HP OpenView Select Identity

Connector for iPlanet LDAP Servers

Installation and Configuration Guide

Connector Version: 3.3 Select Identity Version: 3.3



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- Commons-beanutils.
- Commons-collections.
- Commons-logging.
- Commons-digester.
- Commons-httpclient.

- Element Construction Set (ecs).
- Jakarta-poi.
- Jakarta-regexp.
- Logging Services (log4j).

Additional third party software used by Select Identity includes:

- JasperReports developed by SourceForge.
- iText (for JasperReports) developed by SourceForge.
- BeanShell.
- Xalan from the Apache XML Project.
- Xerces from the Apache XML Project.
- Java API for XML Processing from the Apache XML Project.
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contents

Chapter 1	Installing the Connector
	System Requirements
	Deploying on the Web Application Server
	Installing the Change Detection Utitlity 12
	Installation and Configuration
	The resourceagent.properties File 13
Chapter 2	Understanding the Mapping File 1
	General Information
	iPlanet LDAP Mapping Information
Chapter 3	Configuring the Connector
Chapter 4	Uninstalling the Connector
	On WebLogic
	On WebSphere

1

Installing the Connector

The iPlanet LDAP connector enables HP OpenView Select Identity to perform the following tasks on an iPlanet LDAP server:

- Add, update, and remove users
- Retrieve user attributes
- Enable and disable users
- Verify a user's existence
- Change user passwords
- Reset user passwords
- Retrieve all entitlements
- Retrieve a list of supported user attributes
- Assign and unassign entitlements to and from users

A utility is also provided with this connector that detects changes made to Sun ONE iPlanet 5.2 systems. The utility generates an SPML file that contains the changes and sends a reconciliation request to the Select Identity server. See Installing the Change Detection Utility on page 11 for information about enabling this feature.

The iPlanet LDAP connector is a one-way connector and pushes changes made to user data in the Select Identity database to a target iPlanet server. The mapping file controls how Select Identity fields are mapped to LDAP fields.

This connector is supported on non-US platforms. This connector relies on the JNDI (LDAP's resource provider interface) to exchange data with LDAP.

The iPlanet LDAP connector is packaged in the following files, which are located in the LDAP IPlanet directory on the Select Identity Connector CD:

- schema.jar contains the attribute mapping file for this system
- TALDAPv3.rar contains the connector's binary files

System Requirements

Select Identity Version	Application Server	Database
3.0.2	WebLogic 8.1.2 on Windows 2003	SQL Server 2000
	WebLogic 8.1.2 on Solaris 9	Oracle 9i
	WebLogic 8.1.2 on HP-UX 11i	Oracle 9i
	WebSphere 5.1.1 on Solaris 9	DB2 8.2 (or DB2 8.1 Service Pack 7)
3.3	WebLogic 8.1.4 on Windows 2003	SQL Server 2000

The iPlanet LDAP connector is supported in the following environment:

This connector is supported with Sun ONE iPlanet 5.0 and 5.2 on Windows 2000 and Solaris 9.

Deploying on the Web Application Server

To install the iPlanet LDAP connector on the Select Identity server, complete these steps:

- 1 Create a subdirectory in the Select Identity home directory where the connector's RAR file will reside. For example, you could create the C:\Select_Identity\connectors folder on Windows. (A connector subdirectory may already exist.)
- 2 Copy the TALDAPv3.rar file from the Select Identity Connector CD to the connector subdirectory.
- **3** If deploying the connector on WebLogic, complete the following steps. If deploying on WebSphere, skip to Step 4 on page 10.
 - a Create a schema subdirectory in the Select Identity home directory where the connector's mapping file(s) will reside. For example, you could create the C:\Select_Identity\schema folder. (This subdirectory may already exist.)
 - **b** Extract the contents of the schema.jar file (on the Select Identity Connector CD) to the schema subdirectory.
 - **c** Ensure that the CLASSPATH environment variable in the WebLogic server startup script references the schema subdirectory.
 - d Start the application server if it is not currently running.
 - e Log on to the WebLogic Server Console.
 - f Navigate to $My_domain \rightarrow Deployments \rightarrow Connector Modules$.
 - g Click Deploy a New Connector Module.
 - h Locate and select the TALDAPv3.rar file from the list. It is stored in the connector subdirectory.
 - i Click Target Module.
 - j Select the My Server (your server instance) check box.
 - k Click Continue. Review your settings.
 - I Keep all default settings and click **Deploy**. The Status of Last Action column should display Success.

- 4 If deploying the connector on WebSphere, complete the following steps:
 - **a** Stop the application server.
 - **b** Extract the contents of the schema.jar file (on the Select Identity Connector CD) to the WebSphere\AppServer\lib\ext directory.
 - **c** Start the application server.
 - d Log on to the WebSphere Application Server Console.
 - e Navigate to Resources \rightarrow Resource Adapters.
 - f Click Install RAR.
 - **g** In the Server path field, enter the path to the TALDAPv3.rar file. It is stored in the subdirectory created in Step 1.
 - h Click Next.
 - i In the Name field, enter a name for the connector.
 - j Click OK.
 - **k** Click the **Save** link (at the top of the page).
 - I On the Save to Master Configuraton dialog, click the Save button.
 - m Click Resources \rightarrow Resource Adapters.
 - **n** Click the new connector.
 - Click J2C Connection Factories in the Additional Properties table.
 - p Click New.
 - **q** In the Name field, enter the name of the factory for the connector. For the SQL connector, enter **eis/LDAPv3**.
 - r Click OK.
 - s Click the Save link.
 - t On the Save to Master Configuraton dialog, click the Save button.
 - u Restart WebSphere.
- 5 Modify the mapping file, if necessary. See Understanding the Mapping File on page 15 for details.

After installing the connector, see Configuring the Connector on page 22 for information about registering and configuring the connector in Select Identity.

Installing the Change Detection Utitlity

The Change Detection utility detects the changes made on the LDAP server and generates an SPML file for reconciliation with Select Identity. This utility works with Sun ONE iPlanet 5.2. The following files are provided:

• runagent.bat

A Windows batch file that runs the utility once based on the settings in the resourceagent.properties file. The JAVA_HOME variable is required to change according to the installation on the target host.

runagent.sh

A UNIX shell script that runs the utility once based on the settings in the resourceagent.properties file. The JAVA_HOME variable is required to change according to the installation on the target host.

- ldapagent.jar The utility executables.
- ldapjdk.jar The NetScape LDAP JDK executables.
- resourceagent.properties The configuration file.
- fieldmapping.properties The mapping files that provides a mapping between LDAP resource and Select Identity resource attribute names.

Also, keep the following in mind:

- The SPML file is user oriented. When the utility detects a group change on the LDAP server, the SPML file is created such that one group contains multiple users. Each user must be specified in an individual SPML request containing only one group.
- When all members of a group are removed, the Retro Plugin does not provide a list of user IDs that were removed. (The utility relies on the Retro Plugin to interact with the LDAP server.) Thus, a request to remove the empty group is not generated. To avoid this and workaround this limitation, it is recommended that you leave a user in a group or delete the least significant user from a group last.
- The password in the change log that is generated is encrypted. The utility cannot decode the password and does not provide the password field as part of the SPML file.

Installation and Configuration

Complete the following steps to install, configure, and run the utility on the LDAP server:

- 1 Enable the LDAP server to log changes by enabling the Retro ChangeLog Plugin:
 - a Launch LDAP Directory Server.
 - a Click the Configuration tab.
 - a Select Plugins.
 - a Locate the Retro Changelog Plugin and select Enable plug-in.
 - **b** Save the changes.
- 2 Copy the utility's files from the ldapagent directory on the CD to a directory on the LDAP server. All of the files must reside in the same directory.
- 3 Make sure that the JRE (version 1.3.3+) is installed properly and included in the path on the LDAP server.
- 4 Edit the runagent.bat or runagent.sh file to specify the Java home directory on the server.
- 5 Edit the configuration file. The file is described in The resourceagent.properties File on page 13.
- 6 Run the runagent.bat or runagent.sh file. It is recommended that you execute the utility as a scheduled job.

The utility generates an SPML file that contains the user information that has changed. If the SPML file is formatted for Select Identity reconciliation through a file upload, upload the file using the Select Identity reconciliation page. Refer to the *HP OpenView Select Identity Administrator Guide* for more information. If the file is formatted for Select Identity reconciliation through Web Services, send the file to Select Identity as specified in the *HP OpenView Select Identity Web Service Developer Guide*.

The resourceagent.properties File

The following are the parameters provided by the

resourceagent.properties file and required for reconciliation with Select Identity. All parameters are required. However, only those parameters that you can modify are explained here. *Do not modify parameters not listed here*.

• debug

The audit flag, which enables you to generate debug statements. In general, set this property to **false**.

- ldap_host The name of the LDAP server.
- ldap_port The LDAP server's port.
- ldap_user
 The user name of the LDAP server; the utility will use this to log in and
 retrieve changes.
- ldap_pass The password of the LDAP server user.
- s_filter The filter DN for the LDAP server.
- t_checkperiod The frequency (in minutes) to check for changes in LDAP.
- method

The method used to send the reconciliation request (the SPML file) to the Select Identity server. Based on this setting, the SPML will vary slightly. Specify **fileupload** or **webservice**.

- resourcename The Select Identity resource name for the LDAP server.
- resource_key_field The attribute that uniquely identifies the user on the resource.
- si_username_field The user name that will be used to log in to Select Identity.

si_ws_userid

The user name that enables the Web Service to log in to Select Identity. Set this property only is you specified **webservice** for the method property.

- si_ws_password The password of the user specified by si_ws_userid.
- workingdir The directory where the SPML files will be stored.
- extension The extension of the generated SPML files.

2

Understanding the Mapping File

The iPlanet LDAP connector is deployed with the iplanet.xml mapping file, which describes the attributes required by the system. The file is created in XML, according to SPML standards, and is bundled in a JAR file called schema.jar. The mapping file is used to map user account additions and modifications from Select Identity to the system resource. When you deploy a resource using the Resources page of the Select Identity client, you can review this file.

You can create attributes that are specific to Select Identity using the Attributes page in the Select Identity client. These attributes can be used to associate Select Identity user accounts with system resources by editing the connector mapping file described in this chapter. This process becomes necessary because, for example, a single attribute "username" can have a different name on different resources, such as "login" for UNIX, "UID" for a database, and "userID" on a Windows server.

This file does not need to be edited unless you want to map additional attributes to your resource. If attributes and values are not defined in this mapping file, they cannot be saved to the resource through Select Identity.

General Information

The following operations can be performed in the mapping file:

- Add a new attribute mapping
- Delete an existing attribute mapping
- Modify attribute mappings

Here is an explanation of the elements in the XML mapping files provided by the iPlanet LDAP connector:

• <Schema>, <providerID>, and <schemaID>

Provides standard elements for header information.

<objectClassDefinition>

Defines the actions that can be performed on the specified object as defined by that name attribute (in the <properties> element block) and the Select Identity-to-resource field mappings for the object (in the <memberAttributes> block). For example, the object class definition for users defines that users can be created, read, updated, deleted, reset, and expired in LDAP.

<properties>

Defines the operations that are supported on the object. This can be used to control the operations that are performed through Select Identity. The following operations can be controlled:

- Create (CREATE)
- Read (READ)
- Update (UPDATE)
- Delete (DELETE)
- Enable (ENABLE)
- Disable (DISABLE)
- Reset password (RESET_PASSWORD)
- Expire password (EXPIRE_PASSWORD)
- Change password (CHANGE_PASSWORD)

The operation is assigned as the name of the <attr> element and access to the operation is assigned to a corresponding <value> element. You can set the values as follows:

- true the operation is supported by the connector
- false the operation is not supported by the connector and will throw PermissionException
- bypass the operation is not supported by the connector but will not throw any exception; the operation is simply bypassed

Here is an example:

<memberAttributes>

Defines the attribute mappings. This element contains <attributeDefinitionReference> elements that describe the mapping for each attribute. Each <attributeDefinitionReference> must be followed by an <attributeDefinition> element that specifies details such as minimum length, maximum length, and so on.

Each <attributeDefinitionReference> element contains the following attributes:

- Name the name of the reference.
- Required— if this attribute is required in the provisioning (set to true or false).
- Concero:tafield the name of the Select Identity resource attribute.
- Concero:resfield the name of the physical resource attribute from the resource schema. If the resource does not support an explicit schema (such as UNIX), this can be a tag field that indicates a resource attribute mapping.

- Concero:isKey An optional attribute that, when set to true, specifies that this is the key field to identify the object on the resource. Only one <attributeDefinitionReference> can be specified where isKey="true". This key field does not need to be the same as the key field of the identity object in Select Identity.
- Concero:init An optional attribute that identifies that the attribute is initialized with the value of the attribute passed in from Select Identity.

Here is an example:

```
<memberAttributes>
<attributeDefinitionReference name="User Name"
required="true" concero:tafield="[User Name]"
concero:resfield="cn" concero:isKey="true"
concero:init="true" />
```

The interpretation of the mapping between the connector field (as specified by the Concero:tafield attribute) and the resource field (as specified by the Concero:resfield attribute) is determined by the connector. The iPlanet LDAP connector has code to interpret the mappings in one way, as follows:

- The connector attribute names are specified in square braces, like this: [xyz]. The value of attribute xyz is taken from the UserModel during provisioning.
- Composite attributes can be specified in the iPlanet LDAP connector mapping file. To do this, specify [attr1] xxxx [attr2] as the connector attribute. This specifies that the value of the attr1 and attr2 attributes should be combined with the string xxxx to form a mapping for the specified resource field. iPlanet LDAP connector has code to handle these composite mappings.

<attributeDefinition>

Defines the properties of each object's attribute. For example, the attribute definition for the HomeDir attribute defines that it must be between zero and 100 characters in length and can contain the following letters, numbers, and characters: a-z, A-Z, 0-9, @, +, and a space.

Here is an excerpt from the iplanet.xml file:

```
<attributeDefinition name="HomeDir" description="User Home
directory" type="xsd:string" >
  <properties>
```

<concero:entitlementMappingDefinition>

Defines how entitlements are mapped to users.

<concero:objectStatus>

Defines how to assign status to a user.

<concero:relationshipDefinition>

Defines how to create relationships between users.

iPlanet LDAP Mapping Information

The following are the attribute mappings supported for iPlanet. These are listed in the iplanet.xml mapping file. You can add, modify, or delete attributes once you are familiar with the contents of this file. You can edit the Select Identity resource attributes; they reflect the identity information as seen in Select Identity. The physical resource attributes are literal attributes of user accounts on the iPlanet LDAP server. These attributes cannot be changed. See the *HP OpenView Select Identity Connector Developer Guide* for more information about attributes and mapping information.

Select Identity Resource Attribute	iPlanet LDAP Attribute	Description
UserName	uid	Key field on the resource
Password	userpassword	
Email	mail	

Select Identity Resource Attribute	iPlanet LDAP Attribute	Description	
FirstName	givenname		
LastName	sn		
FirstName + LastName	cn		
Address 1	postalAddress		
Address 2	roomNumber		
City	1		
State	st		
Zip	postalCode		
Title	title		
Employee ID	employeenumber		
Business Phone	telephoneNumber		
Disable Function	nction Description="disabled"		
Enable Function	Description="enabled"	Marks the user as enabled	
mailHost	mailHost	Mail-related attributes	
maildeliveryoption	mailDeliveryOption		
mailQuota	mailQuota		
nslicensedfor	nslicensedfor		
mailAlternateAddress	mailAlternateAddress		
mailForwardingAddress	mailForwardingAddress		
nscalorgunit2	nscalorgunit2	Calendar-related attributes	
nscalpasswordrequired	nscalpasswordrequired		
nscalxitemid	nscalxitemid		
nscalflags	nscalflags		

Select Identity Resource Attribute	iPlanet LDAP Attribute	Description
nscallanguageid	nscallanguageid	
nscalsysopcanwrite password	nscalsysopcanwrite password	
nscaldefaultnotereminder	nscaldefaultnotereminder	

3

Configuring the Connector

After you deploy the connector on the application server, you must configure Select Identity to use the connector by deploying it in the Select Identity client. The following provides an overview of the procedures you must complete in order to deploy your connector. It also provides connector-specific information you must provide when configuring Select Identity to use the connector.

- 1 Before deploying the connector in Select Identity, connect to LDAP using an LDAP browser or another utility. This will help ensure that the LDAP resource is available and the correct parameters are known before deploying the resource in Select Identity.
- 2 Register the connector with Select Identity by clicking the **Deploy New Connector** button on the Connectors home page. Complete this procedure as described in the "Connectors" chapter of the *HP OpenView Select Identity Administrator Guide*.

After you deploy the connector, the connector properties will look similar to this:

> Home > Connectors : LDAP

Connector Information	
*Connector Name:	LDAP
*Pool Name:	eis/LDAPv3

3 Deploy a resource that uses the newly created connector. On the Resources home page, click the **Deploy New Resource** button. When configuring the resource, refer to the following table for parameters specific to this connector:

Field Name	Sample Values	Description
Resource Name	local_iplanet	Name of the target resource.
Resource Type	iPlanet LDAP	The connector that was deployed in Step 2 on page 22.
Authoritative Source	No	Whether this resource is a system that is considered to be the authoritative source for user data in your environment. You must specify No because the connector cannot synchronize account data with the Select Identity server.
Associate to Group	Selected	Whether the system uses the concept of groups. For the iPlanet LDAP connector, select this option.
Access URL	ldap://localhost:389	URL access to the resource.
Suffix	dc=india, dc=hp	The domain(s) to which the users will be provisioned.
Login Name	cn=Directory Manager uid=hp_admin,dc=Direct- ory Administrators, dc=trulogica,dc=com	Login account with administrative privileges to add and delete users. This is required to log in to the resource. If an ID other than Directory
		Manager was created, use the full DN, as in the second sample value here.
Password	Password123	Password corresponding to the login account.

Field Name	Sample Values	Description
User Suffix	ou=people	Suffix of user's distinguished name. This is the location in the tree where the users will be provisioned.
User Object Class	top, person, organizationalPerson, inetorgPerson	Object class of users.
Group Suffix	ou=groups	Suffix part of group's distinguished name. This is the location in the tree where the user groups will be provisioned.
Group Object Class	top, groupofuniquenames	Object class of user groups.
Mapping File	iplanet.xml	Location of the connector mapping file, which is used to map resource attributes to Select Identity attributes.

Complete the steps in this procedure as described in the "Resources" chapter of the *HP OpenView Select Identity Administrator Guide*.

After you deploy the resource, the Access Info properties for the resource will look similar to this:

> <u>Home</u> > <u>Resources</u> > View Resource : LDAP66

Resource Access Information	
*Resource Name:	LDAP66
Access URL:	ldap://16.73.17.66:389
Suffix:	dc=qa,dc=trulogica,dc=com
Login Name:	cn=Directory Manager
Password:	********
* User Suffix:	ou=people
* User Object Class:	top,person,organizationalPerson,inetorgperson
* Group Suffix:	ou=Groups
* Group Object Class:	top,groupofuniquenames
* Mapping File:	iPlanet.xml

4 Create attributes that link Select Identity to the connector. For each mapping in the connector's mapping file, create an attribute using the Attributes capability on the Select Identity client.

Refer to the "Attributes" chapter in the *HP OpenView Select Identity Administrator Guide* for more information. After you create the attributes for the iPlanet Active Directory connector, the View Attributes page for the resource will look similar to this:

Name	Min Length	Max Length	Attribute Mapped To	Authorative
Address 1	1	128	Addr1	N
Address 2	1	128		
Business Phone	1	50		
City	1	128	Info	N
Email	1	128		
Employee ID	1	128	Company	N
FirstName	1	128	FirstName	N
LastName	1	128	LastName	N
LDAP70_ENTITLEMENTS	1	255	LDAP70_ENTITLEMENTS	Y
LDAP70_KEY	1	255	LDAP70_KEY	Y
mailAlternateAddress	1	128		
maildeliveryoption	1	128		
mailForwardingAddress	1	128		
mailHost	1	128		
mailQuota	1	10		
nscaldefaultnotereminder	1	8		
nscalflags	1	8		
nscallanguageid	1	8		
nscalorgunit2	1	8		
nscalpasswordrequired	1	8		
nscalsysopcanwritepassword	1	8		
nscalxitemid	1	8		
nslicensedfor	1	10		
Password	1	128	Password	N
State	1	128	State	N
Title	1	50		
UserName	1	128	UserName	N
Zip	1	50	Zip	N

5 Create a Service that will use the newly created resource. To do so, click the **Deploy New Service** button on the Services home page. Complete this procedure as described in "Services" of the *HP OpenView Select Identity Administrator Guide*. You will reference your new resource created in Step 3 while creating this service.

4

Uninstalling the Connector

If you need to uninstall a connector from Select Identity, make sure that the following are performed:

- All resource dependencies are removed.
- The connector is deleted using the Select Identity client Connectors pages.

On WebLogic

Perform the following to delete a connector:

- 1 Log on to the WebLogic Server Console.
- 2 Navigate to $My_Domain \rightarrow Deployments \rightarrow Connector Module$.
- 3 Click the delete icon next to the connector that you want to uninstall.
- 4 Click **Yes** to confirm the deletion.
- 5 Click Continue.

On WebSphere

Complete the following steps to uninstall the connector on WebSphere:

- 1 Log on to the WebSphere Application Server Console.
- **2** Navigate to Resources \rightarrow Resource Adapters.
- **3** Select the connector to uninstall.
- 4 Click Delete.
- 5 Click the **Save** link (at the top of the page).
- 6 On the Save to Master Configuraton dialog, click the Save button.