featured on this tab. Controls that appear on this tab that are not described in this section are documented earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Navigating in Send Master, page 6.

This table describes the controls on the Input File tab:

Base 64 Encode/ Compress	(Optional.) Select this check box to apply base64 encoding and compression to the message.
Non-repudiation	(Optional.) Select this check box to apply nonrepudiation to the message.

Connector Tab

This tab appears only when you are working with the Integration Broker MIME project type.

Connector tab

The Connector tab enables you to perform connector introspection on the integration gateway so you can select from all target connectors loaded on the integration gateway. No fields or controls are active on this tab until you enter connector data and select a target connector with which to work

After you select a target connector, you can select specific target connector properties to use and define those property values. In addition, you can specify and define headers and fields that a selected connector needs to be able to pass information and process message requests.

Note. Header properties with which you work on this tab correspond to properties with the property IDHeaders in PeopleSoft Pure Internet Architecture. Field properties with which you work on this tab correspond to any property ID *other* than Header in PeopleSoft Pure Internet Architecture.

This table describes the controls on the Connector tab:

Click the Load Introspection Data button to load all target connectors that are currently installed on the integration gateway.

Click the Refresh button to apply and make available in Send Master any changes that you make to target connector properties on the integration gateway.

Connector

Select a connector from the drop-down list.

The default is <*None*>.

You must first click the Load Introspection Data button for any connectors to appear in the list.

Remote URL

Enter a URL to redirect messages to a different URL that is specified in the Server URL field in the Project Definitions section.

Headers Box

This area displays the headers, and the current values assigned to them, that you have selected for the target connector.

Fields Box

This area displays the fields, and the current values assigned to them, that you have selected for the target connector.

Value

Enter the value for the selected header or field.

Click the Update Selected Header/Field Value in List button to apply the value in the Value field to the selected field or header in the Headers box or the Fields box.

Click the Delete button to delete the header or field that is selected in the Headers box or the Fields box.

Value

Default header and field values appear in this field.

Enter the desired value for the selected header or field in the Headers box or the Fields box.

Click the Add Selected Header/Field and Value button to add the header in the Header field and its default value to the Headers box, or to add the field in the Field field and its default value to the Fields box.

Click the Add All Required Headers/Fields and Their Default Values button to add all of the required headers or fields for the selected target connector and their default values to the Headers box or the Fields box.

Header

Use the Header drop-down list to select a value from all defined headers for the selected target connector.

When you select a header from the list, its default value, if one exists, appears in the Value field.

The Header drop-down list appears only when you work with the Headers subtab.

Field

Use the Field drop-down list to select a value from all defined fields for the selected target connector.

When you select a field from the list, its default value, if one exists, appears in the Value field.

The Field drop-down list appears only when you work with the Fields subtab.

Value

The Value field displays the default value, if one exists, for any selected header or field.

Use the drop-down list to view and select header and field values.

After you select a value in the list, click the Add Header button or the Add Field button to change the value in the value text box, or reenter the value that you want to apply in the box.

Creating Integration Broker Project Types

The first step to using an Integration Broker project is creating the Integration Broker project type. Information about how to complete this task is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Creating Send Master Projects, page 17.

Adding PeopleSoft Header Information to Integration Broker Projects

To add PeopleSoft header information to the project:

1. In the Input Information section, select the Header Information tab, if it is not already selected:
2. Complete the following required fields:
   - Requesting Node
   - Message Name
   - Message Type
3. Enter values in any of the remaining optional fields as appropriate for your project.
4. (Optional.) Click the Headers Cont. tab to add cookie information or to gather messaging statistics.

See Also

Chapter 2, "Using the Send Master Utility," Entering Header Information in Send Master Projects, page 18

Adding Input Files to Integration Broker Projects

Information about creating and adding an input file to a project is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Adding Input Files to Projects, page 19.

Specifying Connector Information for Integration Broker Projects

This section discusses how to specify connector information for Integration Broker MIME projects.

To specify connector information for a project, use the Connector tab in the Input Information section of the Project work space. No fields or controls are active on the tab until you introspect target connector data and select a target connector with which to work.

As noted earlier in this section, header properties with which you work on the Connector tab correspond to properties with the property IDHeaders in the PeopleSoft Pure Internet Architecture. Field properties with which you work on this tab correspond to any property ID other than Header in the PeopleSoft Pure Internet Architecture.

Selecting Target Connectors

To select a target connector:

1. From an open Integration Broker MIME project, in the Input Information section, click the Connector tab.
2. Click the Load Introspection Data button.
3. From the Connector drop-down list, select a connector.
4. (Optional.) In the Remote URL field, enter a URL to redirect the message to a different URL than that specified in the Server URL field in the Project Definitions section.

Adding Connector Header Properties

To add connector headers properties:

1. Click the Headers subtab under the Remote URL field.
2. To add all required header properties for the selected connector, click the Add All Required Headers and Their Default Values button.

   All required header properties and their default values, if they exist, appear in the Headers box.
3. To add more header properties:
   a. In the Connector Header section, from the Header drop-down list, select a header property and click the Add Selected Header and Default Value button.

      When you select a header property from the list, its default value, if any, appears in the Value field. Click the Value drop-down list to view all possible values for the property.

   b. Click the Add Selected Header and Default Value button to add the property.

      The header property and its default value, if any, appear in the Headers box.
4. To change the value of a header property:
   a. In the Headers box, select the header property whose value you want to change.
   b. In the Value field, enter the new value to assign.

      Use the Value drop-down list in the Connector Headers section to view possible values and verify the format to enter.
   c. Click the Update Selected Value in List button to apply the new value.
5. To delete a header property, in the Headers box, select the property to delete and click the Delete button.
6. Save the project.

Adding Connector Field Properties

To add connector field properties:

1. Click the Fields subtab under the Remote URL field.
2. To add all required field properties for the connector, click the Add All Required Fields and Their Default Values button.

   All required field properties and their default values, if they exist, appear in the Fields box.
3. To add more field properties:
   a. In the Connector Fields section, from the Field drop-down list, select a field property, and click the Add Selected Fields and Default Value button.

When you select a property from the drop-down list, its default value, if any, appears in the Value field. Click the Value drop-down list to view all possible values for the property.

b. Click the Add Selected Field and Default Value button to add the property.

The field property and its default value, if one exists, appears in the Fields box.

4. To change the value of a field property:
   a. In the Fields box, select the field property whose value you want to change.
   b. In the Value field, enter the new value.

      Use the Value drop-down list in the Connector Fields section to view possible values and verify the format to enter.

   c. Click the Update Selected Value in List button to apply the new value.
5. To delete a field property, in the Fields box, select the property to delete and click the Delete button.
6. Save the project.

Posting Integration Broker Projects

To post Integration Broker MIME or Integration Broker XML projects to web servers, click the Post button.

Viewing Output from Integration Broker Projects

When you POST a message using the Integration Broker project type, the system generates a MIME response message. If you POST data to a PeopleSoft listening connector, the MIME response message appears in the Output Information section of the Project work space.

Using EIP Testing Projects

This section describes how to:

- Create EIP Testing projects.
- Specify file input and output directories.
- Override requesting and destination nodes.
- Start batch processing.
- Use the Batch Project Executor Command Line Tool

Creating EIP Testing Project Types

The first step to using an EIP Testing project is creating the EIP Testing (Batch EIP) project type. To create a project, select File, New Project. Information about creating projects is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Creating Send Master Projects, page 17.

Specifying File Input and File Output Directories

To add input files to this project type, you specify the directory location where the files reside.

To specify input files for EIP Testing projects:

1. In the Input Information section, in the Input Directory field, select the location of the input files.
2. In the Output Directory field, select the location where the output files should be written.
3. (Optional.) Select Create If Not Found to create the input and output directories, if they do not exist.
4. (Optional.) Select Overwrite File to direct Send Master to overwrite any output files that exist with the same names.
5. Select File, Save Project.

Overriding Requesting and Destination Nodes

Send Master reads the request and destination node information from the input files. However, you can override the node information:

To override the requesting and destination node information specified in the input files:

1. Open an EIP Testing project.
2. In the Input Information section, in the Optional Overrides section, enter a new requesting node name in the Requesting Node field.
3. To override the destination node , in the Optional Overrides section, enter a new destination node name in the Destination Node field.
4. Select File, Save Project.

Posting EIP Testing Projects

To post the files in an EIP Testing project, open the project and click the Post button.

Viewing Output from EIP Testing Projects

To view the output from EIP Testing projects, navigate to the output directory that you specified on the Headers tab in the Input Information section. You can also view output in Send Master in the Output Information section of the Project work space.

Using the Batch Project Executor

The Batch Project Executor enables you to use the functionality of the EIP Testing project type from a command line tool. This section discusses the Batch Project Executor tool, including its:

- Usage
- Syntax
- Parameters

Usage

The standard usage of the Batch Project Executor command line tool is:

```
BatchProjectExecutor [-options]
```

Syntax

The syntax for executing a batch project is:

```
BatchProjectExecutor -in "C:\temp\input" <keyword>-out</keyword>
```

```
"C:\temp\output" <keyword>-url</keyword> "http://localhost/PSIGW
/PeopleSoftListeningConnector" <keyword>-result</keyword> "C:\temp
\output\result.txt"
```

Parameters

The following table describes the parameters you can pass to the Batch Project Executor.

Parameter	Description
-in	Certification directory that contains the raw request files.
-out	Output directory to store all of the response files.
-url	Server URL to send all of the requests to during processing.
-result	Name of the file that will contain the results during batch execution. The contents of this file will be represented as XML.
-ow	(Optional.) Overwrite files if they already exist.
-cd	(Optional.) Create the output directory if not found.
-rn	(Optional.) Override the requesting node found in the IBInfo section.
-dn	(Optional.) Override the destination node found in the IBInfo section.
-? -help	(Optional.) Show the Help menu.

Sample Output

The following example shows successful output:

```
&lt;?xml version="1.0"?>
&lt;success>
    &lt;request elapse="1.953 (s)" end="02:33:55.177" filename=
       "20030519T130405.request" id="1" start="02:33:53.224"
       success="true"/>&lt;request elapse="0.201 (s)" end="02:33:55.408"
       filename="20030519T150417.request" id="2" start="02:33:55.207"
       success="true"/>
    &lt;request elapse="0.220 (s)" end="02:33:55.638" filename="20030520T150406.
       request" id="3" start="02:33:55.418" success="true"/>
    &lt;request elapse="0.190 (s)" end="02:33:55.828" filename=
       "20030519T150406.request" id="4" start="02:33:55.638" success="false">
       &lt;![CDATA[Error communicating with server: Connection refused: connect]]&gt;
    &lt;/request>
&lt;/success>
```

The following example shows a failure:

```
&lt;?xml version="1.0"?>
&lt;failure>
    &lt;![CDATA[Error while initializing: Invalid output directory:
    C:\temp\output]]&gt;
```

Using MQSeries Projects

This section discusses how to:

- Create MQSeries projects.
- Add header information to MQSeries projects.
- Add input files MQSeries projects.
- Post MQSeries projects to queues.

Understanding MQSeries Projects

You can use Send Master to create MQSeries project types and test posting synchronous and asynchronous messages to MQSeries queues.

Before you attempt to post messages to an MQSeries queue, verify that the following Java Archive (JAR) files are installed, and that you have added them to the CLASSPATH in the StartSendMaster.bat file or the StartSendMaster.sh file. These files are installed as part of the MQSeries installation.

- com.ibm.mq.iiop.jar
- com.ibm.mq.jar
- com.ibm.mqbind.jar
- com.ibm.mqjms.jar
- fscontext.jar
- jms.jar
- jndi.jar
- providerutil.jar

See See the IBM MQSeries documentation.

Understanding Input Information for MQSeries Projects

This section discusses the options you can define when working with an MQSeries project type.

Headers Tab

Use the Headers tab to specify header information for MQSeries messages. The following table describes elements on this tab:

JMS Provider	Indicates the name of the JMS provider. Valid options are: • iPlanet • MQSeries (default) • WebLogic
JMS Queue	Indicates the queue to which the messages will post.
JMS Factory	Indicates the factory to which the queue in the JMS Queue field belongs.
JMS URL	Indicates the LDAP directory or local file system address.
JMS User	(Optional.) Indicates the name of the JMS user.
JMS Password	(Optional.) Indicates the name of the JMS user's password.
Requesting Node	Indicates the name of the requesting node.
Message Name	Indicates the name of the message.
Message Type	Indicates the message type. Valid message types are: • Async (asynchronous) • Sync (synchronous)
Node Password	(Optional.) Indicates the requesting node password if applicable.
Destination Nodes	Indicates the name of the destination node. Use a semicolon to separate multiple destination nodes.
Final Destination Node	Indicates the name of the final destination node.

Creating MQSeries Project Types

The first step to using an MQSeries project is creating the MQSeries project type. To create a project, from the Send Master menu, select File, New Project. Information about how to complete this task is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Creating Send Master Projects, page 17.

Adding Header Information to MQSeries Projects

To add header information to the project:

1. In the Input Information section, select the Header Information tab if it is not already selected:
2. Select or enter values for the following required fields:
   - JMS Provider
   - JMS Queue
   - JMS Factory
   - JMS URL
   - Requesting Node
   - Message Name
   - Message Type

3. Enter values in any of the remaining optional fields as appropriate for your project.
4. Select File, Save Project.

Adding Input Files to MQSeries Projects

Information about creating and adding an input file to a project is provided earlier in this chapter.

See Chapter 2, "Using the Send Master Utility," Adding Input Files to Projects, page 19.

Posting MQSeries Projects

To post an MQSeries project to a queue, click the Post button.

Viewing Output from MQSeries Projects

If you are working with a synchronous message, the Output Information area displays response information from the target system. If you are working with an asynchronous message, no response information is received.

Working With Groups of Projects

This section describes how to:

- Create groups of projects.
- Manage groups of projects.
- Test groups of projects.
- View test output.
- Share projects and groups.

Creating Groups of Projects

To create a group of projects:

1. Launch Send Master and select File, Batch Processing.
2. Select File, New Group.
3. Enter a name for the new group.
4. Define the project group:
    a. From the Run In drop-down list, select one of the following options to determine how the projects in the group run.

Parallel	Run all projects in the group at the same time.
Succession	Run projects in the group in succession.
Time Lapse	Run projects in the group in the interval that you specify in the Delay field.

    b. (Optional.) In the Override URL field, enter a URL to override the one specified in the Server URL field in the Project work space.

5. Add projects to the group.
    a. In the Group Projects section, from the Projects drop-down list, select a project.
    b. Click the Add a new project button to add the project to the group.
    c. From the Method drop-down list, select an HTTP method.
    d. In the Amount field, enter the number of instances of the project to include in the group.
    e. From the Run In drop-down list, select one of the following options to specify how the projects run among themselves.

Parallel	Run all instances of the project at the same time. The limited availability of open ports and other system resources requires you to determine the optimal number of projects to run at a single time. Start with 10 projects and slowly add projects to determine how many concurrent requests the system can process.
Succession	Run instances of the project in succession.
Time Lapse	Run instances of the project in the interval that you specify in the Delay field.

    f. Repeat steps a through e to add additional projects to the group.
6. Select File, Save Group.

Managing Groups of Projects

You might occasionally need to revise projects that you have added to a group. The following information will help you manage groups of projects:

- To change the order of a project in a group, in the Group Projects section, use the arrow buttons to move the project.
- To temporarily inactivate a project in a group, in the Project Settings section, select Inactive.
- To remove a project from a group, in the Group Projects section, select its file and click the Delete button.

Testing Groups of Projects

After you have created a group of projects, you can test them.

To test a groups of projects:

1. Open Send Master and select File, Batch Processing.
2. In the Group Definitions section, from the Group drop-down list, select the group to test.

   The projects in the group appear in the Group Projects section.
3. Make any needed adjustments to the group, such as changing the order of projects in the group, specifying inactive or active projects, and so forth.
4. Click the Start Projects button to run the test of projects in the group.

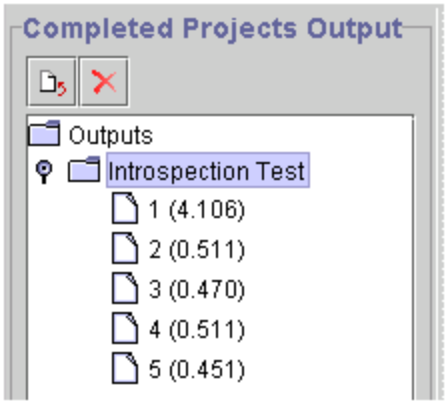
Viewing Test Output

After you run a test on a group of projects, you can view processing information and response information for any project in the group.

Viewing Processing Information

After you run a group of projects, the Completed Projects Output section displays all of the projects in the group and the instances for each project in a hierarchical tree format. To expand and collapse a project folder, click the icon to the left of the folder.

When you expand a project folder, the instances for the project appear as shown in the following graphic.



Output for the Introspection Test project

Each page icon represents a project instance. The number in parentheses represents the time needed to process the project instance.

To view detailed processing information about the entire group of projects, select a project, click the Export the Results to File button, and save the contents as a text file. You can then open the text file and view information, such as the total number of project instances in the group, the total time to process all project instances, processing start and end times, and so on. The following example shows the type of output you can view using the Export feature.

```
Count                   : 5

Round-trip times
     Total              : 0.961 (s)
     Minimum            : 0.180 (s) [2]
     Maximum            : 0.200 (s) [3]
     Average            : 0.192 (s)
     Process per second : 5.203

[1]
     Request            : 0.191 (s) [start = 10:19:20.095, end = 10:19:20.286]
     Response           : 200 - OK
[2]
     Request            : 0.180 (s) [start = 10:19:20.296, end = 10:19:20.476]
     Response           : 200 - OK
[3]
     Request            : 0.200 (s) [start = 10:19:20.486, end = 10:19:20.686]
     Response           : 200 - OK
[4]
     Request            : 0.190 (s) [start = 10:19:20.696, end = 10:19:20.886]
     Response           : 200 - OK
[5]
```

```
Request             : 0.200 (s) [start = 10:19:21.017, end = 10:19:21.217]
Response            : 200 - OK
```

Viewing Response Information for a Project Instance

Send Master enables you to view response information for any project instance in a group of projects.

To view response information for a project instance:

1. Select a project instance in the Completed Projects Output section.
2. Click a project instance.

   Response information appears in the Output Information section.

Sharing Projects and Groups

When you create projects and groups, the system stores all data in the Send Master properties file. The location of this file is <PS_HOME>\webserv\<DOMAIN>\applications\peoplesoft\PSIGW\WEB-INF\classes\com\peoplesoft\pt\sendmaster\sendmasterproperties.xml. This file is not created until you use Send Master.

You can share and reuse projects and groups that you or others have created for other versions of Send Master or that have been used on other workstations. You do so by copying the sendmasterproperties.xml file into the Send Master directory. You must rename or delete the existing properties file before you copy the new file into the directory.

After you copy the sendmasterproperties.xml file into the Send Master directory, you can access the project and groups in the normal manner, by accessing them from the Project drop-down list in the Project work space, or from the Group drop-down list in the Batch Processing work space.

Using Send Master to Ping Remote Nodes

To ping a remote node from the Send Master, you post an example message to the node's application server using an Integration Broker (MIME) or Integration Broker (XML) project that specifies a ping Message Type. You then use the Post button to post the message to the application server.

The following table describes the type of response returned based on project type.

Project Type	Response
Integration Broker (MIME)	The system returns a MIME response message in the Output Information section of the Project work space. If you post data to a PeopleSoft listening connector, the MIME response appears in the Output Information section of the Project work space. A message with the content <StatusCode>0</StatusCode> indicates that the ping was successful.
Integration Broker (XML)	The system returns an HTTP response of 404 with data in the response in the Output Information section of the Project work space.

You can also use Integration Broker Monitor and the Simple Post utility to ping remote nodes.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Integration Broker, "Using Integration Broker Monitor," Pausing, Testing, and Pinging Nodes

Chapter 3, "Using the Simple Post Utility," Pinging Remote Nodes, page 48

Viewing Send Master Processing Performance Statistics

When working with Integration Broker MIME projects, you can gather processing performance statistics.

Enabling the Send Master Statistics Feature

To enable the Send Master processing performance feature, select Gather Statistics on the Headers Cont. tab.

Accessing Send Master Processing Statistics

When the Gather Statistics feature is enabled, Send Master returns processing statistics in the Output Information section after a Post.

To access statistics information , from the View drop-down list, select Meta Data and then click the If Valid XML, Format button.

The data is contained in the following tag:

```
<IBProfileInformation>
```

Interpreting Send Master Processing Statistics

Send Master returns statistics relating to processing on the application server and gateway, as well as response processing.

Note. All values returned are expressed in milliseconds.

This table describes the statistics that Send Master returns related to processing on the application server.

Statistic	Description
TransformInbound	Time to process any inbound transformations.
OnRoutePeopleCode	Time to execute OnRoute PeopleCode.
OnRequestPeopleCode	Time to execute OnRequest PeopleCode.
TransformOutbound	Time to process any outbound transformations.
DataBase	Time for processing on the database.

Statistic	Description
AppServerSendTime	Time to send the request to the application server. This value is not applicable in Send Master, because Send Master (not the application) is sending the request.
AppServerRecvTime	Processing time on the application server.

This table describes the statistics that Send Master returns related to processing on the integration gateway.

Statistics	Description
Connector	Time that processing took place on the connector.
Transform	Time to perform gateway transformations.
GatewayTime	Processing time on the integration gateway.

This table describes the statistics that Send Master returns related to processing the response message.

Statistics	Description
Transform	Time to perform transformation on the response.
GatewayTime	Total time for processing the response on the integration gateway.

Statistics Example

The following example shows a sample of statistics that Send Master returns.

```
<?xml version="1.0"?>
<IBInfo>
    <TransactionID>
        <![CDATA[QE_UNDERDOG.QE_SALES_ORDER_SYNC_CHNL.af21859e-f5e7-11d7-
        b7f0-88b716eecd9a]]>
    </TransactionID>
    <Status>
        <StatusCode>0</StatusCode>
        <MsgSet>158</MsgSet>
        <MsgID>10000</MsgID>
    </Status>
    <ContentSections>
        <ContentSection>
            <ID>ContentSection0</ID>
            <NonRepudiation>N</NonRepudiation>
            <Headers>
                <version>
                    <![CDATA[VERSION_1]]>
                </version>
            </Headers>
        </ContentSection>
    </ContentSections>
```

```
<IBProfileInformation>
    <keyword><AppServer></keyword>
        <keyword><TransformInbound>0</TransformInbound></keyword>
        <keyword><OnRoutePeopleCode>0</OnRoutePeopleCode></keyword>
        <keyword><OnRequestPeopleCode>0</OnRequestPeopleCode></keyword>
        <keyword><TransformOutbound>0</TransformOutbound></keyword>
        <keyword><DataBase>0</DataBase></keyword>
        <keyword><AppServerSendTime>0</AppServerSendTime></keyword>
        <keyword><AppServerRecvTime>0</AppServerRecvTime></keyword>
    <keyword></AppServer></keyword>
    <keyword><GatewayRequest></keyword>
        <keyword><Connector>24844</Connector></keyword>
        <keyword><Transform>0</Transform></keyword>
        <keyword><GatewayTime>651</GatewayTime></keyword>
    <keyword></GatewayRequest></keyword>
    <keyword><GatewayResponse></keyword>
        <keyword><Transform>0</Transform></keyword>
        <keyword><GatewayTime>211</GatewayTime></keyword>
    <keyword></GatewayResponse></keyword>
<keyword></IBProfileInformation></keyword>

</IBInfo>
```

Using Send Master to Export Request Messages

This section describes how to export request messages. When working with Integration Broker MIME or Integration Broker XML project types, you can use Send Master to export a request message to a text file to examine the raw data that gets sent during a transaction.

Exporting Request Messages

To export a request message:

1. Open an Integration Broker MIME project or an Integration Broker XML project.
2. SelectFile, Export IBRequest .

   A Save dialog box appears.
3. Enter the location to save the file.

You can also view the raw data for a message in the integration gateway message log.

Allocating Additional Memory to Accommodate Posting Large Files

When posting files that are five MB or larger to the integration gateway, you should allocate additional random access memory (RAM) in Send Master to accommodate larger file sizes.

If Send Master does not have enough memory for a task, an “out of memory” error can occur.

To allocate additional RAM in Send Master:

1. Close Send Master.
2. Open StartSendMaster.bat (in Windows) or StartSendMaster.sh (in UNIX).
3. Add the –Xmx*ZZ*m parameter, where *ZZ* equals the amount of RAM, in MB, to allocate.
4. Save the file.
5. Reopen Send Master.

For example, the value – *Xmx128m* indicates to allocate 128 MB of RAM. The following example shows how to add the parameter in the StartSendMaster.bat file:

```
cd "applications\peoplesoft\PSIGW\WEB-INF\classes\com\peoplesoft\pt\sendmaster\"
java -Xmx128m -classpath "c:\ptdvl\webserv\peoplesoft\applications\
peoplesoft\PSIGW\WEB-INF\lib\xalan.jar;c:\ptdvl\webserv\peoplesoft\applications\
peoplesoft\PSIGW\WEB-INF\lib\xerces.jar;c:\ptdvl\webserv\peoplesoft\applications\
peoplesoft\PSIGW\WEB-INF\classes;c:\ptdvl\webserv\peoplesoft\applications\peoplesoft\
PSIGW\WEB-INF\lib\mail.jar;c:\ptdvl\webserv\peoplesoft\applications\peoplesoft\PSIGW\
WEB-INF\lib\activation.jar;c:\ptdvl\webserv\peoplesoft\applications\peoplesoft\PSIGW\
WEB-INF\lib\jmq.jar;c:\ptdvl\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF\
lib\jms.jar;c:\ptdvl\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF\lib\
jndi.jar" com.peoplesoft.pt.sendmaster.SendMaster
```

You can increase the amount of memory in Send Master to any value you that you want, as long as your machine has the RAM to support the value that you choose.

CHAPTER 3

Using the Simple Post Utility

This chapter discusses using the Simple Post utility to post third-party messages to integration gateways, and discusses how to:

- Access the Simple Post utility.
- Use the Simple Post class.
- Use the Simple Post utility using a Java API.
- Post third-party XML messages to the integration gateway.
- Ping remote nodes.
- Increase the Java heap size to accommodate posting large files.

Understanding the Simple Post Utility

The Simple Post utility enables you to use shell scripts or a Java API to post XML messages from third-party systems to the integration gateway. The utility wraps the incoming messages in the PeopleSoft XML wrapper format and posts them to the HTTP listening connector.

The Simple Post utility reads ASCII, UTF-8 and UTF-16 file formats for incoming messages and converts them to UTF-8 to send to the integration gateway.

Prerequisites

This section describes the prerequisites for using the Simple Post utility.

Software Requirements

To use the utility you must have the Java Runtime Environment (JRE) installed.

Setting Environment Variables

To use the Simple Post utility, must perform one of the following actions:

- Modify the CLASSPATH to include the location of the Simple Post utility.
- Pass the location of the PeopleSoft classes when you call the Simple Post class.

  For example:

```
java -cp "<PS_HOME>\webserv\<DOMAIN>\applications\peoplesoft\PSIGW\WEB-INF\classes
" com.peoplesoft.pt.simplepost.SimplePost ...
```

Accessing the Simple Post Class

The Simple Post utility is a Java class with the package name com.peoplesoft.pt.simplepost.SimplePost.

The location of the utility is <PS_HOME>\webserv\<DOMAIN>\applications\peoplesoft\PSIGW\WEB-INF\classes\com\peoplesoft\pt\simplepost.

Using the Simple Post Class

This section provides an overview of the Simple Post class, including its:

- Usage
- Syntax
- Parameters

Usage

The standard usage of the Simple Post class is:

```
com.peoplesoft.pt.simplepost.SimplePost [-options]
```

Syntax

The syntax for sending an XML message from a third-party system to the integration gateway is:

```
com.peoplesoft.pt.simplepost.SimplePost -reqnode
<requesting node> -msgname <message name>
-url <destination server URL. This is always
the HTTP listening connector> -infile <input file
name and path> -outfile <output file name and path>
-msgtype <message type> -msgver
<message version> -destnode <destination node name(s)>
-v <Display debugging output> -to
<timeout value> -?-help <Display help>
```

Note that you enter the syntax as a single line.

Parameters

The Simple Post utility parameters that you can pass are described in the following table.

Parameter	Description
-reqnode	Identifies the requesting node name.
-msgname	Identifies the name of the message that you are sending.
-url	Identifies the destination server URL.
-infile	Identifies the path and file name to send. The root node must be name of the message. For example, if the name of the message is *SYNC_TEST*, the root node of the XML input file must be <SYNC_TEST>.
-outfile	Identifies the path and filename where the utility generates the response from the server.
-msgtype	(Optional.) Identifies the message type. Values are: • *sync*: The message is synchronous. • *async*: The message is asynchronous. • *ping*: Tests the application server to make sure it is available and accepting requests.
-msgver	(Optional.) Identifies the version number to apply to the message. For example, VERSION_1.
-destnode	(Optional.) Identifies the destination node name.
-v	(Optional.) Displays any debugging output.
-en	(Optional.) Compresses and base64-encodes the data. When this command line option is located on the Simple Post call, the logic compresses and base64-encodes the data, places it into the Data node, and then adds the required headers into the request.
-to	(Optional.) Identifies the timeout value. This integer value determines the amount of time, in seconds, that the Simple Post class will wait for a response from the server.
-pwd	(Optional.) Identifies the password for the destination node. This parameter is optional, unless the destination node requires a password.

Parameter	Description
-ou	(Optional.) Identifies the ID of the originating user.
-on	(Optional.) Identifies the name of the originating node.
-op	(Optional.) Identifies the name of the originating process.
-fdn	(Optional.) Identifies the name of the final destination node.
-emid	(Optional.) Applies a unique external message ID to a message to ensure no duplicate messages are sent to PeopleSoft Integration Broker. The ID cannot exceed 70 characters.
-nr	(Optional.) Specifies whether to turn on nonrepudiation. The valid values are: • *Y:* Turn on nonrepudiation. • *N:* Turn off nonrepudiation. (Default)

-h	(Optional.) Specifies an HTTP header.
	For example:
	`SOAPAction:#MsgNm#RqNde#RqNdePwd#DstNde`
	There can be one:many –h parameter invocations. For example:
	`com.peoplesoft.pt.simplepost.SimplePost -reqnode QE_UNDERDOG -msgname QE_SYNC_MSG -url "http://jfranco040303/PSIGW/HttpListeningConnector" -infile "C:UserMy DocumentsQE_SYNC_MSGQE_SYNC_MSG.xml" -outfile "C:Documents and SettingsDesktopout.txt" -h "SOAPAction:#QE_SYNC_MSG#QE_UNDERDOG##QE_LOCAL" -h "test2:Joe_User"`
	Note. When Simple Post encounters an HTTP header name of SOAPAction, the content of the input file is not wrapped into IBRequest XML format and no IBInfo data is built. The IBInfo data, such as message name, requesting node, requesting node password, destination node, and so on, can be pulled from the SOAPAction field.

-?-help	(Optional.) Displays a list of the Simple Post utility parameters.

Using the Simple Post Utility Using a Java API

You can use the Simple Post utility using a Java API.

This section provides code examples that demonstrate how to:

- Construct a Java file containing Simple Post parameters.
- Compile the Java file.
- Run the test program.

Constructing a Java File Containing Simple Post Parameters

The following example shows a submission via a Java API:

```
// Import the SimplePost API
import com.peoplesoft.pt.simplepost.SimplePost;

/** Test class to use SimplePost functionality */
public class TestSimplePost {

      /** Constructor */
      public TestSimplePost() {}

      public static void main (String argv []) {

        // Create the SimplePost object
        SimplePost mainSPObj = new SimplePost();

        // Turn on printouts
        mainSPObj.setVerbose(true);

        // Use this function to see the output stream,
        // defaulted to System.out
        // mainSPObj.setOutputPrintStream(<PrintStream>);

        // Turn on Encoding for 8.4.3
        mainSPObj.setEncoding(true);

      // SET THE REQUIRED DATA

        // Requesting Node
        mainSPObj.setRequestingNode("QE_UNDERDOG");

        // Message Name
        mainSPObj.setMessageName("QE_SYNC_MSG");

        // Server URL, must be the HttpListeningConnector or a
        //connector that can accept an IBRequest XML message
        mainSPObj.setServerURL("http://localhost/PSIGW/
        HttpListeningConnector");

        // Input file name, root node name must be the name of the message
        mainSPObj.setInputFileName("c:\\temp\\
       QE_SYNC_MSG.xml");
```

```
        /*  // Optional data
          mainSPObj.setMessageVersion("VERSION_1");
          mainSPObj.setMessageType(MESSAGE_TYPE_SYNC);
          mainSPObj.setDestinationNode("QE_LOCAL");
          mainSPObj.setTimeOut(2.5);
          mainSPObj.setPassword("");
          mainSPObj.setOriginatingUser("");
          mainSPObj.setOriginatingNode("");
          mainSPObj.setOriginatingProcess("");
          mainSPObj.setSubChannel("");
          mainSPObj.setFinalDestinationNode("");
        */

          // Post the data
          boolean returnValue = mainSPObj.post();

          // Check the return value
          if (!returnValue) {

          // False, printout the error message
          System.out.println(mainSPObj.getMessage());

          } else {

          // Success!

          // Printout the return code and server message
          System.out.println("\n" + mainSPObj.getResponseCode() + " - " +
          mainSPObj.getResponseMessage());

          // Printout the headers
          System.out.print("\n" + mainSPObj.getResponseHeaders() + "\n");

          // Printout the data
          System.out.print("\n" + mainSPObj.getResponseData());
        }
      }
    }
```

Compiling the Java File

The following example shows a command line for compiling the Java file. In this example, the Java file name is *TestSimplePost.java*:

```
javac -classpath "C:\beawls61sp4\wlserver6.1\config\peoplesoft\applications
\PSIGW\WEB-INF\classes;." TestSimplePost.java
```

Running the Test Program

The following example shows how to invoke the test program.

```
java -classpath "C:\beawls61sp4\wlserver6.1\config\peoplesoft\applications
\PSIGW\WEB-INF\classes;." TestSimplePost
```

Posting Third-Party XML Messages to the Integration Gateway

This section discusses how to use the Simple Post utility to post XML messages from third-party systems to the integration gateway.

Posting Messages to the Integration Gateway

To post a third-party XML message to the integration gateway:

1. Access the Simple Post utility.

   In the Windows environment, open a Windows command prompt, and then navigate to the utility as described earlier in this section.

   In the UNIX environment, open a terminal window or shell window, and then navigate to the utility location, as described earlier in this section.

2. Enter the following command, followed by parameter name and value pairs.

   ```
   java com.peoplesoft.pt.simplepost.SimplePost
   ```

   You must enter parameter name and value pairs for:

   - -reqnode
   - -msgname
   - -url
   - -infile
   - -outfile

3. Press ENTER.

Simple Post Submission Examples

The following is a Windows-based submission example:

```
java com.peoplesoft.pt.simplepost.SimplePost -reqnode KACNODE -msgname
QE_F18_ASYNC -url http://intgateway01/PSIGW/HttpListeningConnector
-infile C:\temp\QE_F18_ASYNC.xml -outfile C:\temp\out.xml -msgtype
async -msgver VERSION_1 -destnode UNDERDOG -v
```

The following is a UNIX-based submission example:

```
java com.peoplesoft.pt.simplepost.SimplePost -reqnode KACNODE -msgname
QE_F18_ASYNC -url http://intgateway01/PSIGW/HttpListeningConnector
-infile /temp/QE_F18_ASYNC.xml -outfile /temp/out.xml -msgtype async
-msgver VERSION_1 -destnode UNDERDOG -v
```

Pinging Remote Nodes

You can use the Simple Post utility to ping remote nodes. The following is an example of a Simple Post command line ping. Notice that -msgtype parameter is set to *ping*:

```
java com.peoplesoft.pt.simplepost.SimplePost -reqnode JRHOME -msgname
JR_COUNTRY_MSG -infile c:\temp\pingin.xml -outfile c:\temp\pingout.txt
-msgtype ping -url http://jrunstad040102/PSIGW/HttpListeningConnector
```

This example is the result of a successful ping, pingout.txt:

```
<?xml version="1.0"?>
<IBResponse type = "success">
   <DefaultTitle>Integration Broker Response</DefaultTitle>
   <StatusCode>0</StatusCode>
   <TransactionID>null</TransactionID>
</IBResponse>
```

Increasing the Java Heap Size to Accommodate Posting Large Files

This section provides an overview of increasing the Java heap size, and describes how to:

- Increase the Java heap size on BEA WebLogic web servers.
- Increase the Java heap size on IBM WebSphere web servers.

Understanding Increasing the Java Heap Size

When posting files that are five megabytes (MB) or larger to the integration gateway, you should increase the Java heap size in the Simple Post Utility to handle larger file sizes. If the Simple Post Utility does not have enough memory for a task, the system might generate an “Out of Memory” error.

You can increase the heap size to any value that you want, as long as your machine has the random access memory (RAM) to support the value that you choose.

The steps to increase the JVM heap size depend on the web server.

Increasing the Java Heap Size on BEA WebLogic Web Servers

When using a WebLogic web server, you increase the JVM heap size in the setenv.cmd file.

To increase the Java heap size on a BEA WebLogic web server:

1. Use a text editor to open the setenv.cmd file.

   The file is located via the following path: <PS_HOME>\webserv\peoplesoft.
2. Locate the SET JAVA_OPTIONS parameter.
3. Change or add the –Xmx*ZZ*m parameter, where *ZZ* equals the amount of RAM, in MB, to allocate.

The following example shows the parameter set to a maximum of 128 MB.

```
SET JAVA_OPTIONS=-hotspot -ms1m -mx128m
```

4. Save the changes.

When you run the Simple Post utility, you must specify the maximum Java heap size that you specified here. For example, if you set the JAVA_OPTIONS parameter in the setenv.cmd file to 128 MB, when invoking the Simple Post utility you must add the following argument to the command line:

```
-Xmx128m
```

See http://edocs.bea.com/wls/docs60/perform/JVMTuning.html#1104303

Increasing the Java Heap Size on IBM WebSphere Web Servers

If your web server is an IBM WebSphere server, the JVM heap size is most likely set to a minimum heap size of 64 MB and a maximum size of 256 MB. Setting the JVM heap size to a larger minimum value (preferably one that equals the maximum value) avoids a compromise in performance incurred by dynamically growing the JVM and improves predictability; it also reduces the frequency for JVM garbage collection.

PeopleSoft recommends that if you use IBM WebSphere, you increase the JVM minimum heap size to 256 MB.

To increase the Java heap size on an IBM WebSphere web server:

1. Stop and restart the web server using the following commands:
   - Stop the web server: WAS_HOME/bin> stopServer.bat(sh) <serverName>
   - Start the web server: WAS_HOME/bin> startServer.bat(sh) <serverName>
2. Open the Admin console at http://<machine-name>:9090/admin, where *9090* refers to the default Admin console port.
3. Log in to the system as any user.
4. Expand Servers, Application Servers, server, Process Definition, Java Virtual Machine.
5. Enter values for Initial Heap and Max Heap.
6. Save the configuration and log out.
7. Restart the web server.

CHAPTER 4

Using Automated Integration Point Testing

This chapter discusses:

- Uses for automated integration point testing.
- The processes for automated integration point testing.
- Tools used for automated integration point testing.
- Setting up systems for automated integration point testing.
- Recording messages.
- Playing back messages.

Understanding Automated Integration Point Testing

PeopleSoft provides a means for automated integration point testing. You can perform automated integration point testing as a means to unit test, perform cross-application business process testing, or regression test integration points.

Automated integration point testing is suitable for testing integration points between PeopleSoft systems, PeopleSoft systems and third-party systems, and PeopleSoft systems and open interfaces.

You can use automated integration point testing with the following PeopleSoft integration technologies:

- Messaging, including asynchronous and synchronous publishing and subscribing.
- Component interfaces.
- Flat files.
- Staging tables.

Process Overview

The automated integration point testing process entails:

1. Recording messages.
2. Exporting messages.
3. Playing back messages.
4. Managing testing results.

Recording Messages

When you use integration point test automation, PeopleSoft Integration Broker records message details as they traverse between PeopleSoft applications, as well as between PeopleSoft and third-party applications. This enables you to test integration when these systems are not available, and then play back the messages at a later time to mimic integrating with the systems.

For synchronous transactions, PeopleSoft Integration Broker saves request and response messages as flat files, one file per message, in an integration point repository. For asynchronous transactions, PeopleSoft Integration Broker only saves requests.

Exporting Messages

PeopleSoft Integration Broker provides an export process that persists recorded request and response data as files to disk. After you export files, you can add them to your integration point certification repository.

To carry out the export process, you use the Message Export command line tool.

Playing Back Messages

Message playback consists of outbound and inbound playback.

Outbound playback refers to testing from the source system when the target is not available. Inbound playback refers to testing the target system when the source is not available. In either case, you can use Send Master or the Batch Project Executor to act at the source system.

Managing Testing Results

The integration point test tool writes messages as files in directories to an integration point test data repository. After testing is complete, these directories of message data need to be managed in a repository for subsequent use.

Uses for Automated Integration Point Testing

You can use automated integration point testing for the following levels of testing:

- Unit testing during integration point development.
- Cross-application business process testing.
- Regression testing.

Unit Testing Integration Points

Unit testing occurs during integration point development, prior to cross-application business process testing. The components of an integration point that you can test include message publication and subscription PeopleCode, transformations, and content-based routing logic. You can also test business logic in a component that will behave differently when accessed from a component interface than when accessed through a PeopleSoft Pure Internet Architecture page.

The process for unit testing integration points is:

1. Build integration points prior to cross-business business-process testing.
2. Generate test data for the integration point test process.
3. Use the integration point test automation tools to test the integration point.
4. Validate results by reviewing Integration Broker Monitor for both inbound and outbound messages. You can further verify inbound playback results by viewing the tables involved in the integration.

5. Validate dependent processes by running a process that depends on the data being integrated.
6. Submit ‘bad’ messages to test error handling.
7. Submit messages in bulk to volume test the integration point.

Cross-Application Business Process Testing

Business process testing involves testing integration points in one application against a target application and version for which it was designed. As an example, you could test integration points between two PeopleSoft applications.

The steps for cross-application business-process testing are:

1. Set up multiple product lines in one test environment.
2. Manually enter data on PeopleSoft Pure Internet Architecture pages, or use an automated tool for doing so.

   PeopleSoft Integration Broker records the integration point messages.
3. Run dependent processes on each side to validate the data.

   Note. For full synchronous messaging testing, running dependent processes might not be practical, due to the large number of transactions involved. You can open the table records to verify that the data that you expect is present, or use an automated database table compare tool.
4. Consolidate message data into a test repository for later use.

Regression Testing

Regression occurs after cross-application business process testing. You can minimize the need for regression testing by requiring users to test their code changes with the data captured during testing. This enables you to test published interfaces in other applications against changes to integration points in the application.

The process for regression testing is:

- Play back messages recorded during testing to test integration points.
- Run dependent processes to validate results.

Understanding Tools Used in Automated Integration Points Testing

This section describes tools that are used in automated integration point testing.

Integration Point Data Repository

PeopleSoft Integration Broker builds the following integration point test data repository structure during the export process.

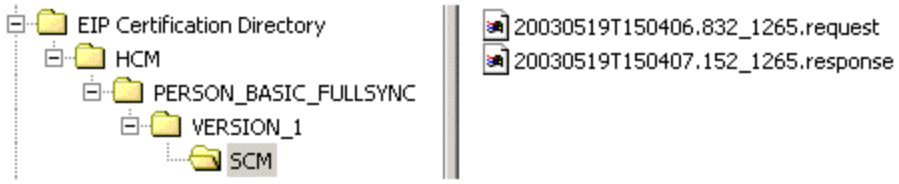
You specify the top-level directory for the repository in the integration gateway properties file using the ig.EIPInputDirectory property.

Warning! Do not alter this directory structure. This structure is required for outbound playback. If you alter this structure, PeopleSoft Integration Broker cannot locate response files.

- **Source** application name and version (Requesting node)
  - **Message name**
    - **Message version**
      - **Target** application name and version (Destination node)
      - If synchronous
        - Request and response MIME files:
          - <time stamp>_<hash code>.request
          - <time stamp>_<hash code>.response
        - **Request** human readable "transaction data" files:
          - <index>.request
        - **Response** human readable "transaction data" files:
          - <index>.response
      - If asynchronous
        - Request files
          - <time stamp>.request
        - **Request** human readable "transaction data" files:
          - <index>.request

Integration point test data repository structure

The following graphic shows what the structure might look like in Windows Explorer using actual data.



Sample integration point test data repository structure in Windows Explorer

EIP Gateway Manager

When a synchronous request is received during testing, the gateway manager performs a lookup in the cached data gathered from the integration point test message property file. If the system finds a match is found, the request XPaths are traversed to build the appropriate hash that can then be used to locate the corresponding response located within the integration point certification repository. The system loads the response file and passes it back to the requestor.

For asynchronous requests, the gateway manager generates an acknowledgement as the response and passes it back to the requestor.

In addition to returning the appropriate response files during outbound playback, the gateway manager logs request and response files. When the appropriate flag is set in the integration gateway properties file, the gateway manager logs the files into the defined output directory. Response and request file have the following naming convention.

```
&lt;time stamp>.&lt;request or response>
```

For example:

```
220030519T150406.832.request
```

Integration Gateway Properties File

The integration gateway properties file contains an EIPTestTool Properties section, in which you set the following information for integration point test automation:

Property	Description
ig.gatewayManagerClass=com.peoplesoft.pt.integrationgateway.eiptesttool.EIPTestToolGatewayManager	Indicates the class name of the gateway manager to use during processing.
ig.EIPLoopBack	Determines if the integration gateway should be in record or playback mode. Set this property equal to *True* for outbound playback, and set it equal to *False* for recording. The default value is *True*.
ig.EIPOutputDirectory	Indicates the directory to store request and response files during recording. The default value is *c:/temp/output*.
ig.EIPMsgProp.count	Indicates the number of integration point test message properties files that are in use for test automation. The default value is *0* (zero)..
ig.EIPInputDirectory	Indicates the location of the integration point test data repository that stores request and response data. The default value is *c:\temp\input*.
ig.EIPMsgProp.*N*.propFile	Indicates the name and location of an integration point message properties file. *N* denotes the index number for this property. The index starts at 1 and incrementally advances to the number specified by the ig.EIPMsgProp.count property.
ig.EIPMsgProp.*N*.inputDirectory	Indicates the input directory path for request or response data in situations for which an integration point message property file uses a directory structure other than the default certification directory. Use this property to override the ig.EIPInputDirectory property.
ig.EIPNodeMap	Indicates the location and name of the node map file to use during outbound playback (“loop back”) testing.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Integration Broker, “Managing Integration Gateways,” Using the integrationGateway.properties File

Integration Point Test Message Properties File

Integration point test message property files are XML files that contain synchronous integration point definitions broken down by product or sub-product. These files are used during message export and outbound playback.

Note. Integration point test message properties files are required for synchronous messages only.

One integration point test message properties file must exist for each product line or sub-product.

Integration point testing metadata is not contained in a single file, because it does not scale well and because this information needs to be cached and accessed quickly.

Each integration point entry is keyed by requesting node, destination node, message name, and message version.

You specify the location of the file in the integration gateway properties file using the ig.EIPMsgProp.N.propFile property.

The integration point test message properties file contains the following properties for synchronous integration points:

- Requesting node.
- Destination node.
- Message name.
- Message version.
- XPaths to fields in the request to be used as the unique key.

  Leave this blank to use the entire contents as the hash key.
- Description.

The following example shows the contents of a sample integration point test message properties file.

```
&lt;&lt;?xml version="1.0"?>
&lt;eips>
    &lt;eip messagename="QE_SYNC_MSG" messageversion="VERSION_1"
     destinationnode="QE_LOCAL">
        &lt;descr>
            &lt;![CDATA[Outbound synchronous QE_SYNC_MSG from QE_UNDERDOG
             to QE_LOCAL]]>
        </descr>
        <xpath>MSGDATA/TRANSACTION/QE_SALES_ORDER/QE_ACCT_ID</xpath>
        <xpath>MSGDATA/TRANSACTION/QE_SALES_ORDER/QE_ACCOUNT_NAME</xpath>
    </eip>
</eips>
```

Send Master

The Send Master utility features an EIP Testing (Batch EIP) project type that enables you to test batches of MIME messages from a directory, and also allows you to test different transaction values.

In addition to using the Send Master graphical user interface, you can also initiate automated testing through a Batch Project Executor command line tool.

See Also

Chapter 2, “Using the Send Master Utility,” Using EIP Testing Projects, page 27

Message Export Command Line Tool

The Message Export command line tool is a batch file that extracts transaction data from request and response data, and creates a hierarchical structure of source, message, message version, and destination directories in the integration point test data repository.

The location of the Message Export command line tool is <PS_HOME>\webserv\<domain> \MessageExport.bat.

Usage

The standard usage of the Message Export tool is:

```
MessageExport [-options]
```

Syntax

The syntax for using the Message Export tool is:

```
MessageExport -in "C:\temp\input" <keyword>-out</keyword>
"C:\temp\output" <keyword>-eip</keyword> "V:/EIP;c:/temp/localtest"
<keyword>-result</keyword> "C:\temp\output\result.txt"
```

Parameters

The Message Export parameters that you can pass are described in the following table.

Parameter	Description
-in	Indicates the input directory, used during recording, that contains all of the request and response files generated from the EIP gateway manager.
-out	Indicates the location of the directory for the integration point test data repository.
-eip	Indicates the list of integration point message property files, separated by semicolons. This parameter is not required for asynchronous integration points.
-result	Indicates the name of the file that contains the results of the export process. The contents of this file is represented as XML.
-ow	(Optional.) Overwrites files if they already exist.
-cd	(Optional.) Creates the output directory if PeopleSoft Integration Broker does not find it.
-rn	(Optional.) Specifies the requesting node. You can specify one value only. All other requesting node values in the input directory will be ignored.
-dn	(Optional.) Specifies the destination node. You can specify one value only. All other destination node values in the input directory will be ignored.
-mn	(Optional.) Specifies the message name. You can specify one value only. The system ignores all other message names in the input directory.

Parameter	Description
-mv	(Optional.) Specifies the message version for the message name that you specified. You can specify one value only. The system ignores all other message versions for the selected message name in the input directory.
-? -help	(Optional.) Displays the Help menu.

Output

If an export is successful, the contents of the output file resembles the following contents.

```
<?xml version="1.0"?>
<success>
    <file path="c:\QE_SYNC_LOG\20030721T094609.877.request" success="true"/>
    <file path="c:\QE_SYNC_LOG\20030721T094609.877.response" success="true"/>
    <file path="c:\QE_SYNC_LOG\20030721T094618.470.request" success="true"/>
    <file path="c:\QE_SYNC_LOG\20030721T094618.470.response" success="true"/>
    <file path="c:\QE_SYNC_LOG\20030721T094622.476.request" success="true"/>
    <file path="c:\QE_SYNC_LOG\20030721T094622.476.response" success="true"/>
    <file path="c:\QE_SYNC_LOG\20030721T094626.231.request" success="false">
    <![CDATA[Could not create file: Do not have file permission.]]></file>
</success>
```

If an export is not successful, the contents of the output file resembles the following contents:

```
<?xml version="1.0"?>
<failure>
    <![CDATA[Invalid output directory: C:\Documents and Settings\Jfranco\
     Desktop\export]]>
</failure>
```

Hash Key Generator Command Line Tool

When you use the Message Export tool, PeopleSoft Integration Broker generates unique request and response pairs, and creates a unique hash key ID for the generated pair. The hash key is used by the integration gateway during playback to ensure that proper correlation occurs between the request and response files.

If you bypass the export process and manually add files for testing, or if you carry out testing when the target or source systems are not available to properly record information, you must generate a hash key. The Hash Key Generator is a command line tool that enables you to generate a hash key.

The location of the Hash Key Generator command line tool is <PS_HOME>\webserv\<domain>\HashKeyGenerator.bat.

Usage

The standard usage for the Hash Key Generator is:

```
HashKeyGenerator [-options]
```

Syntax

The syntax for using the Hash Key Generator is:

```
HashKeyGenerator -in "C:\temp\input.txt

HashKeyGenerator t <keyword>-v</keyword> 214 "John Doe" PeopleSoft

HaskKeyGenerator -v Sally 1234 -t
```

Parameters

The Hash Key Generator parameters you can pass are described in the following table.

Parameter	Description
-in	Indicates the file name to be used as the hash value. When working with non-XML files, the entire value must be hashed.
-t	Prepends a timestamp value to the returned hash value. will prepend a timestamp value.
-v	Indicates values to use as the hash key. When the system encounters this parameter, PeopleSoft Integration Broker uses all values specified in the hash key until it encounters the next "-" option.
-? -help	(Optional.) Displays the Help menu.

Node Map Properties File

A Node Map properties file is an XML file that enables you to associate renamed or custom node names with actual shipped application node names. This enables you to use unique node names during testing.

The system uses this file during outbound playback.

You create this file and specify the shipped application node names and all custom node names in use for a specific node. You must specify the file name and location in the integration gateway properties file, using the ig.EIPNodeMap property.

The following example shows a node map properties file.

```
<?xml version="1.0"?>
<nodemap>
    <map name="PSFT_HR">
        <keyword><node name="HRTST01"/></keyword>
        <keyword><node name="HRTST02"/></keyword>
        <keyword><node name="HRTST03"/></keyword>
    </map>
    <map name="PSFT_CRM">
        <node name="CRMTST01"/>
        <node name="CRMTST02"/>
        <node name="CRMTST03"/>
    </map>
```

```
</nodemap>
```

In the highlighted portion of the example, the map name PSFT_HR corresponds to a delivered application node. The node names HRTST01, HRTST02 and HRTSTO3 correspond to custom nodes names that are in use.

Recording Messages

To record messages and to allow PeopleSoft Integration Broker to capture the exact structure of each integration point as they pass between the systems, you must ensure that all PeopleSoft systems involved in the integration are configured and running.

1. Set the following properties in the EIPTestTool Properties section in the integration gateway properties file:
    a. Set the gateway manager class to *EIP Gateway Manager*. To do so, remove the comment from the following line:

    ```
    ig.gatewayManagerClass=com.peoplesoft.pt.integrationgateway.eiptesttool.
    EIPTestToolGatewayManager
    ```

    b. Set loop back to *False*. To do so, remove the comment from the following line:

    ```
    ig.EIPLoopBack=True
    ```

    Change the parameter value to *False*.

    c. Set the log output directory. To do so, remove the comment from the following line:

    ```
    ig.EIPOutputDirectory=c:/temp/output
    ```

    You can change the directory location as appropriate.

    d. For synchronous messages, define the number of integration point test message properties in use for the test, and specify the necessary number of entries for the integration point test message properties file. To do so, remove the comment from the following line:

    ```
    ig.EIPMsgProp.count
    ```

    Set this property equal to the number of integration point test message properties files in use for the test. For example:

    ```
    ig.EIPMsgProp.count=3
    ```

    You must also specify the location of the integration point test message properties files for each file directory in use for testing. The number of files that you specify should equal the value that you specified for the ig.EIPMsgProp.count property.

    To specify the integration point test message files for the test, remove the comment from the following line:

    ```
    ig.EIPMsgPropN.propFile
    ```

    Enter the name and location of each integration point test message properties file in use for the test.

    For example:

    ```
    ig.EIPMsgProp1.propFile=c:\temp\File_1.xml
    ```

2. Launch the necessary processes on the source system to invoke integration points with the target system.

To verify that recording took place, navigate to the log output directory that you specified in the previous step. The persisted request and response files use the following naming conventions.

```
<time stamp>.<request>
<time stamp>.<response>
```

Playing Back Messages

Playing back messages enables you to continue message testing as if the external system is operational.

Inbound message playback enables you to simulate inbound asynchronous and synchronous message processing. Outbound playback enables you to simulate outbound asynchronous and synchronous message processing.

This section describes how to perform:

- Inbound playback
- Outbound playback

Inbound Playback

To perform inbound playback:

1. In the EIPTestTool properties section of the integration gateway properties file, set the gateway manager class to *EIP Gateway Manager*. To do so, remove the comment from the following line:

   ```
   ig.gatewayManagerClass=com.peoplesoft.pt.integrationgateway.eiptesttool.
   EIPTestToolGatewayManager
   ```

2. Purge all message data in the system or the data that is specific to the integration point test.
3. Create and run a Send Master project of type EIP Testing (EIP Batch) for each message type that you want to test.
4. Run the message export process on the response directory populated during testing.
5. Compare the transaction data returned by the export process to the data that is stored in the integration point test data repository.

See Also

Chapter 2, “Using the Send Master Utility,” Using EIP Testing Projects, page 27

Outbound Playback

To perform outbound playback:

1. Set the following properties in the EIPTestTool Properties section in the integration gateway properties file:
   a. Set the gateway manager class to *EIP Gateway Manager*: to do so, remove the comment from the following line:

      ```
      ig.gatewayManagerClass=com.peoplesoft.pt.integrationgateway.eiptesttool.
      EIPTestToolGatewayManager
      ```

b. Set loop back to *True*; to do so, remove the comment from the following line:

```
ig.EIPLoopBack=True
```

Change the parameter value to *True*, if necessary.

c. Set the location of the input file directory; to do so, remove the comment from the following line and set the value equal to the location of the directory.

```
ig.EIPInputDirectory=
```

d. Set the log output directory; to do so, remove the comment from the following line:

```
ig.EIPOutputDirectory=c:/temp/output
```

You can change the directory location as appropriate.

e. For synchronous messages, define the number of integration point test message properties in use for the test, and specify the necessary number of entries for the integration point test message properties file; to do so, remove the comment from the following line:

```
ig.EIPMsgProp.count
```

Set this property equal to the number of integration point test message properties files in use for the test. For example:

```
ig.EIPMsgProp.count=1
```

You must also specify the location of the integration point test message properties files for each file directory in use for testing. The number of files that you specify should equal the value that you specified for the ig.EIPMsgProp.count property.

To specify the integration point test message files for the test, remove the comment from the following line:

```
ig.EIPMsgPropN.propFile
```

Enter the name and location of each integration point test message properties file in use for the test.

For example:

```
ig.EIPMsgProp1.propFile=c:\temp\File_1.xml
```

2. Launch the necessary processes on the source system to invoke integration points with the target system.
3. Run the message export process on the log output directory used during testing to pull back the transaction data for use in data comparison.
4. View the integration gateway logs or Integration Broker Monitor to verify that the inbound requests are valid and that PeopleSoft Integration Broker sends the proper responses from the repository.
5. Compare the transaction data returned by the export process to the data that is stored in the integration point test data repository to view expected versus actual results.

   You can accomplish this by manually reviewing the database tables or by using an automated database table compare tool.

See Also

Chapter 4, “Using Automated Integration Point Testing,” Message Export Command Line Tool, page 57

CHAPTER 5

Using the Transformation Test Utility

This chapter provides an overview of the Transformation Test utility, and discusses how to:

- Run the Transformation Test utility.
- Run the sample transformation test project.

Understanding the Transformation Test Utility

PeopleSoft Integration Broker provides the Transformation Test utility, which you can use to test Application Engine transform programs without sending messages, and with minimal development effort. You use the Transformation Test component (IB_TRANSFORM_TEST) to access the utility.

The runtime Integration Broker messaging environment requires several development and administration activities to invoke an Application Engine transform program. At a minimum, you must define a channel, a message, sending and receiving PeopleCode, source and destination nodes, sending and receiving transactions, a relationship, a transaction modifier, and the transform program. However, because of its minimal requirements, the Transformation Test utility simplifies the process of testing and debugging your transform programs.

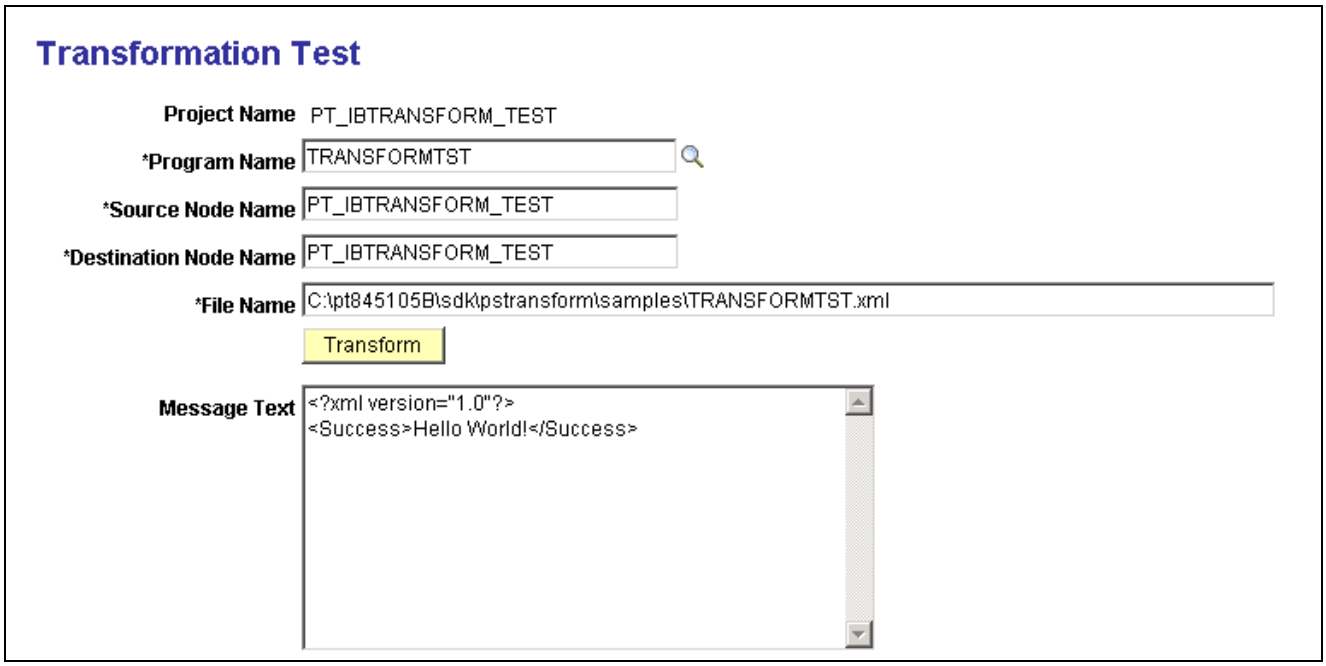
Prerequisites

If your transform program does not use codesets for data translation, you need only to develop the program and provide an XML DOM-compliant file that contains sample message data to be transformed.

If your transform program uses codesets, you must also define two nodes, their codeset groups, codesets, and codeset values that are invoked by the program.

Running the Transformation Test Utility

Select PeopleTools, Integration Broker, Utilities, Transformation Test to access the Transformation Test page.



Transformation Test page

Note. The project name you specify identifies the test you're applying, and is for your reference only. It has no significance outside of this utility.

Program Name	Select the name of the Application Engine transform program that you want to test.
Source Node	Enter the name of the node whose codeset group defines the structure of the input data. This field is used for codeset-based data translation.
Dest Node	Enter the name of the node whose codeset group defines the structure of the output data. This field is used for codeset-based data translation.
File Name	Enter the full path and name of the sample input message file.
Transform	Click to apply the transform program to the sample input message.
Message Text	This field displays the output of the transform program.

Note. For the current release, even if you do not use codesets, you still must enter values for the Source Node and Dest Node fields. You don't need to define any nodes; just enter a string that qualifies as a valid node name (for example "ANYNODE").

Running the Sample Transformation Test Project

PeopleSoft provides a sample project called PT_IBTRANSFORM_TEST that you can use to run a sample test with the Transformation Test utility.

To run the sample test:

1. Select PeopleTools, Integration Broker, Utilities, Transform Utility.
2. Select the PT_IBTRANSFORM_TEST project.

3. In the File Name field, modify the value with your PS_HOME directory where indicated.

   Enter Your PS_HOME Path Here\sdk\pstransform\samples\TRANSFORMTST.xml

4. Click the Transform button.

The test is successful when the following code appears in the Message Text box.

```
<?xml version="1.0"?>
<Success>Hello World!</Success>
```

CHAPTER 6

Using the Event Tester

This chapter provides an overview of the Event Tester utility and discusses how to:

- Select message definitions.
- Select events to test.
- Populate message data.
- Save message test data.
- Clone and delete record structures.
- Override target connector properties
- Run event tests.
- View event test results.
- Clear test data.

Understanding the Event Tester

The Event Tester allows you to test messaging events and subscription PeopleCode defined for rowset-based and nonrowset-based messages from within the PeopleSoft Pure Internet Architecture. You can test events and subscription PeopleCode without setting up a receiving database and server, without having pub/sub booted on your application server, and without impacting other developer activity on the system.

To use the Event Tester utility you should have a solid knowledge of Integration Broker messaging, as well as a knowledge of programming integration events and interpreting event results.

Note. Rowset-based messages are sometimes referred to as structured messages. Nonrowset-based messages are sometimes referred to as unstructured messages.

Note. The Event Tester does not function with messages formatted with multiple level 0 records.

Warning! When you use the Event Tester any PeopleCode associated with a message definition runs and production data is affected accordingly.

Events to Test Using the Event Tester

You can test the following integration events using the Event Tester:

- OnSend.

- OnRequest.
- OnRouteReceive.
- OnRouteSend.
- OnAckReceive.
- Subscription PeopleCode.

Process Overview

To test integration events using the Event Tester:

1. Select the message definition and version to use in the test.
2. Select the event to test.
3. Populate the message definition with data.
4. Run the test.

In addition to providing procedures for each step in the process, this chapter also describes how to save message data, clone and delete record structures, override connector properties, and view test results.

Common Elements Used in This Chapter

Message Name The application message definition name to use for the test.

Version The Event Tester populates the Version field with the default version of the message definition that is defined in the application database.

Click the dropdown list to select a different version to use in the test.

Event Click the dropdown list to select an event to test. The list displays only those events currently defined for the selected message definition and version.

The options can include:

- OnSend.
- OnRequest.
- OnRouteReceive.
- OnRouteSend.
- OnAckReceive.
- Subscription PeopleCode.

Subscription This field is enabled only when the event type you select in the Event field is *Subscription PeopleCode*.

Displays message subscriptions defined for the message definition.

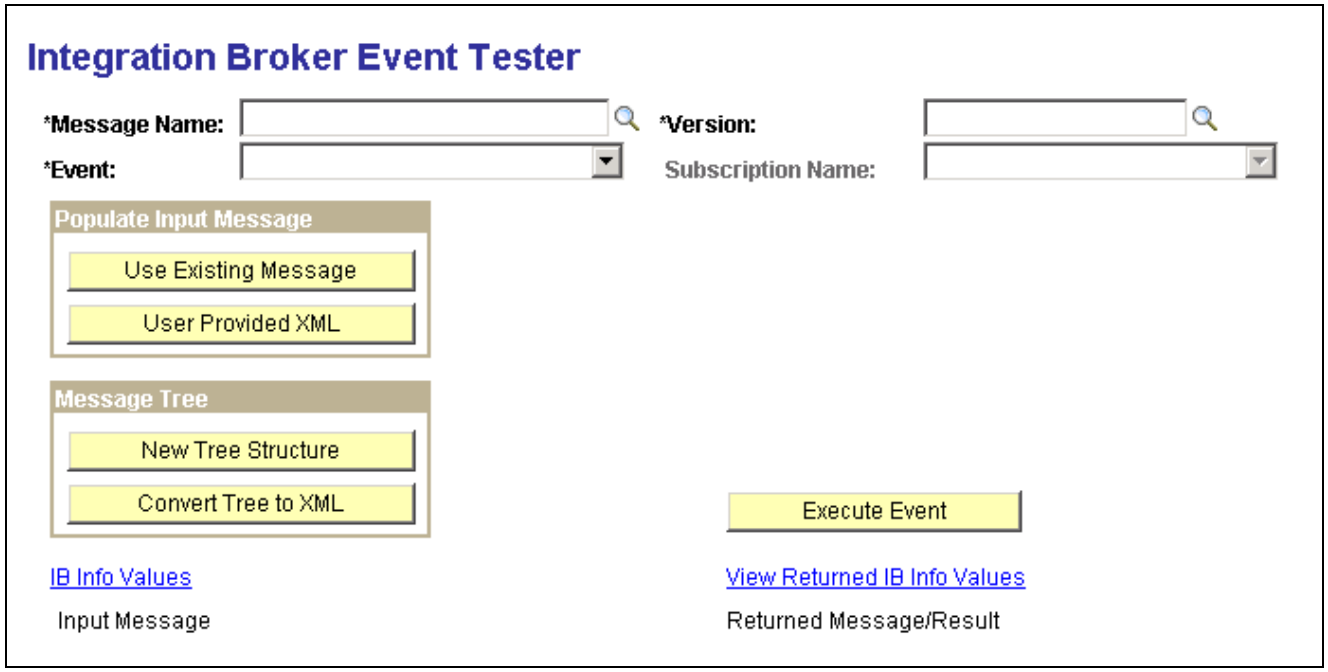
Click the dropdown list to select the name of the subscription to test.

Use Existing Message Click the button to use data from an existing message instance from the database.

User Provided XML	Click the button to input XML or upload XML data from a file.
New Tree Structure	Click the button to clear the record and field values in the tree structure.
Convert Tree to XML	Click the button to convert data stored in the tree structure into XML format.
IB Info Values	Click the link to override target connector properties.
Execute Event	Click the button to execute the selected event.
View Returned IB Info Values	Displays the IBInfo values that were returned from the test.
Returned Message/Result	The returned message or results from the test. Displays when you click the Execute Event button.

Accessing the Event Tester

This section discusses how access the PeopleSoft Pure Internet Architecture pages of the Event Tester.



Integration Broker Event Tester page

Pages Used to Test Integration Events

Page Name	Object Name	Navigation	Usage
Integration Broker Event Tester	IB_EVENTTESTER	PeopleTools, Integration Broker, Utilities, Event Tester	Use this page to: • Enter integration metadata. • Select the event to test. • Populate the message definition to use in the test with data. • Modify message data. • Run the test. • Clear message data. • Save message data. • View test results.
Message Keys	IB_EVENTTST6_SEC	Click the Use Existing Message button on the Integration Broker Event Tester page.	Populate a message definition with data in the application database.
Enter XML	IB_EVENTTST7_SEC	Click the User Provided XML button on the Integration Broker Event Tester page.	Manually enter XML data or import from a file.
IB Info	IB_EVENTTST4_SEC	Click the IB Info Values link on the Integration Broker Event Tester page.	Override target connector values.
Returned IB Info	IB_EVENTTST5_SEC	Click the View Returned IB Info Values link on the Integration Broker Event Tester page.	If you specify target connector properties, you can view returned IBInfo information.

Selecting Message Definitions and Message Definition Versions

This section discusses how to select a message definition to use for an event test.

Selecting Message Definitions

To select a message definition for the test:

1. Access the Integration Broker Event Tester page.
2. In the Message Name field, click the Lookup button and select a message definition.

   The Event Tester populates the Version field with the default version of the message definition that is defined in the application database.

3. To select a different message version, in the Version field, click the Lookup button and select a message version.

When you select a rowset-based message, the structure of the message appears in tree-format at the bottom of the page. The records and fields contain no values until you populate the message with data.

When you select a nonrowset-based message, an Input Message text box displays. Use this box to populate the message definition with data.

Selecting Events to Test

To select an event to test:

1. On the Integration Broker Event Tester page, from the Event dropdown list box, select an event.

   Only events defined on the message definition display in the dropdown list.

   If you select *Subscription PeopleCode,* the Subscription field becomes enabled.
2. If you are testing a message subscription, from the Subscription dropdown list select the name of the message subscription to test.

Populating Message Data

This section discusses the four ways to populate message data and how to save it.

Note. The Event Tester does not function with messages formatted with multiple level 0 records.

Note. If you select a multi-segmented message, only the first segment is retrieved.

Understanding Populating Message Data

You can load message data into a message definition from the following four sources.

1. Message instance data from the application database.
2. XML that you directly input into the utility.
3. XML that you upload from a file.
4. Field values that you manually enter into the utility.

Using Message Instances Data from the Application Database

This section discusses how to use message data from message instances stored in the application database.

You can use this method to populate rowset-based and nonrowset-based message definitions.

To use data from a message instance:

1. Access the Message Keys page.

2. From the Message Type dropdown list select where the XML to use in the test is located. The options are:
   - *Message Instance*
   - *Publication Contract*
   - *Subscription Contract*
3. In the Publication Id field, enter the publication ID.
4. In the Publishing Node field, enter the name of the sending node.
5. (Optional.) In the Subscribing Node field, enter the name of the receiving node.

   This field is enabled only when the message type is *Publication Contract*.
6. (Optional.) In the Subscription Name field, enter the name of the PeopleCode subscription program associated with the message instance.

   This field is enabled only when the message type is *Subscription Contract*.
7. (Optional.) In the Segment Number field, enter the message segment number you are testing.

   This field is enabled only when the message type is *Publication Contract* or *Subscription Contract*.
8. Click the OK button.

   The Integration Broker Event Tester page appears. The tree structure is populated with data from the message instance, publication contract or subscription contract that you selected.

Manually Entering Field Value Data

After you specify a message definition and version for a rowset-based message, the Integration Broker Event Tester displays the message definition record and field structure in a tree format.

You can populate the message definition by manually entering values for fields.

To manually enter field value data:

1. On the Integration Broker Event Tester page in the tree structure for the message definition, single-click on field name to populate.

   A dialog box for the field opens that displays field length and field type information as a guide for entering values.
2. Enter a value for the field.
3. Click the OK button.

Values you enter display after the field name in the tree view. The tree shows the first 30 characters of an entered value; however, the entire field value is stored.

See Also

Chapter 6, “Using the Event Tester,” Saving Test Data, page 74

Manually Entering XML Data

This section describes how to:

- Manually enter XML data into rowset-based message definitions.
- Manually enter XML data into nonrowset-based message definitions.

Manually Entering XML Data into Rowset-Based Message Definitions

When you manually enter XML data into a rowset-based message, the tree view is not available. To work with message data in the tree view, you must populate the data using message instance data from the application database or manually populate field values.

To manually populate a rowset-based message definition:

1. On the Integration Broker Event Tester page, click the User Provided XML button.

   The Enter XML page displays.
2. In the XML text box enter XML to populate the message definition.
3. Click the OK button.

   The Integration Broker Event Tester page appears and the XML you entered displays in the Input Message box.

Manually Entering XML Data into Nonrowset-Based Message Definitions

To manually populate a nonrowset-based message definition, on the Integration Broker Event Tester page, enter XML directly into the Input Message box.

Note that you can also click the User Provided XML button and enter XML in the XML text box for a nonrowset-based message definition.

Uploading XML Data from Files

This section describes how to upload XML data from files to populate rowset-based and nonrowset-based message definitions.

Prerequisites for Uploading XML Data from Files

To successfully upload files into the Event Tester the following environment variables must be set:

- PS_FILEDIR
- PS_SERVDIR

Note. PS_SERVDIR is set when you run PSAdmin. Before running PSAdmin, set the PS_FILEDIR environment variable.

This section describes how to set the PS_FILEDIR variable in Windows and Unix environments.

To set the PS_FILEDIR variable in Windows:

1. Close any open DOS windows.
2. On your desktop, right-click the My Computer icon and click Properties.

   The System Properties dialog appears.
3. Click the Advanced tab.
4. In the Environment Variables section, click the Environment Variables button. The Environment Variables dialog box appears.
5. In the User variables for <user name> section, click New.

   A New User Variable dialog box displays.

6. In the Variable Name field enter PS_FILEDIR.
7. In the Variable Value field, enter c:\<path>.

   The path you specify is the location from where the system will upload files.
8. Click OK to exit the Environment Variables dialog box.
9. Click OK again to exit the System Properties dialog box.

To set the PS_FILEDIR variable in Unix use one of the following commands as appropriate for your Unix environment:

- export PS_FILEDIR = <PS_HOME>/file
- setenv PS_FILEDIR = <PS_HOME>/file

The path you specify is the location from where the system will upload files.

Uploading XML Files

To upload XML data from a file to populate message definition data:

1. Access the Enter XML page.
2. Click the Upload XML from File button.
3. Click the Browse button to locate the XML file to upload.
4. Click the Upload button.
5. Click the OK button to return to the Integration Broker Event Tester page to run the event.

See Also

Chapter 6, “Using the Event Tester,” Saving Test Data, page 74

Saving Test Data

This section discusses how to:

- Save data located in the tree view.
- Save manually-entered XML data.

Saving Data Located in Tree Views

To save test data loaded or entered into a tree view:

1. From the Integration Broker Event Tester page, click the Convert Tree to XML button.

   The Event Tester converts the data to XML format and displays it in the Input Message window.
2. Cut and paste the XML into an editor or your choice and save the file.

You can later import the data back into the Event Tester by uploading the XML file back into the utility.

See Also

Chapter 6, “Using the Event Tester,” Uploading XML Data from Files, page 73

Saving Manually-Entered XML Data

To save XML test data that you have manually entered into the utility:

1. From the Integration Broker Event Tester page, cut or copy the XML data in the Input Message box and copy it into an editor or your choice.
2. Save the file.

You can later import the data back into the Event Tester by uploading the XML file back into the utility.

See Also

Chapter 6, "Using the Event Tester," Uploading XML Data from Files, page 73

Cloning and Deleting Record Structures

This section discusses how to:

- Clone record structures.
- Delete record structures.

Cloning Record Structures

In some cases, you will want to add additional nodes to a record/field tree structure.

For example, if you are testing a purchase order, the records in the tree might be ORDER_HEADER and ORDER_LINE. If you want to test with two or more lines, you can click the first occurrence of the record name ORDER_LINE to duplicate that portion of the tree and all child records and nodes.

To clone a record structure:

1. On the Integration Broker Event Tester page in the tree view, single-click the record to clone.

   The Select An Action dialog box appears.
2. Select Clone Record Structure.
3. Click the OK button.

The original record is duplicated, along with child nodes and all entered field values. If you clone a record in error, single-click the record again and delete the record structure.

Deleting Record Structures

To delete a record structure:

1. On the Integration Broker Event Tester page in the tree view, single-click the record to delete.
2. Select Delete Record Structure.
3. Click the OK button.

Specifying Target Connectors and Target Connector Properties

This section discusses how to:

- Specify target connectors.
- Specify target connector properties.

Specifying Target Connectors

You can specify a target connector and target connector properties you have defined at the connector, node and transaction level when you run event tests.

To select a target connector:

1. Access the IB Info page.
2. In the Connector Property Defaults section, select the target connector. The options are:
   - *Connector*. Click the Lookup button and select the connector ID.
   - *Node*. Click the Lookup button and select the node.
   - *Transaction*. Click the Lookup button and select the node. Then from the Transaction Type dropdown list, select the transaction type.
3. Click the Load Connector Properties button.

Properties you have defined display in the bottom portion of the page.

Specifying Connector Properties

After you load the defined connector properties you can modify and add new values for testing purposes.

Connector properties you add or modify here do not override the properties you may have defined at the gateway, node or transaction levels. However, when you run an event test, the PeopleCode runs based on the values you define here and the Event Tester writes the results to the database—and all PeopleCode database changes are permanent.

You can modify and add values for the following items:

Connector Name	Specify the proper name of the target connector to invoke to send the message.
Connector Class Name	Specify the class name of the target connector to invoke.
Remote Framework URL	Specify the URL (as a string) to which to send a message. This value overrides the server URL.
Path Info	Specific to incoming HTTP requests. This is the path information extracted from the request.
Cookies	Specific to incoming HTTP requests. This is cookie string found when the request was received by the HTTP listening connector.
App Server Domain	Enter the name of the application server domain to use.

Synch Server Timeout	Specify the timeout period (in seconds) for a transaction at runtime. The default synchronous timeout period is 300 (five minutes).
Property Name/Value/Property Type	Add or modify connector property names, values and types.
Name/Value	Add or modify parameter names and values to send to the target system in the URL, if the external system can use query string parameters as input.

Running Event Tests and Viewing Test Results

This section discusses how to:

- Execute event tests.
- View test results.

Executing Event Tests

After you have set up the integration metadata and selected the event to test, you can run the event test.

To run an event test, on the Event Tester page, click the Execute Event button.

Viewing Test Results

The Event Tester returns test results on the Returned Message/Result section of the Integration Broker Event Tester page and in the Returned IB Info page.

Viewing Results in the Return Message/Results Section

The following table lists the results the Event Tester returns in the Return Message/Results section on the Integration Broker Event Tester page:

Event	Returns	Comments
OnSend	Input Message	The return value is the input message plus any changes made by the OnSend PeopleCode. The IBInfo section of the message is included to show any changes to connector parameters.
OnRequest	Message structure.	None.
OnRouteReceive	Boolean	The return values are: • *True*. Inbound message is accepted. • *False*. Inbound message is rejected.

Event	Returns	Comments
OnRouteSend	Boolean or String	The return values are: • *Outbound message target node list is accepted.* • *Outbound message target node list is rejected.* • *Outbound message sent to the following node(s) — <node_name>, <node_name>, <node_name>*
OnAckReceive	Integer	The return values are: • *The status of the message - Error* • *The status of the message - Done* • *The status of the message - Retry*
Subscription	Boolean	The return values are: • *Event completed normally.* • *Event exited with an Exit (1).*

A reply message displays for the OnRequest and OnSend events. If the reply message is rowset-based, it displays in a tree format to the right of the Input Message section. If the returned message is nonrowset-based, a display-only edit box will display with its contents.

Viewing Results in the Returned IB Info Page

If you specified target connector properties, you can view returned IBInfo information. To do so, on the Integration Broker Event Tester page, click the View Returned IB Info Values link.

Depending on the input values for an event test and the PeopleCode content, some or all of the fields contain test data.

The fields on that display on this page are described earlier in this chapter.

See Chapter 6, "Using the Event Tester," Specifying Target Connectors and Target Connector Properties, page 76.

Clearing Test Data

This section describes how to:

- Clear rowset-based message data.
- Clear nonrowset-based message data.
- Clear the Integration Broker Event Tester page.

Clearing Rowset-Based Message Data

To clear rowset-based message data:

1. Access the Integration Broker Event Tester page.

2. Click the New Tree Structure button.

All values for the input message are cleared from the message definition, and you can repopulate it as desired.

Clearing Nonrowset-Based Message Data

To clear nonrowset-based message data:

1. Access the Integration Broker Event Tester page.
2. In the Input Message box, delete the XML.

You can repopulate the message definition as desired.

Clearing the Event Tester

To clear the Integration Broker Event Tester, including integration metadata, event information, connector overrides and so on, use either of the following methods:

- Enter a new message in the Message Name field.
- Click the Event Tester link in the left-navigation area in the PeopleSoft Pure Internet Architecture.

CHAPTER 7

Using the Schema Tester Utility

This chapter provides an overview of the Schema Tester utility, prerequisites for using the utility and discusses how to:

- Access the Schema Tester utility.
- Validate messages against message schemas during development.

Understanding the Schema Tester Utility

The Schema Tester Utility enables you to validate rowset-based and nonrowset-based messages against message schemas during development to determine if messages adhere to defined message schemas.

Note. Use the Message Schema Builder to validate messages against message schemas at runtime.

Prerequisites

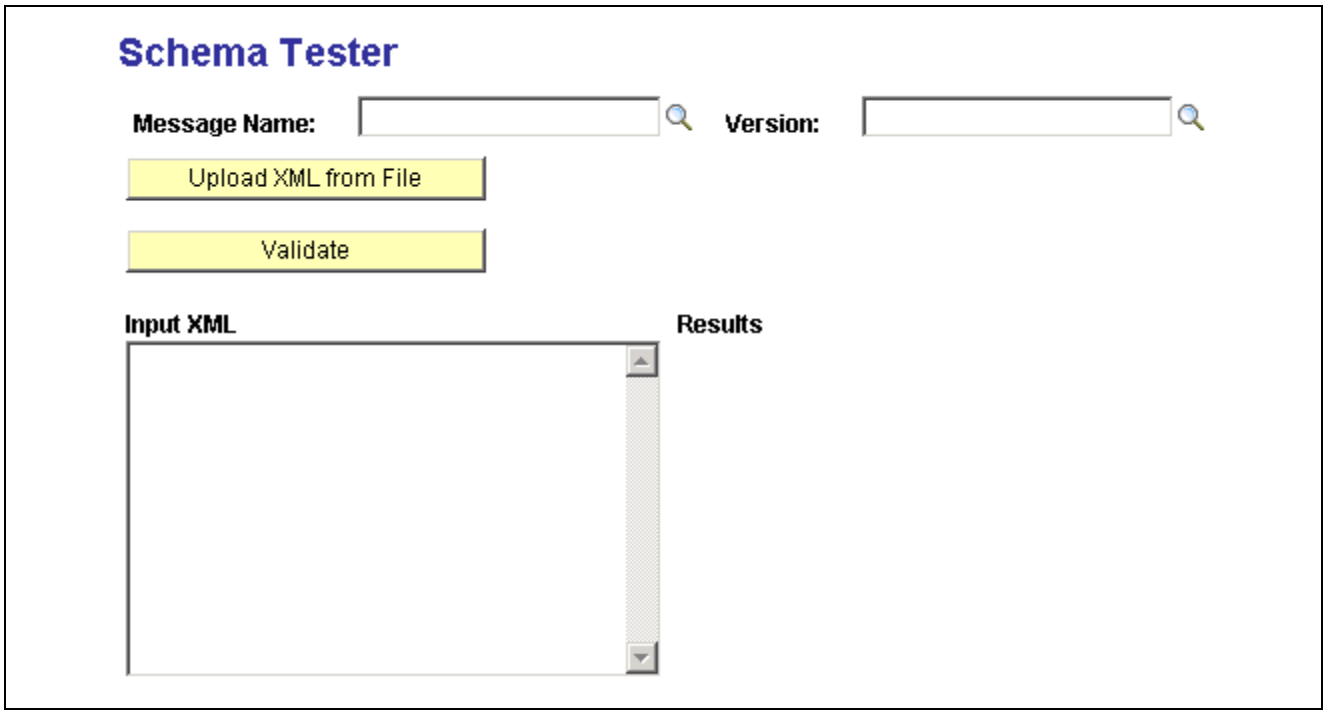
To use the Schema Tester Utility the following items must exist:

- A message schema against which to test a message.

  You can use the Message Schema Builder to build message schemas for rowset-based messages and to import message schemas for nonrowset-based messages.
- A message in XML format to test against a schema.

Accessing the Schema Tester Utility

To access the Schema Tester utility, select PeopleTools, Integration Broker, Utilities, Schema Tester.



Schema Tester page

Validating Messages Against Message Schemas During Development

To validate a message against a message schema:

1. Select PeopleTools, Integration Broker, Utilities, Schema Tester.
2. The Schema Tester populates the Version field with the default version of the message definition that is defined in the application database.
3. To select a message version other than the default, in the Version field, click the Lookup button and select a message version.
4. Load an XML message to test into the Schema Tester.
   - To load a message from a file, click the Upload XML from File button and select the message. The message displays in the Input XML text box.
   - In the Input XML text box, manually enter the message data.
5. Click the Validate button to validate the message against the message schema defined for the message definition.

The results of the validation display in the results area of the page.

APPENDIX A

Using Send Master to Test Third-Party Messaging and Transform Legacy System Data

The appendix provides an example of using Send Master to simulate a legacy system that sends data in comma separated value (CSV) format into PeopleSoft Integration Broker, and discusses how to:

- Import the CSV transformation project.
- Configure the transformations.
- Set up Send Master for the integration.
- Launch the integration.

Understanding This Example

In the example, Send Master serves as the legacy system that sends data to PeopleSoft Integration Broker.

PeopleTools 8.46 provides a PeopleSoft Application Designer project which contains the records, messages, application engine, and other metadata needed to use the example.

Prerequisites

Before you can use the example, PeopleSoft Integration Broker and the integration gateway must be configured and running.

Verify that the application server domain is active, the pub/sub servers are started, and the integration gateway and the integrationGateway.properties file are configured.

Importing the CSV Transformation Project

The SENDMASTER_CSV_XRFM project adds field, record, application engine program, message, message node, and PeopleCode definitions to your system. Examining the project source code will familiarize you with the objects and code that is used to implement this example.

This section describes how to import the CSV transformation project and create the application database tables.

Understanding the CSV Transformation Project

The CSV transformation project that is delivered with this release of PeopleTools provides all of the objects needed to run the example described in this appendix.

The following table lists several of the objects that are included in the project.

Note. In the example presented in this appendix, Send Master serves as the legacy system.

Object Type	Object Name	Description
Node	SENDMASTER_TEST	A remote node that represents the third-party/Send Master system.
Message	SENDMASTER_RQST	Inbound request message from the legacy system to PeopleSoft. In this project, the legacy system sends this request message, the system applies a transformation (CSV_IN) to it, and then PeopleSoft Integration Broker consumes it.
Message	SENDMASTER_RESP	Outbound response message from PeopleSoft to the legacy system. In this project, PeopleSoft sends this response message, the system applies a transformation (CSV_OUT) to it, and then the legacy system consumes it.
Application engine	CSV_IN	Request application engine transformation program, which takes the original CSV data and transforms it into the PeopleSoft message format.
Application engine	CSV_OUT	Response application engine transformation program, which transforms the response data in the PeopleSoft message format back to the CSV file format so that the legacy system can read the data.

The project also includes several fields and records used in the request and response messages and messaging PeopleCode. It also includes transformation PeopleCode and XSLT.

After you import the project into PeopleSoft Application Designer, use the Upgrade tab in the project view to display all project objects, including those created in the PeopleSoft Pure Internet Architecture.

Importing the Project

To import the project:

1. Open PeopleSoft Application Designer.
2. Select Tools, Copy Project, From File . . .
3. Browse to the location of the project and click Open. The location of the project is:

   ```
   <PS_HOME>/sdk/pssendmaster/samples/SENDMASTER_CSV_XFRM/SENDMASTER_CSV_XFRM.ini
   ```

   The Copy From File dialog box appears. In the Definitions Type(s) section, all of the following definitions should be selected: records, fields, application engine programs, application engine sections, message, message nodes, message PeopleCode, application engine PeopleCode, and XSLT.
4. Click the Copy button.

Creating Application Database Tables

To create application database tables:

1. Open PeopleSoft Application Designer.
2. Select Build, Project.

   The Build dialog box displays.
3. In the Build Options section, select the Create Tables option.
4. In the Build Execute Options section, select the Execute SQL Now option.
5. Click the Build button.

   The Build Process dialog box appears.
6. When the process is completed, click the Close button.

Configuring the Transformation

This section describes how to configure the transformations used in this example. In configuring the transformations, you create a relationship on the SENDMASTER_TEST node that will execute the inbound and outbound message transformations.

To create a relationship for the SENDMASTER_TEST node:

1. In the PeopleSoft Pure Internet Architecture, select PeopleTools, Integration Broker, Relationships.

   The Relationships page appears.
2. Click the Add a New Value tab.
3. In the Relationship ID field, enter *SENDMASTER_TEST*, and click the Add button.
4. In the Description field, enter *Send Master Test*.
5. Verify that the Relationship Status is set to Active.
6. In both Node Name fields, select SENDMASTER_TEST.
7. Click the Save button.
8. Select the Transaction Modifiers tab, and click the Add Transaction Modifier button at the bottom of the page.

   The Relationship Transactions page appears.
9. Enter the following field values on the Relationship Transaction page:

Field	Value
Initial Node	*SENDMASTER_TEST*
Request Message Name	*SENDMASTER_RQST*
Source Request Message Version	*VERSION_1*

Field	Value
Transaction Type	*InSync* (Inbound Synchronous)
Result Node	*SENDMASTER_TEST*
Request Message Name	*SENDMASTER_RESP*
Target Request Message Version	*VERSION_1*

10. Click the Add button.

    The Relationship-Transaction Modifiers page appears.

11. In the Result section, from the Transaction Type drop-down list, select IS.
12. In the Transformation section:
    a. In the Request field, select *CSV_IN*.
    b. In the Response field, select *CSV_OUT*.
13. Click the Save button.

Setting Up Send Master for the Integration

To set up Send Master for the integration:

1. Launch Send Master from the following location.

   ```
   <PS_HOME>\webserv\peoplesoft\StartSendMaster.bat(.sh)
   ```

2. Create an Input File project type.

   Name the project anything that you want.

3. In the Server URL field, enter the following.

   ```
   http://localhost/PSIGW/HttpListeningConnector?From=SENDMASTER_TEST&To=DEFAULT_
   LOCAL_NODE&MessageName=SENDMASTER_RQST&MessageVersion=VERSION_1
   ```

   Replace *DEFAULT_LOCAL_NODE* with the default local node name for your system.

4. In the Headers field, enter *Content-type: text/plain; charset=UTF8*.
5. In the Input Information section, enter the following:

   ```
   1234,Robert Smith,4411 PeopleSoft Parkway
   5678,Jane Doe,345 W. Easland
   ```

   Verify that the last character in the file is the "d" in "Easland." An extra line feed will cause the transform to fail.

Launching the Integration

To launch the integration, after you set up the input file project in Send Master, click the Post button.

The Output Information section in Send Master displays *1234,5678*, which is the output of the response message.

Glossary of PeopleSoft Terms

absence entitlement	This element defines rules for granting paid time off for valid absences, such as sick time, vacation, and maternity leave. An absence entitlement element defines the entitlement amount, frequency, and entitlement period.
absence take	This element defines the conditions that must be met before a payee is entitled to take paid time off.
academic career	In PeopleSoft Enterprise Campus Solutions, all course work that a student undertakes at an academic institution and that is grouped in a single student record. For example, a university that has an undergraduate school, a graduate school, and various professional schools might define several academic careers—an undergraduate career, a graduate career, and separate careers for each professional school (law school, medical school, dental school, and so on).
academic institution	In PeopleSoft Enterprise Campus Solutions, an entity (such as a university or college) that is independent of other similar entities and that has its own set of rules and business processes.
academic organization	In PeopleSoft Enterprise Campus Solutions, an entity that is part of the administrative structure within an academic institution. At the lowest level, an academic organization might be an academic department. At the highest level, an academic organization can represent a division.
academic plan	In PeopleSoft Enterprise Campus Solutions, an area of study—such as a major, minor, or specialization—that exists within an academic program or academic career.
academic program	In PeopleSoft Enterprise Campus Solutions, the entity to which a student applies and is admitted and from which the student graduates.
accounting class	In PeopleSoft Enterprise Performance Management, the accounting class defines how a resource is treated for generally accepted accounting practices. The Inventory class indicates whether a resource becomes part of a balance sheet account, such as inventory or fixed assets, while the Non-inventory class indicates that the resource is treated as an expense of the period during which it occurs.
accounting date	The accounting date indicates when a transaction is recognized, as opposed to the date the transaction actually occurred. The accounting date and transaction date can be the same. The accounting date determines the period in the general ledger to which the transaction is to be posted. You can only select an accounting date that falls within an open period in the ledger to which you are posting. The accounting date for an item is normally the invoice date.
accounting split	The accounting split method indicates how expenses are allocated or divided among one or more sets of accounting ChartFields.
accumulator	You use an accumulator to store cumulative values of defined items as they are processed. You can accumulate a single value over time or multiple values over time. For example, an accumulator could consist of all voluntary deductions, or all company deductions, enabling you to accumulate amounts. It allows total flexibility for time periods and values accumulated.
action reason	The reason an employee's job or employment information is updated. The action reason is entered in two parts: a personnel action, such as a promotion, termination, or change from one pay group to another—and a reason for that action. Action reasons are used by PeopleSoft Human Resources, PeopleSoft Benefits Administration,

PeopleSoft Stock Administration, and the COBRA Administration feature of the Base Benefits business process.

action template In PeopleSoft Receivables, outlines a set of escalating actions that the system or user performs based on the period of time that a customer or item has been in an action plan for a specific condition.

activity In PeopleSoft Enterprise Learning Management, an instance of a catalog item (sometimes called a class) that is available for enrollment. The activity defines such things as the costs that are associated with the offering, enrollment limits and deadlines, and waitlisting capacities.

In PeopleSoft Enterprise Performance Management, the work of an organization and the aggregation of actions that are used for activity-based costing.

In PeopleSoft Project Costing, the unit of work that provides a further breakdown of projects—usually into specific tasks.

In PeopleSoft Workflow, a specific transaction that you might need to perform in a business process. Because it consists of the steps that are used to perform a transaction, it is also known as a step map.

address usage In PeopleSoft Enterprise Campus Solutions, a grouping of address types defining the order in which the address types are used. For example, you might define an address usage code to process addresses in the following order: billing address, dormitory address, home address, and then work address.

adjustment calendar In PeopleSoft Enterprise Campus Solutions, the adjustment calendar controls how a particular charge is adjusted on a student's account when the student drops classes or withdraws from a term. The charge adjustment is based on how much time has elapsed from a predetermined date, and it is determined as a percentage of the original charge amount.

administrative function In PeopleSoft Enterprise Campus Solutions, a particular functional area that processes checklists, communication, and comments. The administrative function identifies which variable data is added to a person's checklist or communication record when a specific checklist code, communication category, or comment is assigned to the student. This key data enables you to trace that checklist, communication, or comment back to a specific processing event in a functional area.

admit type In PeopleSoft Enterprise Campus Solutions, a designation used to distinguish first-year applications from transfer applications.

agreement In PeopleSoft eSettlements, provides a way to group and specify processing options, such as payment terms, pay from a bank, and notifications by a buyer and supplier location combination.

allocation rule In PeopleSoft Enterprise Incentive Management, an expression within compensation plans that enables the system to assign transactions to nodes and participants. During transaction allocation, the allocation engine traverses the compensation structure from the current node to the root node, checking each node for plans that contain allocation rules.

alternate account A feature in PeopleSoft General Ledger that enables you to create a statutory chart of accounts and enter statutory account transactions at the detail transaction level, as required for recording and reporting by some national governments.

analysis database In PeopleSoft Enterprise Campus Solutions, database tables that store large amounts of student information that may not appear in standard report formats. The analysis database tables contain keys for all objects in a report that an application program can use to reference other student-record objects that are not contained in the printed report. For instance, the analysis database contains data on courses that are considered for satisfying a requirement but that are rejected. It also contains information on

	courses captured by global limits. An analysis database is used in PeopleSoft Enterprise Academic Advisement.
Application Messaging	PeopleSoft Application Messaging enables applications within the PeopleSoft Enterprise product family to communicate synchronously or asynchronously with other PeopleSoft and third-party applications. An application message defines the records and fields to be published or subscribed to.
AR specialist	Abbreviation for *receivables specialist.* In PeopleSoft Receivables, an individual in who tracks and resolves deductions and disputed items.
arbitration plan	In PeopleSoft Enterprise Pricer, defines how price rules are to be applied to the base price when the transaction is priced.
assessment rule	In PeopleSoft Receivables, a user-defined rule that the system uses to evaluate the condition of a customer's account or of individual items to determine whether to generate a follow-up action.
asset class	An asset group used for reporting purposes. It can be used in conjunction with the asset category to refine asset classification.
attribute/value pair	In PeopleSoft Directory Interface, relates the data that makes up an entry in the directory information tree.
audience	In PeopleSoft Enterprise Campus Solutions, a segment of the database that relates to an initiative, or a membership organization that is based on constituent attributes rather than a dues-paying structure. Examples of audiences include the Class of '65 and Undergraduate Arts & Sciences.
authentication server	A server that is set up to verify users of the system.
base time period	In PeopleSoft Business Planning, the lowest level time period in a calendar.
benchmark job	In PeopleSoft Workforce Analytics, a benchmark job is a job code for which there is corresponding salary survey data from published, third-party sources.
billing career	In PeopleSoft Enterprise Campus Solutions, the one career under which other careers are grouped for billing purposes if a student is active simultaneously in multiple careers.
bio bit or bio brief	In PeopleSoft Enterprise Campus Solutions, a report that summarizes information stored in the system about a particular constituent. You can generate standard or specialized reports.
book	In PeopleSoft Asset Management, used for storing financial and tax information, such as costs, depreciation attributes, and retirement information on assets.
branch	A tree node that rolls up to nodes above it in the hierarchy, as defined in PeopleSoft Tree Manager.
budgetary account only	An account used by the system only and not by users; this type of account does not accept transactions. You can only budget with this account. Formerly called "system-maintained account."
budget check	In commitment control, the processing of source transactions against control budget ledgers, to see if they pass, fail, or pass with a warning.
budget control	In commitment control, budget control ensures that commitments and expenditures don't exceed budgets. It enables you to track transactions against corresponding budgets and terminate a document's cycle if the defined budget conditions are not met. For example, you can prevent a purchase order from being dispatched to a vendor if there are insufficient funds in the related budget to support it.

budget period The interval of time (such as 12 months or 4 quarters) into which a period is divided for budgetary and reporting purposes. The ChartField allows maximum flexibility to define operational accounting time periods without restriction to only one calendar.

business activity The name of a subset of a detailed business process. This might be a specific transaction, task, or action that you perform in a business process.

business event In PeopleSoft Receivables, defines the processing characteristics for the Receivable Update process for a draft activity.

In PeopleSoft Sales Incentive Management, an original business transaction or activity that may justify the creation of a PeopleSoft Enterprise Incentive Management event (a sale, for example).

business process A standard set of 17 business processes are defined and maintained by the PeopleSoft product families and are supported by Business Process Engineering group at PeopleSoft. An example of a business process is Order Fulfillment, which is a business process that manages sales orders and contracts, inventory, billing, and so forth.

See also *detailed business process.*

business task The name of the specific function depicted in one of the business processes.

business unit A corporation or a subset of a corporation that is independent with regard to one or more operational or accounting functions.

buyer In PeopleSoft eSettlements, an organization (or business unit, as opposed to an individual) that transacts with suppliers (vendors) within the system. A buyer creates payments for purchases that are made in the system.

campus In PeopleSoft Enterprise Campus Solutions, an entity that is usually associated with a distinct physical administrative unit, that belongs to a single academic institution, that uses a unique course catalog, and that produces a common transcript for students within the same academic career.

catalog item In PeopleSoft Enterprise Learning Management, a specific topic that a learner can study and have tracked. For example, “Introduction to Microsoft Word.” A catalog item contains general information about the topic and includes a course code, description, categorization, keywords, and delivery methods. A catalog item can have one or more learning activities.

catalog map In PeopleSoft Catalog Management, translates values from the catalog source data to the format of the company’s catalog.

catalog partner In PeopleSoft Catalog Management, shares responsibility with the enterprise catalog manager for maintaining catalog content.

categorization Associates partner offerings with catalog offerings and groups them into enterprise catalog categories.

category In PeopleSoft Enterprise Campus Solutions, a broad grouping to which specific comments or communications (contexts) are assigned. Category codes are also linked to 3C access groups so that you can assign data-entry or view-only privileges across functions.

channel In PeopleSoft MultiChannel Framework, email, chat, voice (computer telephone integration [CTI]), or a generic event.

ChartField A field that stores a chart of accounts, resources, and so on, depending on the PeopleSoft application. ChartField values represent individual account numbers, department codes, and so forth.

ChartField balancing You can require specific ChartFields to match up (balance) on the debit and the credit side of a transaction.

ChartField combination edit The process of editing journal lines for valid ChartField combinations based on user-defined rules.

ChartKey One or more fields that uniquely identify each row in a table. Some tables contain only one field as the key, while others require a combination.

checkbook In PeopleSoft Promotions Management, enables you to view financial data (such as planned, incurred, and actual amounts) that is related to funds and trade promotions.

checklist code In PeopleSoft Enterprise Campus Solutions, a code that represents a list of planned or completed action items that can be assigned to a staff member, volunteer, or unit. Checklists enable you to view all action assignments on one page.

class In PeopleSoft Enterprise Campus Solutions, a specific offering of a course component within an academic term.

See also *course.*

Class ChartField A ChartField value that identifies a unique appropriation budget key when you combine it with a fund, department ID, and program code, as well as a budget period. Formerly called *sub-classification.*

clearance In PeopleSoft Enterprise Campus Solutions, the period of time during which a constituent in PeopleSoft Contributor Relations is approved for involvement in an initiative or an action. Clearances are used to prevent development officers from making multiple requests to a constituent during the same time period.

clone In PeopleCode, to make a unique copy. In contrast, to *copy* may mean making a new reference to an object, so if the underlying object is changed, both the copy and the original change.

cohort In PeopleSoft Enterprise Campus Solutions, the highest level of the three-level classification structure that you define for enrollment management. You can define a cohort level, link it to other levels, and set enrollment target numbers for it.

See also *population* and *division*.

collection To make a set of documents available for searching in Verity, you must first create at least one collection. A collection is set of directories and files that allow search application users to use the Verity search engine to quickly find and display source documents that match search criteria. A collection is a set of statistics and pointers to the source documents, stored in a proprietary format on a file server. Because a collection can only store information for a single location, PeopleSoft maintains a set of collections (one per language code) for each search index object.

collection rule In PeopleSoft Receivables, a user-defined rule that defines actions to take for a customer based on both the amount and the number of days past due for outstanding balances.

comm key See *communication key.*

communication key In PeopleSoft Enterprise Campus Solutions, a single code for entering a combination of communication category, communication context, communication method, communication direction, and standard letter code. Communication keys (also called *comm keys* or *speed keys*) can be created for background processes as well as for specific users.

compensation object In PeopleSoft Enterprise Incentive Management, a node within a compensation structure. Compensation objects are the building blocks that make up a compensation structure's hierarchical representation.

compensation structure In PeopleSoft Enterprise Incentive Management, a hierarchical relationship of compensation objects that represents the compensation-related relationship between the objects.

component interface A component interface is a set of application programming interfaces (APIs) that you can use to access and modify PeopleSoft database information using a program instead of the PeopleSoft client.

condition In PeopleSoft Receivables, occurs when there is a change of status for a customer's account, such as reaching a credit limit or exceeding a user-defined balance due.

configuration parameter catalog Used to configure an external system with PeopleSoft. For example, a configuration parameter catalog might set up configuration and communication parameters for an external server.

configuration plan In PeopleSoft Enterprise Incentive Management, configuration plans hold allocation information for common variables (not incentive rules) and are attached to a node without a participant. Configuration plans are not processed by transactions.

constituents In PeopleSoft Enterprise Campus Solutions, friends, alumni, organizations, foundations, or other entities affiliated with the institution, and about which the institution maintains information. The constituent types delivered with PeopleSoft Enterprise Contributor Relations Solutions are based on those defined by the Council for the Advancement and Support of Education (CASE).

content reference Content references are pointers to content registered in the portal registry. These are typically either URLs or iScripts. Content references fall into three categories: target content, templates, and template pagelets.

context In PeopleCode, determines which buffer fields can be contextually referenced and which is the current row of data on each scroll level when a PeopleCode program is running.

In PeopleSoft Enterprise Campus Solutions, a specific instance of a comment or communication. One or more contexts are assigned to a category, which you link to 3C access groups so that you can assign data-entry or view-only privileges across functions.

In PeopleSoft Enterprise Incentive Management, a mechanism that is used to determine the scope of a processing run. PeopleSoft Enterprise Incentive Management uses three types of context: plan, period, and run-level.

control table Stores information that controls the processing of an application. This type of processing might be consistent throughout an organization, or it might be used only by portions of the organization for more limited sharing of data.

cost profile A combination of a receipt cost method, a cost flow, and a deplete cost method. A profile is associated with a cost book and determines how items in that book are valued, as well as how the material movement of the item is valued for the book.

cost row A cost transaction and amount for a set of ChartFields.

course In PeopleSoft Enterprise Campus Solutions, a course that is offered by a school and that is typically described in a course catalog. A course has a standard syllabus and credit level; however, these may be modified at the class level. Courses can contain multiple components such as lecture, discussion, and lab.

See also *class*.

course share set In PeopleSoft Enterprise Campus Solutions, a tag that defines a set of requirement groups that can share courses. Course share sets are used in PeopleSoft Enterprise Academic Advisement.

current learning In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's in-progress learning activities and programs.

data acquisition In PeopleSoft Enterprise Incentive Management, the process during which raw business transactions are acquired from external source systems and fed into the operational data store (ODS).

data cube In PeopleSoft Analytic Calculation Engine, a data cube is a container for one kind of data (such as Sales data) and works with in tandem with one or more dimensions. Dimensions and data cubes in PeopleSoft Analytic Calculation Engine are unrelated to dimensions and online analytical processing (OLAP) cubes in PeopleSoft Cube Manager.

data elements Data elements, at their simplest level, define a subset of data and the rules by which to group them.

For Workforce Analytics, data elements are rules that tell the system what measures to retrieve about your workforce groups.

dataset A data grouping that enables role-based filtering and distribution of data. You can limit the range and quantity of data that is displayed for a user by associating dataset rules with user roles. The result of dataset rules is a set of data that is appropriate for the user's roles.

delivery method In PeopleSoft Enterprise Learning Management, identifies the primary type of delivery method in which a particular learning activity is offered. Also provides default values for the learning activity, such as cost and language. This is primarily used to help learners search the catalog for the type of delivery from which they learn best. Because PeopleSoft Enterprise Learning Management is a blended learning system, it does not enforce the delivery method.

In PeopleSoft Supply Chain Management, identifies the method by which goods are shipped to their destinations (such as truck, air, rail, and so on). The delivery method is specified when creating shipment schedules.

delivery method type In PeopleSoft Enterprise Learning Management, identifies how learning activities can be delivered—for example, through online learning, classroom instruction, seminars, books, and so forth—in an organization. The type determines whether the delivery method includes scheduled components.

detailed business process A subset of the business process. For example, the detailed business process named Determine Cash Position is a subset of the business process called Cash Management.

dimension In PeopleSoft Analytic Calculation Engine, a dimension contains a list of one kind of data that can span various contexts, and it is a basic component of an analytic model. Within the analytic model, a dimension is attached to one or more data cubes. In PeopleSoft Cube Manager, a dimension is the most basic component of an OLAP cube and specifies the PeopleSoft metadata to be used to create the dimension's rollup structure. Dimensions and data cubes in PeopleSoft Analytic Calculation Engine are unrelated to dimensions and OLAP cubes in PeopleSoft Cube Manager.

directory information tree In PeopleSoft Directory Interface, the representation of a directory's hierarchical structure.

division In PeopleSoft Enterprise Campus Solutions, the lowest level of the three-level classification structure that you define in PeopleSoft Enterprise Recruiting and Admissions for enrollment management. You can define a division level, link it to other levels, and set enrollment target numbers for it.

See also *population* and *cohort*.

document sequencing A flexible method that sequentially numbers the financial transactions (for example, bills, purchase orders, invoices, and payments) in the system for statutory reporting and for tracking commercial transaction activity.

dynamic detail tree A tree that takes its detail values—dynamic details—directly from a table in the database, rather than from a range of values that are entered by the user.

edit table A table in the database that has its own record definition, such as the Department table. As fields are entered into a PeopleSoft application, they can be validated against an edit table to ensure data integrity throughout the system.

effective date A method of dating information in PeopleSoft applications. You can predate information to add historical data to your system, or postdate information in order to enter it before it actually goes into effect. By using effective dates, you don't delete values; you enter a new value with a current effective date.

EIM ledger Abbreviation for *Enterprise Incentive Management ledger.* In PeopleSoft Enterprise Incentive Management, an object to handle incremental result gathering within the scope of a participant. The ledger captures a result set with all of the appropriate traces to the data origin and to the processing steps of which it is a result.

elimination set In PeopleSoft General Ledger, a related group of intercompany accounts that is processed during consolidations.

entry event In PeopleSoft General Ledger, Receivables, Payables, Purchasing, and Billing, a business process that generates multiple debits and credits resulting from single transactions to produce standard, supplemental accounting entries.

equitization In PeopleSoft General Ledger, a business process that enables parent companies to calculate the net income of subsidiaries on a monthly basis and adjust that amount to increase the investment amount and equity income amount before performing consolidations.

equity item limit In PeopleSoft Enterprise Campus Solutions, the amounts of funds set by the institution to be awarded with discretionary or gift funds. The limit could be reduced by amounts equal to such things as expected family contribution (EFC) or parent contribution. Students are packaged by Equity Item Type Groups and Related Equity Item Types. This limit can be used to assure that similar student populations are packaged equally.

event A predefined point either in the Component Processor flow or in the program flow. As each point is encountered, the event activates each component, triggering any PeopleCode program that is associated with that component and that event. Examples of events are FieldChange, SavePreChange, and RowDelete.

In PeopleSoft Human Resources, also refers to an incident that affects benefits eligibility.

event propagation process In PeopleSoft Sales Incentive Management, a process that determines, through logic, the propagation of an original PeopleSoft Enterprise Incentive Management event and creates a derivative (duplicate) of the original event to be processed by other objects. Sales Incentive Management uses this mechanism to implement splits, roll-ups, and so on. Event propagation determines who receives the credit.

exception In PeopleSoft Receivables, an item that either is a deduction or is in dispute.

exclusive pricing In PeopleSoft Order Management, a type of arbitration plan that is associated with a price rule. Exclusive pricing is used to price sales order transactions.

fact In PeopleSoft applications, facts are numeric data values from fields from a source database as well as an analytic application. A fact can be anything you want to measure your business by, for example, revenue, actual, budget data, or sales numbers. A fact is stored on a fact table.

financial aid term In PeopleSoft Enterprise Campus Solutions, a combination of a period of time that the school determines as an instructional accounting period and an academic career. It is created and defined during the setup process. Only terms eligible for financial aid are set up for each financial aid career.

forecast item A logical entity with a unique set of descriptive demand and forecast data that is used as the basis to forecast demand. You create forecast items for a wide range of uses, but they ultimately represent things that you buy, sell, or use in your organization and for which you require a predictable usage.

fund In PeopleSoft Promotions Management, a budget that can be used to fund promotional activity. There are four funding methods: top down, fixed accrual, rolling accrual, and zero-based accrual.

gap In PeopleSoft Enterprise Campus Solutions, an artificial figure that sets aside an amount of unmet financial aid need that is not funded with Title IV funds. A gap can be used to prevent fully funding any student to conserve funds, or it can be used to preserve unmet financial aid need so that institutional funds can be awarded.

generic process type In PeopleSoft Process Scheduler, process types are identified by a generic process type. For example, the generic process type SQR includes all SQR process types, such as SQR process and SQR report.

gift table In PeopleSoft Enterprise Campus Solutions, a table or so-called *donor pyramid* describing the number and size of gifts that you expect will be needed to successfully complete the campaign in PeopleSoft Contributor Relations. The gift table enables you to estimate the number of donors and prospects that you need at each gift level to reach the campaign goal.

GL business unit Abbreviation for *general ledger business unit.* A unit in an organization that is an independent entity for accounting purposes. It maintains its own set of accounting books.

See also *business unit*.

GL entry template Abbreviation for *general ledger entry template.* In PeopleSoft Enterprise Campus Solutions, a template that defines how a particular item is sent to the general ledger. An item-type maps to the general ledger, and the GL entry template can involve multiple general ledger accounts. The entry to the general ledger is further controlled by high-level flags that control the summarization and the type of accounting—that is, accrual or cash.

GL Interface process Abbreviation for *General Ledger Interface process.* In PeopleSoft Enterprise Campus Solutions, a process that is used to send transactions from PeopleSoft Enterprise Student Financials to the general ledger. Item types are mapped to specific general ledger accounts, enabling transactions to move to the general ledger when the GL Interface process is run.

group In PeopleSoft Billing and Receivables, a posting entity that comprises one or more transactions (items, deposits, payments, transfers, matches, or write-offs).

In PeopleSoft Human Resources Management and Supply Chain Management, any set of records that are associated under a single name or variable to run calculations in PeopleSoft business processes. In PeopleSoft Time and Labor, for example, employees are placed in groups for time reporting purposes.

incentive object In PeopleSoft Enterprise Incentive Management, the incentive-related objects that define and support the PeopleSoft Enterprise Incentive Management calculation process and results, such as plan templates, plans, results data, user interaction objects, and so on.

incentive rule In PeopleSoft Sales Incentive Management, the commands that act on transactions and turn them into compensation. A rule is one part in the process of turning a transaction into compensation.

incur In PeopleSoft Promotions Management, to become liable for a promotional payment. In other words, you owe that amount to a customer for promotional activities.

initiative In PeopleSoft Enterprise Campus Solutions, the basis from which all advancement plans are executed. It is an organized effort targeting a specific constituency, and it can occur over a specified period of time with specific purposes and goals. An initiative can be a campaign, an event, an organized volunteer effort, a membership drive, or any other type of effort defined by the institution. Initiatives can be multipart, and they can be related to other initiatives. This enables you to track individual parts of an initiative, as well as entire initiatives.

inquiry access In PeopleSoft Enterprise Campus Solutions, a type of security access that permits the user only to view data.

See also *update access.*

institution In PeopleSoft Enterprise Campus Solutions, an entity (such as a university or college) that is independent of other similar entities and that has its own set of rules and business processes.

integration A relationship between two compatible integration points that enables communication to take place between systems. Integrations enable PeopleSoft applications to work seamlessly with other PeopleSoft applications or with third-party systems or software.

integration point An interface that a system uses to communicate with another PeopleSoft application or an external application.

integration set A logical grouping of integrations that applications use for the same business purpose. For example, the integration set ADVANCED_SHIPPING_ORDER contains all of the integrations that notify a customer that an order has shipped.

item In PeopleSoft Inventory, a tangible commodity that is stored in a business unit (shipped from a warehouse).

In PeopleSoft Demand Planning, Inventory Policy Planning, and Supply Planning, a noninventory item that is designated as being used for planning purposes only. It can represent a family or group of inventory items. It can have a planning bill of material (BOM) or planning routing, and it can exist as a component on a planning BOM. A planning item cannot be specified on a production or engineering BOM or routing, and it cannot be used as a component in a production. The quantity on hand will never be maintained.

In PeopleSoft Receivables, an individual receivable. An item can be an invoice, a credit memo, a debit memo, a write-off, or an adjustment.

item shuffle In PeopleSoft Enterprise Campus Solutions, a process that enables you to change a payment allocation without having to reverse the payment.

joint communication In PeopleSoft Enterprise Campus Solutions, one letter that is addressed jointly to two people. For example, a letter might be addressed to both Mr. Sudhir Awat and Ms. Samantha Mortelli. A relationship must be established between the two individuals in the database, and at least one of the individuals must have an ID in the database.

keyword In PeopleSoft Enterprise Campus Solutions, a term that you link to particular elements within PeopleSoft Student Financials, Financial Aid, and Contributor Relations. You can use keywords as search criteria that enable you to locate specific records in a search dialog box.

KPI An abbreviation for *key performance indicator.* A high-level measurement of how well an organization is doing in achieving critical success factors. This defines the data value or calculation upon which an assessment is determined.

LDIF file Abbreviation for *Lightweight Directory Access Protocol (LDAP) Data Interchange Format file.* Contains discrepancies between PeopleSoft data and directory data.

learner group In PeopleSoft Enterprise Learning Management, a group of learners who are linked to the same learning environment. Members of the learner group can share the same attributes, such as the same department or job code. Learner groups are used to control access to and enrollment in learning activities and programs. They are also used to perform group enrollments and mass enrollments in the back office.

learning components In PeopleSoft Enterprise Learning Management, the foundational building blocks of learning activities. PeopleSoft Enterprise Learning Management supports six basic types of learning components: web-based, session, webcast, test, survey, and assignment. One or more of these learning component types compose a single learning activity.

learning environment In PeopleSoft Enterprise Learning Management, identifies a set of categories and catalog items that can be made available to learner groups. Also defines the default values that are assigned to the learning activities and programs that are created within a particular learning environment. Learning environments provide a way to partition the catalog so that learners see only those items that are relevant to them.

learning history In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's completed learning activities and programs.

ledger mapping You use ledger mapping to relate expense data from general ledger accounts to resource objects. Multiple ledger line items can be mapped to one or more resource IDs. You can also use ledger mapping to map dollar amounts (referred to as *rates*) to business units. You can map the amounts in two different ways: an actual amount that represents actual costs of the accounting period, or a budgeted amount that can be used to calculate the capacity rates as well as budgeted model results. In PeopleSoft Enterprise Warehouse, you can map general ledger accounts to the EW Ledger table.

library section In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan (or template) and that is available for other plans to share. Changes to a library section are reflected in all plans that use it.

linked section In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan template but appears in a plan. Changes to linked sections propagate to plans using that section.

linked variable In PeopleSoft Enterprise Incentive Management, a variable that is defined and maintained in a plan template and that also appears in a plan. Changes to linked variables propagate to plans using that variable.

LMS Abbreviation for *learning management system.* In PeopleSoft Enterprise Campus Solutions, LMS is a PeopleSoft Student Records feature that provides a common set of interoperability standards that enable the sharing of instructional content and data between learning and administrative environments.

load In PeopleSoft Inventory, identifies a group of goods that are shipped together. Load management is a feature of PeopleSoft Inventory that is used to track the weight, the volume, and the destination of a shipment.

local functionality In PeopleSoft HRMS, the set of information that is available for a specific country. You can access this information when you click the appropriate country flag in the global window, or when you access it by a local country menu.

location Locations enable you to indicate the different types of addresses—for a company, for example, one address to receive bills, another for shipping, a third for postal deliveries, and a separate street address. Each address has a different location number. The primary location—indicated by a *1*—is the address you use most often and may be different from the main address.

logistical task In PeopleSoft Services Procurement, an administrative task that is related to hiring a service provider. Logistical tasks are linked to the service type on the work order so that different types of services can have different logistical tasks. Logistical tasks include both preapproval tasks (such as assigning a new badge or ordering a new laptop) and postapproval tasks (such as scheduling orientation or setting up the service provider email). The logistical tasks can be mandatory or optional. Mandatory preapproval tasks must be completed before the work order is approved. Mandatory postapproval tasks, on the other hand, must be completed before a work order is released to a service provider.

market template In PeopleSoft Enterprise Incentive Management, additional functionality that is specific to a given market or industry and is built on top of a product category.

mass change In PeopleSoft Enterprise Campus Solutions, mass change is a SQL generator that can be used to create specialized functionality. Using mass change, you can set up a series of Insert, Update, or Delete SQL statements to perform business functions that are specific to the institution.

See also *3C engine*.

match group In PeopleSoft Receivables, a group of receivables items and matching offset items. The system creates match groups by using user-defined matching criteria for selected field values.

MCF server Abbreviation for *PeopleSoft MultiChannel Framework server.* Comprises the universal queue server and the MCF log server. Both processes are started when *MCF Servers* is selected in an application server domain configuration.

merchandising activity In PeopleSoft Promotions Management, a specific discount type that is associated with a trade promotion (such as off-invoice, billback or rebate, or lump-sum payment) that defines the performance that is required to receive the discount. In the industry, you may know this as an offer, a discount, a merchandising event, an event, or a tactic.

meta-SQL Meta-SQL constructs expand into platform-specific Structured Query Language (SQL) substrings. They are used in functions that pass SQL strings, such as in SQL objects, the SQLExec function, and PeopleSoft Application Engine programs.

metastring Metastrings are special expressions included in SQL string literals. The metastrings, prefixed with a percent (%) symbol, are included directly in the string literals. They expand at run time into an appropriate substring for the current database platform.

multibook In PeopleSoft General Ledger, multiple ledgers having multiple-base currencies that are defined for a business unit, with the option to post a single transaction to all base currencies (all ledgers) or to only one of those base currencies (ledgers).

multicurrency The ability to process transactions in a currency other than the business unit's base currency.

national allowance In PeopleSoft Promotions Management, a promotion at the corporate level that is funded by nondiscretionary dollars. In the industry, you may know this as a national promotion, a corporate promotion, or a corporate discount.

need In PeopleSoft Enterprise Campus Solutions, the difference between the cost of attendance (COA) and the expected family contribution (EFC). It is the gap between the cost of attending the school and the student's resources. The financial aid package

	is based on the amount of financial need. The process of determining a student's need is called *need analysis.*
node-oriented tree	A tree that is based on a detail structure, but the detail values are not used.
pagelet	Each block of content on the home page is called a pagelet. These pagelets display summary information within a small rectangular area on the page. The pagelet provide users with a snapshot of their most relevant PeopleSoft and non-PeopleSoft content.
participant	In PeopleSoft Enterprise Incentive Management, participants are recipients of the incentive compensation calculation process.
participant object	Each participant object may be related to one or more compensation objects. See also *compensation object.*
partner	A company that supplies products or services that are resold or purchased by the enterprise.
pay cycle	In PeopleSoft Payables, a set of rules that define the criteria by which it should select scheduled payments for payment creation.
payment shuffle	In PeopleSoft Enterprise Campus Solutions, a process allowing payments that have been previously posted to a student's account to be automatically reapplied when a higher priority payment is posted or the payment allocation definition is changed.
pending item	In PeopleSoft Receivables, an individual receivable (such as an invoice, a credit memo, or a write-off) that has been entered in or created by the system, but hasn't been posted.
PeopleCode	PeopleCode is a proprietary language, executed by the PeopleSoft component processor. PeopleCode generates results based on existing data or user actions. By using various tools provided with PeopleTools, external services are available to all PeopleSoft applications wherever PeopleCode can be executed.
PeopleCode event	See *event.*
PeopleSoft Pure Internet Architecture	The fundamental architecture on which PeopleSoft 8 applications are constructed, consisting of a relational database management system (RDBMS), an application server, a web server, and a browser.
performance measurement	In PeopleSoft Enterprise Incentive Management, a variable used to store data (similar to an aggregator, but without a predefined formula) within the scope of an incentive plan. Performance measures are associated with a plan calendar, territory, and participant. Performance measurements are used for quota calculation and reporting.
period context	In PeopleSoft Enterprise Incentive Management, because a participant typically uses the same compensation plan for multiple periods, the period context associates a plan context with a specific calendar period and fiscal year. The period context references the associated plan context, thus forming a chain. Each plan context has a corresponding set of period contexts.
person of interest	A person about whom the organization maintains information but who is not part of the workforce.
personal portfolio	In PeopleSoft Enterprise Campus Solutions, the user-accessible menu item that contains an individual's name, address, telephone number, and other personal information.
plan	In PeopleSoft Sales Incentive Management, a collection of allocation rules, variables, steps, sections, and incentive rules that instruct the PeopleSoft Enterprise Incentive Management engine in how to process transactions.

plan context In PeopleSoft Enterprise Incentive Management, correlates a participant with the compensation plan and node to which the participant is assigned, enabling the PeopleSoft Enterprise Incentive Management system to find anything that is associated with the node and that is required to perform compensation processing. Each participant, node, and plan combination represents a unique plan context—if three participants are on a compensation structure, each has a different plan context. Configuration plans are identified by plan contexts and are associated with the participants that refer to them.

plan template In PeopleSoft Enterprise Incentive Management, the base from which a plan is created. A plan template contains common sections and variables that are inherited by all plans that are created from the template. A template may contain steps and sections that are not visible in the plan definition.

planned learning In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's planned learning activities and programs.

planning instance In PeopleSoft Supply Planning, a set of data (business units, items, supplies, and demands) constituting the inputs and outputs of a supply plan.

population In PeopleSoft Enterprise Campus Solutions, the middle level of the three-level classification structure that you define in PeopleSoft Enterprise Recruiting and Admissions for enrollment management. You can define a population level, link it to other levels, and set enrollment target numbers for it.

See also *division* and *cohort*.

portal registry In PeopleSoft applications, the portal registry is a tree-like structure in which content references are organized, classified, and registered. It is a central repository that defines both the structure and content of a portal through a hierarchical, tree-like structure of folders useful for organizing and securing content references.

price list In PeopleSoft Enterprise Pricer, enables you to select products and conditions for which the price list applies to a transaction. During a transaction, the system either determines the product price based on the predefined search hierarchy for the transaction or uses the product's lowest price on any associated, active price lists. This price is used as the basis for any further discounts and surcharges.

price rule In PeopleSoft Enterprise Pricer, defines the conditions that must be met for adjustments to be applied to the base price. Multiple rules can apply when conditions of each rule are met.

price rule condition In PeopleSoft Enterprise Pricer, selects the price-by fields, the values for the price-by fields, and the operator that determines how the price-by fields are related to the transaction.

price rule key In PeopleSoft Enterprise Pricer, defines the fields that are available to define price rule conditions (which are used to match a transaction) on the price rule.

primacy number In PeopleSoft Enterprise Campus Solutions, a number that the system uses to prioritize financial aid applications when students are enrolled in multiple academic careers and academic programs at the same time. The Consolidate Academic Statistics process uses the primacy number indicated for both the career and program at the institutional level to determine a student's primary career and program. The system also uses the number to determine the primary student attribute value that is used when you extract data to report on cohorts. The lowest number takes precedence.

primary name type In PeopleSoft Enterprise Campus Solutions, the name type that is used to link the name stored at the highest level within the system to the lower-level set of names that an individual provides.

process category In PeopleSoft Process Scheduler, processes that are grouped for server load balancing and prioritization.

process group In PeopleSoft Financials, a group of application processes (performed in a defined order) that users can initiate in real time, directly from a transaction entry page.

process definition Process definitions define each run request.

process instance A unique number that identifies each process request. This value is automatically incremented and assigned to each requested process when the process is submitted to run.

process job You can link process definitions into a job request and process each request serially or in parallel. You can also initiate subsequent processes based on the return code from each prior request.

process request A single run request, such as a Structured Query Report (SQR), a COBOL or Application Engine program, or a Crystal report that you run through PeopleSoft Process Scheduler.

process run control A PeopleTools variable used to retain PeopleSoft Process Scheduler values needed at runtime for all requests that reference a run control ID. Do not confuse these with application run controls, which may be defined with the same run control ID, but only contain information specific to a given application process request.

product A PeopleSoft or third-party product. PeopleSoft organizes its software products into product families and product lines. Interactive Services Repository contains information about every release of every product that PeopleSoft sells, as well as products from certified third-party companies. These products are displayed with the product name and release number.

product category In PeopleSoft Enterprise Incentive Management, indicates an application in the Enterprise Incentive Management suite of products. Each transaction in the PeopleSoft Enterprise Incentive Management system is associated with a product category.

product family A group of products that are related by common functionality. The family names that can be searched using Interactive Service Repository are PeopleSoft Enterprise, PeopleSoft EnterpriseOne, PeopleSoft World, and third-party, certified PeopleSoft partners.

product line The name of a PeopleSoft product line or the company name of a third-party certified partner. Integration Services Repository enables you to search for integration points by product line.

programs In PeopleSoft Enterprise Learning Management, a high-level grouping that guides the learner along a specific learning path through sections of catalog items. PeopleSoft Enterprise Learning Systems provides two types of programs—curricula and certifications.

progress log In PeopleSoft Services Procurement, tracks deliverable-based projects. This is similar to the time sheet in function and process. The service provider contact uses the progress log to record and submit progress on deliverables. The progress can be logged by the activity that is performed, by the percentage of work that is completed, or by the completion of milestone activities that are defined for the project.

project transaction In PeopleSoft Project Costing, an individual transaction line that represents a cost, time, budget, or other transaction row.

promotion In PeopleSoft Promotions Management, a trade promotion, which is typically funded from trade dollars and used by consumer products manufacturers to increase sales volume.

prospects

In PeopleSoft Enterprise Campus Solutions, students who are interested in applying to the institution.

In PeopleSoft Enterprise Contributor Relations, individuals and organizations that are most likely to make substantial financial commitments or other types of commitments to the institution.

publishing

In PeopleSoft Enterprise Incentive Management, a stage in processing that makes incentive-related results available to participants.

rating components

In PeopleSoft Enterprise Campus Solutions, variables used with the Equation Editor to retrieve specified populations.

record group

A set of logically and functionally related control tables and views. Record groups help enable TableSet sharing, which eliminates redundant data entry. Record groups ensure that TableSet sharing is applied consistently across all related tables and views.

record input VAT flag

Abbreviation for *record input value-added tax flag.* Within PeopleSoft Purchasing, Payables, and General Ledger, this flag indicates that you are recording input VAT on the transaction. This flag, in conjunction with the record output VAT flag, is used to determine the accounting entries created for a transaction and to determine how a transaction is reported on the VAT return. For all cases within Purchasing and Payables where VAT information is tracked on a transaction, this flag is set to Yes. This flag is not used in PeopleSoft Order Management, Billing, or Receivables, where it is assumed that you are always recording only output VAT, or in PeopleSoft Expenses, where it is assumed that you are always recording only input VAT.

record output VAT flag

Abbreviation for *record output value-added tax flag.*

See *record input VAT flag.*

recname

The name of a record that is used to determine the associated field to match a value or set of values.

recognition

In PeopleSoft Enterprise Campus Solutions, the recognition type indicates whether the PeopleSoft Enterprise Contributor Relations donor is the primary donor of a commitment or shares the credit for a donation. Primary donors receive hard credit that must total 100 percent. Donors that share the credit are given soft credit. Institutions can also define other share recognition-type values such as memo credit or vehicle credit.

reference data

In PeopleSoft Sales Incentive Management, system objects that represent the sales organization, such as territories, participants, products, customers, channels, and so on.

reference object

In PeopleSoft Enterprise Incentive Management, this dimension-type object further defines the business. Reference objects can have their own hierarchy (for example, product tree, customer tree, industry tree, and geography tree).

reference transaction

In commitment control, a reference transaction is a source transaction that is referenced by a higher-level (and usually later) source transaction, in order to automatically reverse all or part of the referenced transaction's budget-checked amount. This avoids duplicate postings during the sequential entry of the transaction at different commitment levels. For example, the amount of an encumbrance transaction (such as a purchase order) will, when checked and recorded against a budget, cause the system to concurrently reference and relieve all or part of the amount of a corresponding pre-encumbrance transaction, such as a purchase requisition.

regional sourcing

In PeopleSoft Purchasing, provides the infrastructure to maintain, display, and select an appropriate vendor and vendor pricing structure that is based on a regional sourcing model where the multiple ship to locations are grouped. Sourcing may occur at a level higher than the ship to location.

relationship object In PeopleSoft Enterprise Incentive Management, these objects further define a compensation structure to resolve transactions by establishing associations between compensation objects and business objects.

remote data source data Data that is extracted from a separate database and migrated into the local database.

REN server Abbreviation for *real-time event notification server* in PeopleSoft MultiChannel Framework.

requester In PeopleSoft eSettlements, an individual who requests goods or services and whose ID appears on the various procurement pages that reference purchase orders.

reversal indicator In PeopleSoft Enterprise Campus Solutions, an indicator that denotes when a particular payment has been reversed, usually because of insufficient funds.

role Describes how people fit into PeopleSoft Workflow. A role is a class of users who perform the same type of work, such as clerks or managers. Your business rules typically specify what user role needs to do an activity.

role user A PeopleSoft Workflow user. A person's role user ID serves much the same purpose as a user ID does in other parts of the system. PeopleSoft Workflow uses role user IDs to determine how to route worklist items to users (through an email address, for example) and to track the roles that users play in the workflow. Role users do not need PeopleSoft user IDs.

roll up In a tree, to roll up is to total sums based on the information hierarchy.

run control A run control is a type of online page that is used to begin a process, such as the batch processing of a payroll run. Run control pages generally start a program that manipulates data.

run control ID A unique ID to associate each user with his or her own run control table entries.

run-level context In PeopleSoft Enterprise Incentive Management, associates a particular run (and batch ID) with a period context and plan context. Every plan context that participates in a run has a separate run-level context. Because a run cannot span periods, only one run-level context is associated with each plan context.

SCP SCBM XML message Abbreviation for *Supply Chain Planning Supply Chain Business Modeler Extensible Markup Language message.* PeopleSoft EnterpriseOne Supply Chain Business Modeler uses XML as the format for all data that it imports and exports.

search query You use this set of objects to pass a query string and operators to the search engine. The search index returns a set of matching results with keys to the source documents.

search/match In PeopleSoft Enterprise Campus Solutions and PeopleSoft Enterprise Human Resources Management Solutions, a feature that enables you to search for and identify duplicate records in the database.

seasonal address In PeopleSoft Enterprise Campus Solutions, an address that recurs for the same length of time at the same time of year each year until adjusted or deleted.

section In PeopleSoft Enterprise Incentive Management, a collection of incentive rules that operate on transactions of a specific type. Sections enable plans to be segmented to process logical events in different sections.

security event In commitment control, security events trigger security authorization checking, such as budget entries, transfers, and adjustments; exception overrides and notifications; and inquiries.

serial genealogy In PeopleSoft Manufacturing, the ability to track the composition of a specific, serial-controlled item.

serial in production In PeopleSoft Manufacturing, enables the tracing of serial information for manufactured items. This is maintained in the Item Master record.

service impact In PeopleSoft Enterprise Campus Solutions, the resulting action triggered by a service indicator. For example, a service indicator that reflects nonpayment of account balances by a student might result in a service impact that prohibits registration for classes.

service indicator In PeopleSoft Enterprise Campus Solutions, indicates services that may be either withheld or provided to an individual. Negative service indicators indicate holds that prevent the individual from receiving specified services, such as check-cashing privileges or registration for classes. Positive service indicators designate special services that are provided to the individual, such as front-of-line service or special services for disabled students.

session In PeopleSoft Enterprise Campus Solutions, time elements that subdivide a term into multiple time periods during which classes are offered. In PeopleSoft Contributor Relations, a session is the means of validating gift, pledge, membership, or adjustment data entry . It controls access to the data entered by a specific user ID. Sessions are balanced, queued, and then posted to the institution's financial system. Sessions must be posted to enter a matching gift or pledge payment, to make an adjustment, or to process giving clubs or acknowledgements.

In PeopleSoft Enterprise Learning Management, a single meeting day of an activity (that is, the period of time between start and finish times within a day). The session stores the specific date, location, meeting time, and instructor. Sessions are used for scheduled training.

session template In PeopleSoft Enterprise Learning Management, enables you to set up common activity characteristics that may be reused while scheduling a PeopleSoft Enterprise Learning Management activity—characteristics such as days of the week, start and end times, facility and room assignments, instructors, and equipment. A session pattern template can be attached to an activity that is being scheduled. Attaching a template to an activity causes all of the default template information to populate the activity session pattern.

setup relationship In PeopleSoft Enterprise Incentive Management, a relationship object type that associates a configuration plan with any structure node.

share driver expression In PeopleSoft Business Planning, a named planning method similar to a driver expression, but which you can set up globally for shared use within a single planning application or to be shared between multiple planning applications through PeopleSoft Enterprise Warehouse.

single signon With single signon, users can, after being authenticated by a PeopleSoft application server, access a second PeopleSoft application server without entering a user ID or password.

source key process In PeopleSoft Enterprise Campus Solutions, a process that relates a particular transaction to the source of the charge or financial aid. On selected pages, you can drill down into particular charges.

source transaction In commitment control, any transaction generated in a PeopleSoft or third-party application that is integrated with commitment control and which can be checked against commitment control budgets. For example, a pre-encumbrance, encumbrance, expenditure, recognized revenue, or collected revenue transaction.

speed key See *communication key.*

SpeedChart A user-defined shorthand key that designates several ChartKeys to be used for voucher entry. Percentages can optionally be related to each ChartKey in a SpeedChart definition.

SpeedType A code representing a combination of ChartField values. SpeedTypes simplify the entry of ChartFields commonly used together.

staging A method of consolidating selected partner offerings with the offerings from the enterprise's other partners.

standard letter code In PeopleSoft Enterprise Campus Solutions, a standard letter code used to identify each letter template available for use in mail merge functions. Every letter generated in the system must have a standard letter code identification.

statutory account Account required by a regulatory authority for recording and reporting financial results. In PeopleSoft, this is equivalent to the Alternate Account (ALTACCT) ChartField.

step In PeopleSoft Sales Incentive Management, a collection of sections in a plan. Each step corresponds to a step in the job run.

storage level In PeopleSoft Inventory, identifies the level of a material storage location. Material storage locations are made up of a business unit, a storage area, and a storage level. You can set up to four storage levels.

subcustomer qualifier A value that groups customers into a division for which you can generate detailed history, aging, events, and profiles.

Summary ChartField You use summary ChartFields to create summary ledgers that roll up detail amounts based on specific detail values or on selected tree nodes. When detail values are summarized using tree nodes, summary ChartFields must be used in the summary ledger data record to accommodate the maximum length of a node name (20 characters).

summary ledger An accounting feature used primarily in allocations, inquiries, and PS/nVision reporting to store combined account balances from detail ledgers. Summary ledgers increase speed and efficiency of reporting by eliminating the need to summarize detail ledger balances each time a report is requested. Instead, detail balances are summarized in a background process according to user-specified criteria and stored on summary ledgers. The summary ledgers are then accessed directly for reporting.

summary time period In PeopleSoft Business Planning, any time period (other than a base time period) that is an aggregate of other time periods, including other summary time periods and base time periods, such as quarter and year total.

summary tree A tree used to roll up accounts for each type of report in summary ledgers. Summary trees enable you to define trees on trees. In a summary tree, the detail values are really nodes on a detail tree or another summary tree (known as the *basis* tree). A summary tree structure specifies the details on which the summary trees are to be built.

syndicate To distribute a production version of the enterprise catalog to partners.

system function In PeopleSoft Receivables, an activity that defines how the system generates accounting entries for the general ledger.

TableSet A means of sharing similar sets of values in control tables, where the actual data values are different but the structure of the tables is the same.

TableSet sharing Shared data that is stored in many tables that are based on the same TableSets. Tables that use TableSet sharing contain the SETID field as an additional key or unique identifier.

target currency The value of the entry currency or currencies converted to a single currency for budget viewing and inquiry purposes.

tax authority In PeopleSoft Enterprise Campus Solutions, a user-defined element that combines a description and percentage of a tax with an account type, an item type, and a service impact.

template A template is HTML code associated with a web page. It defines the layout of the page and also where to get HTML for each part of the page. In PeopleSoft, you use templates to build a page by combining HTML from a number of sources. For a PeopleSoft portal, all templates must be registered in the portal registry, and each content reference must be assigned a template.

territory In PeopleSoft Sales Incentive Management, hierarchical relationships of business objects, including regions, products, customers, industries, and participants.

third party A company or vendor that has extensive PeopleSoft product knowledge and whose products and integrations have been certified and are compatible with PeopleSoft applications.

3C engine Abbreviation for *Communications, Checklists, and Comments engine.* In PeopleSoft Enterprise Campus Solutions, the 3C engine enables you to automate business processes that involve additions, deletions, and updates to communications, checklists, and comments. You define events and triggers to engage the engine, which runs the mass change and processes the 3C records (for individuals or organizations) immediately and automatically from within business processes.

3C group Abbreviation for *Communications, Checklists, and Comments group.* In PeopleSoft Enterprise Campus Solutions, a method of assigning or restricting access privileges. A 3C group enables you to group specific communication categories, checklist codes, and comment categories. You can then assign the group inquiry-only access or update access, as appropriate.

TimeSpan A relative period, such as year-to-date or current period, that can be used in various PeopleSoft General Ledger functions and reports when a rolling time frame, rather than a specific date, is required. TimeSpans can also be used with flexible formulas in PeopleSoft Projects.

trace usage In PeopleSoft Manufacturing, enables the control of which components will be traced during the manufacturing process. Serial- and lot-controlled components can be traced. This is maintained in the Item Master record.

transaction allocation In PeopleSoft Enterprise Incentive Management, the process of identifying the owner of a transaction. When a raw transaction from a batch is allocated to a plan context, the transaction is duplicated in the PeopleSoft Enterprise Incentive Management transaction tables.

transaction state In PeopleSoft Enterprise Incentive Management, a value assigned by an incentive rule to a transaction. Transaction states enable sections to process only transactions that are at a specific stage in system processing. After being successfully processed, transactions may be promoted to the next transaction state and “picked up” by a different section for further processing.

Translate table A system edit table that stores codes and translate values for the miscellaneous fields in the database that do not warrant individual edit tables of their own.

tree The graphical hierarchy in PeopleSoft systems that displays the relationship between all accounting units (for example, corporate divisions, projects, reporting groups, account numbers) and determines roll-up hierarchies.

tuition lock In PeopleSoft Enterprise Campus Solutions, a feature in the Tuition Calculation process that enables you to specify a point in a term after which students are charged a minimum (or *locked*) fee amount. Students are charged the locked fee amount even if they later drop classes and take less than the normal load level for that tuition charge.

unclaimed transaction In PeopleSoft Enterprise Incentive Management, a transaction that is not claimed by a node or participant after the allocation process has completed, usually due to missing or incomplete data. Unclaimed transactions may be manually assigned to the appropriate node or participant by a compensation administrator.

universal navigation header Every PeopleSoft portal includes the universal navigation header, intended to appear at the top of every page as long as the user is signed on to the portal. In addition to providing access to the standard navigation buttons (like Home, Favorites, and signoff) the universal navigation header can also display a welcome message for each user.

update access In PeopleSoft Enterprise Campus Solutions, a type of security access that permits the user to edit and update data.

See also *inquiry access.*

user interaction object In PeopleSoft Sales Incentive Management, used to define the reporting components and reports that a participant can access in his or her context. All Sales Incentive Management user interface objects and reports are registered as user interaction objects. User interaction objects can be linked to a compensation structure node through a compensation relationship object (individually or as groups).

variable In PeopleSoft Sales Incentive Management, the intermediate results of calculations. Variables hold the calculation results and are then inputs to other calculations. Variables can be plan variables that persist beyond the run of an engine or local variables that exist only during the processing of a section.

VAT exception Abbreviation for *value-added tax exception.* A temporary or permanent exemption from paying VAT that is granted to an organization. This terms refers to both VAT exoneration and VAT suspension.

VAT exempt Abbreviation for *value-added tax exempt.* Describes goods and services that are not subject to VAT. Organizations that supply exempt goods or services are unable to recover the related input VAT. This is also referred to as exempt without recovery.

VAT exoneration Abbreviation for *value-added tax exoneration.* An organization that has been granted a permanent exemption from paying VAT due to the nature of that organization.

VAT suspension Abbreviation for *value-added tax suspension.* An organization that has been granted a temporary exemption from paying VAT.

warehouse A PeopleSoft data warehouse that consists of predefined ETL maps, data warehouse tools, and DataMart definitions.

work order In PeopleSoft Services Procurement, enables an enterprise to create resource-based and deliverable-based transactions that specify the basic terms and conditions for hiring a specific service provider. When a service provider is hired, the service provider logs time or progress against the work order.

worker A person who is part of the workforce; an employee or a contingent worker.

workset A group of people and organizations that are linked together as a set. You can use worksets to simultaneously retrieve the data for a group of people and organizations and work with the information on a single page.

worksheet A way of presenting data through a PeopleSoft Business Analysis Modeler interface that enables users to do in-depth analysis using pivoting tables, charts, notes, and history information.

worklist The automated to-do list that PeopleSoft Workflow creates. From the worklist, you can directly access the pages you need to perform the next action, and then return to the worklist for another item.

XML link The XML Linking language enables you to insert elements into XML documents to create a links between resources.

XML schema An XML definition that standardizes the representation of application messages, component interfaces, or business interlinks.

XPI Abbreviation for *eXtended Process Integrator.* PeopleSoft XPI is the integration infrastructure that enables both real-time and batch communication with EnterpriseOne applications.

yield by operation In PeopleSoft Manufacturing, the ability to plan the loss of a manufactured item on an operation-by-operation basis.

zero-rated VAT Abbreviation for *zero-rated value-added tax.* A VAT transaction with a VAT code that has a tax percent of zero. Used to track taxable VAT activity where no actual VAT amount is charged. Organizations that supply zero-rated goods and services can still recover the related input VAT. This is also referred to as exempt with recovery.

Index

Q

R

S