

Oracle® Identity Manager

Connector Guide for SAP Enterprise Portal

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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: This is a transitional release following Oracle's acquisition of Thor Technologies. 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.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at

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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 Framework Guide*
- Connector guides for various third-party applications

Documentation Updates

Oracle is committed to delivering the best and most recent information available. For information about updates to the Oracle Identity Manager 9.0.1 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.
<i>italic</i>	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.

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:

- [Supported Functionality](#)
- [Reconciliation Module](#)
- [Provisioning Module](#)
- [Files and Directories That Comprise the Connector](#)

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 system
Update User	Provisioning	Updates a user in the SAP system
Delete User	Provisioning	Deletes a user from the SAP system
Reset Password	Provisioning	Updates the user password in the SAP system
Lock User	Provisioning	Locks a user in the SAP system
UnLock User	Provisioning	Unlocks a locked user in the SAP system
Add Role	Provisioning	Adds a role to a user in the SAP system
Add Group	Provisioning	Adds a group to a user in the SAP system
Remove Role	Provisioning	Removes the role of a user in the SAP system
Remove Group	Provisioning	Removes a group from a user in the SAP system
List Roles of User	Provisioning	Lists the roles of a user in the SAP system

Function	Type	Description
List Groups of User	Provisioning	Lists the groups of a user in the SAP system
List All Roles	Provisioning	Lists all the roles present in the SAP system
List All Groups	Provisioning	Lists all the groups present in the SAP system
Reconciliation Insert Received	Reconciliation	Inserts a user into Oracle Identity Manager if a user is created in the SAP system
Reconciliation Update Received	Reconciliation	Updates a user in Oracle Identity Manager if a user is updated in the SAP system
Reconciliation Delete Received	Reconciliation	Deletes a user in Oracle Identity Manager if a user is deleted in the SAP system

Note: This release of the SAP Enterprise Portal connector does not support Secure Network Communication (SNC) or Secure Sockets Layer (SSL).

Reconciliation Module

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

- The default data elements of each reconciliation event record are Organization, Xellerate type, and Role.
- The default labels for the data elements in each reconciliation event record are:
 - Event Linked (for successful reconciliation)
 - No Matched Found (for failed reconciliation)
- The TimeStamp parameter present in the IT Resource is used for the reconciliation. Its value is the date and time from which records for reconciliation must be fetched.
- The IsTrustedSource parameter of the Task Scheduler specifies whether user reconciliation is in trusted or nontrusted mode.

Reconciled SAP Enterprise Portal Resource Object Fields

When Oracle Identity Manager and the SAP Enterprise Portal system are reconciled, the following fields are mapped:

- Street
- City
- State
- Zip
- Country
- TimeZone
- Department
- ValidFrom

- ValidTo
- Locked
- UserID (Required Field)
- Password
- ITResourceType
- FirstName
- LastName
- EmailID
- Language
- Telephone
- Fax
- Mobile
- Groups
 - Group
- Roles
 - Role

For user reconciliation to work, the following lookup definitions must be available and the lookup values must be reconciled before the user reconciliation scheduled task is triggered.

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

Reconciled Oracle Identity Manager User Fields

The following fields are reconciled:

- UserID
- Password
- FirstName
- LastName
- EmailID
- Organization
- Xellerate Type
- Role
- Valid From
- Valid To

Provisioning Module

The following fields must be specified for a provisioning task to work for SAP Enterprise Portal resource objects:

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

Note: For the Create User task to work without portal roles, users might not be able to view the portal content in SAP Enterprise Portal.

Files and Directories That Comprise the Connector

The files and directories that comprise this connector are compressed in the SAP Enterprise Portal Rev 1.0.0.zip file, which is in the following directory on the installation media:

Enterprise Applications\SAP Enterprise Portal\

These files and directories are listed in the following table.

File Name with Path	Description
xml\SAPEPResourceObject.xml	<p>These files contain all the component definitions required for the SAP Enterprise Portal connector. These components include the following objects for SAP Enterprise Portal:</p> <ul style="list-style-type: none"> ■ IT Resource definition ■ SAP User form ■ Lookup definitions ■ Adapters ■ Resource object ■ Process definition ■ Reconciliation scheduled tasks ■ Task Scheduler
xml\SAPEPXLResourceObject.xml	<p>This file is used only if the connector is configured as a trusted source. The SAPEPXLResourceObject.xml file contains only the Oracle Identity Manager resource objects and dependent values.</p>
lib\SAPEPConnector.jar	<p>This is the connector code JAR file.</p>

File Name with Path	Description
<p>The lib\SAP_EP_jar.zip includes the following files:</p> <p>BaseComps.jar com.mphasis.portal.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 jARM.jar jta.jar log4j-1.2.8.jar logging.jar P9base.jar P9oracle.jar P9util.jar pcdglstandalone.jar prtapi.jar prtjndisupport.jar prtregistry.jar resolver.jar sapj2eeclient.jar umeuseradminbase.jar util.jar xercesImpl.jar xercesSamples.jar xml-apis.jar j2ee.jar</p>	<p>These JAR files contain the class files required for forward provisioning, reconciliation, master maintenance, and troubleshooting between Oracle Identity Manager, SAP Enterprise Portal, and UME.</p>
<p>The SAP_EP_jar.zip file in the lib directory also contains these Apache Axis Jar files:</p> <p>axis.jar commons-attributes-api.jar commons-attributes-compiler.jar commons-beanutils.jar commons-codec.jar commons-collections.jar commons-dbc.jar commons-digester.jar commons-discovery.jar commons-fileupload.jar commons-httpclient.jar commons-lang.jar commons-logging.jar commons-pool.jar commons-validator.jar j2ee.jar jaxrpc.jar saa.jar wsdl4j.jar</p>	<p>These Apache Axis JAR files are required for SOAP communication with the Web service running in SAPEP 6.0. You can also download these JAR files from http://ws.apache.org/axis/</p> <p>The version of Axis used is axis-1_3.</p>

File Name with Path	Description
Other files in the lib directory: com.ora.portal.jar prtapi.jar prtconnection.jar prtcoreservice.jar prtdeploymentapi.jar prtjsp_api.jar prttest.jar	Contains all the JAR files to be placed in the lib folder of the SAP Enterprise Portal connector deployment: D:\usr\sap\EP6J\j2ee\j2ee_00\cluster\server\services\servlet_jsp\work\jspTemp\irj\root\WEB-INF\portal\lib
lib\properties.zip\sapum.properties	This file is required in the local system to connect to the target SAP Enterprise Portal system. This file contains the Connection parameters required to connect to the SAP Enterprise Portal. The location of this file is given in the IT Resources for the <code>SAPUMLocation</code> parameter.
The lib\properties.zip file also contains dataSourceConfiguration_database_only.xml dataSourceConfiguration_PCDRoles.xml dataSourceConfiguration_UMERoles.xml dataSourceConfiguration.dtd	These files are supportive files for the <code>sapum.properties</code> file. All these files are to be placed in the same folder along with the <code>sapum.properties</code> file.
par\WSPortlet.par	This file is deployed on the SAP Enterprise Portal system. This file is used for calling Web Services on the SAP Enterprise Portal system.
troubleshoot\log.properties troubleshoot\troubleshoot.properties	These are configuration files that contain logging, connection, and troubleshooting parameters for various connector tasks.
troubleshoot\TroubleShootingUtility.class	This utility is used to test the connector and to troubleshoot any problems that arise during the use of the connector.
docs\B31136_01.pdf docs\html	Oracle Identity Manager Connector Guide for SAP Enterprise Portal

Instructions to copy these files into the required directories are given in [Chapter 2, "Deploying the Connector"](#).

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: Deploying Web Services on the Target System](#)
- [Step 4: Importing the Connector XML File](#)
- [Step 5: Configuring Reconciliation](#)
- [Step 6: Compiling Adapters](#)
- [Step 7: Changing Passwords on SAP Enterprise Portal](#)

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 system host platform	SAP 4.7
Infrastructure requirements	SAPEP 6.0 with WAS 6.2 on SAP 4.7, UME 4.0 on SAPEP 6.0, and Axis 1.3
External code	Apache Axis JAR files. These are listed in Files and Directories That Comprise the Connector .

Step 2: Copying the Connector Files and External Code

This section describes how you can access the connector files, download external code files, and copy these into appropriate locations to deploy the connector. This section contains the following subsections:

- [Downloading JAR files from SAP Enterprise Portal](#)
- [Downloading the External Code: Apache Axis JAR Files](#)
- [Copying the Connector Files](#)

See Also: [Files and Directories That Comprise the Connector](#)

Downloading JAR files from SAP Enterprise Portal

To download these JAR files from SAP Enterprise Portal:

1. Open the WinRAR utility.
2. Browse to the
D:\usr\sap\EP6J\j2ee\j2ee_00\cluster\server\services\servlet_jsp\work\jspTemp\irj\root\ directory in WinRAR.
3. Click the **Find** button in WinRAR.
4. Enter the class name in the **File Names** field to find and keep Disks and folders to Current folder.
5. Specify * as the archive type.
6. Select all three check boxes that begin with the word **Find**, and ensure that the remaining check boxes are not selected.
7. Click **OK**.
8. Note the directory path in the results displayed.
9. Copy the JAR file from the directory whose path that you noted.

Downloading the External Code: Apache Axis JAR Files

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

<http://ws.apache.org/axis/>

Copy these JAR files into the JavaTasks directory of Oracle Identity Manager.

Copying the Connector Files

The following table describes the files that you need to copy from the SAP Enterprise Portal_ *versionno* directory and the respective destination directories.

File to Be Copied	Destination
xml\SAPEPResourceObject.xml	<i>OIM_HOME</i> \Xellerate\SAP_EP1.0.0\xml
xml\SAPEPXLResourceObject.xml	
lib\SAP_EP_jar\SAPEPConnector.jar	<i>OIM_HOME</i> \Xellerate\JavaTasks
All JAR files in the lib\SAP_EP_jar.zip file	<i>OIM_HOME</i> \Xellerate\JavaTasks
par\WSPortlet.par	See Step 3: Deploying Web Services on the Target System
JAR files in the lib\SAP_EP_par.zip file	\lib directory of the SAP Enterprise Portal installation. For example: D:\usr\sap\EP6J\j2ee\j2ee_00\cluster\server\services\servlet_jsp\work\jspTemp\irj\root\WEB-INF\portal\lib directory
troubleshoot/troubleshoot.properties	Any folder where you intend to run test cases and troubleshoot from.
troubleshoot/TroubleShootingUtility.class	For example: C:\test\troubleshoot
docs\B31136_01.pdf	<i>OIM_HOME</i> \Xellerate\SAP_EP1.0.0\docs\
docs\html	

Step 3: Deploying Web Services on the Target System

To be able to use Web Services with the SAP Enterprise Portal connector, you need to deploy the `WSPortlet.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 area, browse to the `WSPortlet.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 area, select **WSPortlet**, and then click **Refresh**.

Step 4: Importing the Connector XML File

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.
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 is displayed.
8. Specify values for the parameters of the SAP EP IT resource. Refer to the table in the [Defining IT Resources](#) section for information about the values to be specified.
9. Click **Next**. The Provide IT Resource Instance Data page for a new instance of the SAP EP 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. You must remove these nodes. To do this, right-click each such node and then select **Remove**.

12. Click **Import**. The connector file is imported into Oracle Identity Manager.
13. If you plan to use the connector in trusted source reconciliation mode, then perform the same procedure to import the `SAPEPXLResourceObject.xml` file. This file is in the `OIM_HOME\Xellerate\xml` directory.

Caution: Only one connector can be configured as a trusted source. If you import the `SAPEPXLResourceObject.xml` file while you have another trusted source configured, then both connector reconciliations would stop working.

Defining IT Resources

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

Parameter	Description and Sample Values
SAPUMLocation For example: <code>D:/EP/properties/</code>	This parameter holds information about the target SAP Enterprise Portal system. The <code>sapum.properties</code> file contains the configuration details required to integrate the target system.
TimeStamp For example: <code>Apr 07, 2006 at 10:00:00 GMT+05:30</code>	The parameter does not hold any value for the first reconciliation run. After the first reconciliation run, this parameter holds the time at which the last reconciliation run was completed.
WSDLLocation For example: <code>http://mlbpsap02:50000/irj/servlet/prt/soap/com.sap.portal.prt.soa.p.RolePortalService?style=rpc_lit</code>	This parameter holds the location of the WSDL URL, where the Web service is running in SAP Enterprise Portal 6.0.

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

Step 5: Configuring Reconciliation

Configuring reconciliation involves creating scheduled tasks for lookup fields and user reconciliations. To create these scheduled tasks:

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 should attempt to complete the task before assigning the `ERROR` status to the task.
6. Ensure that the **Disabled** and **Stop Execution** check boxes are cleared.
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 appropriate table in the [Specifying Values for the Scheduled Task Attributes](#) section 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 [Step 6: Compiling Adapters](#) section.

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.

Parameter Name	Sample Value	Description
<code>ITResource</code>	SAP EP IT Resource	Name of the IT Resource for making connection to SAP Enterprise Portal

The SAPEP Lookup Recon lookup field is not reconciled.

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.

Parameter Name	Sample Value	Description
Organization	OIM Users	Default organization assigned to a new user
Xellerate type	End-User Administrator	Default type Assigned to a new user
Role	Consultant	Default role Assigned to a new user
ITResource	SAP EP IT Resource	Name of the IT Resource for making connection to SAP
ResourceObject	SAP EP Resource Object	Name of the resource object that is used for user reconciliation
IsTrustedSource	False	Configuration for trusted/nontrusted target If <code>true</code> , then it is a trusted target. If <code>false</code> , then the target is a nontrusted target. By default, the value is <code>false</code> .
FirstTimeReconRecords	5000	Number of records to be fetched during first time reconciliation if the operation is timed out on the target SAP system
Password	Dummy	Default dummy password
XLDeleteUsersAllowed	False	Flag that determines whether or not users are to be deleted in Oracle Identity Manager during user reconciliation

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

See Also: [Reconciliation Module](#)

Step 6: Compiling Adapters

The following adapters are imported into Oracle Identity Manager when the connector XML file is deployed. You must compile these adapters before you can use them to provision accounts on the target system.

- SAP EP Remove Role
- SAP EP Remove Group
- SAP EP PasswordChange
- 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

Note: To compile multiple adapters simultaneously, use the Adapter Manager form. To compile one adapter at a time, use the Adapter Factory form.

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 adapters that you specify.

See Also: *Oracle Identity Manager Design Console Guide* for information about how to use these 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.

Step 7: Changing Passwords on SAP Enterprise Portal

The `Configuration` parameter of this connector affects the behavior of the Change Password function. You can configure password behavior in scenarios such as when a user profile gets locked or expires on the target system. In such a case, you can configure the system such that the administrator will not be able to reset the password for such a profile to prevent discrepancies between the Oracle Identity Manager system and the target system.

To configure the `Configuration` parameter of the Change Password function, do the following:

1. In the Administrative and User Console, select **Process Management and Process Definition**.
2. Select the **Password Updated** task.
3. Specify values for the following parameters:
 - `ValidityChange`: This is a flag that can accept the value `true` or `false`.
 - `True`: If the user's validity period has expired, then it is extended to the date specified in the `validityDate` 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`: This is a flag that can accept the value `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.

Testing the Connector

After you deploy the connector, you must test it to ensure that it functions as expected.

Note: In earlier releases of this guide, the connector was also referred to as the *integration*.

This chapter contains the following sections:

- [Supported Platforms](#)
- [Running Test Cases](#)
- [Troubleshooting](#)

Supported Platforms

The following table provides information about the environments on which this connector has been tested.

Oracle Identity Manager Release	Host Platform	Application Server	Database	SAP BASIS Version
8.5.3	Microsoft Windows 2003	JBoss 3.2.7	Oracle9i Database	4.7
8.5.3	Linux AS 2.1	BEA WebLogic 8.1 SP 4	Oracle9i Database	4.7
8.5.3	Solaris 9	IBM WebSphere 5.1.1.5	Oracle9i Database	4.7
9.0	Windows 2003	JBoss 4.0.2	Oracle9i Database	4.7

Running Test Cases

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

The SAP Enterprise Portal `versionno\troubleshoot` directory contains the `TroubleShootingUtility` class file and the `troubleShoot.properties` file. The troubleshooting utility uses this properties file to connect to the SAP Enterprise Portal server. This file contains the following information:

- **SAP connection parameters:** Server-related information.

- **Create User parameters:** Field information required to create a user profile.
- **Modify User parameters:** All the field information required to modify a user profile.
- **Delete User parameters:** All the field information required to delete a user profile.
- **Reconciliation information:** The "From date" timestamp information is passed from this file. The "To date" is set to the current time.
- **CLASSPATH information:** List of files to be included in the CLASSPATH:

This file also contains commands to test the following tasks:

- Create User
- Modify User
- Delete User
- Reconcile user information

In the `C:\test\troubleshoot` directory (path to troubleshoot directory), set the following SAP server connection parameters in the `troubleshooting.properties` file:

```
FirstTimeReconRecords=5000
SAPUMLocation=path to sapum.properties
WSDLLocation=WSDL URL on the SAP system
For example:
http://mlbpsap02:50000/irj/servlet/prt/soap/com.sap.portal.prt.soap.RolePortalService?style=rpc_lit
```

In the `log.properties` file in the same directory, set the path for the log files in the following parameter:

```
log4j.appender.logfile.File=log_file_path
```

Note: Ensure that all the JAR files associated with this connector are included in the CLASSPATH.

Creating a User

To test the connector for the creation of a user, specify the following information for a new user object in the `troubleshooting.properties` file.

```
userId=epTS0003
password=admin123
firstName=tshoot
lastName=testing03
email=eptrouble03@test.com
language=
telephone=123456
Fax=123456
mobile=123456
street=mystreet
city=myCity
state=myState
zip=123456
country=
timeZone=
department=
validfrom=2006-04-04
```

```
validto=2008-04-04
locked=false
```

On the command line, use the following command to create a user:

```
java -DTproperties=path_to_sapum.properties\troubleshoot\troubleShoot.properties
-Dlog4j.configuration=file:/path_to_sapum.properties/troubleshoot/log.properties
troubleshoot.TroubleShootUtility C
```

Deleting a User

Delete an SAP Enterprise Portal user as follows:

```
java -DTproperties=path_to_sapum.properties\troubleshoot\troubleShoot.properties
-Dlog4j.configuration=file:/path_to_sapum.properties/troubleshoot/og.properties
troubleshoot.TroubleShootUtility D
```

Modifying a User

Specify the following parameters in the `troubleshooting.properties` file to modify a user:

```
changeUserId=epTS0001
fieldName=FIRSTNAME
fieldValue=epTroubleShoot
```

Use the following command to modify a user:

```
java -DTproperties=path_to_sapum.properties\troubleshoot\troubleShoot.properties
-Dlog4j.configuration=file:/path_to_sapum.properties/troubleshoot/log.properties
TroubleShootingUtility M
```

Testing Reconciliation

To test reconciliation with the SAP Enterprise Portal connector, specify a timestamp for the From Date of the reconciliation run as shown:

```
fromDate=Apr 10, 2006 at 10:00:00 GMT+05:30
```

To test reconciliation from the timestamp specified to the current time, run the following command:

```
java -DTproperties=path_to_sapum.properties\troubleshoot\troubleShoot.properties
-Dlog4j.configuration=file:/path_to_sapum.properties/troubleshoot/log.properties
troubleshoot.TroubleShootUtility R
```

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
<p>Oracle Identity Manager cannot establish a connection to SAP Enterprise Portal.</p> <p>Returned Error Message: SAP Connection exception</p> <p>Returned Error Code: INVALID_CONNECTION_ERROR</p>	<ul style="list-style-type: none"> ■ Ensure that SAP Enterprise Portal is running and that the sapum.properties file has been correctly configured. ■ Verify that Oracle Identity Manager is running (that is, the database is running). ■ Verify that all the adapters have been compiled. ■ Examine the Oracle Identity Manager record (from the IT Resources form).
<p>Target not available</p> <p>Returned Error Message: Target Server not available</p> <p>Returned Error Code: TARGET_UNAVAILABLE_ERROR</p>	<p>Connection error - unable to create SAP Enterprise Portal Connection.</p> <ul style="list-style-type: none"> ■ Verify that the given SAP Enterprise Portal connection values are correct. ■ Verify that the SAP Enterprise Portal server is running.
<p>Authentication error</p> <p>Returned Error Message: Authentication error</p> <p>Returned Error Code: AUTHENTICATION_ERROR</p>	<p>Connection error - unable to create SAP Enterprise Portal connection.</p> <p>Verify that the specified SAP Enterprise Portal connection user ID and password are correct.</p>

Create User

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

Problem Description	Solution
<p>Oracle Identity Manager cannot create a user</p> <p>Returned Error Message: Required information missing</p> <p>Returned Error Code: INSUFFICIENT_INFORMATION_PROVIDED</p>	<p>Ensure that all the required information has been provided. The required information includes the following:</p> <ul style="list-style-type: none"> User ID User First Name User Last Name User Password User Email
<p>Oracle Identity Manager cannot create a user</p> <p>Returned Error Message: User already exists</p> <p>Returned Error Code: USER_ALREADY_EXIST</p>	<p>User with the assigned ID already exists in SAP. Assign a new ID to this user, and try again.</p>

Problem Description	Solution
<p>Oracle Identity Manager cannot create a user</p> <p>Returned Error Message: User creation failed</p> <p>Returned Error Code: USER_CREATION_FAILED</p>	<p>User not created because of the following error.</p> <ul style="list-style-type: none"> ■ The Change Password operation fails ■ Mandatory fields have not been specified

Delete User

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

Problem Description	Solution
<p>Oracle Identity Manager cannot delete a User</p> <p>Returned Error Message: Require information missing</p> <p>Returned Error Code: INSUFFICIENT_INFORMATION_PROVIDED</p>	<p>Ensure that all the required information has been provided. In this case, the required information is the user ID.</p>
<p>Oracle Identity Manager cannot delete a user.</p> <p>Returned Error Message: User does not exist in target</p> <p>Returned Error Code: USER_DOESNOT_EXIST</p>	<p>The specified user ID does not exist in SAP Enterprise Portal.</p>

Modify User

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

Problem Description	Solution
<p>Oracle Identity Manager cannot update new information about the user.</p> <p>Returned Error Message: Error while updating user info</p> <p>Returned Error Code: USER_MODIFICATION_FAILED</p>	<p>Generic error. Review the log for more details.</p>
<p>Oracle Identity Manager cannot update a user.</p> <p>Returned Error Message: User does not exist in target system</p> <p>Returned Error Code: USER_DOESNOT_EXIST</p>	<p>The specified user does not exist in SAP Enterprise Portal. Check the user ID.</p>

Child Data

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

Problem Description	Solution
<p>Oracle Identity Manager cannot add a user to a group.</p> <p>Returned Error Message:</p> <p>Group does not exist</p> <p>Returned Error Code:</p> <p>GROUP_DOESNOT_EXIST</p>	<p>The specified group does not exist in SAP Enterprise Portal. Check the name of the group.</p>
<p>Oracle Identity Manager cannot add a role to a user</p> <p>Returned Error Message:</p> <p>Role does not exist</p> <p>Returned Error Code:</p> <p>ROLE_DOESNOT_EXIT</p>	<p>The specified role for the user in Oracle Identity Manager does not exist in SAP. Check the role name.</p>
<p>Trying to add a duplicate value to a group or role.</p> <p>Returned Error Message:</p> <p>Duplicate value</p> <p>Returned Error Code:</p> <p>ROLE_ALREADY_EXISTS</p> <p>GROUP_ALREADY_EXISTS</p>	<p>The user has already been added to the particular profile or role.</p>

Known Issues

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

- The configuration details of the SAP-EP database are in plaintext in the `SAPUM.properties` file, the location of which is available in the IT Resource. 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 and deployment overhead.
- During provisioning, if values for the `Valid From` and `Valid To` date fields are not specified, then the default date value of `1970-01-01` is used.
- Immediately after the connector is deployed, the first task that can be performed is to only lookup reconciliation. If the size of the lookup field that is being reconciled is more than 100, 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 the 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.

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