HP OpenView Select Identity

Connector for IBM AS/400 V5 R2 Systems Installation Guide

Software Version: 3.0.1



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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.
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The support web site includes:

- Downloadable documentation
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- Problem reporting
- Training information
- Support program information

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Installing the Connector

The AS/400 connector enables HP OpenView Select Identity to manage user data on AS/400 v. SR2 systems. It is a one-way connector and pushes changes made to user data in the Select Identity database to a target AS/400 server. The mapping file controls how Select Identity fields are mapped to AS/400 fields.

The AS/400 connector is packaged in the following files:

- as400schema.jar contains the attribute mapping files for this system
- As400Connector.rar contains the connector binary files

These files are located in the As400 directory on the Select Identity Connector CD.

System Requirements

Ensure that the following requirements are met before installing the AS/400 connector:

- On the web application server host, make sure that the IBM Toolbox for Java (JTOPEN) is installed. The connector uses the toolbox Java classes to access the server.
- The IBM Toolbox for Java requires the TC1 Licensed Program (TCP/IP Connectivity Utilities for AS/400) and the Host Server option of OS/400 to be installed and configured on the AS/400 server, in order to connect to the server and access its data and services.

Deploying on the Web Application Server

To install the AS/400 connector on the Select Identity server, complete these steps.



Perform this procedure after the Select Identity product installation. The application server used in this procedure is WebLogic 8.1, therefore you must be familiar with the WebLogic platform.

- 1 A Select_Identity directory was created on the application server during the product installation. Create a connector folder in this directory.
- 2 Copy the As400Connector.rar file to the connector folder in the Select_Identity directory.
- 3 Copy the as 400 schema. jar file from the Select Identity Connector CD to a temporary directory.
- **4** Extract the as400schema.jar file contents to the Select_Identity directory.
- 5 Ensure that the CLASSPATH environment variable in the WebLogic startup script references the Select_Identity directory.

- 6 Modify the mapping file, if necessary. See Understanding the Mapping File on page 10 for details.
- **7** Start the application server if it is not currently running.
- 8 Log on to the WebLogic Server Console.
- 9 Navigate to $My_domain \rightarrow Deployments \rightarrow Connector Modules$.
- 10 Click Deploy a New Connector Module.
- 11 Locate and select the As400Connector.rar file from the list. It is stored in the Select_Identity\connector directory.
- 12 Click Target Module.
- 13 You can configure the connector according to your environment. This information is present in the RAR file. Open **Edit Connector Descriptor**, and add the following connector parameters:
 - Connector Name: Specify any name for the AS/400 connector
 - Pool Name: eis/As400Connector
- 14 Select the My Server (your server instance) check box.
- 15 Click Continue. Review your settings.
- 16 Keep all default settings and click **Deploy**.

The Status of Last Action column should display Success.

After installing the connector, log on to the Select Identity client and deploy the connector using the Connector pages. Then, create a resource that represents the connector, and configure a Service that relies on the AS/400 resource. See the *HP OpenView Select Identity Administrator Guide* for procedures. The Resource Access Information appendix and the Service chapter provide detailed information about creating an AS/400 resource and Service.

Understanding the Mapping File

The AS/400 connector is deployed with the As400Mapping.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 as00schema.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 AS/400, "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 file:

<Schema>, , and <schemaID>

Provides standard elements for header information.

<objectClassDefinition>

<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 a permission exception
- 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, 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="GroupName"</pre>
required="true" concero:tafield="GroupName"
concero:resfield="gname" concero:isKey="true" />
  </memberAttributes>
  </objectClassDefinition>
- <attributeDefinition name="GroupName"
description="GroupName" type="xsd:string">
   - - properties>
     - <attr name="minLength">
         <value>1</value>
       </attr>
     - <attr name="maxLength">
         <value>8</value>
       </attr>
     - <attr name="pattern">
       - <value>
         - <![CDATA[ [a-zA-Z0-9@]+ ]]>
         </value>
       </attr>
     </properties>
  </attributeDefinition>
```

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 AS/400 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 AS/400 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. AS/400 connector has code to handle these composite mappings.

<attributeDefinition>

Defines the properties of each object's attribute. For example, the attribute definition for the Directory attribute defines that it must be between one and 50 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 AS400Connector.xml file:

```
- <attributeDefinition name="Directory" description="Directory"
type="xsd:string">
   - - properties>
     - <attr name="minLength">
         <value>1</value>
       </attr>
     - <attr name="maxLength">
         <value>50</value>
       </attr>
     - <attr name="pattern">
       - <value>
         - <! [CDATA[ [a-zA-Z0-9/]+]]>
         </value>
       </attr>
     </properties>
  </attributeDefinition>
```

<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.

AS/400 Mapping Information

The AS/400 connector supports the following identify information to be provisioned on the AS/400 system. You can add, modify, or delete attributes once you are familiar with the contents of this file. See the *HP OpenView Select Identity Connector Developer Guide* for more information about attributes and mapping information.

You can edit the Select Identity resource attributes; they reflect the identity information as seen in Select Identity. The logical AS/400 attributes are attributes of user accounts on the AS/400 system. These attributes cannot be changed. The Possible Values column lists special values that are recognized by the AS/400 system. You can use these values in addition to account specifics. See the OS/400 Security Reference product documentation for all AS/400 value specific information.



When adding a user in Select Identity, avoid entering an entitlement (secondary groups) value that is the same value as the Default Group for the system resource. This may cause an entitlement to be inadvertently removed from the user if the user is modified and the Default Group value is changed for that user.

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
UserName	USRPRF	User profile name	
Password	PASSWORD	Logon password	*USERPRF: user profile value *NONE: no value specified
User Class	USRCLS	User's class	*USER, *SECADM, *PGMR, *SYSOPR, *SECOFR
Home Directory	HOMEDIR	User's home directory	*USERPRF: uses /home/ xxxx, where xxxx is the user's profile name

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
User Dir Description	USRD	Description of the user's directory	
User Directory Id	USRID1	User's directory ID	Can be USRPRF value
User Directory Address	USRID2	Directory address	
System Name	SYSNAME	System name	*LCL: local name *PC: for DSNX users with a personal computer *ERROR: default for unresolved distributions
First Name	FSTNAM	First name	*NONE: no first name specified
Last Name	LSTNAM	Last name	*NONE: no last name specified
Middle Name	MIDNAM	Middle name	*NONE: no middle name specified
Preferred Name	PREFNAM	User's preferred name	*NONE: no preferred name specified
[Last Name], [First Name] [Middle Name] ([Preferred Name])	FULNAM	User's full name	*DFT: full name is created from user-defined values specified for the first, middle, last and preferred parameters
Department	DEPT	Company department	*NONE: no value specified
Title	TITLE	User's title	*NONE: no value specified

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
User Location	LOC	User's geographical location	*NONE: no value specified
Building	BLDG	User's office building	*NONE: no value specified
Office	OFC	User's office	*NONE: no value specified
Company	CMPNY	User's company	*NONE: no value specified
PhBus	TELNBR1	Business phone number	*NONE: no value specified
PhHome	TELNBR2	Home phone number	*NONE: no value specified
Fax Number	FAXTELNBR	Fax number	*NONE: no value specified
Address 1	ADDR1	Address line one	*NONE: no value specified
Address 2	ADDR2	Address line two	*NONE: no value specified
Network UserId	NETUSRID	Network user Id	*USRID: use the user ID value
Password Expires	PWDEXP	Password expires flag	*NO: not set to expire *YES: set to expire
Password Expiration Interval	PWDEXPITV	Password expiration interval	*SYSVAL: the QSPCENV system value is used *NOMAX: user is not required to change the password

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Authority	AUT	Authority	*ALL: public has all management and data authorities *CHANGE: public can change user profile *USE: public can view user profile *EXCLUDE: public is denied access to user profile
User Options	USROPT	User options	*NONE: no value specified *CLKWD: uses keyword instead of parameter values at the CL command prompt *EXPERT: uses expert display information *HLPFULL: displays full help information *PRTMSG: message is sent to user's queue when a spooled file is printed. *ROLLKEY: page up and page down action keys are reversed *NOSTSMSG: no status messages displayed *STSMSG: status messages displayed
Primary Group	GRPPRF	User's primary group	*NONE: no value specified

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Object Owner	OWNER	Object owner	*USERPRF: user owns any new objects *GRPPRF: group profile is owner of any created objects
Assistance Level	ASTLVL	Assistance level	*SYSVAL, *BASIC, *INTERMED, *ADVANCED
Current Library	CURLIB	Current library	*CRTDFT: no current library
Initial Program	INLPGM	Initial program	*NONE: no value specified *LIBL: library list is used to locate the program *CURLIB: current library listed for the user is used to locate the program
Initial Menu	INLMNU	Initial menu	*MAIN: iSeries Main Menu is shown *SIGNOFF: system signs off user when initial program completes
Limit Capabilities	LMTCPB	Limit capabilities	*YES, *PARTIAL, *NO
Description	TEXT	Description	*NONE: no value specified

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Special Authority	SPCAUT	Special authority	*USRCLS: special authorities are granted based on the user's class value *NONE: no value specified
Special Environment	SPCENV	Special environment	*SYSVAL: the QSPCENV system value is used *NONE: user operates in the iSeries environment *S36: user operates in the System/36 environment if the user's routing program is QCMD
Display Sign-On	DSPSGNINF	Display sign-on	*SYSVAL: the QDSPSGNINF system value is used *NO: sign-on information is not displayed *YES: sign-on information is displayed
Limit Device Sessions	LMTDEVSSN	Limit device sessions	*SYSVAL: the QSPCENV system value is used *NO: user can sign on to more than one device at one time *YES: user cannot sign on to more than one device at one time

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Keyboard Buffering	KBDBUF	Keyboard buffering	*SYSVAL: the QSPCENV system value is used *NO: type-ahead and attention-key buffering are not active *TYPEAHEAD: type-ahead feature is active *YES: type-ahead and attention-key buffering are active
Maximum Storage	MAXSTG	Maximum storage	*NOMAX: as much storage as required is available
Priority Limit	PTYLMT	Priority limit	*3: default setting. Values can be 1-9 with the highest priority 1.
Job Description	JOBD	User's job description	*QDFTJOBD: system supplied job description *LIBL: library list is used to locate the description *CURLIB: current library for the job is used to locate the description

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Group Authority	GRPAUT	Group authority for any object created by the user	*NONE: no value specified *ALL: group profile is given all authority *CHANGE: group profile can change objects created by the user *USE: group profile can view objects created by the user *EXCLUDE: group profile can objects created by the user
Group Authority Type	GRPAUTTYP	User's group authority	*PRIVATE: value used for GRPAUT is assigned as private *PGP: primary group authority specified for GRPAUT
Accounting Code	ACGCDE	User's 15-character accounting code	*BLANK: code of 15 blanks is assigned
Document Password	DOCPWD	Document password	*NONE: no value specified

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Message Queue	MSGQ	Message queue	*USRPRF: message queue name is the user profile name
			*LIBL: library list is used to locate the name
			*CURLIB: current library for the job is used to locate the name
MQ Delivery	DLVRY	Message queue delivery	*NOTIFY: job assigned to the message queue is notified when a message arrives
			*BREAK: job assigned to the message queue is interrupted when a message arrives
			*HOLD: messages are held in the queue until requested by user or program
			*DFT: messages requiring replies are answered with a default
MQ Severity	SEV	Message queue severity	*00: used if severity code is not specified
Print Device	PRTDEV	User's print device	*WRKSTN: printer assigned to the user's workstation *SYSVAL: default printer specified in QPRTDEV

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Output Queue	OUTQ	User's output queue	*WRKSTN: output queue assigned to the user's workstation *DEV: same as PRTDEV value *LIBL: library list is used to locate the value *CURLIB: current library for the job is used to locate the value
Attention-Key-H andling Program	ATNPGM	Attention key handling program	*SYSVAL: the QATNPGM value is used *NONE: no value specified *ASSIST: Operational Assistant Attention Program is used *LIBL: library list is used to locate the name *CURLIB: current library for the job is used to locate the name

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Sort Sequence	SRTSEQ	Sort sequence	*SYSVAL: the QSRTSEQ value is used *HEX: standard hexadecimal sort sequence is used *LANGIDSHR: sort sequence used with the user's language ID is used. Table can contain the same weight for multiple characters *LANGIDUNQ: sort sequence used with the user's language ID is used. Table must contain unique weight for each character *LIBL: library list is used to locate the name *CURLIB: current library for the job is used to locate the name
Language Identifier	LANGID	Language identifier	*SYSVAL: the QLANGID value is used
Country/Region Identifier	CNTRYID	User's country or region	*SYSVAL: the QCNTRYID value is used *NONE: no value specified
Coded Character Set Identifier	CCSID	Coded character set identifier	*SYSVAL: the QCCSID value is used

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Character Identifier Control	CHRIDCTL	Character identifier control	*SYSVAL: the QCHRIDCTL value is used *DEVD: the CHRID of the device is used to represent the CCSID of the data *JOBCCSID: character conversion occurs with a difference between the CHRID, job CCSID, or data CCSID values
Job Attributes	SETJOBATR	User's job attributes	*SYSVAL: the QSETJOBATR value is used *NONE: no value is used *CCSID: the coded character set ID from the locale is used *DATFMT: uses the date format of the locale *DATSEP: uses the date separator of the locale *DECFMT: uses the decimal format of the locale *SRTSEQ: uses the sort sequence of the locale *TIMSEP: uses the time separator of the locale

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Locale	LOCALE		*SYSVAL: the QLOCALE value is used *NONE: no value is used *C: assigns the C locale *POSIX: assigns the POSIX locale
Object Auditing	OBJAUD	Object auditing	*NONE: no value is used *CHANGE: if OBJAUD value specifies USRPRF, an audit record is written when the user changes an object *ALL: if OBJAUD value specifies USRPRF, an audit record is written when the user changes or reads an object

Select Identity Resource Attribute	AS/400 Attribute	Description	Possible Values
Action Auditing	AUDLVL	Action auditing for objects	*NONE: no value is used *CMD: command strings are logged *CREATE: create actions are logged *DELETE: delete actions are logged *JOBDATA: job changes are logged *OBJMGT: move and rename actions are logged *OFCSRV: changes to system directory and office mail actions are logged *PGMADP: gaining authority to an object is logged *SAVRST: save and restore actions are logged *SECURITY: security-related actions are logged *SERVICE: use of service tools is logged *SPLFDTA: actions performed on spooled files are logged *SYSMGT: use of system management functions is logged

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 $My_Domain \rightarrow Deployments \rightarrow Connector Module$.
- 3 Click the delete icon next to the connector that you want to uninstall.
- 4 Click **Yes** to confirm the deletion.
- 5 Click Continue.