Oracle® Identity Manager

Connector Guide for PeopleSoft User Management

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Oracle Identity Manager Connector Guide for PeopleSoft User Management, Release 9.0.2

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Preface

Oracle Identity Manager Connector Guide for PeopleSoft User Management provides information about integrating Oracle Identity Manager with PeopleSoft User Management.

> **Note:** Some parts of the product and documentation still refer to the original Thor company name and Xellerate product name and will be rebranded in future releases.

Audience

This guide is intended for users who want to deploy the Oracle Identity Manager connector for PeopleSoft User Management.

Documentation Accessibility

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Related Documents

For more information, refer to the following documents in the Oracle Identity Manager documentation set:

- *Oracle Identity Manager Release Notes*
- *Oracle Identity Manager Installation and Upgrade Guide for JBoss*
- *Oracle Identity Manager Installation and Upgrade Guide for WebLogic*
- *Oracle Identity Manager Installation and Upgrade Guide for WebSphere*
- *Oracle Identity Manager Administrative and User Console Guide*
- *Oracle Identity Manager Administrative and User Console Customization Guide*
- *Oracle Identity Manager Design Console Guide*
- *Oracle Identity Manager Tools Reference Guide*
- *Oracle Identity Manager Audit Report Developer Guide*
- *Oracle Identity Manager Best Practices Guide*
- *Oracle Identity Manager Connector Guide for BMC Remedy User Management*
- *Oracle Identity Manager Connector Guide for CA-ACF2 Advanced*
- *Oracle Identity Manager Connector Guide for CA-Top Secret Advanced*
- *Oracle Identity Manager Connector Guide for Database Application Table*s
- *Oracle Identity Manager Connector Guide for Database User Management*
- *Oracle Identity Manager Connector Guide for IBM RACF*
- *Oracle Identity Manager Connector Guide for IBM RACF Advanced*
- *Oracle Identity Manager Connector Guide for IBM Lotus Notes and Domino*
- *Oracle Identity Manager Connector Guide for Microsoft Active Directory*
- *Oracle Identity Manager Password Synchronization Module for Microsoft Active Directory Installation and Configuration Guide*
- *Oracle Identity Manager Connector Guide for Microsoft Exchange 2000 and 2003*
- *Oracle Identity Manager Connector Guide for Microsoft Exchange 5.5*
- *Oracle Identity Manager Connector Guide for Microsoft Windows 2000*
- *Oracle Identity Manager Connector Guide for Microsoft Windows NT 4.0*
- *Oracle Identity Manager Connector Guide for Novell eDirectory*
- *Oracle Identity Manager Connector Guide for Novell GroupWise*
- *Oracle Identity Manager Connector Guide for Oracle e-Business Employee Reconciliation*
- *Oracle Identity Manager Connector Guide for Oracle e-Business User Management*
- *Oracle Identity Manager Connector Guide for Oracle Internet Directory*
- *Oracle Identity Manager Connector Guide for PeopleSoft Employee Reconciliation*

- *Oracle Identity Manager Connector Guide for PeopleSoft User Management*
- *Oracle Identity Manager Connector Guide for Siebel Enterprise Applications*
- *Oracle Identity Manager Connector Guide for RSA Authentication Manager*
- *Oracle Identity Manager Connector Guide for RSA ClearTrust*
- *Oracle Identity Manager Connector Guide for SAP CUA*
- *Oracle Identity Manager Connector Guide for SAP Employee Reconciliation*
- *Oracle Identity Manager Connector Guide for SAP Enterprise Portal*
- *Oracle Identity Manager Connector Guide for SAP User Management*
- *Oracle Identity Manager Connector Guide for Sun Java System Directory*
- *Oracle Identity Manager Connector Guide for UNIX SSH*
- *Oracle Identity Manager Connector Guide for UNIX Telnet*

Documentation Updates

Oracle is committed to delivering the best and most recent information available. For information about updates to the Oracle Identity Manager 9.0.2 connector documentation set, visit Oracle Technology Network at

`http://www.oracle.com/technology/documentation/index.html`

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's New in the Oracle Identity Manager Connector for PeopleSoft User Management?

This chapter provides an overview of the updates made to the connector and documentation for PeopleSoft User Management in release 9.0.2 of the Oracle Identity Manager connector pack.

The updates discussed in this chapter are divided into the following categories:

- Software Updates

  These include updates made to the connector software.

- Documentation-Specific Updates

  These include major changes made to the connector documentation. These changes are not related to software updates.

See Also: *Oracle Identity Manager Release Notes*

Software Updates

This section discusses the following software updates implemented in this release of the connector.

Incorporation of Multilanguage Support

In addition to English, this release of the connector supports the French and Japanese languages. The following are documentation updates pertaining to the incorporation of this feature:

- The installation media directory includes resource bundle files for the languages supported by the connector. These resource bundle files are described in the "Files and Directories That Comprise the Connector" section on page 1-5.
- The "Step 2: Copying the Connector Files and External Code" section on page 2-2 specifies the destination directory into which you must copy the resource bundle files during the deployment procedure.
- The "Step 3: Configuring the Oracle Identity Manager Server" section on page 2-3 describes the procedure to change to the required input locale and to clear content related to connector resource bundles from the server cache.
- Chapter 4, "Known Issues" discusses two new issues related to the use of non-English locales.

Determining the Release Number of the Connector

Instructions to determine the release number of the connector are given in the "Determining the Release Number of the Connector" section on page 1-7.

Changes in the List of Supported Target Systems

In the "Step 1: Verifying Deployment Requirements" section on page 2-1, the list of supported target systems has been expanded.

New IT Resource Parameter

The `RecordName` parameter has been added in the "Defining IT Resources" section on page 2-18.

Other Additions to the Known Issues List

The following item has been added in the Known Issues list in Chapter 4:

You cannot deploy the connector files for both PeopleTools 8.22 and PeopleTools 8.4*x* on the same Oracle Identity Manager installation.

Documentation-Specific Updates

The following documentation-specific updates have been made in this release of the guide:

- This release of the connector is certified for PeopleTools 8.10 through 8.22 and PeopleTools 8.40 through 8.46. Information and instructions pertaining to these releases of PeopleTools have been either added or reworded in this guide.

  > **Note:** In this guide:
  >
  > - Each occurrence of "PeopleTools 8.22" refers to the entire range of PeopleTools releases from 8.10 through 8.22.
  > - Each occurrence of "PeopleTools 8.4*x*" refers to the entire range of PeopleTools releases from 8.40 through 8.46.

- Information in the "Step 2: Copying the Connector Files and External Code" section on page 2-2 has been reworded.
- Oracle Identity Manager uses a PeopleSoft User Management user account to connect to and exchange data with PeopleSoft User Management The "Step 1: Verifying Deployment Requirements" section on page 2-1 provides information about the minimum rights that must be assigned to this user account.
- Instructions in the "Step 4: Configuring the Target System" section on page 2-4 have been reworded.
- In the "Creating the Application Engine Program" section on page 2-12, the `addemp` step has been added.
- Instructions to copy the connector JAR files and adapter files to all the nodes of a clustered environment have been added in the following sections:
  - Step 2: Copying the Connector Files and External Code on page 2-2
  - Step 3: Configuring the Oracle Identity Manager Server on page 2-3
  - Step 8: Compiling Adapters on page 2-21

- In the "Step 5: Configuring the PeopleSoft Listener Web Service for Change-Based Reconciliation" section on page 2-14:
  - Step 2 of the procedure in the earlier release of the guide has been replaced with Step 3 in this release. This step describes the procedure to edit the `attributemap.properties` file.
  - Step 9 has been broken down into three different steps.
- Step 8 of the procedure in the "Creating the Reconciliation Scheduled Tasks" section on page 2-19 has been reworded.
- Instructions and pointers to information about configuring trusted source reconciliation have been moved to the "Configuring Trusted Source Reconciliation" section on page 2-19.
- Instructions to add custom attributes for reconciliation have been added in Appendix C.
- Instructions to use Oracle Identity Manager for linking multiple installations of PeopleSoft User Management are given in the "Configuring the Connector for Multiple Installations of the Target System" section on page 2-22.
- Appendix A provides information about attribute mappings between Oracle Identity Manager and PeopleSoft User Management.

1

About the Connector

Oracle Identity Manager automates access rights management, security, and provisioning of IT resources. Oracle Identity Manager connectors are used to integrate Oracle Identity Manager with third-party applications. The connector for PeopleSoft User Management is used to integrate Oracle Identity Manager with PeopleSoft User Management.

Note: Oracle Identity Manager connectors were referred to as *resource adapters* prior to the acquisition of Thor Technologies by Oracle.

This chapter contains the following sections:

- Supported Functionality
- Multilanguage Support
- Reconciliation Module
- Files and Directories That Comprise the Connector
- Determining the Release Number of the Connector

Supported Functionality

The following table lists the functions that are available with this connector.

Note: The "PeopleTools Release" column of this table indicates the release of PeopleTools for which the corresponding function is available.

Function	PeopleTools Release	Type	Description
Add User	8.22 and 8.4*x*	Provisioning	Creates a user account
Password Updated	8.22 and 8.4*x*	Provisioning	Updates the password of a user
User Description Updated	8.22 and 8.4*x*	Provisioning	Updates the description of a user
Multi Language Code Updated	8.22 and 8.4*x*	Provisioning	Updates the multilanguage code of a user
Primary Email Address Updated	8.4*x* only	Provisioning	Updates the primary e-mail address of a user

Function	PeopleTools Release	Type	Description
Email Address Updated	8.22 only	Provisioning	Updates the e-mail address of a user
Primary Email Type Updated	8.4*x* only	Provisioning	Updates the primary e-mail address type of a user
Language Code Updated	8.22 and 8.4*x*	Provisioning	Updates the language code of a user
Currency Code Updated	8.22 and 8.4*x*	Provisioning	Updates the currency code of a user
Employee Id Updated	8.22 and 8.4*x*	Provisioning	Updates the employee ID of a user
Primary Permission List Updated	8.22 and 8.4*x*	Provisioning	Updates the Primary Permission list of a user
Process Profile Permission List Updated	8.22 and 8.4*x*	Provisioning	Updates the Process Profile Permission list of a user
Navigator Home Permission List Updated	8.22 and 8.4*x*	Provisioning	Updates the Navigator Home Permission list of a user
Row Security Permission List Updated	8.22 and 8.4*x*	Provisioning	Updates the Row Security Permission list of a user
User Id Alias Updated	8.4*x* only	Provisioning	Updates the user ID alias of a user
Add RoleName	8.22 and 8.4*x*	Provisioning	Adds a role name to a user
Delete RoleName	8.22 and 8.4*x*	Provisioning	Deletes a role name from a user
Add EmailAddress	8.4*x* only	Provisioning	Adds an e-mail address to a user
Delete EmailAddress	8.4*x* only	Provisioning	Deletes the e-mail address of a user
Enables a User	8.22 and 8.4*x*	Provisioning	Enables a user
Disables a User	8.22 and 8.4*x*	Provisioning	Disables a user
Reconcile Lookup Field	8.22 and 8.4*x*	Reconciliation	Reconciles the lookup fields
Reconcile User Data	8.22 and 8.4*x*	Reconciliation	Trusted mode: Reconciles user data from PeopleSoft User Management to Oracle Identity Manager. A corresponding user is created in Oracle Identity Manager. If the user already exists in Oracle Identity Manager, then this user is updated. Nontrusted mode: Reconciles user data from PeopleSoft User Management to Oracle Identity Manager. A user is not created in Oracle Identity Manager.

See Also: Appendix A for information about attribute mappings between Oracle Identity Manager and PeopleSoft User Management.

Multilanguage Support

In addition to English, this release of the connector supports the following languages:

- French
- Japanese

Reconciliation Module

This section discusses the elements that the reconciliation module extracts from the target system to construct reconciliation event records.

Reconciliation can be divided into the following topics:

- Lookup Fields Reconciliation
- User Reconciliation

Lookup Fields Reconciliation

The following lookup fields are reconciled:

- LanguageCode
- EmployeeId
- CurrencyCode
- PermissionList
- EmailTypes

  The EmailTypes lookup field is reconciled only in PeopleTools 8.4*x*, because PeopleTools 8.22 does not support multiple e-mail types.
- UserRoles

User Reconciliation

User reconciliation involves reconciling the following fields of PeopleSoft User Management:

- UserId
- UserDescription
- EmployeeId
- PrimaryEmailAddress (PeopleTools 8.4*x* only)
- PrimaryEmailType (PeopleTools 8.4*x* only)
- Email Address (PeopleTools 8.22 only)
- MultiLanguageCode
- LanguageCD
- CurrencyCode
- Alias (PeopleTools 8.4*x* only)
- RowSecurityPermission
- ProcessProfilePermission
- NavigatorHomePagePermission
- PrimaryPermission
- Secondary EmailAddresses (PeopleTools 8.4x only)
- Secondary EmailTypes (PeopleTools 8.4x only)
- Role

The connector supports user data reconciliation in two ways:

- **Bulk reconciliation (first-time reconciliation)**

  This type of reconciliation is performed to reconcile records of existing users using a flat file. The flat file is generated using an Application Engine program written in PeopleCode. This program is run using PeopleSoft Application Designer.

- **Change-based reconciliation**

  This type of reconciliation is performed using PeopleSoft Application Messaging Architecture. In change-based reconciliation, data for any newly created or updated user is reconciled instantaneously.

  Change-based reconciliation involves the use of:

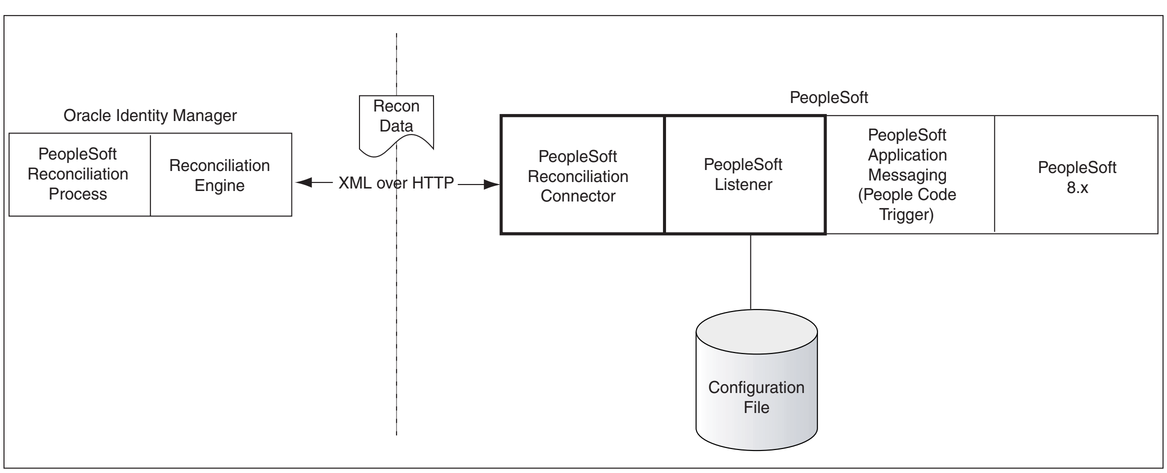
  - A PeopleCode trigger, which generates an XML message containing updated information
  - Attribute definitions (usually resource parameters) to be synchronized
  - A Web service that acts as a passive listener for XML messages from PeopleSoft
  - An XML file, `USR_MGMT_MSG.xml`, that defines the schema of the XML message received from PeopleSoft

  The synchronization process from PeopleSoft User Management to Oracle Identity Manager involves the following steps:

  1. User information is updated in PeopleSoft User Management. This activates a PeopleCode trigger.
  2. The PeopleCode trigger generates an XML message containing the updated user information and sends it to the listener for the PeopleSoft User Management connector.
  3. The listener forwards the XML message to the PeopleSoft User Management connector using HTTP.
  4. The PeopleSoft User Management connector receives the XML message and sends a reconciliation event to the Oracle Identity Manager.

  Figure 1–1 illustrates the synchronization process from PeopleSoft User Management to Oracle Identity Manager.

Figure 1–1 Synchronization Process from PeopleSoft User Management to Oracle Identity Manager



Files and Directories That Comprise the Connector

The files and directories that comprise this connector are compressed in the following ZIP file on the installation media:

```
Enterprise Applications\PeopleSoft Enterprise Applications\PeopleSoft User
Management Rev 1.1.0.zip
```

These files and directories are listed in the following table.

File in the Installation Media Directory	Description

For PeopleTools 8.22:
`xml\PT822\PSFTBaseConnector.xml`
 	
For PeopleTools 8.4*x*:
`xml\PSFTBaseConnector.xml`
	This XML file contains definitions for the following components of the connector:
	■ IT resource type
	■ IT resource
	■ Resource object
	■ Process definition
	■ Process tasks
	■ Adapters
	■ Custom Process Form

For PeopleTools 8.22:
`xml\PT822\PSFTBaseXellerateUser.xml`
 	
For PeopleTools 8.4*x*:
`xml\PSFTBaseXellerateUser.xml`
	This XML file contains the configuration for the Xellerate User. You must import this file only if you plan to use the connector for trusted source reconciliation.

`lib\JavaTasks\PSFTBaseProvisioning.jar`	This JAR file contains the class files that are required for provisioning.
`lib\ScheduleTask\PSFTBaseReconciliation.jar`	This JAR file contains the class files that are required for reconciliation.
`lib\peopleSoftUserMgmt.war`	This WAR file contains all the classes and configuration files required for the PeopleSoft listener Web application to run.

For PeopleTools 8.22:
`test\PT822\psft-xel-test.vbs`
 	
For PeopleTools 8.4*x*:
`test\psft-xel-test.vbs`
	This VBScript file is used to test the PeopleSoft listener Web service by creating XML messages similar to the ones created by PeopleSoft User Management Reconciliation.

For PeopleTools 8.22:
`test\PT822\pingRequest.xml`
`test\PT822\pingResponse.xml`
`test\PT822\publishRequest.xml`
`test\PT822\publishResponse.xml`
 	
For PeopleTools 8.4*x*:
`test\pingRequest.xml`
`test\pingResponse.xml`
`test\publishRequest.xml`
`test\publishResponse.xml`
	These XML files are required by the `psft-xel-test.vbs` file for communicating with the PeopleSoft listener Web service using XML over HTTP.

File in the Installation Media Directory	Description

For PeopleTools 8.22:
`test\PT822\USR_MGMT_MSG.xml`
 	
For PeopleTools 8.4*x*:
`test\USR_MGMT_MSG.xml`
	This XML file is used by the `psft-xel-test.vbs` file to define the schema of the XML message that is received from PeopleSoft.

`lib\ThirdParty\csv.jar`	The `csv.jar` file is a third-party library that is used to read comma-separated files.

For PeopleTools version 8.22, the following files in the `PeopleCode\PT822` directory:
`AddEmp.txt`
`CurrencyCode.txt`
`EmployeeId.txt`
`LanguageCode.txt`
`PermissionList.txt`
`UserRoles.txt`
 	
For PeopleTools version 8.4*x*, the following files in the `PeopleCode` directory:
`AddEmp.txt`
`CurrencyCode.txt`
`EmployeeId.txt`
`EmailType.txt`
`LanguageCode.txt`
`PermissionList.txt`
`UserRoles.txt`
	These files contain the PeopleCode for the steps that you define for the Application Engine program. Refer to "Creating the Application Engine Program" on page 2-12 for details.

For PeopleTools 8.22:
`PeopleCode\PT822\UserMgmtCBRecon.txt`
 	
For PeopleTools 8.4*x*:
`PeopleCode\UserMgmtCBRecon.txt`
	This file contains the code that you must add to the PeopleCode for the `SavePostChange` event while performing the "Publishing the Message" procedure described in the "Creating and Publishing the Message" section on page 2-5.

For PeopleTools 8.22, the following files in the `MsgPublisher` directory:
`xliMsgPublisher.jar`
`publish.bat`
	The JAR file contains the class file that transfers the XML messages generated by the PeopleTools 8.22 file handler on the PeopleSoft Web server to the PeopleSoft connector listener servlet.
	
	The `publish.bat` file triggers the message transfer on a periodic basis. Refer to the "Configuring PeopleSoft Enterprise Portal" section on page 2-7 for more information.

For PeopleTools 8.22, the files in the `resources\PT822` directory For PeopleTools 8.4*x*, the files in the `resources` directory	Each of these files contains locale-specific information that is used by the connector. **Note:** For PeopleTools 8.22, the `resources\PT822` directory contains resource bundles only for the English locale. This issue is discussed in the Known Issues list in Chapter 4.
`docs\B32167_01.pdf`	This guide, which provides instructions to deploy the connector.

Note: The files in the `test` directory are used only to run tests on the connector.

The "Step 2: Copying the Connector Files and External Code" section on page 2-2 provides instructions to copy these files into the required directories.

Determining the Release Number of the Connector

To determine the release number of the connector:

1. Extract the contents of the `PSFTBaseReconciliation.jar` file. This file is in the `lib\ScheduleTask` directory inside the installation media directory.
2. Open the `manifest.mf` file in a text editor, which is one of the files bundled inside the `PSFTBaseReconciliation.jar` file.

   In the `manifest.mf` file, the release number of the connector is displayed as the value of the `Version` property.

2

Deploying the Connector

Deploying the connector involves the following steps:

- Step 1: Verifying Deployment Requirements
- Step 2: Copying the Connector Files and External Code
- Step 3: Configuring the Oracle Identity Manager Server
- Step 4: Configuring the Target System
- Step 5: Configuring the PeopleSoft Listener Web Service for Change-Based Reconciliation
- Step 6: Importing the Connector XML Files
- Step 7: Configuring Reconciliation
- Step 8: Compiling Adapters

If you want to configure the connector for multiple installations of PeopleSoft User Management, then perform the following procedure:

- Configuring the Connector for Multiple Installations of the Target System

Step 1: Verifying Deployment Requirements

The following table lists the deployment requirements for the connector.

Item	Requirement
Oracle Identity Manager	Oracle Identity Manager release 8.5.3 or later
Target systems	The target system can be any one of the following: ■ PeopleSoft HRMS 8.3 SP 1 ■ PeopleSoft HRMS 8.9 ■ PeopleSoft Financial Management Solutions 8.9 ■ PeopleSoft Enterprise CRM 8.9 Ensure that the following components are installed and configured: ■ Tuxedo and Jolt (the application server) ■ PeopleSoft Internet Architecture ■ PeopleSoft Application Designer (2-tier mode)
Target system host platforms	Microsoft Windows

Item	Requirement
Target system user account	`PS` user Oracle Identity Manager uses this user account to connect to and exchange data with PeopleSoft User Management. You provide the credentials of this user account while performing the procedure in the "Defining IT Resources" section on page 2-18.

Step 2: Copying the Connector Files and External Code

The connector files to be copied and the directories to which you must copy them are given in the following table.

Note: The directory paths given in the first column of this table correspond to the location of the connector files in the following ZIP file on the installation media:

```
Enterprise Applications\PeopleSoft Enterprise Applications\
PeopleSoft User Management Rev 1.1.0.zip
```

Refer to the "Files and Directories That Comprise the Connector" section on page 1-5 for more information about these files.

File in the Installation Media Directory	Destination Directory

For PeopleTools 8.22:
`xml\PT822\PSFTBaseConnector.xml`
 	
For PeopleTools 8.4*x*:
`xml\PSFTBaseConnector.xml`
	`OIM_home``\xlclient`
	
	Note: You must copy the file for either PeopleTools 8.22 or PeopleTools 8.4*x*, not both.

For PeopleTools 8.22:
`xml\PT822\PSFTBaseXellerateUser.xml`
 	
For PeopleTools 8.4*x*:
`xml\PSFTBaseXellerateUser.xml`
	`OIM_home``\xlclient`
	
	Note: You must copy the file for either PeopleTools 8.22 or PeopleTools 8.4*x*, not both.

`lib\JavaTasks\PSFTBaseProvisioning.jar`	*`OIM_home`*`\xellerate\JavaTasks`
`lib\ScheduleTask\PSFTBaseReconciliation.jar`	*`OIM_home`*`\xellerate\ScheduleTask`
For PeopleTools 8.22, copy the files from the `test\PT822` directory For PeopleTools 8.4*x*, copy the files from the `test` directory	*`OIM_home`*`\xellerate\test` **Note:** You must copy the files for either PeopleTools 8.22 or PeopleTools 8.4*x*, not both.
`lib\ThirdParty\csv.jar`	*`OIM_home`*`\xellerate\ThirdParty`
For PeopleTools 8.22, copy the files from the `PeopleCode\PT822` directory For PeopleTools 8.4*x*, copy the files from the `PeopleCode` directory	*`OIM_home`*`\xellerate\Scripts` **Note:** You must copy the files for either PeopleTools 8.22 or PeopleTools 8.4*x*, not both.

File in the Installation Media Directory	Destination Directory
For PeopleTools 8.22, copy the files from the `MsgPublisher` directory	*OIM_home*`\xellerate\MsgPublisher`
For PeopleTools 8.22, copy the files from the `resources\PT822` directory For PeopleTools 8.4*x*, copy the files from the `resources` directory	*OIM_home*`\xellerate\connectorResources` **Note:** You must copy the files for either PeopleTools 8.22 or PeopleTools 8.4*x*, not both. For PeopleTools 8.22, the `resources\PT822` directory contains resource bundles only for the English locale. This issue is discussed in the Known Issues list in Chapter 4.
`docs\B32167_01.pdf`	*OIM_home*`\xellerate\docs\PeopleSoftUsr`

Note: While installing Oracle Identity Manager in a clustered environment, you copy the contents of the installation directory to each node of the cluster. Similarly, you must copy the `connectorResources` directory and the JAR files to the corresponding directories on each node of the cluster.

After you copy the connector files, copy the following files from the PeopleSoft Web server installation directory to the *OIM_home*`\xellerate\ThirdParty` directory.

- `psjoa.jar`

  This is the PeopleSoft Java object adapter file.

- `pstools.properties`

  This file contains the Tuxedo parameter settings used by the PeopleSoft Integration Gateway.

- `peoplesoft.jar`

  This JAR file contains APIs for the USER_PROFILE component interface.

  The "Creating the APIs for the Component Interface" section on page D-1 for information about the procedure to generate this file for the specific release of PeopleTools, 8.22 or 8.4x, that you are using.

- `pshttp.jar` (PeopleTools 8.4x only)

  Create this JAR file using the PeopleSoft classes found on the PeopleSoft server in the `\pt8.4x\class\psft\pt8\pshttp` and `pt8.4x\class\psft\pt8\cache` directories.

Step 3: Configuring the Oracle Identity Manager Server

Configuring the Oracle Identity Manager server involves the following procedures:

Note: In a clustered environment, you must perform this step on each node of the cluster.

- Changing to the Required Input Locale

- Clearing Content Related to Connector Resource Bundles from the Server Cache

Changing to the Required Input Locale

Changing to the required input locale involves installing the required fonts and setting the required input locale.

To set the required input locale:

> **Note:** Depending on the operating system used, you may need to perform this procedure differently.

1. Open Control Panel.
2. Double-click **Regional Options**.
3. On the Input Locales tab of the Regional Options dialog box, add the input locale that you want to use and then switch to the input locale.

Clearing Content Related to Connector Resource Bundles from the Server Cache

Whenever you add a new resource bundle file in the `OIM_home\xellerate\connectorResources` directory or make a change in an existing resource bundle file, you must clear content related to connector resource bundles from the server cache.

To clear content related to connector resource bundles from the server cache:

1. In a command window, change to the `OIM_home\xellerate\bin` directory.
2. Enter one of the following commands:

> **Note:** You must perform Step 1 before you perform this step. If you run the command as follows, then an exception is thrown:
>
> `OIM_home\xellerate\bin\batch_file_name`

- On Microsoft Windows:

```
PurgeCache.bat ConnectorResourceBundle
```

- On UNIX:

```
PurgeCache.sh ConnectorResourceBundle
```

In this command, `ConnectorResourceBundle` is one of the content categories that you can remove from the server cache. Refer to the following file for information about the other content categories:

`OIM_home\xellerate\config\xlConfig.xml`

> **Note:** You can ignore the exception that is thrown when you perform Step 2.

Step 4: Configuring the Target System

Configuring the target system involves performing the following procedures:

- Creating and Publishing the Message
- Configuring PeopleSoft Enterprise Portal
- Creating the Application Engine Program

Creating and Publishing the Message

The procedure to create and publish the message depends on the release of PeopleTools that you are using:

- Creating and Publishing the Message on PeopleTools 8.22
- Creating and Publishing the Message on PeopleTools 8.4x

Creating and Publishing the Message on PeopleTools 8.22

Creating and publishing the message on PeopleTools 8.22 involves the following steps:

1. To create the message channel:

   a. Click **Start**, **Programs**, and **Application Designer**. The Application Designer window is displayed.

   b. Select **New** from the **File** menu. The New Definition dialog box is displayed.

   c. Select **Message Channel**, and then click **OK**.

   d. Save the new message channel as `USR_MGMT_MSGCH`.

   e. Select **Object Properties** from the **File** menu. The Message Channel Properties dialog box is displayed.

   f. Select the **Run** option, and then select **Archive Messages**.

   g. Click **OK** and save the message.

2. To create the message:

   a. In the Application Designer, select **New** from the **File** menu. The New Definition dialog box is displayed.

   b. Select **Message** from the list, and then click **OK**.

   c. Select **Object Properties** from the **File** menu. The Message Properties dialog box is displayed.

   d. Click the **Use** tab.

   e. On the Use tab, select the **USR_MGMT_MSGCH** message channel and the version of the message that you just created.

   f. Select **Active** to make the message an active message, and then click **OK**.

   g. Right-click **VERSION_1**, and select the **Insert Child Record** option. The Insert Record window is displayed.

   h. Enter `PSOPRDEFN` in the **Name** field, click **Insert**, and then click **Close**.

   Note: `PSOPRDEFN` is a record defined in the *`OIM_home`*`\xellerate\test\USR_MGMT_MSG.xml` file. Refer to this file for information about the fields that comprise the `PSOPRDEFN` record.

   ---

i. Click **PSOPRDEFN** under **VERSION_1**. All the fields comprising the `PSOPRDEFN` record are displayed.

   By default, all the fields appear as selected. Deselect the fields that are not required for the message XML file to be generated.

j. Repeat Steps g through i for the `PSROLEUSER_VW` record.

> **Note:** `PSROLEUSER_VW` is the second record defined in the *OIM_home*\xellerate\test\USR_MGMT_MSG.xml file.

k. Save the message as `USR_MGMT_MSG`.

3. To publish the message:

   a. Select **Open** from the **File** menu. The Open Definition dialog box is displayed.

   b. Select **Component** from the **Definition** list, enter `USERMAINT` in the **Name Selection Criteria** field, and then click **Enter**. All component names starting with the text `USERMAINT` are displayed.

   c. Select **USERMAINT** from the list, and then click **Open**. The details of the `USERMAINT` component are displayed.

   d. Click the **Structure** tab, right-click **USERMAINT**, and then select **View PeopleCode**. The PeopleCode for the `USERMAINT` component is displayed.

   e. Select the `SavePostChange` event from the list in the upper-left corner of the window. The PeopleCode for this event is displayed.

   f. Copy the code given in the following file immediately after the import definitions in the PeopleCode for the `SavePostChange` event:

      OIM_home\xellerate\Scripts\UserMgmtCBRecon.txt

   g. Select **Save** from the **File** menu to save the changes to the `USERMAINT` component.

After you complete this procedure, proceed to the "Configuring PeopleSoft Enterprise Portal" section on page 2-7.

Creating and Publishing the Message on PeopleTools 8.4x

Creating and publishing the message on PeopleTools 8.4*x* involves the following steps:

1. To create the message channel:

   a. Click **Start**, **Programs**, and **Application Designer**. The Application Designer window is displayed in the 2-tier mode.

   b. Select **New** from the **File** menu. The New Definition dialog box is displayed.

   c. Select **Message Channel**, and then click **OK**.

   d. Save the new message channel as `USR_MGMT_MSGCH`.

   e. Select **Definition Properties** from the **File** menu. The Message Channel Properties dialog box is displayed.

   f. Select the **Run** option, and then select **Archive Messages**.

   g. Click **OK** and save the message.

2. To create the message:

a. In PeopleSoft Application Designer, select **New** from the **File** menu. The New Definition dialog box is displayed.

b. Select **Message** from the list, and then click **OK.**

c. Select **Definition Properties** from the **File** menu. The Message Properties dialog box is displayed.

d. Click the **Use** tab.

e. On the Use tab, select the `USR_MGMT_MSGCH` message channel and the version of the message that you just created.

f. Select **Active** to make the message an active message.

g. Save the message as `USR_MGMT_MSG`.

3. To publish the message:

a. Select **Open** from the **File** menu. The Open Definition dialog box is displayed.

b. Select **Component** from the Definition list, enter `USERMAINT` in the Name Selection Criteria field, and then press **Enter**. All component names starting with the text `USERMAINT` are displayed.

c. Select USERMAINT from the list, and then click **Open.** The details of the USERMAINT component are displayed.

d. Click the **Structure** tab, right-click **USERMAINT**, and then select **View PeopleCode.** The PeopleCode for the USERMAINT component is displayed.

e. Select the **SavePostChange** event from the list in the upper-left corner of the window. The PeopleCode for this event is displayed.

f. Copy the code given in the following file immediately after the import definitions in the PeopleCode for the `SavePostChange` event:

```
\xellerate\Scripts\UserMgmtCBRecon.txt
```

g. Add the following function call at the end of the PeopleCode for the `SavePostChange` event:

Note: Perform this step only after you copy the code from the `UserMgmtCBRecon.txt` file.

```
/*********************************************************************/
/*  Calling the GENERATEUSER function to generate the
USR_MGMT_MSG message*/
/*********************************************************************/
If Len(%CompIntfcName) = 0 Then
  Local string &OPID;
     &OPID = PSOPRDEFN.OPRID;
     GENERATEUSR(&OPID);
End-If;
```

h. Select **Save** from the **File** menu to save the changes to the `USERMAINT` component.

Configuring PeopleSoft Enterprise Portal

PeopleSoft Enterprise Portal provides a single gateway to critical information in PeopleSoft User Management Reconciliation and other PeopleSoft applications.

The procedure to configure PeopleSoft Enterprise Portal depends on the release of PeopleTools that you are using:

- Configuring PeopleSoft Enterprise Portal on PeopleTools 8.22
- Configuring PeopleSoft Enterprise Portal on PeopleTools 8.4x

Configuring PeopleSoft Enterprise Portal on PeopleTools 8.22

Configuring PeopleSoft Enterprise Portal on PeopleTools 8.22 involves the following steps:

1. To create the `USR_MGMT_NODE` remote node:
   - **a.** In the Application Designer, select **New** from the **File** menu. The New Definition dialog box is displayed.
   - **b.** Select **Message Node** from the list, and then click **OK**.
   - **c.** Right-click anywhere in the white space, and then select **Insert Location**. The Location dialog box is displayed.
   - **d.** Enter the URL for the PeopleSoft Application Gateway in the following format:

     `http://`*`hostname`*`:`*`port`*`/servlets/gateway`

   - **e.** Select **Object Properties** from the **File** menu. The Message Node Properties dialog box is displayed.
   - **f.** Select the **Use** tab. Ensure that **Local Node** is not selected.
   - **g.** Save the remote node as `USR_MGMT_NODE`.
2. To configure the USR_MGMT_MSGCH message channel:
   - **a.** From the **File** menu, select **Open** and then click **Message Channel**.
   - **b.** To open the `USR_MGMT_MSGCH` message channel, select **USR_MGMT_MSGCH**.
   - **c.** Click the **Routing Rules** tab.
   - **d.** Right-click anywhere in the empty area of the right pane, and then select **Insert Message Node**. The Insert Message Node dialog box is displayed.
   - **e.** Select the **USR_MGMT_NODE** message node, and then click **Insert**.
   - **f.** Click **Cancel** to close the dialog box.
   - **g.** Right-click the message node displayed on the Routing Rules tab.
   - **h.** Point to **Routing Direction**, and then select **Publish To**.
   - **i.** Save the message channel.
3. To configure the PeopleSoft Enterprise Portal gateway so that messages can be sent through the gateway to third-party systems:

   Note: The Simple File Handler is a utility in PeopleTools 8.22 that can receive messages published by a PeopleSoft node and write these messages to a file that can be used by third-party systems.

   - **a.** In a Web browser, use a URL with the following format to launch the PeopleSoft configuration servlet interface (handler directory):

`http://`*`hostname`*`:`*`port`*`/servlets/gateway.administration`

In this URL, *`hostname`* is the application server that hosts PeopleSoft and *`port`* is the port number at which the application server is listening.

b. Click **Add Handler**. The Add Handler window is displayed.
c. Enter the full name of the Simple File Handler class, `psft.pt8.filehandler.SimpleFileHandler`.
d. Click **Save**. The Handler Directory window is displayed.
e. To load the handler, click **Load**. After the handler loads, the "Loaded successfully" message is displayed in the Status column.
f. Click **Configure**.
g. Click **Add a file handler node**. The Add File Handler Node window is displayed.
h. In the **Node Name** field, enter the name of the message node that you create, `USR_MGMT_NODE`.
i. Specify the output directory in which the published messages are to be stored.
j. Select **Include Header**.
k. Click **Save**.

4. XML messages are generated by the PeopleTools 8.22 Simple File Handler. To publish these messages to the PeopleSoft Connector Listener servlet, you must create a scheduled task as follows:

Note: The scheduled task calls a Java program that communicates with the servlet deployed on the Oracle Identity Manager server. The servlet parses the message and sends reconciliation events to Oracle Identity Manager.

The servlet then sends a return code based on the status of reconciliation event. If the reconciliation event is successfully sent, then the message is deleted or archived. Otherwise, the message file is left unchanged. The next time the scheduled task is run, another attempt is made at sending the message.

---

a. Copy the `publish.bat` and `xliMsgPublisher.jar` files from the *`OIM_home`*`\xellerate\MsgPublisher` directory to a directory on the PeopleSoft User Management server.
b. Use a text editor to open the `publish.bat` file, and then make the following changes in the file:

i. Change the value of the `JAVA_HOME` variable so that it points to the JDK installation directory on the PeopleSoft Web server.

ii. Specify the following values in the Java command given at the end of the file:

`- PeopleSoft_listener_servlet_URL`

`- Output_directory_for_XML_messages`

`- XML_message_name`

`- console_log_file_path`

The command is in the following format:

```
java Com.thortech.xl.Integration.msgpublisher.PeopleSoftPublisher
"PeopleSoft_listener_servlet_URL" "Output_directory_for_XML_messages"
XML_message_name >> console_log_file_path
```

For example:

```
java Com.thortech.xl.Integration.msgpublisher.PeopleSoftPublisher
"http://host:port/peopleSoftUserMgmt/do/peopleSoftAction" "C:/test/file"
USR_MGMT_MSG >> c:/test/consolelog.log
```

c. Save and close the batch file.

d. On the PeopleSoft Web server, click **Start**, **Settings**, and **Control Open**.

e. Double-click **Scheduled Tasks**.

f. Click **Add Schedule Task**, and then click **Next**.

g. Click **Browse**, and then select the `publish.bat` file from the directory in which you save it.

h. Select **Daily**, click **Next**, and then click **Next** again.

i. Enter the user ID and password for the scheduled task to run.

j. Select the **Open Advance properties** check box.

k. Click **Finish**.

l. On the Schedule tab, click **Advanced**.

m. Select **Repeat Task**.

n. Select the frequency at which you want the task to run.

o. Click **OK**, and then **click** OK again to close the window.

Configuring PeopleSoft Enterprise Portal on PeopleTools 8.4x

Configuring PeopleSoft Enterprise Portal on PeopleTools 8.4*x* involves the following steps:

1. To configure the PeopleSoft Enterprise Portal gateway so that messages can be sent through the gateway to the connector:

   a. Open a Web browser and enter the URL for PeopleSoft Enterprise Portal.

   This URL is in the following format:

   ```
   http://servername/psp/Databasename/?cmd=login
   ```

   Here, `psp` is the name of the Web application. For example:

   ```
   http://psftserver.acme.com/psp/TestDB/?cmd=login
   ```

   b. Expand **PeopleTools**, **Integration Broker**, and then **Gateways** in the list on the portal page. The Gateway component details are displayed.

   c. Enter `LOCAL` in the **Integration Gateway ID** field, and then click **Search**. The LOCAL gateway is a default gateway that is created when you install PeopleSoft Enterprise Portal.

   d. Ensure that the IP address specified in the URL of the PeopleSoft listening connector is the IP address of the Web server on which PeopleSoft User Management is installed. The PeopleSoft listening connector is a module provided by PeopleSoft. The URL of the PeopleSoft listening connector is in the following format:

```
http://computer_name/PSIGW/PeopleSoftListeningConnector
```

For example:

```
http://172.19.151.53/PSIGW/PeopleSoftListeningConnector
```

e. Click **Load Gateway Connectors** to load all target connectors that are registered with the LOCAL gateway.

f. Click **Save**.

> **Note:** The Local gateway is defined when you install PeopleSoft. You must provide the URL and load the target connectors.

2. To create the `USR_MGMT_NODE` remote node:

   a. In the PeopleSoft Enterprise Portal window, expand **PeopleTools**, **Integration Broker**, **Node Definitions**.

   b. Click the **Add a New Value** tab.

   c. On the Add a New Value tab, enter `USR_MGMT_NODE` as the node name and then click **Add**. The Node Definition page is displayed.

   d. Enter a description for the node in the **Description** field.

   e. Make this node a remote node by deselecting the **Local Node** check box and selecting the **Active Node** check box.

   f. On the **Connectors** tab, enter the following information and then perform a lookup:

      Gateway ID: `LOCAL`

      Connector ID: `PSFT81TARGET`

   g. On the **Properties** tab, enter the following information:

      Property ID: `PSFT81TARGET`

      Property Name: `URL`

      Required value: Enter the URL of the PeopleSoft servlet that is to receive the XML message. This URL is in the following format:

      ```
      http://computer_name:port/peopleSoftUserMgmt/do/peopleSoftAction
      ```

      For example:

      ```
      http://172.21.109.75:8080/peopleSoftUserMgmt/do/peopleSoftAction
      ```

   h. Click **Save**.

   i. Click the **Transactions** tab, and then click **Add Transaction**. The Add Transaction page is displayed.

   j. Enter the following details to define the new transaction:

      Transaction Type: `Outbound Asynchronous`

      Request Message: `USR_MGMT_MSG`

      Request Message Version: `VERSION_1`

   k. Click **Add**.
   l. To keep the status as active, select **Active**.
   m. Click **Save** to save the changes.

3. To secure the USR_MGMT_MSG_CH message channel:
   a. Navigate to **PeopleTools**, **Security**, **Permission & Roles**, and **Permission Lists**.
   b. Select **AEAE1000**. The AEAE1000 permission list is displayed.
   c. Select the **Message Monitor** Tab, and then click the button with the plus sign (+).
   d. Enter USR_MGMT_MSG_CH as the channel name.
   e. Select **Full Access** from the list, and click **Save**.
   f. Click **PeopleTools**, **Integration Broker**, **Monitor**, **Monitor Message**, and then **Channel Status** to check the status of the message channel.

      Check if the USR_MGMT_MSG_CH message channel is running. If the status of the message channel is Pause, then click the **Run** button to activate it.

Creating the Application Engine Program

To create the Application Engine program:

1. Click **Start**, **Programs**, **Peoplesoft8.9hcm**, and then **Application Designer**. The Application Designer window is displayed.
2. Select **New** from the **File** menu. The New Definition dialog box is displayed.
3. Select **Application Engine** from the Definition list. The App Engine Program window is displayed and the Step01 step is created by default.
4. In the App Engine Program window, select Step01 and then select **Action** from the **Insert** menu.
5. Rename Step01 to currency.
6. From the list on the action, select **PeopleCode**.
7. Select **Save** from the **File** menu and save the Application Engine program with the name BLKPRCS_USER.
8. Double-click the **PeopleCode** action.
9. Copy the code from the CurrencyCode.txt file, which is in the *OIM_home*\xellerate\Scripts directory. The code has a default value for the output reconciliation file where the reconciled data is stored.
10. Change the value to an appropriate location on the PeopleSoft server.
11. Save the **PeopleCode** action and close the window.
12. In the App Engine Program window, select the **MAIN** section and then select **Step/Action** from the **Insert** menu.
13. Repeat Steps 5 through 12 to create the remaining steps, which are listed in the following table.

Step Name	File Containing the Required PeopleCode
language	LanguageCode.txt

Step Name	File Containing the Required PeopleCode
`emplid`	`EmployeeId.txt`
`userrole`	`UserRoles.txt`
`permiss`	`PermissionList.txt`
`EmailType` (PeopleTools 8.4*x* only)	`EmailType.txt`
`addemp`	`AddEmp.txt`

14. Save the Application Engine program.

Running the Application Engine Program

The procedure to run the Application Engine program depends on the release of PeopleTools that you are using:

- Running the Application Engine Program on PeopleTools 8.22
- Running the Application Engine Program on PeopleTools 8.4x

Running the Application Engine Program on PeopleTools 8.22

To run the Application Engine program on PeopleTools 8.22:

1. Log in to the PeopleSoft Enterprise Portal.
2. Click **People Tools**, **Process Scheduler Manager**, **Use**, and **Process Definitions**. The Process Definitions page is displayed.
3. Click **Add a New value**.
4. Select **Application Engine** from the **Process Type** list.
5. Enter the name of the Application Engine program as the process name, for example, **BLKPRCS_USER**.
6. Click **Add**.
7. Select the Application Engine Program from the search results that are displayed when you click **Add**.
8. On the Process Definition Options tab, specify the following values:
   - **Run Location**: Server
   - **Server Name**: PSNT
   - **Component**: PRCSMULTI
   - **Process Groups**: ALLPANLS
9. Click **Save**.
10. Return to the home page.
11. Click **People Tools**, **Process Scheduler Manager**, **Process**, and **Sample Processes**. The Sample Processes page is displayed.
12. Click **Add a New value**.
13. Specify a run control ID, and then click **Add**.

Note: A run control ID is used as a key for records that contain the parameters required by a process at run time. If the parameters are stored in a table that the process can query using the run control ID and user ID, then the process can run without user intervention.

---

14. Click **Run**. The Process Scheduler Request page is displayed
15. Specify the server name.
16. Select the Application Engine program name, and then click **OK**.
17. Click **Process Monitor** to verify the status of the process.

    After the process status changes to `Success`, the comma-separated file is created at the location specified in the code that you copy from the `AddEmp.txt` file.

Running the Application Engine Program on PeopleTools 8.4x

To run the Application Engine program on PeopleTools 8.4x:

Note: For the Application Engine program to run in 2-tier mode, the database client must be installed on the server used for accessing the application designer. To switch to the 2-tier mode, you select Connection Type as the database on the PeopleSoft sign-on screen.

---

1. Open the application designer in 2-tier mode.
2. Specify the connection type, user ID, and password.
3. To open the Application Engine program that you create:
    a. From the **File** menu, select **Open** and then select **Application Engine Program** from the **Object Type** list.
    b. Select **BLKPRCS_USER,** and then click **Open**.
4. Click the RUN PROGRAM control on the toolbar below the menu bar. The code for the PeopleCode action is run. The comma-separated file containing user records is created at the location specified in the code.

Step 5: Configuring the PeopleSoft Listener Web Service for Change-Based Reconciliation

This section describes how to configure the listener for the connector. In the following instructions, *`OIM_home`* refers to the local Oracle Identity Manager Server installation directory.

To configure the PeopleSoft Listener Web service:

1. Enter the following command to extract the contents of the `peopleSoftUserMgmt.war` file. This file is in the *`OIM_home`*`\xlclient\lib` directory.

```
jar -xvf  peopleSoftUserMgmt.war
```

Note: All the files mentioned in the remaining steps of this procedure are extracted from the `peopleSoftUserMgmt.war` file.

---

2. Edit the `deployment.properties` file. This file contains the message property, which corresponds to the name of the XML message from the PeopleSoft feed. The default value of this attribute is `USR_MGMT_MSG.` Obtain the correct value for this attribute from the PeopleSoft administrator.

3. If you are using PeopleTools 8.22, then you must modify the `PSFTBase.Roles` property in the `attributemap.properties` file as follows:

   a. Search for the following line:

   ```
   PSFTBase.Roles=//Transaction/PSROLEUSER_VW/ROLES
   ```

   b. Replace it with the following line:

   ```
   PSFTBase.Roles=//Transaction/PSROLEUSER_VW/ROLENAME
   ```

4. Edit the `xlsession.properties` file. This file contains the following Oracle Identity Manager connection parameters:

   - **ObjectName:** This is the name of the resource object in Oracle Identity Manager against which the reconciliation event is created. The default value is `PSFTBase.` However, for nontrusted reconciliation, you can change it to any other resource object.
   - **Username:** This is the user name for logging in to Oracle Identity Manager. The default value is `xelsysadm.`
   - **Password:** This is the password for logging in to Oracle Identity Manager. You must enter the encrypted value for the default password:

     ```
     Kk3821YZhIoG361vDH2YTw==
     ```

   Note: If the password for Oracle Identity Manager is different from the default password, then refer to Appendix C for information about encrypting a plaintext password.

5. Edit the `xlclient.properties` file. This file contains the following system properties that enable an API client to communicate with Oracle Identity Manager:

   - **xl.homedir:** This property specifies the Oracle Identity Manager client directory. Typically, the Oracle Identity Manager client directory is *`OIM_home`*`\xlclient.`
   - **java.security.policy:** This property specifies the path of the security policy file. Typically, this file is located in the *`OIM_home`*`\xlclient\config` directory.
   - **java.security.auth.login.config:** This property specifies the path of the authentication configuration file. Typically, this file is located in the *`OIM_home`*`\xlclient\config` directory.

     Each application server uses a different authentication configuration file:

     IBM WebSphere: `authws.conf`

     BEA WebLogic: `authwl.conf`

     JBoss Application Server: `auth.conf`
   - **java.naming.provider.url:** This property identifies the JNP URL of the application server. This URL is given in the `<Discovery><CoreServer><java.naming.provider.url>` tag of the *`OIM_home`*`\xlclient\config\xlconfig.xml` file.

6. Edit the following properties in the `configureReconciliation.properties` file:

   - **reconciliationMode:** This property can accept one of two possible values:
     - If you want to perform reconciliation in trusted mode, then set this property to `trusted`.
     - If you want to perform reconciliation in nontrusted mode, then set this property to `nontrusted`.
   - **Serverdateformat:** This property specifies the date format that is used by the PeopleSoft User Management server. You can select one of the following date formats:
     - `dd-mmm-yy`
     - `ddmmyy`
     - `yyddmm`
     - `yymmdd`
   - **xellerateOrganization:** This property contains the name of the Oracle Identity Manager organization. The default value of this parameter is `Xellerate Users`. The value that you assign to this property must exist in Oracle Identity Manager.
   - **nullDate:** This property contains the default value for a date field. The value is `2200/01/01 00:00:00 PST`. This value is used if the date field is left empty.
   - **PeoplesoftstartingYEAR:** The year is specified in two digits. If the number represented by these two digits (*xx*):
     - Is greater than or equal to 50, then it is assumed that the year is 19*xx.*
     - Is less than 50, then it is assumed that the year is 20*xx.*

     This specifies a range of 1950 to 2049 for the year.
   - **XelServerDate:** This property contains the date format that is used for the Oracle Identity Manager server.

     Sample value: `yyyy/MM/dd hh:mm:ss z`

7. Copy the following files from the *`OIM_home`*`\xellerate\lib` directory to the `WEB-INF\lib` directory:

   - `wlXLSecurityProviders.jar`
   - `xlAPI.jar`
   - `xlAuthentication.jar`
   - `xlBackOfficeBeans.jar`
   - `xlBackofficeClient.jar`
   - `xlCache.jar`
   - `xlCrypto.jar`
   - `xlDataObjectBeans.jar`
   - `xlDataObjects.jar`
   - `xlLogger.jar`

- `xlUtils.jar`
- `xlVO.jar`

Copy the following files from the *OIM_home*`\xellerate\ext` directory to the `WEB-INF\lib` directory:

- `oscache.jar`
- `javagroups-all.jar`

8. Delete the `peopleSoftUserMgmt.war` file from the temporary directory where you extracted it, and then use the following command to re-create the file:

```
jar -cvf  peopleSoftUserMgmt.war
```

9. Ensure that the old version of the `peopleSoftUserMgmt.war` file is removed from the application server (JBoss, IBM WebSphere, or BEA WebLogic) deployment directory and the *OIM_home*`\xellerate\webapp` directory.
10. Copy the newly created `peopleSoftUserMgmt.war` file into the application server (JBoss, WebSphere, or WebLogic) deployment directory and the *OIM_home*`\xellerate\webapp` directory.
11. Restart the Oracle Identity Manager server and client.

> **Note:** You can add custom attributes to be reconciled during change-based reconciliation. However, you must complete the deployment procedure before you can add custom attributes.
>
> Refer to Appendix C for information about the procedure to add custom attributes for reconciliation.

Step 6: Importing the Connector XML Files

To import the connector files into Oracle Identity Manager:

1. Open the Oracle Identity Manager Administrative and User Console.
2. Click the **Deployment Management** link on the left navigation bar.
3. Click the **Import** link under Deployment Management. A dialog box for locating files is displayed.
4. Locate and open the `PSFTBaseConnector.xml` file, which is in the *OIM_home*`\xlclient` directory. Details of the XML file are shown on the File Review page.
5. Click **Add File.** The Substitutions page is displayed.
6. Click **Next**. The Confirmation page is displayed.
7. Click **Next**. The Provide IT Resource Instance Data page for the `PSFT Base Server` IT resource is displayed.
8. Specify values for the parameters of the `PSFT Base Server` IT resource. Refer to the "Defining IT Resources" section on page 2-18 for information about the values to be specified.
9. Click **Next**. The Provide IT Resource Instance Data page for a new instance of the `PSFTBase` IT resource type is displayed.
10. Click **Skip** to specify that you do not want to define another IT resource. The Confirmation page is displayed.

See Also: If you want to define another IT resource, then refer to *Oracle Identity Manager Tools Reference Guide* for instructions.

11. Click **View Selections.**

    The contents of the XML file are displayed on the Import page. You may see a cross-shaped icon along with some nodes. Remove these nodes by right-clicking each node and then selecting **Remove**.

12. Click **Import.** The connector file is imported into Oracle Identity Manager.

After you import the connector XML file, proceed to the "Step 7: Configuring Reconciliation" section on page 2-18.

Defining IT Resources

You must specify values for the `PSFT Base Server` IT resource parameters listed in the following table.

Parameter	Description
`Admin`	User ID of the PeopleSoft User Management server administrator Default value: `PS`
`AdminCredentials`	Password of the PeopleSoft User Management server administrator
`ComponentInterfaceName`	Component interface used to load user data in PeopleSoft User Management Default value: `USER_PROFILE`
`ServerName`	IP address or computer name of the PeopleSoft User Management server
`ServerPort`	Port at which the PeopleSoft User Management server is listening Default value: `9000`
`IsDebug`	Debug feature The value can be `YES` or `NO`. The default value is `NO`.
`IsSecure`	Specify whether or not the SSL feature is enabled The value can be `YES` or `NO`. The default value is `NO`.
`SymbolicId`	Specifies the AccessId associated with the user profile The AccessId specifies whether or not the user has sufficient privileges on the PeopleSoft User Management database. Sample value: `PS89`
`RecordName`	Used to validate the employee ID during user provisioning in PeopleSoft User Management Default value: `PERSONAL_DATA`

After you specify values for these IT resource parameters, go to Step 9 of the procedure to import connector XML files.

Step 7: Configuring Reconciliation

Configuring reconciliation involves the following steps:

- Configuring Trusted Source Reconciliation

- Creating the Reconciliation Scheduled Tasks

Configuring Trusted Source Reconciliation

> **Note:** Perform this step of the procedure only if you want to configure trusted source reconciliation. Only one connector can be configured for trusted source reconciliation. If you import the `PSFTBaseXellerateUser.xml` file while you have another trusted source configured, then both connector reconciliations would stop working.
>
> Refer to *Oracle Identity Manager Connector Framework Guide* for conceptual information about reconciliation configurations.

To configure trusted source reconciliation, you must first import the XML file for trusted source reconciliation as follows:

1. Open the Oracle Identity Manager Administrative and User Console.
2. Click the **Deployment Management** link on the left navigation bar.
3. Click the **Import** link under Deployment Management. A dialog box for locating files is displayed.
4. Locate and open the `PSFTBaseXellerateUser.xml` file, which is in the *`OIM_home`*`\xlclient` directory. Details of this XML file are shown on the File Preview page.
5. Click **Add File**. The Substitutions page is displayed.
6. Click **Next**. The Confirmation page is displayed.
7. Click **Import**.
8. In the message that is displayed, click **Import** to confirm that you want to import the **XML** file and then click **OK**.

Then, set the value of the `IsTrusted` reconciliation scheduled task attribute to `Yes` while performing the procedure described in the following section.

Creating the Reconciliation Scheduled Tasks

To create the scheduled tasks for lookup fields and user reconciliations:

1. Open the Oracle Identity Manager Design Console.
2. Expand the **Xellerate Administration** folder.
3. Select **Task Scheduler**.
4. Click **Find**. The details of the predefined scheduled tasks are displayed on two different tabs.
5. Enter a number in the Max Retries field. This number represents the number of times Oracle Identity Manager must attempt to complete the task before assigning the ERROR status to the task.
6. Ensure that the **Disabled** and **Stop Execution** check boxes are not selected.
7. In the Start region, double-click the **Start Time** field. From the date-time editor that is displayed, select the date and time at which you want the task to run.

8. To set the task to run only once, select the **Once** option in the Interval region.
9. Provide values for the attributes of the scheduled task. Refer to the "Specifying Values for the Scheduled Task Attributes" section on page 2-20 for information about the values to be specified.
10. Click **Save**. The scheduled task is created. The INACTIVE status is displayed in the **Status** field, because the task is not currently running. The task is run at the date and time that you set in Step 7.
11. Repeat Steps 5 through 10 to create the second scheduled task.

After you create both scheduled tasks, proceed to the "Step 8: Compiling Adapters" section on page 2-21.

Specifying Values for the Scheduled Task Attributes

This section provides information about the values to be specified for the following scheduled tasks:

- Lookup Fields Reconciliation Scheduled Task
- User Reconciliation Scheduled Task

Lookup Fields Reconciliation Scheduled Task You must specify values for the following attributes of the lookup fields reconciliation scheduled task.

> **Note:** Attribute values are predefined in the connector XML file that you import. Specify values only for those attributes that you want to change.

Attribute	Description
`ServerName`	Name of the IT resource Default value: `PSFT Base Server`
`LookupType`	The type of data that is being looked up in the target system. The value can be any one of the following: ■ `EmployeeId` ■ `LanguageCode` ■ `EmailTypes` ■ `CurrencyCode` ■ `PermissionList` ■ `UserRoles`
`FilePath`	Directory path on the Oracle Identity Manager server where the reconciliation lookup `.txt` file is stored Sample value: `C:\PSFTBase\LookupRecon\EmployeeIds.txt`

Attribute	Description
LookupName	Name of the lookup definition configured in Oracle Identity Manager The value can be any one of the following: ▪ Lookup.PSFTBase.EmployeeId ▪ Lookup.PSFTBase.LanguageCode ▪ Lookup.PSFTBase.EmailType ▪ Lookup.PSFTBase.CurrencyCode ▪ Lookup.PSFTBase.PermissionList ▪ Lookup.PSFTBase.Roles
TargetSystem	Name of the resource object Default value: PSFTBase

After you specify values for these task attributes, go to Step 10 of the procedure to create scheduled tasks.

User Reconciliation Scheduled Task You must specify values for the following attributes of the user reconciliation scheduled task.

> **Note:** Attribute values are predefined in the connector XML file that you import. Specify values only for those attributes that you want to change.

Attribute	Description
MultiValueSeperator	## is the multivalue separator in the flat file that is used for bulk reconciliation
ServerName	Name of the IT resource instance Default value: PSFTBase
IsTrusted	Specifies whether or not reconciliation is to be carried out in trusted mode The value can be Yes or No. The default value is No.
XellerateOrganization	Default name of the Oracle Identity Manager organization This value is used to create the Xellerate User in trusted mode.
FolderPath	Directory path on the Oracle Identity Manager server where the reconciliation lookup .txt file is stored
TargetSystem	Name of the resource object Default value: PSFTBase

After you specify values for these task attributes, go to Step 10 of the procedure to create scheduled tasks.

Step 8: Compiling Adapters

The following adapters are imported into Oracle Identity Manager when you import the connector XML file:

- adpPSFTCREATEUSER
- adpPSFTUPDATEUSER
- adpPSFTRESETPASSWORD
- adpPSFTUNLOCKUSER
- adpPSFTLOCKUSER
- adpPSFTUPDATEUSEREMPID
- adpPSFTADDORDELETEROLE
- adpPSFTADDORDELETEEMAIL (PeopleTools 8.4*x* only)

You must compile these adapters before you can use them to provision accounts on the target system.

To compile adapters by using the Adapter Manager form:

1. Open the Adapter Manager form.
2. To compile all the adapters that you import into the current database, select the **Compile All** option.

   To compile multiple (but not all) adapters, select the adapters you want to compile. Then, select the **Compile Selected** option.
3. Click **Start.** Oracle Identity Manager compiles the selected adapters.
4. If Oracle Identity Manager is installed in a clustered environment, then copy the compiled adapters from the `OIM_home\xellerate\Adapter` directory to the same directory on each of the other nodes of the cluster. If required, overwrite the adapter files on the other nodes. Then, restart each node.

To view detailed information about an adapter:

1. Highlight the adapter in the Adapter Manager form.
2. Double-click the row header of the adapter, or right-click the adapter.
3. Select **Launch Adapter** from the shortcut menu that is displayed. Details of the adapter are displayed.

Note: To compile one adapter at a time, use the Adapter Factory form. Refer to *Oracle Identity Manager Tools Reference Guide* for information about using the Adapter Factory and Adapter Manager forms.

Configuring the Connector for Multiple Installations of the Target System

Note: Perform this procedure only if you want to configure the connector for multiple installations of PeopleSoft User Management. Refer to *Oracle Identity Manager Design Console Guide* for detailed instructions on performing each step of this procedure.

To configure the connector for multiple installations of the target system:

1. Create and configure one resource object for each target system installation.

The Resource Objects form is in the Resource Management folder. The `PSFTBase` resource object is created when you import the connector XML file. You can use this resource object as the template for creating the remaining resource objects.

2. Create and configure one IT resource for each resource object.

   The IT Resources form is in the Resource Management folder. The `PSFT Base Server` IT resource is created when you import the connector XML file. You can use this IT resource as the template for creating the remaining IT resources, of the same resource type.

3. Design one process form for each resource object.

   The Form Designer form is in the Development Tools folder. The following process forms are created when you import the connector XML file:

   - `UD_PSFT_BAS` (main form)
   - `UD_PSROLES` and `UD_PS_EMAIL` (child forms for PeopleTools 8.4*x* only)

   You can use these process forms as templates for creating the remaining process forms.

4. Create and configure one process definition for each resource object.

   The Process Definition form is in the Process Management folder. The `PSFTBase` process definition is created when you import the connector XML file. You can use this process definition as the template for creating the remaining process definitions.

   While creating process definitions for each target system installation, the following steps that you must perform are specific to the creation of each process definition:

   - From the **Object Name** lookup field, select the resource object that you create in Step 1.
   - From the **Table Name** lookup field, select the process form that you create in Step 3.
   - While mapping the adapter variables for the IT Resource data type, ensure that you select the IT resource that you create in Step 2 from the **Qualifier** list.

5. Configure reconciliation for each target system installation. Refer to the "Step 7: Configuring Reconciliation" section on page 2-18 for instructions. Note that only the values of the following attributes are to be changed for each reconciliation scheduled task:

   - `TargetSystem`
   - `ServerName`
   - `IsTrusted`

   Set the `IsTrusted` attribute to `Yes` for the PeopleSoft User Management installation that you want to designate as a trusted source. You can designate either a single or multiple installations of PeopleSoft User Management as the trusted source. For the remaining PeopleSoft User Management installations, set this attribute to `No`.

6. If required, modify the fields to be reconciled for the Xellerate User resource object.

Additional Steps for Configuring Change-Based Reconciliation

For change-based reconciliation, you must perform the procedure described in the "Step 4: Configuring the Target System" section on page 2-4 and in the "Step 5: Configuring the PeopleSoft Listener Web Service for Change-Based Reconciliation" section on page 2-14.

The following are actions that you must perform differently from the procedure described in these sections:

- In Step 4.b of the "Configuring PeopleSoft Enterprise Portal on PeopleTools 8.22" section on page 2-8:

  Note: Perform this step only if you use PeopleTools 8.22.

  Cange the Java command in the `publish.bat` file as shown in the following example:

  ```
  java Com.thortech.xl.Integration.msgpublisher.PeopleSoftPublisher
  "http://host:port/peopleSoftUserMgmt1/do/peopleSoftAction" "C:/test/file"
  USR_MGMT_MSG >> c:/test/consolelog.log
  ```

  Similarly, change the name of the Web application for each WAR file that you create.

- In Step 7 of the procedure to create the `XL_NODE` node, given in the "Configuring PeopleSoft Enterprise Portal on PeopleTools 8.4x" section on page 2-10:

  Note: Perform this step only if you use PeopleTools 8.4*x*.

  Change the name of the application in the URL as shown in the following example:

  ```
  http://computer_name:port/peopleSoftUserMgmt1/do/peopleSoftAction
  ```

  Similarly, change the name of the Web application in the URL for each WAR file that you create.

- In the "Step 5: Configuring the PeopleSoft Listener Web Service for Change-Based Reconciliation" section on page 2-14:

  In Step 3, the value that you specify for the ObjectName parameter in the `xlsession.properties` file must be the name of the resource object that you create.

  In Step 7, specify a different file name in the command that you use to re-create the WAR file. For example:

  ```
  jar -cvf peopleSoftUserMgmt1.war
  ```

  Similarly, change the name of the WAR file for each target system installation

3 Testing and Troubleshooting

After you deploy the connector, you must test it to ensure that it functions as expected. This chapter discusses the following topics related to connector testing:

- Running Test Cases for Provisioning
- Running Test Cases for Reconciliation
- Troubleshooting

Running Test Cases for Provisioning

You can use the troubleshooting utility to identify the cause of problems associated with connecting to the target system and performing basic operations on the target system.

In a command window, switch to the `OIM_home\xellerate\JavaTasks` directory in which the `PSFTBaseProvisioning.jar` file is present. Then, perform the following tests:

- Enter the following command to create a PeopleSoft User Management user as follows:

  ```
  java -jar PSFTBaseProvisioning.jar Create serverName serverPort admin
  adminCredentials ciName symbId userId userDescription empId recordname
  ```

  For example:

  ```
  java -jar PSFTBaseProvisioning.jar Create 172.19.151.53 9000 PS PS2005
  USER_PROFILE PS89 PSFt0101 PSFT0101 KS0001 PERSONAL_DATA
  ```

- Enter the following command to update a PeopleSoft User Management user as follows:

  ```
  java -jar PSFTBaseProvisioning.jar update serverName serverPort admin
  adminCredentials ciName symbId userId attrName attrValue
  ```

  In this command, you can specify any one of the following values for the `attrName` field:

  - `USER_DESCRIPTION`
  - `EMAIL_ADDRESS`
  - `EMAILTYPE`
  - `MULTI_LANGUAGE_CODE`
  - `LANGUAGE_CODE`

- CURRENCY_CODE

For example:

```
java -jar PSFTBaseProvisioning.jar Update 172.19.101.13 9000 PS PS2005
USER_PROFILE PS89 bb USER_DESCRIPTION TCSDelhi
```

- Enter the following command to update the employee ID of a PeopleSoft User Management user:

```
java -jar PSFTBaseProvisioning.jar UpdateUserEmployeeId serverName serverPort
admin adminCredentials ciName symbId userId newEmpId oldEmpId recordname
```

For example:

```
java -jar PSFTBaseProvisioning.jar UpdateUserEmployeeId 172.19.101.13 9000 PS
PS2005 USER_PROFILE PS89 bb KS0002 KS0001 PERSONAL_DATA
```

- Enter the following command to update the password of a PeopleSoft User Management user as follows:

```
java -jar PSFTBaseProvisioning.jar UpdatePassword serverName serverPort admin
adminCredentials ciName symbId userId password
```

For example:

```
java -jar PSFTBaseProvisioning.jar UpdatePassword 172.19.101.13 9000 PS PS2005
USER_PROFILE PS89 bb PERSONAL001
```

Running Test Cases for Reconciliation

Running test cases for reconciliation involves verifying that the PeopleSoft Listener Web application can reconcile employees into Oracle Identity Manager. The following sections provides instructions to perform this test.

Prerequisites for Testing the PeopleSoft Listener Web Application

The following are prerequisites for testing the PeopleSoft Listener Web application:

- Ensure that the Microsoft Windows scripting engine is installed. This is required to run VBScript files.
- Ensure that the PeopleSoft XML message schema is described in the `USR_MGMT_MSG.xml` file, which is in the *OIM_home*`\xellerate\test` directory.

Testing the PeopleSoft Listener Web Application

To test the PeopleSoft Listener Web application:

1. In the *OIM_home*`\xellerate\test\psft-xel-test.vbs` file:
   - Modify the value of the `ps_server_url` variable so that it points to the URL for the PeopleSoft Listener Web application.
   - Specify the required PeopleSoft attributes and employee data values in the `ExecuteATM` function.
2. Run `psft-xel-test.vbs`. Ensure that the script runs without any errors.

When the script is run, it creates a reconciliation event. Verify that the reconciliation event is created in Oracle Identity Manager and that the event contains the data that you specify in the VBScript file.

Troubleshooting

The following table lists solutions to some commonly encountered issues associated with the PeopleSoft User Management connector.

Problem Description	Solution
Oracle Identity Manager cannot establish a connection with the PeopleSoft User Management server.	■ Ensure that the PeopleSoft User Management server is running. ■ Ensure that Oracle Identity Manager is running. ■ Ensure that all the adapters have been compiled. ■ Use the IT Resources form to examine the Oracle Identity Manager record. Ensure that the IP address, admin ID, and admin password are correct.
The Operation Fail message is displayed on the Oracle Identity Manager Administrative and User Console	■ Ensure that the values for the attributes do not contain delimiter characters (such as white space and commas). ■ Ensure that the attribute values do not exceed allowable length.
The Create User adapter is triggered even when the pre-populate adapter is run successfully.	Set the property associated with the user ID attribute in the process form as required.

4

Known Issues

The following are known issues associated with this release of the connector:

- Secure Socket Layer (SSL) connections are not supported.
- The connector files for PeopleTools 8.22 and PeopleTools 8.4*x* cannot be deployed on the same Oracle Identity Manager installation.
- Some Asian languages use multibyte character sets. If the character limit for the fields in the target system is specified in bytes, then the number of Asian-language characters that you can enter in a particular field may be less than the number of English-language characters that you can enter in the same field. The following example illustrates this limitation:

  Suppose you can enter 50 characters of English in the User Last Name field of the target system. If you were using the Japanese locale and if the character limit for the target system fields were specified in bytes, then you would not be able to enter more than 25 characters in the same field.
- The version of the connector for PeopleTools 8.22 is not localized for the French and Japanese languages. For this version, the connector-related fields in Oracle Identity Manager can be displayed only in English.

A

Attribute Mappings Between Oracle Identity Manager and PeopleSoft User Management

The following table discusses attribute mappings between Oracle Identity Manager and PeopleSoft User Management.

Oracle Identity Manager Attribute	PeopleSoft User Management Attribute	Description
Lookup Fields		
LanguageCode	PSXLATITEM.FIELDVALUE, PSXLATITEM.XLATLONGNAME	Language code
EmployeeId	PS_PERSONAL_DATA.EMPLID, PS_PERSONAL_DATA.NAME	Employee ID
CurrencyCode	PS_CURRENCY_CD_TBL.CURRENCY_CD, PS_CURRENCY_CD_TBL.DESCR	Currency Code
PermissionList	PSCLASSDEFN.CLASSID,PSCLASSDEFN.CLASSDEFNDESC	Permission List
EmailType	PSXLATITEM.FIELDVALUE, PSXLATITEM.XLATLONGNAME	E-mail Type
UserRoles	PSROLEDEFN.ROLENAME, PSROLEDEFN.DESC	User Roles
User Attributes		
User Id	PSOPRDEFN.OPRID	User login ID
User Description	PSOPRDEFN.OPRDEFNDESC	Description of user
Employee Id	PSOPRDEFN.EMPLID	Employee ID
Primary Email Address	PSUSEREMAIL.EMAILID	E-mail address (primary e-mail account)
Primary Email Type	PSUSEREMAIL.EMAILTYPE	Email type (primary e-mail account)
Multi Language Code	PSOPRDEFN.MULTILANG	Multilanguage code
Language Code	PSOPRDEFN.LANGUAGE_CD	Language code

Oracle Identity Manager Attribute	PeopleSoft User Management Attribute	Description
Currency Code	PSOPRDEFN.CURRENCY_CD	Currency code
User Id Alias	PSOPRDEFN.USERIDALIAS	Alias of user login ID
Row Security Permission List	PSOPRDEFN.ROWSECCLASS	Row security parameter
Process Profile Permission List	PSOPRDEFN.PRCSPRFLCLS	Process profile parameter
Navigator Home Permission List	PSOPRDEFN.DEFAULTNAVHP	Navigator home page address
Primary Permission List	PSOPRDEFN.OPRCLASS	Primary permission list
Email Address	PSUSEREMAIL.EMAILID	E-mail address
Email Type	PSUSEREMAIL.EMAILTYPE	E-mail type
RoleName	PSROLEUSER_VW.ROLENAME	Role name

B

Encrypting a New Oracle Identity Manager Password

If the password of the Oracle Identity Manager administrator is different from the default password, then you must encrypt the Oracle Identity Manager password as follows:

Note: The default administrator user ID is `xelsysadm`.

---

1. On the Oracle Identity Manager server, open a command window.
2. In the command window, change to the *OIM_home*`\xellerate\ScheduleTask` directory.
3. Enter the following command:

   ```
   java -classpath PSFTBaseReconciliation .jar  \
   Com.thortech.xl.Integration.peoplesoft.util.tcUtilEncryption -e \
   OIM_plaintext_password
   ```

   In this command, *OIM_plaintext_password* is the new Oracle Identity Manager administrator password that you want to encrypt.

   The encrypted password is displayed in the command window.
4. Copy the encrypted password into the `xlsession.properties` file. This file is compressed in the *OIM_home*`\xlclient\lib\peopleSoftUserMgmt.war` file.
5. Delete the `peopleSoftUserMgmt.war` file from the temporary directory where you extracted its contents, and then use the following command to re-create the file:

   ```
   jar -cvf  peopleSoftUserMgmt.war
   ```

6. Ensure that the old version of the `peopleSoftUserMgmt.war` file is removed from the application server (JBoss Application Server, IBM WebSphere, or BEA WebLogic) deployment directory and the *OIM_home*`\xellerate\webapp` directory.
7. Copy the newly created `peopleSoftUserMgmt.war` file into the application server (JBoss, WebSphere, or WebLogic) deployment directory and the *OIM_home*`\xellerate\webapp` directory.
8. Restart the Oracle Identity Manager server and client.

C

Adding Custom Attributes for Reconciliation

Standard change-based reconciliation involves the reconciliation of predefined attributes. If required, you can add custom attributes to the list of attributes that are reconciled.

Note: Before you can add custom attributes, you must complete the connector deployment procedure described in Chapter 2.

The procedure to add a custom attribute for reconciliation depends on the release of PeopleTools that you are using:

- Adding a Custom Attribute for Reconciliation on PeopleTools 8.22
- Adding a Custom Attribute for Reconciliation on PeopleTools 8.4x

Adding a Custom Attribute for Reconciliation on PeopleTools 8.22

To add a custom attribute for reconciliation on PeopleTools 8.22:

1. In PeopleSoft Application Designer:

   a. Select **Open** from the **File** menu. The Open Definition dialog box is displayed.

   b. Select **Message** from the **Definition** list, enter `USR_MGMT_MSG` in the **Name Selection Criteria** field, and then click Enter. The details of the `USR_MGMT_MSG` message are displayed.

   c. Click the record to which you want to add custom attributes.

      For example, suppose you want to add the job location attribute, `LOCATION`, then click **JOB** under **VERSION_1**.

   d. Select the check box for the required attribute, and then save the message.

      For example, select the **LOCATION** check box.

2. Make the required changes in the PeopleCode given in the `UserMgmtCBRecon.txt` file. This file is in the *`OIM_home`*`\xellerate\Scripts` directory. The required changes are as follows:

   a. At the end of the SQL statements section, edit the SQL statement to retrieve the column values for the new attribute and store the values in local variables.

      For example, suppose you want to add the job location attribute, `LOCATION`, to the list of attributes that are reconciled. Then, performing this step involves editing the SQL statement as follows, so that it retrieves the values of the `LOCATION` column from the JOB table:

```
SQLExec("select DEPTID, JOBCODE, LOCATION from ps_job a where emplid =:1
and effdt=(select max(effdt) from ps_job b where a.emplid=b.emplid and
effseq =(select max(effseq) from ps_job c where b.emplid = c.emplid and
b.effdt=c.effdt))", &empid, &deptid, &jobcd, &location);
```

   b. Add the required lines at the end of the block of code for adding data to the XML message. For example, to add the `LOCATION` column to the `JOB` tag, add the lines highlighted in bold in the following code sample:

```
/* FOR JOB RECORD */
&MSG_ROWSET.GetRow(1).JOB.JOBCODE.Value = &jobcd;
&MSG_ROWSET.GetRow(1).JOB.DEPTID.Value = &deptid;
&MSG_ROWSET.GetRow(1).JOB.LOCATION.Value = &location;
```

3. To extract the contents of the `peopleSoftUserMgmt.war` file into a temporary directory, enter the following command:

```
jar -xvf peopleSoftUserMgmt.war
```

   Copies of this file are in the application server deployment directory and the *OIM_home*`\xellerate\webapp` directory.

4. In the `attributemap.properties` file, add the XPath (key-value entry) of the custom attribute. For example, you can add the following XPath for the `LOCATION` attribute:

```
PSFTBase.Location=//Transaction/DEPT_TBL/LOCATION
```

5. Delete the existing `peopleSoftUserMgmt.war` file from the temporary directory into which you extract it, and then enter the following command to re-create the file:

```
jar -cvf peopleSoftUserMgmt.war .
```

6. Delete the old version of the `peopleSoftUserMgmt.war` file from the application server deployment directory and the *OIM_home*`\xellerate\webapp` directory.

7. Copy the newly created `peopleSoftUserMgmt.war` file into the application server deployment directory and the *OIM_home*`\xellerate\webapp` directory.

8. In the Oracle Identity Manager Design Console, make the required changes as follows:

   See: *Oracle Identity Manager Design Console* for detailed instructions on performing the following steps

   a. Add a column corresponding to the new attribute in the User Defined process form, `UD_PSFT_BAS`. For the example described earlier, you can add the `UD_PSFT_BAS_LOCATION` column.

   b. Add a reconciliation field corresponding to the new attribute in the resource object, `PSFTBase`. For the example described earlier, you can add the `PSFTBase.Location` reconciliation field.

   c. Modify the `PSFTBase` process definition to include the mapping between the newly added attribute and the corresponding reconciliation field. For the example described earlier, the mapping is as follows:

```
PSFTBase.Location = UD_PSFT_BAS_LOCATION
```

9. Restart the Oracle Identity Manager server and client.

Adding a Custom Attribute for Reconciliation on PeopleTools 8.4x

To add a custom attribute for reconciliation on PeopleTools 8.4*x*:

1. Make the required changes in the PeopleCode given in the `UserMgmtCBRecon.txt` file. This file is in the *OIM_home*`\xellerate\Scripts` directory. The required changes are as follows:

   a. At the end of the SQL statements section, add a SQL statement to retrieve the column values for the new attribute and store the values in local variables.

   For example, suppose you want to add the department location attribute, `LOCATION`, to the list of attributes that are reconciled. Then, performing this step involves adding the following SQL statement to retrieve the values of the `LOCATION` column from the `PS_DEPT_TBL` table:

   ```
   SQLExec("SELECT DESCR, LOCATION FROM PS_DEPT_TBL WHERE DEPTID=:1", &deptid,
   &deptname, &location);
   ```

   b. Add the required lines at the end of the block of code for adding data to the XML message. For example, to add the `LOCATION` column to the `DEPT_TBL` tag, add the lines highlighted in bold in the following code sample:

   ```
   &recnode = &fieldtypenode.AddElement("DEPT_TBL");
   &recnode.AddAttribute("class", "R");
   &fields = &recnode.AddElement("DEPTNAME");
   &fields.AddAttribute("type", "CHAR");
   &fields = &recnode.AddElement("LOCATION");
   &fields.AddAttribute("type", "CHAR");
   ```

   c. Add the required lines at the end of the block of code for adding data to the XML message. For example, to add the `LOCATION` column to the `DEPT_TBL` tag, add the lines highlighted in bold in the following code sample:

   ```
   &datarecnode = &transnode.AddElement("DEPT_TBL");
   &datarecnode.AddAttribute("class", "R");
   &datafldnode = &datarecnode.AddElement("DEPTNAME");
   &textnode = &datafldnode.AddText(&deptname);
   &datafldnode = &datarecnode.AddElement("LOCATION");
   &textnode = &datafldnode.AddText(&location);
   ```

2. In PeopleSoft Application Designer, copy the contents of the `UserMgmtCBRecon.txt` file into the `savePostChange` event for the `PERSONAL_DATA` component.

3. To extract the contents of the `peopleSoftUserMgmt.war` file into a temporary directory, enter the following command:

   ```
   jar -xvf peopleSoftUserMgmt.war
   ```

   Copies of this file are in the application server deployment directory and the *OIM_home*`\xellerate\webapp` directory.

4. In the `attributemap.properties` file, add the XPath (key-value entry) of the custom attribute. For example, you can add the following XPath for the `LOCATION` attribute:

   ```
   PSFTBase.Location=//Transaction/DEPT_TBL/LOCATION
   ```

5. Delete the existing `peopleSoftUserMgmt.war` file from the temporary directory into which you extract it, and then enter the following command to re-create the file:

```
jar -cvf peopleSoftUserMgmt.war .
```

6. Delete the old version of the `peopleSoftUserMgmt.war` file from the application server deployment directory and the *`OIM_home`*`\xellerate\webapp` directory.

7. Copy the newly created `peopleSoftUserMgmt.war` file into the application server deployment directory and the *`OIM_home`*`\xellerate\webapp` directory.

8. In the Oracle Identity Manager Design Console, make the required changes as follows:

   See: *Oracle Identity Manager Design Console* for detailed instructions on performing the following steps

   a. Add a column corresponding to the new attribute in the User Defined process form, `UD_PSFT_BAS`. For the example described earlier, you can add the `UD_PSFT_BAS_LOCATION` column.

   b. Add a reconciliation field corresponding to the new attribute in the resource object, `PSFTBase`. For the example described earlier, you can add the `PSFTBase.Location` reconciliation field.

   c. Modify the `PSFTBase` process definition to include the mapping between the newly added attribute and the corresponding reconciliation field. For the example described earlier, the mapping is as follows:

   ```
   PSFTBase.Location = UD_PSFT_BAS_LOCATION
   ```

9. Restart the Oracle Identity Manager server and client.

D

Additional Steps to Be Performed on the Target System

This appendix describes the following procedures, which are performed on the target system:

- Creating the APIs for the Component Interface
- Creating the Java Template for the Component Interface

Creating the APIs for the Component Interface

To create the APIs for the component interface:

1. Open the Application Designer by clicking **Start** and then selecting **Programs, Peoplesoft8.9hcm,** and **Application Designer**. The Application Designer window is displayed.
2. In the Application Designer window, select **Open** from the **File** menu. The Open Definition dialog box is displayed.
3. In the Open Definition dialog box, select **Component Interface** from the **Definition** list.
4. Enter `USER_PROFILE` in the **Name** field, and then press **Enter.**

   All the component interfaces with names that start with `USER_PROFILE` are displayed in the Open Definition dialog box.
5. Select the **USER_PROFILE** entry, and then click **Open.**
6. Click **Yes** in the message that is displayed. The properties of the `USER_PROFILE` component interface are displayed.
7. In the window for the `USER_PROFILE` component interface, select **PeopleSoft APIs** from the **Build** menu. The Build PeopleSoft API Bindings dialog box is displayed.
8. In the Java Classes region of the Build PeopleSoft API Bindings dialog box, select the **Build** check box.
9. Select **CompIntfcPropertyInfo**, **CompIntfcPropertyInfoCollection**, and other Java classes with names that start with `USER_PROFILE`.
10. In the **Target Directory** field, specify the path of the directory in which you want the Java API classes to be created, and then click **OK.**
11. Ensure that the `psjoa.jar` file is set in the `CLASSPATH` environment variable. This file is in the *`OIM_home`*`\xellerate\ThirdParty` directory.

12. Compile the APIs from the target directory specified in the preceding step.
13. Bundle the compiled class files in a JAR named `peoplesoft.jar` as follows:

```
jar -cvf peoplesoft.jar PeopleSoft/Generated/CompIntfc/*.class
```

Creating the Java Template for the Component Interface

To create the Java template for the component interface:

1. On the right pane of the window for the `USER_PROFILE` component interface, right-click **USER_PROFILE.**
2. Select **Generate Java Template** from the shortcut menu. A message showing the name and path of the Java template is displayed.
3. Click **OK** to close the message.

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