

## **Oracle® Identity Manager**

Connector Guide for Microsoft Exchange 2000 and 2003

Release 9.0.4

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# Preface

*Oracle Identity Manager Connector Guide for Microsoft Exchange 2000 and 2003* provides information about integrating Oracle Identity Manager with Microsoft Exchange 2000 and 2003.

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**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.

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## Audience

This guide is intended for users who want to deploy the Oracle Identity Manager connector for Microsoft Exchange 2000 and 2003.

## 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 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  |
|------------------------|--|
| <b>boldface</b>        | 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.                          |
| <code>monospace</code> | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |

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# What's New in the Oracle Identity Manager Connector for Microsoft Exchange 2000 and 2003?

This chapter provides an overview of the updates made to the software and documentation for the Microsoft Exchange 2000 and 2003 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 updates made to this release of the connector software.

### Enabling Logging

The logging feature has been enhanced. By following the instructions in the "[Enabling Logging](#)" section on page 2-3, 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:

- Some of the content from the Chapter 2 of the earlier release of this guide has been moved to [Chapter 3](#).





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## 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 Microsoft Exchange 2000 and 2003 is used to integrate Oracle Identity Manager with Microsoft Exchange 2000 and 2003.

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

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This chapter contains the following sections:

- [Reconciliation Module](#)
- [Provisioning Module](#)
- [Supported Functionality](#)
- [Multilanguage Support](#)
- [Files and Directories That Comprise the Connector](#)
- [Determining the Release Number of the Connector](#)

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**Note:** At some places in this guide, Microsoft Exchange 2000 and 2003 have been referred to as *target systems*.

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### 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

The following target system fields are reconciled:

- Display Name
- Employee Type
- Mobile Number

- Pager Number
- ObjectGUID
- SAMAccountName
- Mail
- Mail Nick Name
- Garbage Collection Period
- Deleted Item Flags
- Delivery Cont Length
- Submission Cont Length
- DB Over Hard Quota Limit
- DB Over Quota Limit
- DB Storage Quota
- Exchange Recipient Limit
- DB User Defaults
- Exchange Hide From Address Lists
- Employee ID
- Street Address
- Telephone Number
- Other Telephone Number
- Extension Attribute1
- Extension Attribute2
- Extension Attribute3
- Extension Attribute4
- Extension Attribute6
- Extension Attribute8
- Extension Attribute12
- Extension Attribute15
- Distinguished Name

## 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:

- Email Alias

- Display Name
- Garbage Collection Period
- Deleted Item Manager
- Max Incoming Message Size
- Max Outgoing Message Size
- Mailbox Size Receipt Quota
- Mailbox Size Transmit Quota
- Mailbox Warning Size
- Max Recipients Per Message
- Use Storage Defaults
- Hide From Address Lists
- Rout Email
- Employee Type
- Registered Represent
- Desk Location
- PL Proceed
- Company Address
- Mailbox Type
- Mobile Number
- Pager Number
- Routing Email Addr
- Major Business Number
- Other Business Number
- ObjectGUID

## Supported Functionality

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

| Process Task                 | Type         | Description  |
|------------------------------|--------------|--|
| Create Mailbox               | Provisioning | Creates a mailbox in Microsoft Exchange 2000 and 2003  |
| Delete Mailbox               | Provisioning | Deletes a provisioned mailbox from Microsoft Exchange 2000 and 2003  |
| Deleted Item Manager Updated | Provisioning | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Deleted Item Manager attribute |
| Disable Mailbox              | Provisioning | Disables a provisioned mailbox in Microsoft Exchange 2000 and 2003   |
| Display Name Updated         | Provisioning | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Display Name attribute         |

| Process Task                        | Type           | Description   |
|-------------------------------------|----------------|---|
| Email Alias Updated                 | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Email Alias attribute   |
| Enable Mailbox                      | Provisioning   | Enables a disabled mailbox in Microsoft Exchange 2000 and 2003  |
| Garbage Collection Period Updated   | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Garbage Collection Period attribute   |
| Hide From Address Lists Updated     | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Hide From Address Lists attribute   |
| Mailbox Size Receipt Quota Updated  | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Mailbox Size Receipt Quota attribute  |
| Mailbox Size Transmit Quota Updated | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Mailbox Size Transmit Quota attribute   |
| Mailbox Warning Size Updated        | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Mailbox Warning Size attribute  |
| Max Incoming Message Size Updated   | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Max Incoming Message Size attribute   |
| Max Outgoing Message Size Updated   | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Max Outgoing Message Size attribute   |
| Max Recipients Per Message Updated  | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Max Recipients Per Message attribute  |
| Disable Mailbox Time Stamp Updated  | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Disable Mailbox Time Stamp attribute  |
| Set Exchange Related Properties     | Provisioning   | Updates certain important configurations of a mailbox in Microsoft Exchange 2000 and 2003   |
| Use Storage Defaults Updated        | Provisioning   | Updates the configuration of a mailbox in Microsoft Exchange 2000 and 2003 according to a change in the Use Storage Defaults attribute  |
| Get ObjectGUID from Process         | Provisioning   | Retrieves the ObjectGUID (unique identifier in Microsoft Active Directory) for an existing provisioned Microsoft Active Directory user, for whom a Microsoft Exchange 2000 and 2003 mailbox needs to be provisioned |
| Create Mailbox                      | Reconciliation | Reconciles a mailbox from Microsoft Exchange 2000 and 2003 into Oracle Identity Manager   |

## 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:

Collaboration and Messaging Applications/Microsoft Exchange

These files and directories are listed in the following table.

| File in the Installation Media Directory | Description  |
|--|--|
| lib/xliExchange.jar                      | This JAR file contains the class files required for provisioning and reconciliation.   |
| Files in the resources directory         | Each of these resource bundle files contains language-specific information that is used by the connector.<br><br><b>Note:</b> A <b>resource bundle</b> 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. |
| xml/xliExchangeObject_DM.xml             | This XML file contains definitions for the following components of the connector: <ul style="list-style-type: none"> <li>■ IT resource type</li> <li>■ Custom process form</li> <li>■ Process task and adapters (along with their mappings)</li> <li>■ Resource object</li> <li>■ Provisioning process</li> <li>■ Pre-populate rules</li> </ul>  |
| xml/xliExchangeSchedulerTask_DM.xml      | This XML file contains the parameters for setting up the reconciliation scheduled task.  |

The "[Step 3: Copying the Connector 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 xliExchange.jar file. This file is in the following directory on the installation media:  
  
Collaboration and Messaging Applications/Microsoft Exchange/lib
2. Open the manifest.mf file in a text editor. The manifest.mf file is one of the files bundled inside the xliExchange.jar file.

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

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**Note:** If you maintain a copy of the xliExchange.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.

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### 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.

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## Deploying the Connector

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Deploying the connector involves the following steps:

- [Step 1: Verifying Deployment Requirements](#)
- [Step 2: Configuring the Target System](#)
- [Step 3: Copying the Connector Files](#)
- [Step 4: Configuring the Oracle Identity Manager Server](#)
- [Step 5: Importing the Connector XML Files](#)

### 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               | Microsoft Exchange 2000 or 2003  |
| Target system host platforms | The target system host platform can be any one of the following: <ul style="list-style-type: none"><li>■ Microsoft Windows Server 2000</li><li>■ Microsoft Windows Server 2003</li></ul>                                 |
| Other systems                | Microsoft Active Directory   |
| Target system user account   | Because this connector requires the Microsoft Active Directory connector for its functioning, the target system user account requirements are the same as the requirements for the Microsoft Active Directory connector. |

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**Note:** You must deploy the Microsoft Active Directory connector before you can deploy and use the Microsoft Exchange connector. In addition, you must ensure that the Microsoft Active Directory connector is configured for use with SSL enabled.

Refer to *Oracle Identity Manager Connector Guide for Microsoft Active Directory* for instructions to deploy the Microsoft Active Directory connector.

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## Step 2: Configuring the Target System

For using this connector, you do not need to perform any configuration steps on the target system.

## Step 3: Copying the Connector Files

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

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

Collaboration and Messaging Applications/Microsoft Exchange

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

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| File in the Installation Media Directory | Destination Directory   |
|--|---|
| lib/xliExchange.jar                      | OIM_home/xellerate/JavaTasks<br>OIM_home/xellerate/ScheduleTask |
| Files in the resources directory         | OIM_home/xellerate/connectorResources                           |
| Files in the xml directory               | OIM_home/xellerate/XLIntegrations/Exchange/xml                  |

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**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.

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## Step 4: Configuring the Oracle Identity Manager Server

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

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Configuring the Oracle Identity Manager server involves performing the following procedures:

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

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- [Changing to the Required Input Locale](#)
- [Clearing Content Related to Connector Resource Bundles from the Server Cache](#)
- [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 3: Copying the Connector 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
```

## 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.EXCHANGE=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.EXCHANGE=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.EXCHANGE=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.EXCHANGE=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.EXCHANGE">
  <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.EXCHANGE">
  <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.EXCHANGE=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.EXCHANGE=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 Files

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 files into Oracle Identity Manager:

1. Open the Oracle Identity Manager Administrative and User Console.

2. Click the **Deployment Management** link on the left navigation bar.
3. Click the **Import** link under Deployment Management. A dialog box for locating files is displayed.
4. Locate and open the `xliExchangeObject_DM.xml` file, which is in the `OIM_home/xellerate/XLIntegrations/Exchange/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 Exchange Server - Dev IT resource is displayed.
8. Specify values for the parameters of the Exchange Server - Dev IT resource. Refer to the table in the "[Defining IT Resources](#)" section on page 2-6 for information about the values to be specified.
9. Click **Next**. The Provide IT Resource Instance Data page for a new instance of the Exchange Server - Dev 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. 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.
13. Perform the same procedure to import the `xliExchangeSchedulerTask_DM.xml` file, which is in the `OIM_home/xellerate/XLIntegrations/Exchange/xml` directory.

After you import the connector XML files, proceed to the next chapter.

## Defining IT Resources

You must specify values for the Exchange Server - Dev IT resource parameters listed in the following table.

| Parameter   | Parameter Description  |
|-------------|--|
| Server Name | Host name of the Microsoft Windows computer on which Microsoft Exchange 2000 and 2003 is installed<br>Sample value: W2K_HOST<br><b>Note:</b> The value must be specified in uppercase. |
| Store Name  | Mailbox store name<br>Sample value: Mailbox Store (W2K_HOST)<br>Here, W2K_HOST is the host name of the Microsoft Exchange 2000 and 2003 Server.  |

| Parameter                | Parameter Description  |
|--------------------------|--|
| Last Modified Time Stamp | <p>Time at which the last reconciliation run was completed</p> <p>This is in the timestamp format YYYYMMDDHHMMSSZ . At the end of each reconciliation run, the value is updated with the target system timestamp at that instance.</p> <p>Sample value: 19721001000000Z</p> <p>The initial value must be 0 .</p> |

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



---

## Configuring the Connector

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

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**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.

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- [Configuring Reconciliation](#)
- [Configuring Provisioning](#)
- [Configuring the Connector for Multiple Installations of the Target System](#)

### 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:

- [Configuring the Reconciliation Scheduled Tasks](#)
- [Enabling Reconciliation in Oracle Identity Manager Release 9.0.1](#)

### Configuring the Reconciliation Scheduled Tasks

When you perform the procedure described in the "[Step 5: Importing the Connector XML Files](#)" section on page 2-5, 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 task are displayed.
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 3-2 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.

After you create the scheduled task, proceed to the "[Enabling Reconciliation in Oracle Identity Manager Release 9.0.1](#)" section on page 3-2.

### Specifying Values for the Scheduled Task Attributes

You must specify values for the following attributes of the reconciliation scheduled task.

---



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**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  | Default/Sample Value          |
|-----------|--|-------------------------------|
| ADServer  | Name of the Microsoft Active Directory IT resource       | Active Directory Server - Dev |
| Server    | Name of the Microsoft Exchange 2000 and 2003 IT resource | Exchange Server - Dev         |

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

## Enabling Reconciliation in Oracle Identity Manager Release 9.0.1

If you are using Oracle Identity Manager release 9.0.1, then you must perform the following procedure to enable reconciliation:

**See Also:** *Oracle Identity Manager Design Console Guide*



1. Open the Process Definition form. This form is in the Process Management folder.
2. Click the **Reconciliation Field Mappings** tab.
3. For each field that is of the IT resource type:
  - a. Double-click the field to open the Edit Reconciliation Field Mapping window for that field.
  - b. Deselect **Key Field for Reconciliation Matching**.

## 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 1-3 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 1-3 for a listing of the provisioning functions that are available with this connector

- check user process ordered
- Exchange Delete Mailbox
- AD Set User Property
- Set Time Stamp
- Get Value Form User Process
- Chk Value Set
- Exchange Create Mailbox
- Exchange Set User Properties
- DB Prepopulate UserLogin

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

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**Note:** Perform this procedure only if you want to configure the connector for multiple installations of Microsoft Exchange 2000 and 2003.

---

You may want to configure the connector for multiple installations of Microsoft Exchange 2000 and 2003. The following example illustrates this requirement:

The Tokyo, London, and New York offices of Acme Multinational Inc. have their own installations of Microsoft Exchange 2000 and 2003. The company has recently installed Oracle Identity Manager, and they want to configure Oracle Identity Manager to link all the installations of Microsoft Exchange 2000 and 2003.

To meet the requirement posed by such a scenario, you must configure the connector for multiple installations of Microsoft Exchange 2000 and 2003.

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 IT resource for each target system installation.  
The IT Resources form is in the Resource Management folder. An 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.
2. Configure reconciliation for each target system installation. Refer to the ["Configuring Reconciliation"](#) section on page 3-1 for instructions. Note that you need to modify only the attributes that are used to specify the IT resource and to specify whether or not the target system installation is to be set up as a trusted source.
3. 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 Microsoft Exchange 2000 and 2003 installation to which you want to provision the user.



---

## Known Issues

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

- The `Server Name` parameter of the IT resource accepts only the host name of the Microsoft Exchange 2000 and 2003 server. Provisioning and reconciliation would not work if the IP address of the computer is provided as the input.
- 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.

- This connector requires the deployment of a Microsoft Active Directory connector that is configured to run with SSL enabled.



# Attribute Mappings Between Oracle Identity Manager and Microsoft Exchange 2000 and 2003

The following table discusses attribute mappings between Oracle Identity Manager and Microsoft Exchange 2000 and 2003.

| Oracle Identity Manager Attribute | Microsoft Exchange 2000 and 2003 Attribute | Description   |
|-----------------------------------|--|---|
| Company Address                   | physicalDeliveryOfficeName                 | Office address  |
| Deleted Item Manager              | deletedItemFlags                           | Number of items in the Deleted Items folder   |
| Desk Location                     | extensionAttribute6, desktopProfile        | Location of the desktop profile for a user or group of users  |
| Display Name                      | displayName                                | Name of a user as displayed in the address book<br>This is usually a combination of the user's first name, middle initial, and last name. |
| Email Alias                       | mailNickname                               | Mailbox alias, which is generally the same as sAMAccountName  |
| Employee Type                     | extensionAttribute1, employeeType          | Job category for an employee  |
| Garbage Collection Period         | garbageCollPeriod                          | Time interval, in hours, between garbage collection runs  |
| Hide From Address Lists           | msExchHideFromAddressLists                 | Specifies if the user appears in address lists  |
| Mailbox Size Receipt Quota        | mDBOverHardQuotaLimit                      | Maximum mailbox size, in KB, over which sending and receiving e-mail is disabled  |
| Mailbox Size Transmit Quota       | mDBOverQuotaLimit                          | Mailbox quota overdraft limit, in KB  |
| Mailbox Type                      | extensionAttribute15, otherMailbox         | Specifies the type of mailbox other than the standard X.400 and RFC822 configuration  |
| Mailbox Warning Size              | mDBStorageQuota                            | Message database quota, in KB   |
| Major Business Number             | telephonenumber                            | Primary office phone number   |
| Max Incoming Message Size         | delivContLength                            | Maximum incoming message size, in KB  |
| Max Outgoing Message Size         | submissionContLength                       | Maximum outgoing message size, in KB  |

| <b>Oracle Identity Manager Attribute</b> | <b>Microsoft Exchange 2000 and 2003 Attribute</b> | <b>Description</b>  |
|--|---|---|
| Max Recipients Per Message               | msExchRecipLimit                                  | Maximum number of recipients of a single e-mail   |
| Mobile Number                            | mobile  | Primary mobile phone number of the user   |
| Object GUID                              | objectGUID  | GUID based on the current time stamp assigned to an object  |
| Other Business Number                    | otherTelephone                                    | Alternative office phone number   |
| Pager Number                             | pager   | Primary pager number  |
| PL Proceed                               | extensionAttribute8                               | A custom attribute in Microsoft Exchange  |
| Registered Represent                     | extensionAttribute3                               | A custom attribute in Microsoft Exchange  |
| Rout Email                               | extensionAttribute2                               | Flag that specifies whether or not e-mail is to be routed   |
| Routing Email Addr                       | extensionAttribute4                               | E-mail routing address  |
| Use Storage Defaults                     | mDBUseDefaults                                    | Specifies whether or not the mailbox store must use the default quota, instead of the per-mailbox quota |



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