

# HP OpenView Select Identity

## Connector for SAP

### Installation and Configuration Guide

Connector Version: 3.2  
Select Identity Version: 3.3



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Select Identity uses software from the Apache Jakarta Project including:

- 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.
- SOAP developed by the Apache Software Foundation.
- JavaMail from SUN Reference Implementation.
- Java Secure Socket Extension (JSSE) from SUN Reference Implementation.
- Java Cryptography Extension (JCE) from SUN Reference Implementation.
- JavaBeans Activation Framework (JAF) from SUN Reference Implementation.
- OpenSPML Toolkit from OpenSPML.org.
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# Installing the Connector

The SAP connector enables HP OpenView Select Identity to perform the following tasks in SAP:

- 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

It is a one-way connector and pushes changes made to user data in the Select Identity database to a target SAP server. This connector is generic and can be used to connect to any SAP data source. The mapping file controls how Select Identity fields are mapped to SAP fields.

The SAP connector is packaged in the following files:

- `sapr3schema.jar` — contains the attribute mapping files for this system
- `sapr3connector.rar` — contains the connector binary files

These files are located in the SAP directory on the Select Identity Connector CD.

## System Requirements

The SAP connector is supported in the following environment:

Select Identity Version	Application Server	Database
3.0.2	WebLogic 8.1.2 on Windows 2003	SQL Server 2000
3.3	WebLogic 8.1.4 on Windows 2003	SQL Server 2000

This connector is supported with SAP release 3 version 4.7 on HP-UX 11i. In addition, it requires the SAP Java Connector (JCo) API, version 2.1.3, to run on the web application server. You must install this API before installing and running the SAP connector. Different distribution packages are available for various JRE versions and hardware processors. Log on to **<http://service.sap.com>** and download the appropriate file from the Downloads section:

- `sapjco-ntintel-2.1.3.zip` for a 32-bit JRE running on a 32-bit INTEL x86 or a 64-bit INTEL Itanium processor
- `sapjco-ntia64-2.1.3.zip` for a 64-bit JRE running on a 64-bit INTEL Itanium processor

Perform the following to install the SAP JCo API:

- 1 Unzip the distribution package in a designated directory on the server.
- 2 If you have an existing `librfc32.dll` in the `System32` directory, replace it with the one that comes with the JCo API.



- 3 Add the SAP JCo installation path to the PATH environment variable.
- 4 Add `sapjco-install-path\sapjco.jar` to your CLASSPATH environment variable.

## Deploying on the Web Application Server

To install the SAP 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 `sapr3connector.rar` file from the Select Identity Connector CD to the connector subdirectory.
- 3 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.)
- 4 Extract the contents of the `sapr3schema.jar` file (on the Select Identity Connector CD) to the schema subdirectory.
- 5 Ensure that the CLASSPATH environment variable in the WebLogic server startup script references the schema subdirectory.
- 6 Start the application server if it is not currently running.
- 7 Log on to the WebLogic Server Console.
- 8 Navigate to **My\_domain** → **Deployments** → **Connector Modules**.
- 9 Click **Deploy a New Connector Module**.
- 10 Locate and select the `sapr3connector.rar` file from the list. It is stored in the connector subdirectory.
- 11 Click **Target Module**.
- 12 Select the **My Server** (your server instance) check box.
- 13 Click **Continue**. Review your settings.

- 14 Keep all default settings and click **Deploy**. The Status of Last Action column should display Success.
- 15 Modify the mapping file, if necessary. See [Understanding the Mapping File on page 11](#) for details.

After installing the connector, see [Configuring the Connector on page 17](#) to register and configure the connector in Select Identity.

## Understanding the Mapping File

The Tandem connector is deployed with the `Sap-R3.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 `sapr3schema.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 SAP connectors:

- **<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 SAP.

- **<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
- bypass — the operation is not supported by the connector

Here is an example:

```
<objectClassDefinition name="User" description="SAP User">
  <properties>
    <attr name="CREATE">
      <value>true</value>
    </attr>
    <attr name="READ">
      <value>true</value>
    </attr>
  </properties>
</objectClassDefinition>
```

- **<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).
- Conzero:tafield — the name of the Select Identity resource attribute.
- Conzero: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 SAP 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 SAP 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. SAP connector has code to handle these composite mappings.

- **<attributeDefinition>**

Defines the properties of each object's attribute. For example, the attribute definition for the Email 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 `Sap-R3.xml` file:

```
<attributeDefinition name="Email" description="Email"
  type="xsd:string" >
  <properties>
```

```

    <attr name="minLength">
      <value>0</value>
    </attr>
    <attr name="maxLength">
      <value>25</value>
    </attr>
    <attr name="pattern">
      <value><![CDATA[[a-zA-Z0-9@]+]]> </value>
    </attr>
  </properties>
</attributeDefinition>

```

- **<concerro:entitlementMappingDefinition>**  
Defines how entitlements are mapped to users.
- **<concerro:objectStatus>**  
Defines how to assign status to a user.
- **<concerro:relationshipDefinition>**  
Defines how to create relationships between users.

## SAP Mapping Information

The following are the attribute mappings supported for SAP systems. These are listed in the `Sap-R3.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 SAP 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	SAP Attribute	Description
Username	Username	Key field on the resource
Password	Password	
Firstname	Firstname	

<b>Select Identity Resource Attribute</b>	<b>SAP Attribute</b>	<b>Description</b>
Lastname	Lastname	
Middlename	Middlename	
Fullname	Fullname	
Department	Department	
City	City	
Country	Country	
Title	Title	
Email	E_Mail	
Zip	Postl_Cod1	
Address1	Building_P	
Address2	Floor_P	
Homephone	Tel1_Numbr	
Salutation	Title_P	
Costcenter	Kostl	
Company	Company	



# 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 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](#) : **SAP**

Connector Information	
* Connector Name:	SAP
* Pool Name:	eis/SAPR3

- 2 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	sap_server	Name given to the resource.
Resource Type	SAP	The connector that was deployed in <a href="#">Step 1 on page 17</a> .
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 <b>No</b> 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 this connector, select this option.
User Name	admin	Administrative username.
Password	password123	Account password.
Client ID	00	Server client ID.
Language	EN	Specified language for the system.
Host Address	server.company.com	The address of the server.
System Number	00	The system number.
Mapping File	Sap-R3.xml	Name of the resource mapping file.

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 for the SAP connector, the Access Info page of the resource properties will look similar to this:

[Home](#) > [Resources](#) > [View Resource : SAP](#)

Resource Access Information	
* Resource Name:	SAP
* User Name:	sap*
* Password:	*****
* Client ID:	00
* Language:	EN
* Host Address:	15.139.88.155
* System Number:	00
* Mapping File:	Sap-R3.xml

- 3 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 attributes for the SAP resource, the list of resources looks similar to this:

Resource Attribute	MinLength	MaxLength	Mapped To	Authoritative
Class	0	10	class	<input type="checkbox"/>
Cost Center	0	10	CostCenter	<input type="checkbox"/>
Email	0	50	Email	<input type="checkbox"/>
First Name	0	50	FirstName	<input type="checkbox"/>
Last Name	0	50	LastName	<input type="checkbox"/>
Password	0	10	Password	<input type="checkbox"/>
sapr3_ENTITLEMENTS	1	255	sapr3_ENTITLEMENTS	<input checked="" type="checkbox"/>
sapr3_KEY	1	255	sapr3_KEY	<input checked="" type="checkbox"/>
User Name	0	10	(Select one)	<input type="checkbox"/>

- 4 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 2](#) while creating this service.

## 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.

Perform the following to delete a connector:

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