Oracle® Identity Manager

Connector Guide for SAP Enterprise Portal

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Oracle Identity Manager Connector Guide for SAP Enterprise Portal, Release 9.0.4

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Preface

Oracle Identity Manager Connector Guide for SAP Enterprise Portal provides information about integrating Oracle Identity Manager with SAP Enterprise Portal.

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 SAP Enterprise Portal.

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

- *Oracle Identity Manager Release Notes*
- *Oracle Identity Manager Installation Guide for JBoss*
- *Oracle Identity Manager Installation Guide for Oracle Containers for J2EE*
- *Oracle Identity Manager Installation Guide for WebLogic*
- *Oracle Identity Manager Installation 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 Globalization Guide*
- *Oracle Identity Manager Glossary of Terms*

The following document is available in the Oracle Identity Manager Connector Pack documentation library:

- *Oracle Identity Manager Connector Framework Guide*

Documentation Updates

Oracle is committed to delivering the best and most recent information available. For information about updates to the Oracle Identity Manager Connector Pack Release 9.0.4 documentation library, 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 SAP Enterprise Portal?

This chapter provides an overview of the updates made to the software and documentation for the SAP Enterprise Portal connector in release 9.0.4 of the Oracle Identity Manager connector pack.

> **See Also:** The 9.0.3 release of this guide for information about updates that were new for the 9.0.3 release

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.

Partial Reconciliation

The `CustomizedReconQuery` parameter has been added to the IT resource definition. You can use this parameter to customize the query that the reconciliation module uses to determine the records to be retrieved from the target system. The `CustomizedReconQuery` parameter is explained in the following sections:

- Defining IT Resources on page 2-8
- Partial Reconciliation on page 3-1
- Testing Partial Reconciliation on page 4-2

Changes in the Directory Structure of the Connector Files on the Installation Media

There are some changes in the directory structure of the testing utility files. These changes have been made in the following sections:

- Files and Directories That Comprise the Connector section on page 1-5

- Step 1: Verifying Deployment Requirements section on page 2-1

Enabling Logging

By following the instructions in the "Enabling Logging" section on page 2-5, you can configure the generation of log information that is specific to the target system.

Documentation-Specific Updates

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

- Instructions in the "Determining the Release Number of the Connector" section on page 1-6 have been revised.
- The "Multiple Trusted Reconciliation" section has been removed from the guide.

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 SAP Enterprise Portal is used to integrate Oracle Identity Manager with SAP Enterprise Portal.

> **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:

> **Note:** At some places in this guide, SAP Enterprise Portal has been referred to as the *target system.*

Reconciliation Module

Reconciliation involves duplicating in Oracle Identity Manager additions of and modifications to user accounts on the target system. It is an automated process initiated by a scheduled task that you configure.

> **See Also:** The "Deployment Configurations of Oracle Identity Manager" section in *Oracle Identity Manager Connector Framework Guide* for conceptual information about reconciliation configurations

This section discusses the elements that the reconciliation module extracts from the target system to construct reconciliation event records. The following are features of these records:

- The default data elements of each reconciliation event record are Organization, User Type, and Employee Type.

- The default labels for the data elements in each reconciliation event record are:
  - Event Linked (for successful reconciliation)
  - No Match Found (for failed reconciliation)

Based on the type of data reconciled from the target system, reconciliation can be divided into the following types:

- Lookup Fields Reconciliation
- User Reconciliation

Lookup Fields Reconciliation

For user reconciliation to work, the following lookup definitions must be available and the lookup values must be reconciled:

- Lookup.SAP.EP.Country
- Lookup.SAP.EP.Groups
- Lookup.SAP.EP.Language
- Lookup.SAP.EP.Roles
- Lookup.SAP.EP.TimeZone

User Reconciliation

User reconciliation can be divided into the following:

- Reconciled SAP Enterprise Portal Resource Object Fields
- Reconciled Xellerate User Fields

Reconciled SAP Enterprise Portal Resource Object Fields

The following fields are reconciled:

- Street
- City
- State
- Zip
- Country
- TimeZone
- Department
- ValidFrom
- ValidTo
- Locked
- UserID
- Password
- FirstName
- LastName
- EmailID

- Language
- Telephone
- Fax
- Mobile
- Groups
- Roles

Reconciled Xellerate User Fields

If trusted source reconciliation is implemented, then the following additional fields are reconciled:

- UserID
- Password
- FirstName
- LastName
- EmailID
- Organization
- User Type
- Employee Type
- Valid From
- Valid To

Provisioning Module

Provisioning involves creating or modifying a user's account information on the target system through Oracle Identity Manager. You use the Administrative and User Console to perform provisioning operations.

> **See Also:** The "Deployment Configurations of Oracle Identity Manager" section in *Oracle Identity Manager Connector Framework Guide* for conceptual information about provisioning

For this target system, the following fields are provisioned:

- User ID
- Password
- First Name
- Last Name
- Email ID
- ValidFrom
- ValidTo

Note: If you create a user in Oracle Identity Manager and do not assign a role to the user, then the user would not be able to view any Portal content after logging in to SAP Enterprise Portal.

Supported Functionality

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

Function	Type	Description
Create User	Provisioning	Creates a user in the SAP Enterprise Portal system
Update User	Provisioning	Updates a user in the SAP Enterprise Portal system
Delete User	Provisioning	Deletes a user from the SAP Enterprise Portal system
Reset Password	Provisioning	Updates the user password in the SAP Enterprise Portal system
Lock User	Provisioning	Locks a user in the SAP Enterprise Portal system
UnLock User	Provisioning	Unlocks a locked user in the SAP Enterprise Portal system
Add Role	Provisioning	Adds a role to a user in the SAP Enterprise Portal system
Add Group	Provisioning	Adds a group to a user in the SAP Enterprise Portal system
Remove Role	Provisioning	Removes the role of a user in the SAP Enterprise Portal system
Remove Group	Provisioning	Removes a group from a user in the SAP Enterprise Portal system
List Roles of User	Provisioning	Lists the roles of a user in the SAP Enterprise Portal system
List Groups of User	Provisioning	Lists the groups of a user in the SAP Enterprise Portal system
List All Roles	Provisioning	Lists all the roles defined in the SAP Enterprise Portal system
List All Groups	Provisioning	Lists all the groups defined in the SAP Enterprise Portal system
Reconciliation Insert Received	Reconciliation	Inserts into Oracle Identity Manager the user that is created in the SAP Enterprise Portal system
Reconciliation Update Received	Reconciliation	Updates in Oracle Identity Manager the user that is updated in the SAP Enterprise Portal system
Reconciliation Delete Received	Reconciliation	Deletes from Oracle Identity Manager the user that is deleted from the SAP Enterprise Portal system

Multilanguage Support

This release of the connector supports the following languages:

- Chinese Simplified
- Chinese Traditional
- English
- French

- German
- Italian
- Japanese
- Korean
- Portuguese (Brazilian)
- Spanish

See Also: *Oracle Identity Manager Globalization Guide* for information about supported special characters

Files and Directories That Comprise the Connector

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

`Enterprise Applications/SAP Enterprise Portal`

These files and directories are listed in the following table.

File in the Installation Media Directory	Description
The `sapum.properties` file inside the `lib/properties` directory	This file contains the connection parameters required to connect to the SAP Enterprise Portal server. The location of this file is given in the `SAPUMLocation` parameter of the IT resource defined for SAP Enterprise Portal.

The `lib/properties` directory also contains the following files:
`dataSourceConfiguration.dtd`
`dataSourceConfiguration_database_only.xml`
`dataSourceConfiguration_PCDRoles.xml`
`dataSourceConfiguration_UMERoles.xml`
	These files are supportive files for the `sapum.properties` file. They must be copied into the directory in which the `sapum.properties` file is copied.

`lib/SAP_EP_jar/servicelistener.jar`	During provisioning, this JAR file is used to ensure that changes to the role attribute of the user are correctly passed on to SAP EP. During reconciliation, this JAR file is used to ensure that changes to the group attribute are correctly passed on to Oracle Identity Manager.
`lib/SAPEPConnector.jar`	This is the connector code JAR file.
`par/ConnectorService.par`	This file is used for calling Web Services on the SAP Enterprise Portal system.
Files in the `resources` directory	Each of these resource bundle files contains language-specific information that is used by the connector. **Note:** A **resource bundle** is a file containing localized versions of the text strings that are displayed on the user interface of Oracle Identity Manager. These text strings include GUI element labels and messages displayed on the Administrative and User Console.
`test/Troubleshoot/TroubleShootUtility.class`	This utility is used to test connector functionality.
`test/Troubleshoot/global.properties`	This file is used to specify the parameters and settings required to connect to the target system by using the testing utility.

File in the Installation Media Directory	Description
test/Troubleshoot/log.properties	This file is used to specify the log level and the directory in which the log file is to be created when you run the testing utility.
xml/SAPEPResourceObject.xml	This XML file contains definitions for the following components of the connector: ■ IT resource definition ■ SAP User form ■ Lookup definitions ■ Adapters ■ Resource object ■ Process definition ■ Reconciliation scheduled tasks
xml/SAPEPXLResourceObject.xml	This XML file contains the configuration for the Xellerate User. You must import this file only if you plan to use the connector in trusted source reconciliation mode.

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 Files" section on page 2-2 provides instructions to copy these files into the required directories.

Determining the Release Number of the Connector

You can use any one of the following methods to determine the release number of the connector.

Before Deployment

To determine the release number of a connector:

1. Extract the contents of the `SAPEPConnector.jar` file. This file is in the following directory on the installation media:

   `Enterprise Applications/SAP Enterprise Portal/lib`

2. Open the `manifest.mf` file in a text editor. The `manifest.mf` file is one of the files bundled inside the `SAPEPConnector.jar` file.

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

Note: If you maintain a copy of the `SAPEPConnector.jar` file after deployment, you can use this method to determine the release number of the connector at any stage. After you deploy the connector, it is recommended that you use the "After Deployment" method, which is described in the following section.

After Deployment

To determine the release number of a connector that has already been deployed:

See Also: *Oracle Identity Manager Design Console Guide*

1. Open the Oracle Identity Manager Design Console.
2. In the Form Designer, open the process form. The release number of the connector is the value of the **Version** field.

2

Deploying the Connector

Deploying the connector involves the following steps:

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	SAP Enterprise Portal 6.0
Infrastructure requirements	■ SAP Enterprise Portal 6.0 running on SAP Web Application Server (WAS) 6.2 ■ SAP User Management Engine (UME) 4.0 APIs should be available on the SAP Enterprise Portal 6.0 ■ Apache Axis Web Services Framework 1.3
External code	Apache Axis JAR files These are listed in the "Files and Directories That Comprise the Connector" section on page 1-5.

Item	Requirement
Target system user account	Create a user account, and assign the following roles to it: ▪ `super_admin_role` ▪ `com.sap.pdk.JavaDeveloper` The second role gives the rights to deploy the agent on the target system. For this connector, the agent is the `ConnectorService.par` file. Refer to "Configuring the sapum.properties File" section on page 2-5 for information about how this user account is used. If the specified roles are not assigned to this user account, then Oracle Identity Manager cannot connect to the target system.

Step 2: Copying the Connector Files and External Code Files

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

Note: The connector files listed in the first column of this table are in the following directory on the installation media:

`Enterprise Applications/SAP Enterprise Portal`

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

Connector File/External Code File	Destination Directory
Files in the `lib` directory	*OIM_home*`/Xellerate/SAP_EP/lib`
`lib/SAP_EP_jar/servicelistener.jar`	*OIM_home*`/Xellerate/JavaTasks` In addition, copy this file into the `lib` directory inside the SAP Enterprise Portal connector deployment directory as shown in the following sample directory path: `D:/usr/sap/EP6J/j2ee/j2ee_00/cluster/server/services/servlet_jsp/work/jspTemp/irj/root/WEB-INF/portal/lib`
`par/ConnectorService.par`	Refer to the "Step 3: Deploying Web Services on the Target System" section on page 2-4.
Files in the `resources` directory	*OIM_home*`/xellerate/connectorResources`
Files in the `test` directory	*OIM_home*`/Xellerate/SAP_EP/test`
Files in the `xml` directory	*OIM_home*`/Xellerate/SAP_EP/xml`

Connector File/External Code File	Destination Directory
The following files from the *OIM_home*/xellerate directory: prtapi.jar prtconnection.jar prtcoreservice.jar prtdeploymentapi.jar prtjsp_api.jar prttest.jar	Copy these files into the lib directory inside the SAP Enterprise Portal connector deployment directory as shown in the following sample directory path: D:/usr/sap/EP6J/j2ee/j2ee_00/cluster/server/services/servlet_jsp/work/jspTemp/irj/root/WEB-INF/portal/.lib
The following files from the SAP EP installation directory: BaseComps.jar com.sap.portal.pcd.basicrolefactoryapi.jar com.sap.portal.pcd.glserviceapi.jar com.sap.portal.pcd.umwrapperserviceapi.jar com.sap.portal.pcmbuilderserviceapi.jar com.sap.portal.usermanagementcore.jar com.sap.security.api.jar com.sap.security.api.perm.jar com.sap.security.core.jar connector.jar exception.jar j2ee.jar jARM.jar Jta.jar Logging.jar P9base.jar P9oracle.jar P9util.jar pcdglstandalone.jar prtapi.jar prtjndisupport.jar prtregistry.jar sapj2eeclient.jar umeuseradminbase.jar util.jar	*OIM_home*/Xellerate/JavaTasks
The following files from the Apache Web site at http://ws.apache.org/axis/ axis.jar jaxrpc.jar commons-logging.jar commons-discovery.jar **See Also:** The "Downloading the Apache Axis JAR Files" section on page 2-4 for more information.	*OIM_home*/Xellerate/JavaTasks

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.

Downloading the Apache Axis JAR Files

Download the Apache Axis JAR files that are required for SOAP communication with the Web service running on the SAP Enterprise Portal 6.0 server. The version of Axis used is `axis-1_3`. You can download the JAR files from

`http://ws.apache.org/axis/`

You must copy these JAR files into the `JavaTasks` directory of Oracle Identity Manager. In a clustered environment, you must copy these JAR files into the `JavaTasks` directory of each node of the cluster.

Step 3: Deploying Web Services on the Target System

To be able to use Web services with the SAP Enterprise Portal connector, you must deploy the `ConnectorService.par` file as follows:

1. Log in to SAP Enterprise Portal as the administrator.
2. Click the **Java Development** tab, the **Development** secondary tab, and then **Component Manager.**
3. In the Archive Uploader region, browse to the `ConnectorService.par` file, and then click **Upload.** After the file is uploaded, an INFO message is displayed.
4. From the list in the Archive Deployment Checker region, select **WSPortlet,** and then click **Refresh**.

Step 4: Configuring the Oracle Identity Manager Server

Note: In this guide, the term *Oracle Identity Manager server* refers to the computer on which Oracle Identity Manager is installed.

Configuring the Oracle Identity Manager server involves performing 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
- Configuring the sapum.properties File
- Enabling Logging

Changing to the Required Input Locale

Changing to the required input locale (language and country setting) involves installing the required fonts and setting the required input locale.

You may require the assistance of the system administrator to change to the required input locale.

Clearing Content Related to Connector Resource Bundles from the Server Cache

While performing the instructions described in the "Step 2: Copying the Connector Files and External Code Files" section on page 2-2, you copy files from the `resources` directory on the installation media into the *`OIM_home`*`/xellerate/connectorResources` directory. Whenever you add a new resource bundle in the `connectorResources` directory or make a change in an existing resource bundle, 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.

   Note: You must perform Step 1 before you perform Step 2. If you run the command described in Step 2 as follows, then an exception is thrown:

   `OIM_home``/xellerate/bin/`*`batch_file_name`*

2. Enter one of the following commands:

   - On Microsoft Windows:

     ```
     PurgeCache.bat ConnectorResourceBundle
     ```

   - On UNIX:

     ```
     PurgeCache.sh ConnectorResourceBundle
     ```

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

   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`

Configuring the sapum.properties File

The `sapum.properties` file is in the *`OIM_home`*`/Xellerate/SAP_EP/lib` directory. To configure this file, first open it in a text editor and then specify values for the parameters in the Database Settings section of the file.

If the data source used by SAP EP is SAP R3 or LDAP, then you must specify values for the parameters listed in the corresponding section of the `sapum.properties` file.

Enabling Logging

When you enable logging, Oracle Identity Manager automatically stores in a log file information about events that occur during the course of provisioning and reconciliation operations. To specify the type of event for which you want logging to take place, you can set the log level to one of the following:

- `ALL`

  This level enables logging for all events.

- DEBUG

  This level enables logging of information about fine-grained events that are useful for debugging.

- INFO

  This level enables logging of informational messages that highlight the progress of the application at coarse-grained level.

- WARN

  This level enables logging of information about potentially harmful situations.

- ERROR

  This level enables logging of information about error events that may still allow the application to continue running.

- FATAL

  This level enables logging of information about very severe error events that could cause the application to stop functioning.

- OFF

  This level disables logging for all events.

The file in which you set the log level and the log file path depend on the application server that you use:

- **BEA WebLogic**

  To enable logging:

  1. Add the following lines in the *OIM_home*/xellerate/config/log.properties file:

     ```
     log4j.logger.XELLERATE=log_level
     log4j.logger.XL_INTG.SAPEPCONNECTOR=log_level
     ```

  2. In these lines, replace *log_level* with the log level that you want to set.

     For example:

     ```
     log4j.logger.XELLERATE=INFO
     log4j.logger.XL_INTG.SAPEPCONNECTOR=INFO
     ```

  After you enable logging, the log information is written to the following file:

  WebLogic_home/user_projects/domains/*domain_name*/*server_name*/*server_name*.log

- **IBM WebSphere**

  To enable logging:

  1. Add the following lines in the *OIM_home*/xellerate/config/log.properties file:

     ```
     log4j.logger.XELLERATE=log_level
     log4j.logger.XL_INTG.SAPEPCONNECTOR=log_level
     ```

  2. In these lines, replace *log_level* with the log level that you want to set.

     For example:

     ```
     log4j.logger.XELLERATE=INFO
     log4j.logger.XL_INTG.SAPEPCONNECTOR=INFO
     ```

After you enable logging, the log information is written to the following file:

WebSphere_home/AppServer/logs/*server_name*/startServer.log

- **JBoss Application Server**

  To enable logging:

  1. In the *JBoss_home*/server/default/conf/log4j.xml file, locate or add the following lines:

```
<category name="XELLERATE">
   <priority value="log_level"/>
</category>

<category name="XL_INTG.SAPEPCONNECTOR">
   <priority value="log_level"/>
</category>
```

  2. In the second XML code line of each set, replace *log_level* with the log level that you want to set. For example:

```
<category name="XELLERATE">
   <priority value="INFO"/>
</category>

<category name="XL_INTG.SAPEPCONNECTOR">
   <priority value="INFO"/>
</category>
```

  After you enable logging, the log information is written to the following file:

  JBoss_home/server/default/log/server.log

- **OC4J**

  To enable logging:

  1. Add the following lines in the *OIM_home*/xellerate/config/log.properties file:

```
log4j.logger.XELLERATE=log_level
log4j.logger.XL_INTG.SAPEPCONNECTOR=log_level
```

  2. In these lines, replace *log_level* with the log level that you want to set.

     For example:

```
log4j.logger.XELLERATE=INFO
log4j.logger.XL_INTG.SAPEPCONNECTOR=INFO
```

  After you enable logging, the log information is written to the following file:

  OC4J_home/opmn/logs/default_group~home~default_group~1.log

Step 5: Importing the Connector XML File

As mentioned in the "Files and Directories That Comprise the Connector" section on page 1-5, the connector XML file contains definitions of the components of the connector. By importing the connector XML file, you create these components in Oracle Identity Manager.

To import the connector XML file 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 `SAPEPResourceObject.xml` file, which is in the *`OIM_home`*`/Xellerate/xml` directory. Details of this XML file are shown on the File Preview page.

   Note: The connector version is also displayed on this 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 `SAP EP IT Resource` IT resource is displayed.
8. Specify values for the parameters of the `SAP EP IT Resource` IT resource. Refer to the "Defining IT Resources" section on page 2-8 for information about the values to be specified.
9. If you want to configure the connector for another instance of the target system, then:
   a. Click **Next**. The Provide IT Resource Instance Data page for a new instance of the `SAP EP IT Resource` IT resource type is displayed.
   b. To define an IT resource for the next instance of the target system, first assign a name to the new IT resource on this page. Then, refer to the "Defining IT Resources" section on page 2-8 for information about the values to be specified for the parameters of the new IT resource.

   Repeat Steps a and b for the remaining instances of the target system.

   See Also: *Oracle Identity Manager Tools Reference Guide*

10. Click **Skip** after you define IT resources for all the instances of the target system. The Confirmation page is displayed.
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. These nodes represent Oracle Identity Manager entities that are redundant. Before you import the connector XML file, you must remove these entities by right-clicking each node and then selecting **Remove**.
12. Click **Import**. The connector XML file is imported into Oracle Identity Manager.

After you import the connector XML file, proceed to the "Step 6: Configuring the SAP Change Password Function" section on page 2-10.

Defining IT Resources

You must specify values for the `SAP EP` IT resource parameters listed in the following table.

Parameter	Description
SAPUMLocation	This parameter holds the location of the sapum.properties file. This file contains information to connect to the target SAP EP system. Sample value: *OIM_home*/Xellerate/SAP_EP/lib
TimeStamp	For the first reconciliation run, the time-stamp value is not set. For subsequent rounds of reconciliation, the time at which the previous round of reconciliation was completed is stored in this parameter. The following are sample timestamp values: ■ English: Jun 01, 2006 at 10:00:00 GMT+05:30 ■ French: juil. 01, 2006 at 10:00:00 GMT+05:30 ■ Japanese: 6 01, 2006 at 10:00:00 GMT+05:30
WSDLLocation	This parameter holds the location of the WSDL URL, where the Web service is running in SAP Enterprise Portal 6.0. For example: To determine the WSDL URL: 1. Log in to SAP EP as an administrator. 2. Click the **System Administration** tab. 3. Click the **Support** tab. 4. Select **Portal Runtime** in the Top Level Areas region. The Portal Support Desk: Portal Runtime page is displayed. 5. On this page, click **SOAP Admin** in the Test and Configuration Tools region. The SOAP Administration page is displayed. 6. On this page, select **Web Services.** All the Web Services are displayed. 7. Click **com.sap.portal.prt.soap.ConnectorService.** All the WSDL files are displayed. 8. Click the **Present** link next to RPC Literal. An XML file is opened. 9. In the XML file, search for the tag that starts with the following text: <soap:address location= This tag holds the WSDL URL of the Web service. For example: <soap:address location="http://mlbpsap02:50000/irj/servlet/prt/soap/com.sap.portal.prt.soap.ConnectorService?style=rpc_lit" /> 10. Enter the WSDL URL as the value of the WSDLLocation parameter.

Parameter	Description
CustomizedReconQuery	Query condition on which reconciliation must be based If you specify a query condition for this parameter, then the target system records are searched based on the query condition. If you want to reconcile all the target system records, then do not specify a value for this parameter. The query can be composed with the AND (&) and OR (|) logical operators. Sample value: firstname=John For more information about this parameter, refer to the "Partial Reconciliation" section on page 3-1.

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

Step 6: Configuring the SAP Change Password Function

You can configure the Change Password function to modify password behavior in scenarios such as when a user profile on the target system gets locked or expires. For such scenarios, you can configure the system so that the administrator is not able to reset the password for a locked or expired user profile. This helps prevent discrepancies between data in Oracle Identity Manager and the target system.

To configure the Change Password function:

See Also: *Oracle Identity Manager Design Console Guide*

1. Open the Oracle Identity Manager Design Console.
2. Expand the **Process Management** folder.
3. Open the **Process Definition** form.
4. Select the SAP EP Process process definition.
5. Double-click the **Password Updated** task.
6. On the Integration tab, specify values for the following parameters:
   - ValidityChange: You can specify either true or false.
     - True: If the user's validity period has expired, then it is extended to the date specified in the ValidTo parameter.
     - False: If the user's validity period has expired, then it does not extend the validity and the user's password cannot be changed.
   - lockChange: You can specify either true or false.
     - True: If the user is locked but not by the administrator, then the user is unlocked before the change of password. If the user is locked by the administrator, then the password cannot be changed.
     - False: If the user is locked, then the password cannot be changed.
   - ValidTo: Date to which the user's validity must be extended. The date format must be as follows:

     Apr 1 10 11:18:29 AM

If this field is left empty, then the value is set to `1970-01-01`, which is the default date.

Note: The values specified are case-sensitive and must match the case in the SAP system.

3

Configuring the Connector

After you deploy the connector, you must configure it to meet your requirements. This chapter discusses the following connector configuration procedures:

> **Note:** These sections provide both conceptual and procedural information about configuring the connector. It is recommended that you read the conceptual information before you perform the procedures.

Configuring Reconciliation

As mentioned earlier in this guide, reconciliation involves duplicating in Oracle Identity Manager additions of and modifications to user accounts on the target system. This section discusses the following topics related to configuring reconciliation:

- Partial Reconciliation
- Configuring Trusted Source Reconciliation
- Configuring the Reconciliation Scheduled Tasks

Partial Reconciliation

By default, all target system records that are added or modified after the last reconciliation run are reconciled during the current reconciliation run. You can customize this process by specifying the subset of added or modified target system records that must be reconciled. You do this by creating filters for the reconciliation module.

For this connector, you create a filter by specifying values for the `CustomizedReconQuery` IT resource parameter while performing the procedure described in the "Defining IT Resources" section on page 2-8.

The following table lists the SAP Enterprise Portal attributes that you can use to build the query condition. You specify this query condition as the value of the `CustomizedReconQuery` parameter.

SAP EP Attribute	Oracle Identity Manager Attribute
uniquename	UserID
firstname	FirstName
lastname	LastName
department	Department

SAP EP Attribute	Oracle Identity Manager Attribute
email	EmailID
telephone	Telephone
mobile	Mobile
fax	Fax
streetaddress	Street
city	City
zip	Zip
country	Country
state	State
locale	Language
timezone	TimeZone
Groups	Groups
Roles	Roles

The following are sample query conditions:

- `firstname=John&lastname=Doe`

  With this query condition, records of users whose first name is John and last name is Doe are reconciled.

- `firstname=John&lastname=Doe|email=test@acme.com`

  With this query condition, records of users who meet either of the following conditions are reconciled:

  – The user's first name is `John` or last name is `Doe`.

  – The user's e-mail address is `test@acme.com`.

If you do not specify values for the `CustomizedReconQuery` parameter, then all the records in the target system are compared with existing Oracle Identity Manager records during reconciliation.

You must apply the following guidelines while specifying a value for the `CustomizedReconQuery` parameter:

- For the SAP Enterprise Portal attributes, you must use the same case (uppercase or lowercase) as given in the table shown earlier in this section. This is because the attribute names are case-sensitive.
- You must not include unnecessary blank spaces between operators and values in the query condition.

  A query condition with spaces separating values and operators would yield different results as compared to a query condition that does not contain spaces between values and operators. For example, the output of the following query conditions would be different:

  ```
  firstname=John&lastname=Doe
  ```

  ```
  firstname= John&lastname= Doe
  ```

  In the second query condition, the reconciliation engine would look for first name and last name values that contain a space at the start.

- You must not include special characters other than the equal sign (=), ampersand (&), and vertical bar (|) in the query condition.

  Note: An exception is thrown if you include special characters other than the equal sign (=), ampersand (&), and vertical bar (|).

- To specify multiple roles and groups in the query, roles and groups must be provided with the comma separator.

You specify a value for the `CustomizedReconQuery` parameter while performing the procedure described in the "Defining IT Resources" section on page 2-8.

Configuring Trusted Source Reconciliation

While configuring the connector, the target system can be designated as a trusted source or target resource. If you designate the target system as a **trusted source**, then both newly created and modified user accounts are reconciled in Oracle Identity Manager. If you designate the target system as a **target resource**, then only modified user accounts are reconciled in Oracle Identity Manager.

Note: You can skip this section if you do not want to designate the target system as a trusted source for reconciliation.

Configuring trusted source reconciliation involves the following steps:

1. Import the XML file for trusted source reconciliation, `SAPEPXLResourceObject.xml`, by using the Deployment Manager. This section describes the procedure to import the XML file.
2. Set the `IsTrustedSource` scheduled task attribute to `True`. You specify a value for this attribute while configuring the user reconciliation scheduled task, which is described later in this guide.

To import the XML file for trusted source reconciliation:

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 `SAPEPXLResourceObject.xml` file, which is in the *`OIM_home`*`/Xellerate/SAP_EP/xml` 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**.

After you import the XML file for trusted source reconciliation, you must set the value of the `IsTrustedSource` reconciliation scheduled task attribute to `True`. This procedure is described in the "Configuring the Reconciliation Scheduled Tasks" section on page 3-4.

Configuring the Reconciliation Scheduled Tasks

When you perform the procedure described in the "Step 5: Importing the Connector XML File" section on page 2-7, the scheduled tasks for lookup fields and user reconciliations are automatically created in Oracle Identity Manager. To configure the scheduled task:

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. For the first scheduled task, 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. In the Interval region, set the following schedule parameters:
   - To set the task to run on a recurring basis, select the **Daily**, **Weekly**, **Recurring Intervals**, **Monthly**, or **Yearly** option.

     If you select the **Recurring Intervals** option, then you must also specify the time interval at which you want the task to run on a recurring basis.
   - To set the task to run only once, select the **Once** option.
9. Provide values for the attributes of the scheduled task. Refer to the "Specifying Values for the Scheduled Task Attributes" section on page 3-4 for information about the values to be specified.

   See Also: *Oracle Identity Manager Design Console Guide* for information about adding and removing task attributes
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 "Configuring Provisioning" section on page 3-6.

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 `SAPEP LookupRecon` 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.
- Values (either default or user-defined) must be assigned to all the attributes. If even a single attribute value were left empty, then reconciliation would not be performed.

Attribute	Description	Sample Value
ITResource	Name of the IT resource for setting up a connection to SAP Enterprise Portal	SAP EP IT Resource

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

User Reconciliation Scheduled Task You must specify values for the following attributes of the SAPEP UserRecon 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.
- Values (either default or user-defined) must be assigned to all the attributes. If even a single attribute value were left empty, then reconciliation would not be performed.

Attribute	Description	Sample Value
Organization	Default organization assigned to a new user	OIM Users
Xellerate Type	Default type assigned to a new user	End-User Administrator
Role	Default employee type assigned to a new user	Consultant
ITResource	Name of the IT resource for setting up a connection with SAP	SAP EP IT Resource
ResourceObject	Name of the resource object that is used for user reconciliation	SAP EP Resource Object
IsTrustedSource	Configuration for trusted/nontrusted target If it is set to True, then it is a trusted target. If it is set to False, then the target is a nontrusted target. By default, the value is false.	False

Attribute	Description	Sample Value
FirstTimeReconRecords	Number of records to be fetched during first-time reconciliation, if the reconciliation scheduled task times out Initially, Oracle Identity Manager tries to fetch all the records. If the process times out, then Oracle Identity Manager tries to fetch the number of records specified by this parameter. If the task times out even before this number of records are fetched, then Oracle Identity Manager tries to fetch records by recursively dividing this number by two, until all records are fetched from the target system.	5000
XLDeleteUsersAllowed	Flag that specifies whether or not users are to be deleted in Oracle Identity Manager during user reconciliation	False

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

Stopping Reconciliation

Suppose the User Reconciliation Scheduled Task for the connector is running and user records are being reconciled. If you want to stop the reconciliation process:

1. Perform Steps 1 through 4 of the procedure to configure reconciliation scheduled tasks.
2. Select the **Stop Execution** check box in the task scheduler.
3. Click **Save**.

Configuring Provisioning

As mentioned earlier in this guide, provisioning involves creating or modifying a user's account information on the target system through Oracle Identity Manager. Refer to the "Supported Functionality" section on page 1-4 for a listing of the provisioning functions that are available with this connector.

Note: You must perform the procedure described in this section if you want to use the provisioning features of the connector.

Adapters are used to implement provisioning functions. The following adapters are imported into Oracle Identity Manager when you import the connector XML file:

See Also: The "Supported Functionality" section on page 1-4 for a listing of the provisioning functions that are available with this connector

- SAP EP Remove Role
- SAP EP Remove Group
- SAP EP Password Change
- SAP EP Modify User Date

- SAP EP Modify User
- SAP EP Delete User
- SAP EP Create User
- SAP EP Add Role
- SAP EP Add Group
- SAP EP Lock UnLock User
- PrePopulate SAP EP Form

You must compile these adapters before they can be used in provisioning operations.

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 **Compile All**.

   To compile multiple (but not all) adapters, select the adapters you want to compile. Then, select **Compile Selected**.

   Note: Click **Compile Previously Failed** to recompile only those adapters that were not compiled successfully. Such adapters do not have an OK compilation status.

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.

If you want to compile one adapter at a time, then use the Adapter Factory form.

See Also: *Oracle Identity Manager Tools Reference Guide* for information about using the Adapter Factory and Adapter Manager forms

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.

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 SAP Enterprise Portal.

You may want to configure the connector for multiple installations of SAP Enterprise Portal. The following example illustrates this requirement:

The Tokyo, London, and New York offices of Acme Multinational Inc. have their own installations of SAP Enterprise Portal. The company has recently installed Oracle Identity Manager, and they want to configure Oracle Identity Manager to link all the installations of SAP Enterprise Portal.

To meet the requirement posed by such a scenario, you must configure the connector for multiple installations of SAP Enterprise Portal.

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

> **See Also:** *Oracle Identity Manager Design Console Guide* for detailed instructions on performing each step of this procedure

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

   The Resource Objects form is in the Resource Management folder. The `SAP EP Resource Object` 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 `SAP EP IT Resource` 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 process definition.

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

   - `UD_SAPEP` (parent form)
   - `UD_SAPEPROL` (child form for multivalue attributes)
   - `UD_SAPEPGP` (child form for multivalue attributes)

   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 `SAP EP Process` 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 "Configuring Reconciliation" section on page 3-1 for instructions. Note that only the values of the following attributes are to be changed for each reconciliation scheduled task:

- `ITResource`
- `ResourceObject`
- `IsTrustedSource`

Set the `IsTrustedSource` attribute to `True` for the SAP Enterprise Portal installation that you want to designate as a trusted source.

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

When you use the Administrative and User Console to perform provisioning, you can specify the IT resource corresponding to the SAP Enterprise Portal installation to which you want to provision the user.

4

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
- Troubleshooting

Running Test Cases

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

To use the testing utility:

1. Specify the required values in the `global.properties` file.

   This file is in the *`OIM_home`*`/Xellerate/SAP_EP/test/Troubleshoot` directory. The following table describes the sections of this file in which you must provide information for running the tests.

Section	Information
SAP Enterprise Portal connection Parameters	Connection parameters required to connect to the target system Refer to the "Defining IT Resources" section on page 2-8 for information about the values that you must provide.
Create User Parameters	Field information required to create a user profile
Modify User Parameters	This covers multiple sections of parameters that are used to modify user profile information.
Delete User Parameters	Field information required to delete a user profile
Reconciliation information	The From Date time stamp The To Date is set to the current date and time by default.

2. Add all the JAR files mentioned in the "Step 2: Copying the Connector Files and External Code Files" section on page 2-2 to the `CLASSPATH` environment variable. In addition, you need to add the JAR files in the following directories to the `CLASSPATH` environment variable:

   Sample commands for setting the `CLASSPATH` environment variable is given in the `global.properties` file.

   `OIM_home``/xellerate/lib`
   `OIM_home``/xellerate/ext`

3. Create an ASCII-format copy of the `global.properties` file as follows:

   Note: You must perform this procedure every time you make a change in the contents of the `global.properties` file.

   a. In a command window, change to the following directory:

      OIM_home/Xellerate/sapep/test/Troubleshoot

   b. Enter the following command:

      ```
      native2ascii global.properties troubleshoot.properties
      ```

      The `troubleshoot.properties` is created when you run the `native2ascii` command. The contents of this file are an ASCII-format copy of the contents of the `global.properties` file.

4. Perform the following tests:

   - Enter the following command to create a user:

     ```
     java
     -DTproperties=OIM_home/Xellerate/SAP_EP/test/Troubleshoot/troubleShoot.prop
     erties
     -Dlog4j.configuration=file:/OIM_home/Xellerate/SAP_EP/test/Troubleshoot/log
     .properties troubleshoot.TroubleShootUtility C
     ```

   - Enter the following command to modify a user:

     ```
     java
     -DTproperties=OIM_home/Xellerate/SAP_EP/test/Troubleshoot/troubleShoot.prop
     erties
     -Dlog4j.configuration=file:/OIM_home/Xellerate/SAP_EP/test/Troubleshoot/log
     .properties troubleshoot.TroubleShootUtility M
     ```

   - Enter the following command to delete a user:

     ```
     java
     -DTproperties=OIM_home/Xellerate/SAP_EP/test/Troubleshoot/troubleShoot.prop
     erties
     -Dlog4j.configuration=file:/OIM_home/Xellerate/SAP_EP/test/Troubleshoot/log
     .properties troubleshoot.TroubleShootUtility D
     ```

   - Enter the following command to test reconciliation:

     ```
     java
     -DTproperties=OIM_home/Xellerate/SAP_EP/test/Troubleshoot/troubleShoot.prop
     erties
     -Dlog4j.configuration=file:/OIM_home/Xellerate/SAP_EP/test/Troubleshoot/log
     .properties troubleshoot.TroubleShootUtility R
     ```

Testing Partial Reconciliation

To test query-based reconciliation, you can specify the following types of query conditions as values for the `CustomizedReconQuery` parameter:

- Simple query with user attributes

  Value assigned to the `CustomizedReconQuery` parameter: `firstname=John`

The users with first name John are reconciled.

- Query consisting of '&' and '|' logical operators

  Value assigned to the CustomizedReconQuery parameter: firstname=John&lastname=Doe|email=John@acmewidgets.com

  The users with first name John, the users with last name Doe, and the users with email id John@acmewidgets.com are reconciled.

- Query consisting of logical operators and groups

  Value assigned to the CustomizedReconQuery parameter: firstname=John&lastname=Doe|email=John@acmewidgets.com&Groups=group01

  The user with first name John, last name Doe, and email id John@acmewidgets.com is reconciled only if the user belongs to the group01 group.

- Query consisting of logical operators and roles

  Value assigned to the CustomizedReconQuery parameter: firstname=John&lastname=Doe|email=John@acmewidgets.com&Roles=pcd:portal_content/mycompany/RL_DEMO

  The users with first name John and last name Doe, and the users with email id John@acmewidgets.com are reconciled only if the users belong to the pcd:portal_content/mycompany/RL_DEMO role.

- Query consisting of logical operators and lookup code

  Value assigned to the CustomizedReconQuery parameter: firstname=John&lastname=Doe|email=John@acmewidgets.com&country=US

  The users with first name John and last name Doe, and the users with email id John@acmewidgets.com, who are located in the United States of America, are reconciled.

- Query consisting of roles only

  Value assigned to the CustomizedReconQuery parameter: Roles=pcd:portal_content/mycompany/RL_DEMO, pcd:portal_content/mycompany/ROLESP

  The users who belong to both the pcd:portal_content/mycompany/RL_DEMO and pcd:portal_content/mycompany/ROLESP roles are reconciled.

- Query consisting of groups only

  Value assigned to the CustomizedReconQuery parameter: Groups=group01, group02

  The users who belong to both the group01 and group02 groups are reconciled.

Troubleshooting

The following sections list solutions to some commonly encountered issues associated with this connector:

- Connection Errors
- Create User

- Delete User
- Modify User
- Child Data

Connection Errors

The following table lists solutions to some commonly encountered connection errors.

Problem Description	Solution
Oracle Identity Manager cannot establish a connection to SAP Enterprise Portal. **Returned Error Message:** SAP Connection exception **Returned Error Code:** `INVALID_CONNECTION_ERROR`	■ Ensure that SAP Enterprise Portal is running and that the `sapum.properties` file has been correctly configured. ■ Ensure that Oracle Identity Manager is running (that is, the database is running). ■ Ensure that all the adapters have been compiled. ■ Examine the Oracle Identity Manager record (from the IT Resources form). Ensure that the IP address, admin ID, and admin password are correct.
Target not available **Returned Error Message:** Target Server not available Connection error - unable to create SAP Enterprise Portal Connection. **Returned Error Code:** `TARGET_UNAVAILABLE_ERROR`	■ Ensure that SAP Enterprise Portal is running. ■ Ensure that the specified SAP Enterprise Portal connection values are correct.
Authentication error **Returned Error Message:** Authentication error **Returned Error Code:** `AUTHENTICATION_ERROR`	Ensure that the specified SAP Enterprise Portal connection user ID and password are correct.

Create User

The following table lists solutions to some commonly encountered Create User errors.

Problem Description	Solution
Oracle Identity Manager cannot create a user **Returned Error Message:** Required information missing **Returned Error Code:** `SAPEP.INSUFFICIENT_INFORMATION`	Ensure that the following information has been provided: ■ User ID ■ User first name ■ User last name ■ User password ■ User e-mail address

Problem Description	Solution
Oracle Identity Manager cannot create a user **Returned Error Message:** User already exists in SAP EP **Returned Error Code:** `USER_ALREADY_EXIST`	User with the assigned ID already exists in SAP Enterprise Portal. Assign a new ID to this user, and try again.
Oracle Identity Manager cannot create a user **Returned Error Message:** Could not create user **Returned Error Code:** `USER_CREATION_FAILED`	User could not be created because of any one of the following reasons: ■ The Change Password function failed. ■ Values for mandatory fields have not been specified.

Delete User

The following table lists solutions to some commonly encountered Delete User errors.

Problem Description	Solution
Oracle Identity Manager cannot delete a user. **Returned Error Message:** Require information missing **Returned Error Code:** `SAPEP.INSUFFICIENT_INFORMATION`	Ensure that the required information has been provided. In this case, the required information is the user ID.
Oracle Identity Manager cannot delete a user. **Returned Error Message:** User does not exist **Returned Error Code:** `USER_DOESNOT_EXIST`	The specified user does not exist in SAP Enterprise Portal.

Modify User

The following table lists solutions to some commonly encountered Modify User errors.

Problem Description	Solution
Oracle Identity Manager cannot update new information about the user. **Returned Error Message:** Could not modify user **Returned Error Code:** `USER_MODIFICATION_FAILED`	Generic error. Review the log for more details.

Problem Description	Solution
Oracle Identity Manager cannot update a user. **Returned Error Message:** User does not exist **Returned Error Code:** `USER_DOESNOT_EXIST`	The specified user does not exist in SAP Enterprise Portal. Check the user ID.

Child Data

The following table lists solutions to some commonly encountered Child Data errors.

Problem Description	Solution
Oracle Identity Manager cannot add a user to a group. **Returned Error Message:** Group does not exist **Returned Error Code:** `GROUP_DOESNOT_EXIST`	The specified group does not exist in SAP Enterprise Portal. Check the name of the group.
Oracle Identity Manager cannot add a role to a user **Returned Error Message:** Role does not exist **Returned Error Code:** `SAPEP.ROLE_DOESNOT_EXIST`	The specified role for the user in Oracle Identity Manager does not exist in SAP Enterprise Portal. Check the role name.

Trying to add a duplicate value to a group or role.
Returned Error Message:
Role has already been assigned to user
Selected group is already assigned to user
Returned Error Code:
`ROLE_ALREADY_EXISTS`
`GROUP_ALREADY_EXISTS`
	The user has already been added to the particular profile or role.

5

Known Issues

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

- The configuration details of the SAP Enterprise Portal database are in plaintext in the `sapum.properties` file, the location of which is available in the IT resource definition. This poses a security threat.
- The connector uses the UME APIs that communicate directly with the data sources on the target systems instead of going through the SAP system. These data sources could be SAP Base, the Database, or LDAP.
- For certain functionality, such as Portal Role lookups, a SAP Enterprise Portal plug-in must be installed on the SAP Enterprise Portal server. Therefore, there is a dependency on the availability of the SAP Enterprise Portal server.
- After the connector is deployed, the first task that can be performed is lookup reconciliation. If the size of the lookup field that is being reconciled is more than 100, then an exception may be thrown. To resolve this issue, you must change the size of the column in the LKV table by running the following commands on the database:
  - `ALTER TABLE LKV MODIFY (LKV_ENCODED VARCHAR2(300 BYTE));`
  - `ALTER TABLE LKV MODIFY (LKV_DECODED VARCHAR2(300 BYTE));`
- Suppose a user is created in SAP Enterprise Portal and then locked. If this user is reconciled for the first time, then the user might not get locked because linking in Oracle Identity Manager takes place in an asynchronous manner. If the same user is reconciled for the second time, then the user gets locked.
- During lookup fields reconciliation, the Role field is reconciled in English. This is because SAP Enterprise Portal does not allow you to specify the role ID in non-English languages, although a non-English language can be used for the role name.
- The connector does not support Secure Network Communication (SNC) or Secure Sockets Layer (SSL).
- 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 language 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.

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