Oracle® Enterprise Single Sign-on Provisioning Gateway

OIM Connector User's Guide

Release 11.1.1.2.0

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Oracle Enterprise Single Sign-on Provisioning Gateway OIM Connector User's Guide, Release 11.1.1.2.0

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About the ESSO-PG OIM Connector

Oracle Enterprise Single Sign-on Provisioning Gateway (ESSO-PG) provides the ability for an administrator to automatically provision Oracle Enterprise Single Sign-on Logon Manager (ESSO-LM) with a user's ID and password. In a distributed enterprise environment, Oracle Identity Manager (OIM) can be used to provision users into SSO-enabled applications through ESSO-PG. After the user credential is provisioned into the SSO environment, OIM enables single sign-on for the users, enhances security, and eliminates the need for end users to ever know, enter, or remember application credentials.

Audience

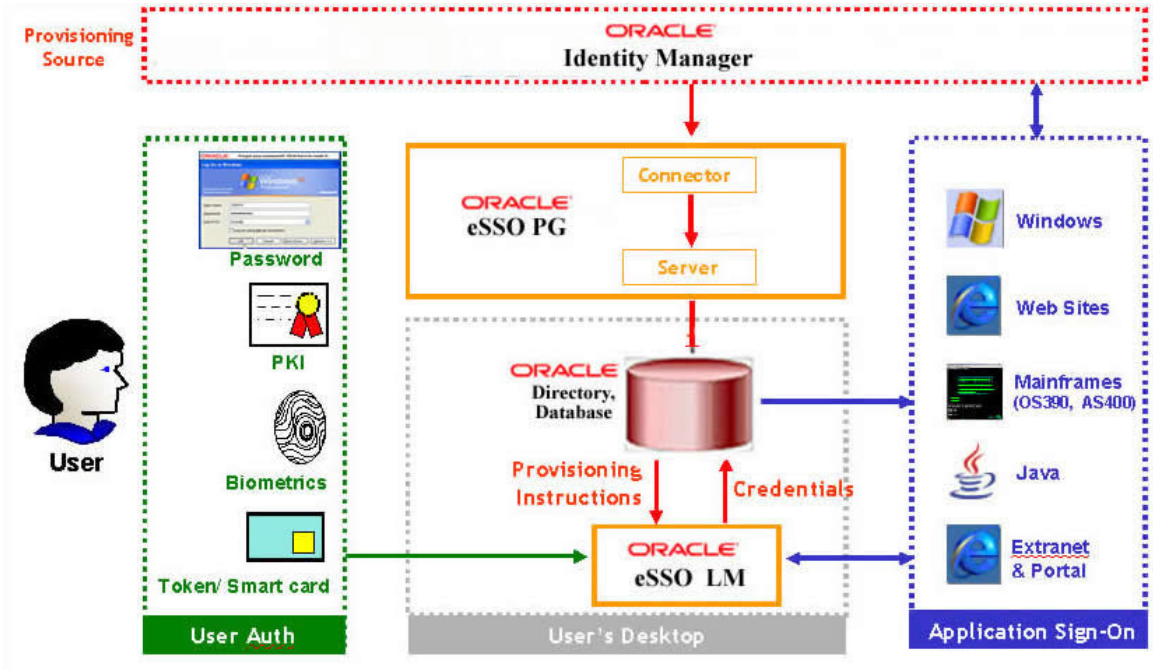
This guide describes the ESSO-PG OIM Connector. It provides instructions for deploying the OIM Connector and using it to manage the user provisioning of ESSO-PG. It is intended for experienced administrators responsible for the planning, implementation, and deployment of ESSO-PG.

Acronym or Abbreviation	Full Name
SSO Agent	Oracle Enterprise Single Sign-on Logon Manager Agent
SSO Administrative Console	Oracle Enterprise Single Sign-on Logon Manager Administrative Console
ESSO-LM	Oracle Enterprise Single Sign-on Logon Manager
ESSO-AM	Oracle Enterprise Single Sign-on Authentication Manager
ESSO-KM	Oracle Enterprise Single Sign-on Logon Kiosk Manager
ESSO-PG	Oracle Enterprise Single Sign-on Provisioning Gateway
ESSO-PR	Oracle Enterprise Single Sign-on Logon Manager Password Reset

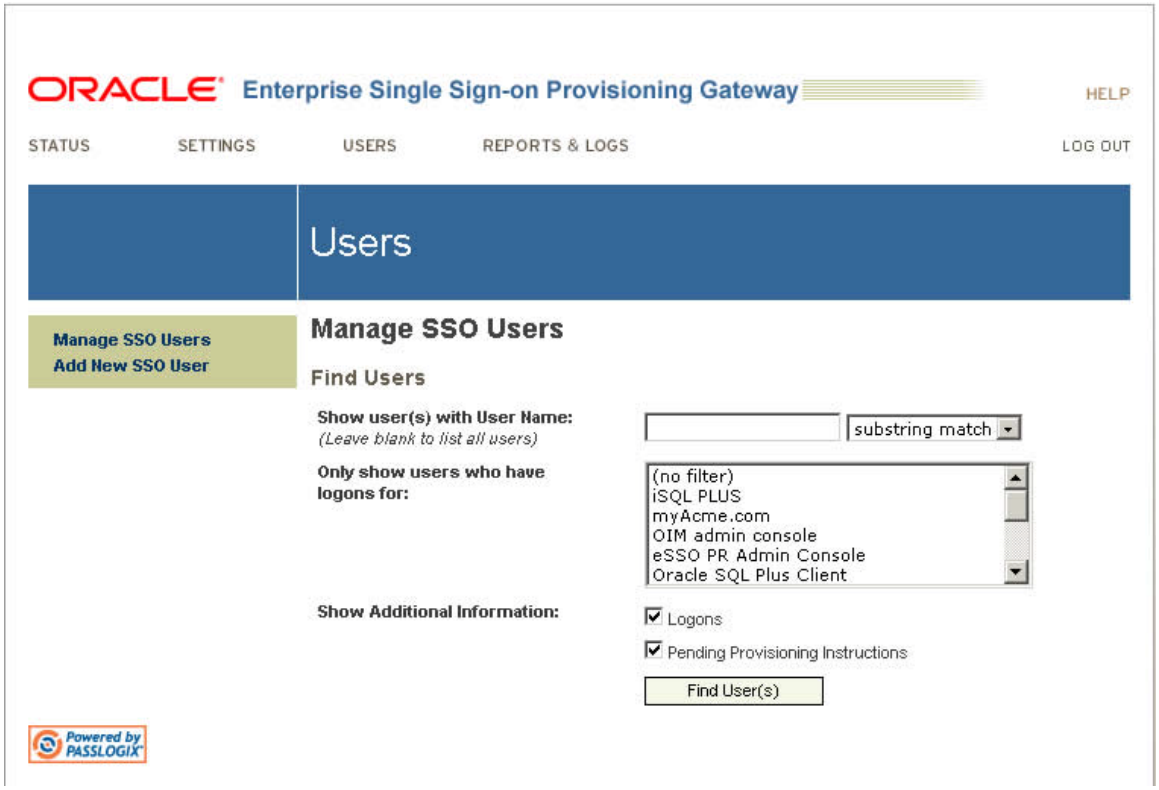
ESSO-PG OIM Components

The ESSO-PG integrated with OIM consists of the following components:

- the ESSO-PG Server, which accepts account credential provisioning information via a Web Services interface, and communicates and updates that information in the SSO Repository (such as LDAP or a database)
- the ESSO-PG Console, which provides a Web-based administration GUI that communicates with the ESSO-PG Server
- the Oracle Identity Manager Connector, which provides the integration between OIM and ESSO-PG Server. This connector is a Java-based class library, which is made available during product download.
- ESSO-PG CLI (command-line administration tool), which communicates with the ESSO-PG Server.



The ESSO-PG solutions extend audit and reporting capabilities to include information about application and application usage to applications. For example, through the ESSO-PG administrator console, administrators can identify all users having a particular application configured in the SSO admin console and can identify all applications configured in the SSO environment for a particular user. The ESSO-PG server accepts provisioning instructions from OIM, which it uses to inform individual ESSO-LM agents on the desktop (which are talking to the same SSO repository as the ESSO-PG server) and updates application configuration additions, deletions, and changes.



The main steps that are required to deploy the connector are:

- Install and set up the ESSO-PG server on the IIS server
- Import the ESSO-PG connector into OIM using the OIM Deployment Management user interface
- Configure the OIM workflow for the Root Resource and Non-Root Resource objects. Refer to this guide for help in getting started with these configurations.
    - The Root Resource object represents the account used by ESSO-LM to connect to the repository. There can be only one Root Resource Object.
    - A non-root resource object is a resource object that represents an account for which an SSO template exists.

OIM Connector Upgrade Install

Files and Directories that Comprise the Connector

Sr. No.	Content	Purpose	Comments
1	XML\UpgradeInstall\Adapters.xml	This XML contains the upgraded adapters for upgrading from the existing install. The adapters are to be used for the manual creation of the task in the preconfigured workflows. **Note**: Please use the upgraded connectors for configuration of any new workflows	This is for the manual creation of the Oracle-related task.
2	docs\	User guides for configuring different systems and the test document.	

a) Following modified adapters have been included in the U**pgradeInstall\Adapters.xml**:

Passlogix Modify Password

Passlogix Reconciliation Add Credential

Passlogix Non Root Resource Add Credential

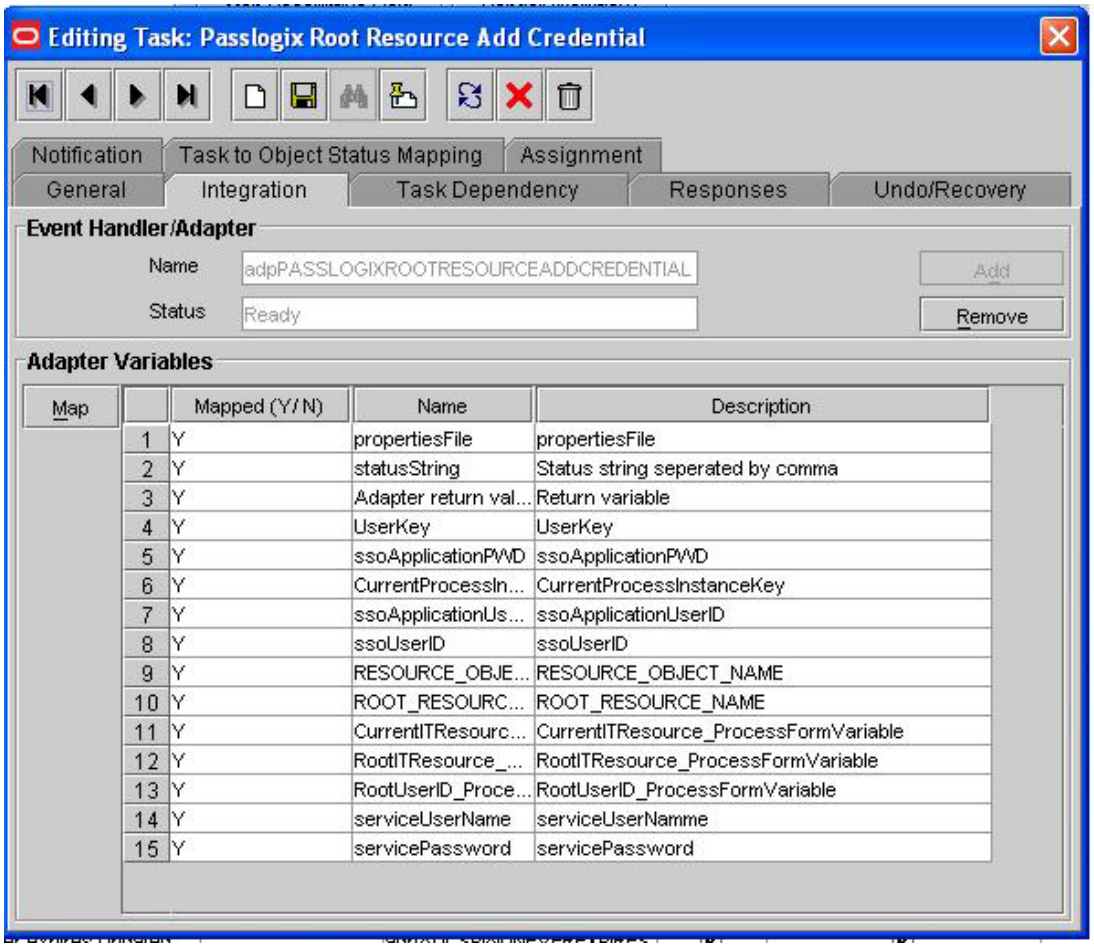
Passlogix Non Root Resource Delete Credential

Passlogix Root Resource Add Credential

b) For all the above adapters the variable vgoEnabledResources has been removed from the adapters. The adapters can now be used in the workflow without specifying whether the resource is VgoEnabled or not.

c) For upgrading from existing install please import the UpgradeInstall\Adapters.xml into OIM. The old adapters and their mappings in the workflows will continue existing in the system. Please use the upgraded adapters for any new workflow configuration.

d) Following figure shows the mappings for the Passlogix Root Resource Add Credential adapter. Note that the mapping for Vgo Enabled Resources variable is removed from the adapter.



e) Follow the steps in Section **Workflow Configuration for any Already Configured Process** onwards for configuring new workflows for Root Resource and Non Root Resource.

f) Use the values in existing *VGO PM Constant Resource* for mappings in the upgraded adapters.

g) For fix of the error relating to test.jar not found (SF8617) follow the steps given in appendix

OIM Connector Fresh Install

The OIM Connector is an interface that enables Oracle Identity Manager (OIM) to communicate with the connector code and manage the user provisioning of ESSO-PG.

Files and Directories that Comprise the Connector

Sr. No.	Content	Purpose	Comments
1	bin\OIMConnector-6.0.jar	This is the library containing the code for OIM to communicate with ESSO-PG.	The jar has to to be put in the Javatask folder in the OIM server.
2	src\	Source files for OIM Connector	Might not be available for the end-user client.
3	lib\	Library files for using the OIM Connector 6.0.jar	The files in the thirdparty/endorsed directories
4	docs\	User guides for configuring different systems and the test document	
5	XML\NewInstall\Adapters.xml	This XML contains the adapters for the Oracle connector. The adapters can used in for the manual creation of the task in the preconfigured workflows.	This is for the manual creation of the Oracle-related task.
6	XML\NewInstall\VGOconstants.xml	This XML will create a ESSO-PG constant resource and a ESSO-PG constant IT resource	This is for the manual creation of the Oracle-related task.
7	XML\NewInstall\Resourceobjects.xml	The XML that contains preconfigured workflow for a sample AD server and iPlanet server	For sample workflow.
8	XML\NewInstall\ITresources.xml	This XML is the sample IT resources XML that has ESSO-PG constants, iPlanet, and AD server.	For sample workflow.

Sr. No.	Content	Purpose	Comments
9	XML\NewInstall\lookups.xml	This XML is the lookups XML for the workflow	For sample workflow.
10	XML\ NewInstall\Lookup_iplanet_1.xml XML\ NewInstall\Lookup_iplanet_2.xml	XML for the iPlanet workflow	For sample workflow.

Configuring PMClientConfiguration.properties

1. Specify the ESSO-PG connection variable values in the PMClientConfiguration.properties.

2. Configure the javaCLI.serviceurl variable in the *PMClientConfiguration.properties* file to http://<*Hostname*>/v-GO PM Service/UP.asmx.

   where <*Hostname*> must be replaced with the host of the IIS server running the ESSO-PG application. Multiple URL's can be put separated by comma. The connector will select each of the URL's from left to right if the first initial fails. The property file is now a parameter in all the adapters. The file should be present on the machine on which the OIM server is running and the exact path should be passed as a parameter. The variable is explained in each of the adapters in the document.

3. Configure the javaCLI.serviceclient variable to the name of the provisioning service client, for example, javaCLI.serviceclient=Provisioning Agent.

Deployment Steps for Different Application Servers

WebLogic

1. Verify installation requirements:

Oracle Identity Manager	Oracle Identity Manager v 9.0.1.1561.0 Installation with: WebSphere v 5.1.1.5 Oracle9i v 9.2.0.1.0
Host platform for OIM installation	Windows Server 2003

2. Configure the Oracle Identity Manager Server for Microsoft Active Directory and Sun Java System Directory Server:

   a. Configure Provisioning Adapter for Microsoft Active Directory Rev 4.4.0 and Sun Java System Directory Server Rev 4.1.0 in OIM so that Xellerate users can be provisioned to the above two resources.
   b. The link for downloading the adapters is: http://www.oracle.com/technology/software/products/ias/htdocs/101202.html

3. Copy OIM interface code and runtime libraries:

   a. Copy OIMConnector6.0.jar under *xellerate_home\xellerate\JavaTasks*
   b. Copy the following versions of connector runtime libraries under *xellerate_home\xellerate \ThirdParty*

S.No	Name of Jar	Versions
1	PMCLI.jar	-with 184 KB
2	axis.jar	1.2.1
3	bcprov-jdk13-128.jar	1.28.0
4	commons-discovery-0.2.jar	0.2
5	jaxrpc.jar	-
6	opensaml-1.0.1.jar	1.0.1
7	saaj.jar	-
8	wsdl4j-1.5.1.jar	1.5.1
9	wss4j.jar	-
10.	xmlsec-1.3.0.jar	1.3.0

   c. Set the following as the endorsed directory at the JRE of BEA WebLogic 8.1:

S.No	Name of Jar	Versions
1.	dom.jar	**Xerces-J_2_5_0**
2.	jaxp-api.jar	1.3
3.	sax.jar	**Xerces-J_2_5_0**
4.	xalan.jar	2.1.4
5.	xercesImpl.jar	**Xerces-J_2_5_0**

4. Install Endorsed libraries for Xellerate in WebLogic:

    a. Stop the WebLogic server.
    b. Create an endorsed folder in the JRE which WebLogic is using at the lib directory and copy the libraries from the endorsed table in step 33. This is required specific for JRE 1.4.

JBoss

1. Verify the installation requirements:

Oracle Identity Manager	Oracle Release 9.0.1.1849.0 Installation with: Jboss-4.0.3SP1 with JDK 1.4.2
Host platform for OIM installation	Windows Server 2003

2. Configure the Oracle Identity Manager Server for Microsoft Active Directory and Sun Java System Directory Server:

    a. Configure ESSO-PG for Microsoft Active Directory Rev 4.4.0 and Sun Java System Directory Server Rev 4.1.0 in OIM so that Xellerate users can be provisioned to the preceding two resources. XMLs are also in the package for the testing purpose at step 6.
    b. The link for downloading the adapters is:

    http://www.oracle.com/technology/software/products/ias/htdocs/101202.html

3. Copy OIM interface code and runtime libraries:

    a. Copy OIMConnector6.0.jar under *xellerate_home**xellerate**JavaTasks*.
    b. Copy the following versions of connector runtime libraries under *xellerate_home**xellerate* *ThirdParty*:

S.No	Name of	Versions
1.	PMCLI.jar	-
2.	activation.jar	1.0.2
3.	axis.jar	1.2.1
4.	bcprov-jdk13-128.jar	1.28.0
5.	commons-discovery-0.2.jar	0.2
6.	commons-logging-1.0.4.jar	1.0.4
7.	jaxrpc.jar	-
8.	log4j-1.2.9.jar	1.2.9
9.	opensaml-1.0.1.jar	1.0.1
10.	saaj.jar	-
11.	wsdl4j-1.5.1.jar	1.5.1
12.	wss4j.jar	-
13.	xmlsec-1.3.0.jar	1.3.0
14.	Mail.jar	-

The following will be copied to *jboss-4.0.3SP1\lib\endorsed*:

S.No	Name of Jar	Versions
1.	dom.jar	Xerces-J_2_5_0
2.	jaxp-api.jar	1.3
3.	sax.jar	Xerces-J_2_5_0
4.	xalan.jar	2.1.4
5.	xercesImpl.jar	Xerces-J_2_5_0

4. Install XML libraries for Xellerate in JBoss:

   a. Stop the JBoss server and copy the libraries in the *jboss-4.0.3SP1\lib\endorsed* directory.
   b. Replace the old libraries when prompted and restart the JBoss server.

   NOTE: For OIM version 9.1.0.1, JBOSS Version 4.2.3.GA and JDK 1.6 all the OIM third party jars excluding "commons-logging-1.0.4.jar" should be added to the JBOSS_CLASSPATH variable of the run.bat file of JBOSS. The "common-logging.jar" residing in the *JBOSS_HOME* /server/default/lib directory should be added in the JBOSS_CLASSPATH.
   Here is the sample for adding the third party jars in the JBOSS_CLASPATH:

   set OIM_THIRD_PARTY=*OIM_HOME*\ThirdParty
   set
   OIM_THIRD_PARTY_JARS=%OIM_THIRD_PARTY%\wss4j.jar;%OIM_THIRD_PARTY%
   \axis-1.2.1.jar;*JBOSS_HOME*\server\default\lib\commons-
   logging.jar;%OIM_THIRD_PARTY%\commons-discovery-
   0.2.jar;%OIM_THIRD_PARTY%\jaxrpc.jar;%OIM_THIRD_PARTY%\activation.jar;%O
   IM_THIRD_PARTY%\opensaml-
   1.0.1.jar;%OIM_THIRD_PARTY%\saaj.jar;%OIM_THIRD_PARTY%\wsdl4j-
   1.5.1.jar;%OIM_THIRD_PARTY%\mail.jar;%OIM_THIRD_PARTY%\xmlsec-
   1.3.0.jar;%OIM_THIRD_PARTY%\PMCLI.jar;%OIM_THIRD_PARTY%\bcprov-jdk13-
   128.jar
   if "%JBOSS_CLASSPATH%" == "" set
   RUN_CLASSPATH=%RUNJAR%;%OIM_THIRD_PARTY_JARS%
   if "%RUN_CLASSPATH%" == "" set
   RUN_CLASSPATH=%JBOSS_CLASSPATH%;%RUNJAR%;%OIM_THIRD_PARTY_JARS
   %
   Where *OIM_HOME* is the OIM server installation directory and
   JBOSS_HOME is the JBOSS installation directory

OC4J

1. Verify the installation requirements:

Oracle Identity Manager	OIM Release 9.0.3. Installation with Oracle Containers for J2EE 10g (10.1.3.1.0).
Host platform for OIM installation	Windows Server 2003

2. Configure the Oracle Identity Manager Server for Microsoft Active Directory and Sun Java System Directory Server:

   a. Configure Provisioning Adapter for Microsoft Active Directory Rev 4.4.0 & Sun Java System Directory Server Rev 4.1.0 in OIM so that Xellerate Users can be provisioned to the above two resources. XMLs are also in the package for the testing purpose at step 6.
   b. The link for downloading the adapters is:

      http://www.oracle.com/technology/software/products/ias/htdocs/101202.html

3. Copy OIM interface code and runtime libraries:

   a. Copy OIMConnector6.0.jar under *xellerate_home**xellerate**JavaTasks*.
   b. Copy the following versions of connector runtime libraries under *xellerate_home**xellerate* *ThirdParty*.

S.No	Name of Jar	Versions
1.	PMCLI.jar	-
2.	activation.jar	1.0.2
3.	axis.jar	1.2.1
4.	axis-ant-1.2.1.jar	1.2.1
5.	bcprov-jdk13-128.jar	1.28.0
6.	commons-discovery-0.2.jar	0.2
8.	jaxrpc.jar	-
9.	mail.jar	1.3.1
10.	opensaml-1.0.1.jar	1.0.1
11.	saaj.jar	-
12.	wsdl4j-1.5.1.jar	1.5.1
13.	wss4j.jar	-
14.	xmlsec-1.3.0.jar	1.3.0

c. The following will be set as the shared library in OC4J

S.No	Name of Jar	Versions
1.	dom.jar	Xerces-J_2_5_0
2.	jaxp-api.jar	1.3
3.	sax.jar	Xerces-J_2_5_0
4.	xalan.jar	2.1.4
5.	xercesImpl.jar	Xerces-J_2_5_0

4. Stop the Oracle server from stop oracle process manager.
5. Remove the (*oc4j_home)\webservices\lib\ commons-logging.jar*.
   This is required as it creates a log configuration issue with OIM Xellerate logging libraries.

6. Install shared libraries for Xellerate in OC4J:

   7. Open the file *(oc4j_home)j2ee\home\config\server.xml*
      Oc4j_home denotes the OC4J installed directory.

   b. Add an entry for shared-library with name passlogix just after the previous entries:

```
Shared library entries.

<shared-library name="passlogix" version="1.1">
         1. <code-source path="xercesImpl.jar"/>
      <code-source path="xalan.jar"/>
      <code-source path="sax.jar"/>
      <code-source path="jaxp-api.jar"/>
      <code-source path="dom.jar"/>
</shared-library>
```

7. Save the server.xml. You have created a shared library to be used for applications.

   a. Create a directory named passlogix in *(oc4j_home)\j2ee\home\shared-lib*.

   b. Then create a directory named 1.1 defining the version of the libraries and put all the specified jars in it.

   c. Open the file *(oc4j_home)\ j2ee\home\application-deployments\Xellerate\ orion-application.xml.*
      a. This xml will assign the Xellerate application to the shared library just created.

d. Add the following entry:

```
<imported-shared-libraries>
     <import-shared-library name="passlogix" max-
     version="1.3"/>
</imported-shared-libraries>
```

e. Add this entry before the *</orion-application>* tag at the end of the file and save the file. The max-version must be max version that you want Xellerate to use. In this case, it should be greater than 1.1. Start the OC4J server.

The steps are required to make the OIMConnector6.0.jar work on OC4J. The next steps will be on OIM to create or import the workflow XMLs and then test the connector.

WebSphere

1. Verify installation requirements:

Oracle Identity Manager	Oracle Identity Manager v. 9.0.1 Installation with: WebSphere v. 5.1.1.5 Oracle9i v 9.2.0.1.0
Host platform for OIM installation	Windows Server 2003

2. Configure the Oracle Identity Manager Server for Microsoft Active Directory and Sun Java System Directory Server:

   a. Configure ESSO-PG for Microsoft Active Directory Rev 4.4.0 and Sun Java System Directory Server Rev 4.1.0 in OIM so that Xellerate users can be provisioned to the preceding two resources.
   b. Use the following link to download the adapters:

   http://www.oracle.com/technology/software/products/ias/htdocs/101202.html

3. Copy the OIM interface code and runtime libraries:

   1. Copy OIMConnector6.0.jar under *xellerate_home**xellerate**JavaTasks*

2. Copy the following versions of connector runtime libraries under *xellerate_home\xellerate \ThirdParty*:

S.No	Name of Jar	Versions
1.	PMCLI.jar	-
2.	activation.jar	1.0.2
3.	axis.jar	1.2.1
4.	axis-ant-1.2.1.jar	1.2.1
5.	bcprov-jdk13-128.jar	1.28.0
6.	commons-discovery-0.2.jar	0.2
7.	commons-logging-1.0.4.jar	1.0.4
8.	jaxrpc.jar	-
9.	log4j-1.2.9.jar	1.2.9
10.	mail.jar	1.3.1
11.	opensaml-1.0.1.jar	1.0.1
12.	saaj.jar	-
13.	wsdl4j-1.5.1.jar	1.5.1
14.	wss4j.jar	-
15.	xmlsec-1.3.0.jar	1.3.0

4. Reference the following versions of connector runtime libraries under Shared Libraries of IBM WebSphere 5.1.1.5:

Sr. No.	Name of Jar	Versions
1.	dom.jar	Xerces-J_2_5_0
2.	jaxp-api.jar	1.3
3.	sax.jar	Xerces-J_2_5_0
4.	xalan.jar	2.1.4
5.	xercesImpl.jar	Xerces-J_2_5_0

5. Restart the WebSphere server.

Sample Workflow Configuration to Manually Configure SSO Tasks

Consider that the AD User is the workflow already configured and consider it as the *Root Resource Object*. Root resource is the resource that will contain the SSO data (SSO Repository example: AD or Sun LDAP or iPlanet). The user must be present on the Root Resource first and then the credentials for the other applications can be registered on the ESSO-PG server. Any other resource object (like iPlanet) or IT resource (like AD Server 1, iPlanet User) is classified as Non-Root Resource Object and Non-Root IT resource, respectively.

For any resource object process definitions that are already configured (Root Resource or Non-Root Resource) for Create User, Password Updated, or Delete User process tasks, a corresponding process task for Oracle Add Credential, Oracle Change Password, or Oracle Delete User is added and mapped with the response codes of Create User, Password Updated. The new tasks that are added for Oracle will be properly configured to the corresponding workflow variables (process form). The tasks of Oracle will be conditional based on the task completion of the preconfigured workflow. This document explains the addition of the Oracle tasks to the already configured workflow for AD (Root Resource), iPlanet (Non-Root Resource).

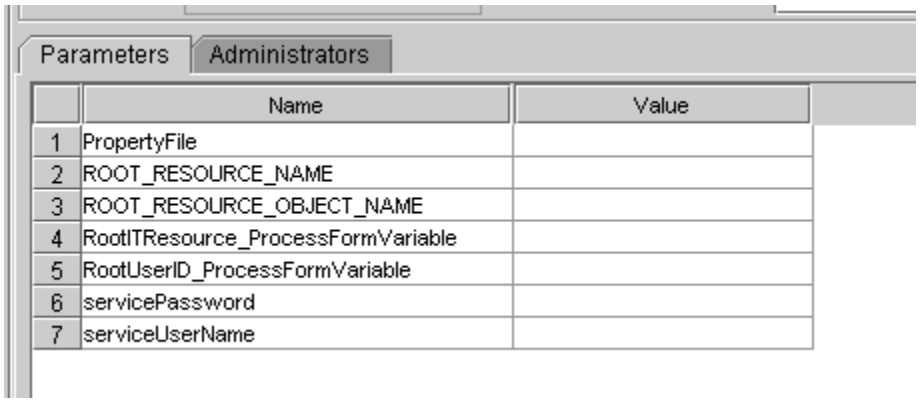
The adapters for root resource and non-root resource Object process tasks must be configured differently and check is made for Root Resource Provisioning before triggering the Add Credential, Change Password, or Delete Credential methods against ESSO-PG server.

Defining ESSO-PG Constants

Create an ESSO-PG Constants Resource Sr. No.	Field Value	Purpose
1	ROOT_RESOURCE_NAME	The name denotes the IT Resource name that is used to connect to the AD Server. This name will be sent to the ESSO-PG server by the connector. This means that the ESSO-PG should have a template name with this field value. This is will be the repository for ESSO-LM also.
2	ROOT_RESOURCE_OBJECT_NAME	The resource object name is the actually name that is there on the process definition of the AD server.
3	RootITResource_ProcessFormVariable	The variable field name on the AD user process form. This will choose the correct AD server connection parameters at runtime. You can have different AD servers configured with different IT resource values and select each at runtime while the provisioning process is executed.
4	RootUserID_ProcessFormVariable	The field that will be the UID that is to be used as the SSO id for a particular user. This value will be used as the SSO ID while sending the credentials instructions to ESSO-PG by the connector.
6	serviceUserName	The username of the Oracle administrative console (domain\username).This field is encrypted on the backend database.
7	servicePassword	The password of the username that is used in Sr. No. 6.This field is encypted on the backend database.
8	Propertyfile	This is the variable that will have the initialization parameters for the connector pack. It has the values of the serviceurl and the service agent name. The service URL's can be multiple separated by comma. It will be the exact path of the property file present on the machine on which the OIM server is running.

1. Open the IT Resources Information definition form and create VGO PM Constant Resource with the following parameters:

ROOT_RESOURCE_NAME	
ROOT_RESOURCE_OBJECT_NAME	
RootITResource_ProcessFormVariable	
RootUserID_ProcessFormVariable	
serviceUserName	Encrypted
servicePassword	Encrypted
Propertyfile	



2. Create an IT Resource *VGO PM Constants* of type *VGO PM Constant Resource* and enter the following values which will depend on the actual workflow implemented.

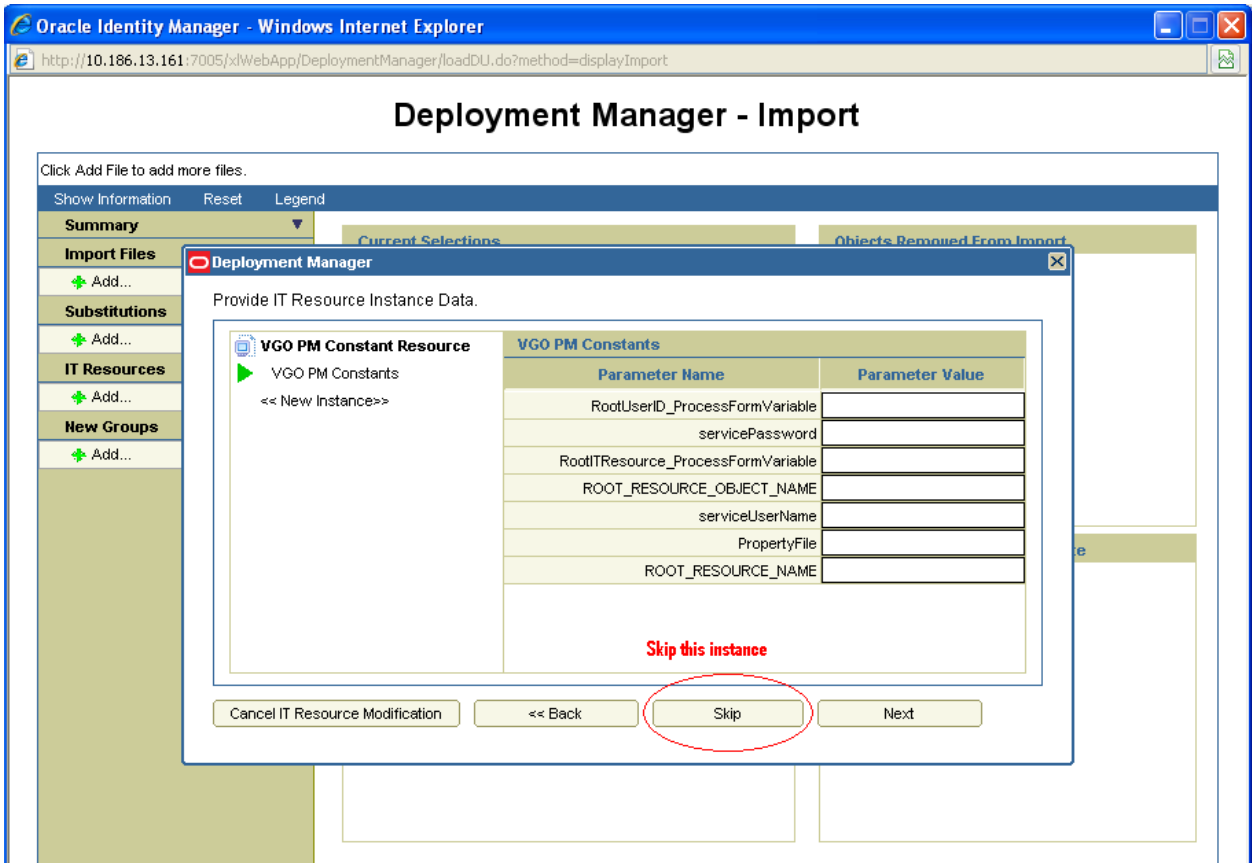
3. The following table shows the sample values that are actually in the provided sample workflow:

ROOT_RESOURCE_NAME	AD Server 2003
ROOT_RESOURCE_OBJECT_NAME	AD User
RootITResource_ProcessFormVariable	UD_ADUSER_AD
RootUserID_ProcessFormVariable	UD_ADUSER_UID
serviceUserName	As per the ESSO-PG installation
servicePassword	As per the ESSO-PG installation
Property file	

You can accomplish the same result by using the XML provided in the package:

1. Import the XML *VGOconstants.xml* from the package. Use the Web interface import functionality to add these to OIM:

2. The instance is already created so the new instance option can be skipped (as shown in the following screen). This will add the *VGOconstants* resource. Note this is the optional step for creating the *VGOconstants* resource.


Oracle Identity Manager - Windows Internet Explorer
http://10.186.13.161:7005/xlWebApp/DeploymentManager/loadDU.do?method=displayImport
Deployment Manager - Import
Click Add File to add more files.
Show Information
Reset
Legend
Summary
Import Files
Add...
Substitutions
Add...
IT Resources
Add...
New Groups
Add...
Current Selections
Objects Removed From Import
Deployment Manager
Provide IT Resource Instance Data.
VGO PM Constant Resource
VGO PM Constants
<< New Instance>>
VGO PM Constants
Parameter Name
Parameter Value
RootUserID_ProcessFormVariable
servicePassword
RootITResource_ProcessFormVariable
ROOT_RESOURCE_OBJECT_NAME
serviceUserName
PropertyFile
ROOT_RESOURCE_NAME
Skip this instance
Cancel IT Resource Modification
<< Back
Skip
Next

Define ESSO-PG Constant Resource Type Field in AD User Process Form

The new field is required because during the provisioning process the ESSO-PG connection parameters are required by the Oracle connector. This step will be needed for all the workflows that have the process form. We will be looking at the AD process form (Root Resource) and the iPlanet (Non-Root Resource). You make it invisible but can make it visible and can define a lookup to have more than one ESSO-LM deployed. Then the IT resource values will be different as in Create a ESSO-PG Constants Resource.

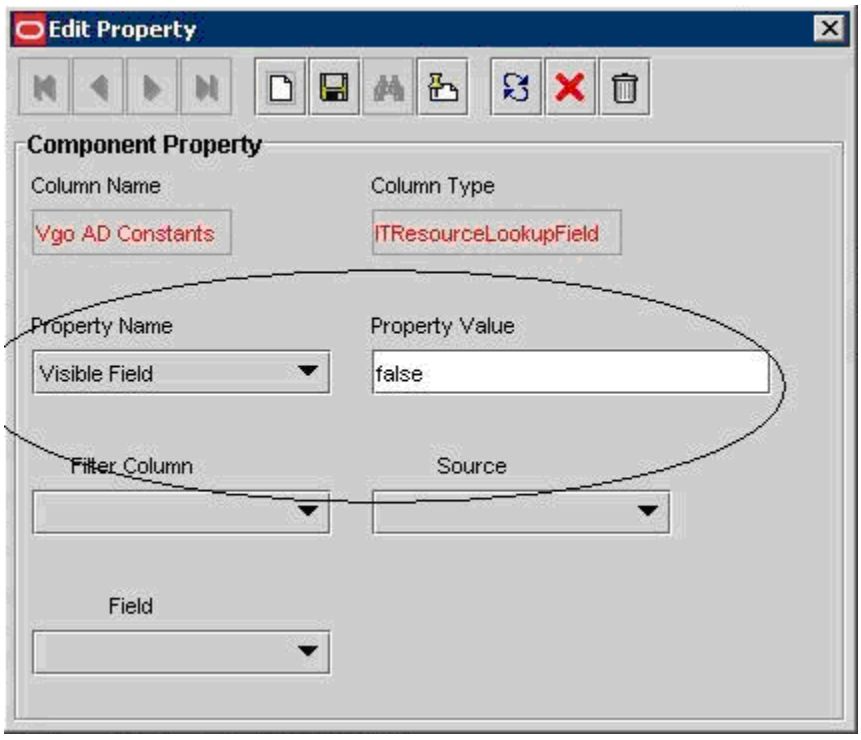
1. Open the AD User process form.
2. Make a new version of the New AD User form.
3. Add a new field, *VGOADConstants,* as follows:

Name	Variant Type	Length	Field Label	Field Type	Default Value
VGOADConstants#	Long		VgoADConstants	ITResourceLookUpField	*VGO PM Constants**

*Put the IT Resource Name *VGO PM Constants* defined earlier.

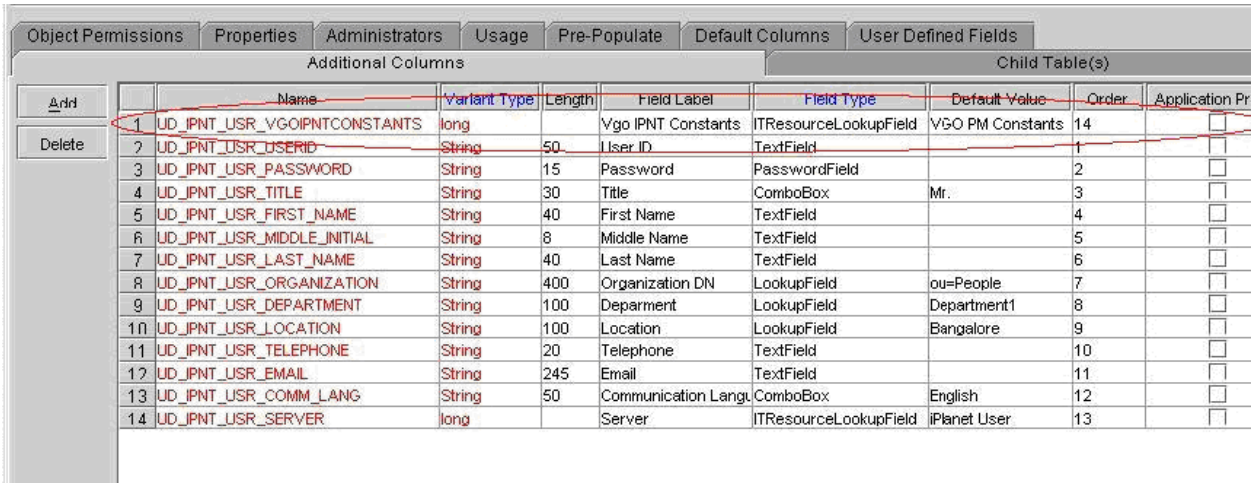
#*VGOADCONSTANTS* will be preceded by UD_ADUSER_

4. In the **Properties** tab, add properties for *VGOADConstants*.
    a. In the Add Property window, select the **Type** item from **Property Name.** Select **VGO PM Constant Resource** from the **Property Value** box.
    b. Add another property, select **Visible Field** item from **Property Name**. Enter **false** in the **Property Value** box
5. Make the New AD User form active.



Define ESSO-PG Constant Resource Type Field in iPlanet User Process Form

1. Open the iPlanet User process form.
2. Make a new version, New IPNT User.



	Name	Variant Type	Length	Field Label	Field Type	Default Value	Order	Application Pr
1	UD_IPNT_USR_VGOIPNTCONSTANTS	long		Vgo IPNT Constants	ITResourceLookupField	VGO PM Constants	14	
2	UD_IPNT_USR_USERID	String	50	User ID	TextField		1	
3	UD_IPNT_USR_PASSWORD	String	15	Password	PasswordField		2	
4	UD_IPNT_USR_TITLE	String	30	Title	ComboBox	Mr.	3	
5	UD_IPNT_USR_FIRST_NAME	String	40	First Name	TextField		4	
6	UD_IPNT_USR_MIDDLE_INITIAL	String	8	Middle Name	TextField		5	
7	UD_IPNT_USR_LAST_NAME	String	40	Last Name	TextField		6	
8	UD_IPNT_USR_ORGANIZATION	String	400	Organization DN	LookupField	ou=People	7	
9	UD_IPNT_USR_DEPARTMENT	String	100	Deparment	LookupField	Department1	8	
10	UD_IPNT_USR_LOCATION	String	100	Location	LookupField	Bangalore	9	
11	UD_IPNT_USR_TELEPHONE	String	20	Telephone	TextField		10	
12	UD_IPNT_USR_EMAIL	String	245	Email	TextField		11	
13	UD_IPNT_USR_COMM_LANG	String	50	Communication Langu	ComboBox	English	12	
14	UD_IPNT_USR_SERVER	long		Server	ITResourceLookupField	iPlanet User	13	

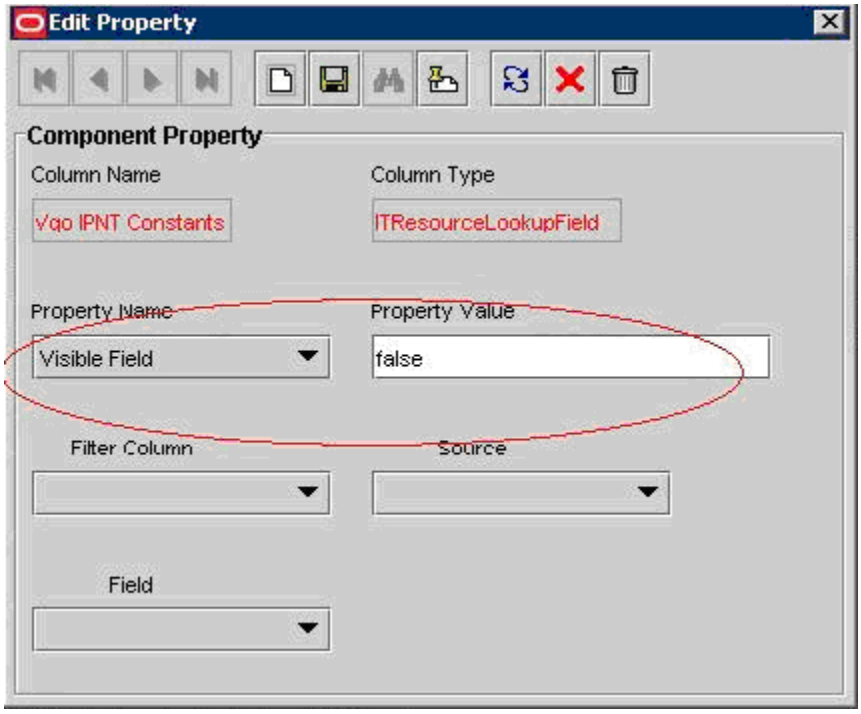
3. Add a new field, *VGOIPNTConstants*, as follows. The new field will help at runtime to get the data for the *VGOconstant* connection parameters that are prefilled in the IT resource *VGO PM Constants*.

Name	Variant Type	Length	Field Label	Field Type	Default Value
VGOIPNTConstants#	Long		VgoIPNTConstants	ITResourceLookUpField	*VGO PM Constants**

*Enter the IT Resource Name, *VGO PM Constants*, defined earlier.

4. In the Properties tab, add properties for *VGOIPNTConstants*.

   a. In the Add Property window that appears, select the **Type** item from **Property Name.** Select **VGO PM Constant Resource** from **Property Value**.
   b. Add another property, select **Visible Field** item from **Property Name**. Enter **false** in the **Property Value** box.



5. Make new IPNT User form active.

Workflow Configuration for any Already Configured Process

Importing the Oracle Adapters

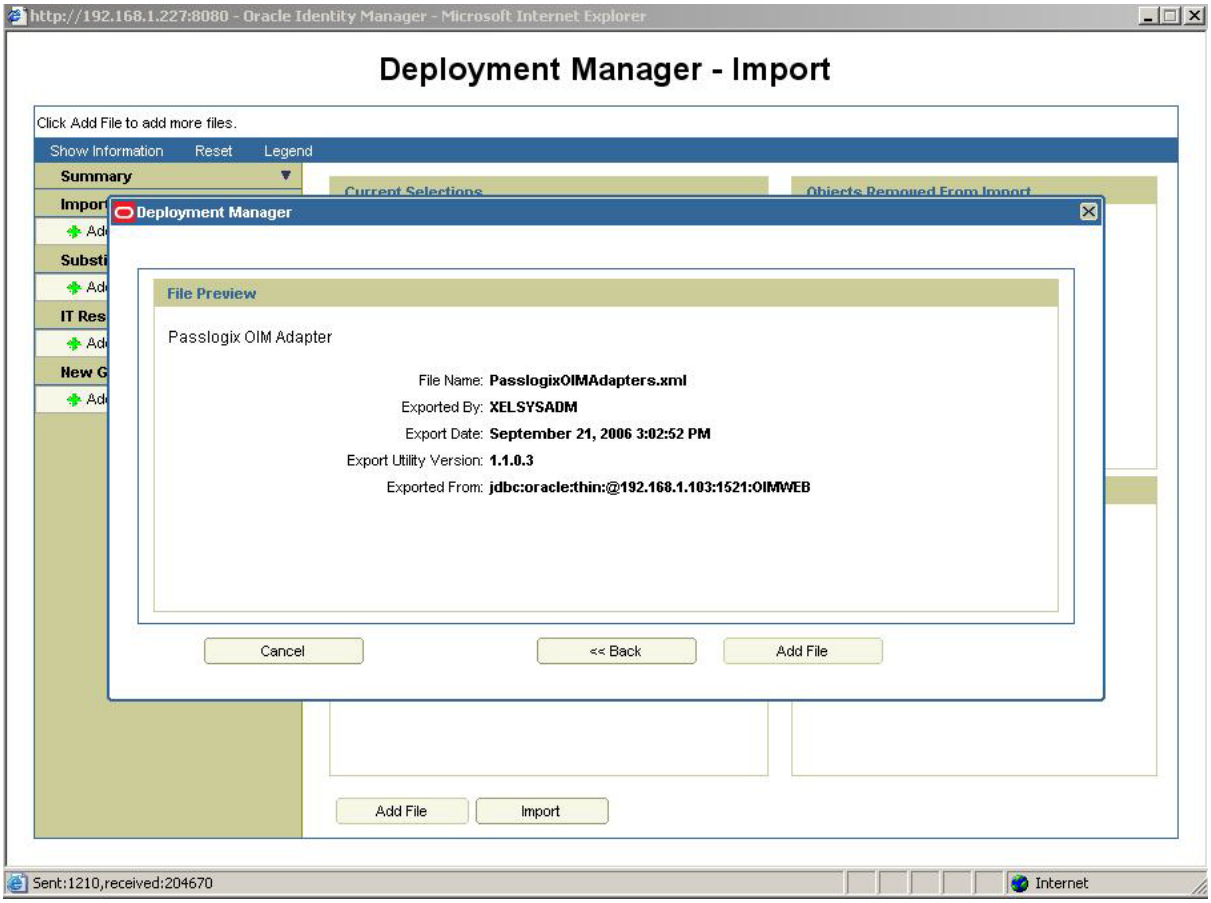
The XML Adapters.xml contains the following adapters that can be used for any pre-configured workflows. The task can be created on the process definition of the required workflow (AD, iPlanet, ODB). Add the following adapters as required.

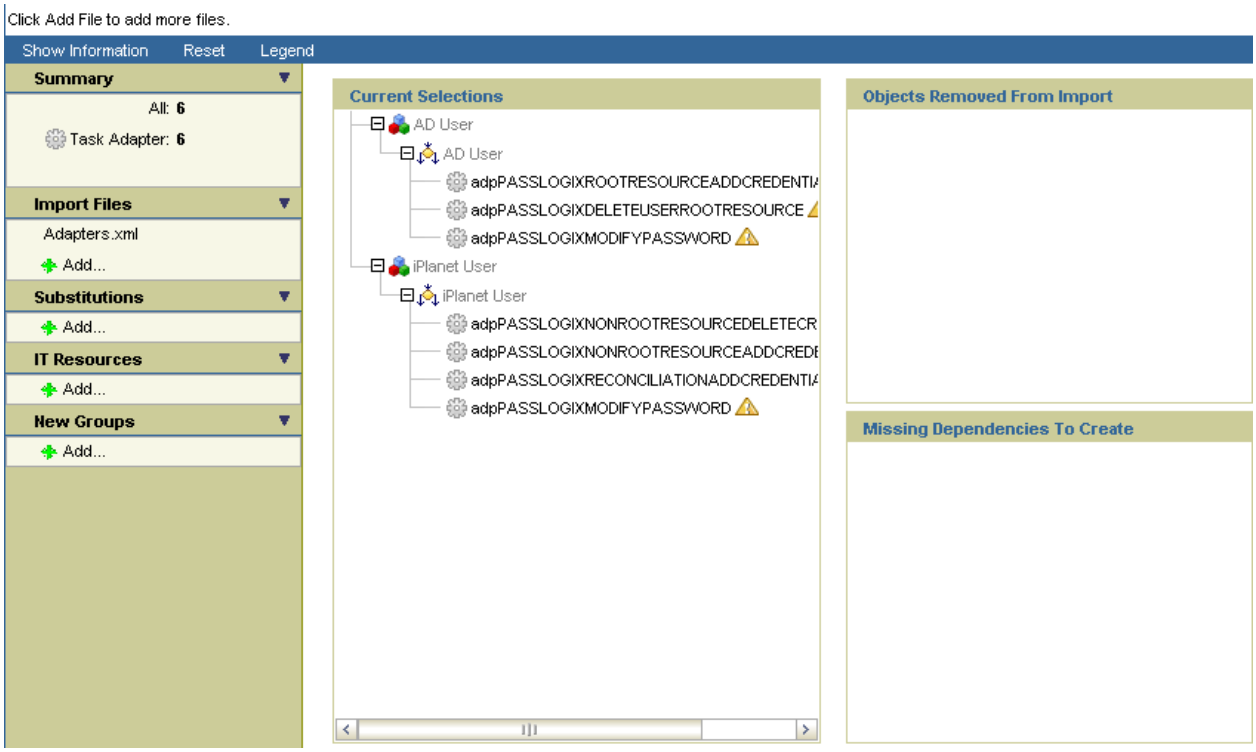
Sr. No.	Adapter Name	Purpose
1	adpPASSLOGIXROOTRESOURCEADDCREDENTIAL	This is the adapter that is used to add the credentials of the Root Resource which is the same for the ESSO-LM repository. The root resource has to be provisioned to the user before adding the other applications to the user. Works as follows : If the current AD is the root AD then add the credentials directly. It checks the resource provisioned for the user at runtime. It matches all the resource objects provisioned with the root resource for the workflow. If the Root Resource is provisioned it get the UID that was set for the SSO and then adds the new application credentials.
2	adpPASSLOGIXNONROOTRESOURCEADDCREDENTIAL	This is the adapter that is used to add the credentials of the resource which has the workflow defined. Works as follows : It checks the resource provisioned for the runtime user. It matches all the resource objects provisioned with the root resource for the workflow and if present then proceeds else throws the error saying "Root resource not provisioned" If the root resource is provisioned it get the UID that was set for the SSO and then adds the new application credentials.
3	adpPASSLOGIXDELETEUSERROOTRESOURCE	Deletes credentials of the root resource from the Oracle ESSO-PG console

Sr. No.	Adapter Name	Purpose
4	adpPASSLOGIXNONROOTRESOURCEDELETECREDENTIAL	Deletes the credentials of the non-root resource from the ESSO-PG. Works as follows: It checks the resource provisioned for the runtime user. It matches all the resource objects provisioned to the user with the root resource for the workflow and if present then proceeds else throws the error saying “Root resource not provisioned” Sends the delete credentials instructions to ESSO-PG.
5	adpPASSLOGIXMODIFYPASSWORD	Changes the password for the different applications. Works as follows: It checks the resource provisioned for the runtime user. It matches all the resource objects provisioned to the user with the root resource for the workflow: if present, then proceeds; if not, throws the error “Root resource not provisioned.” Sends the change credentials instructions to ESSO-PG.
6	adpPASSLOGIXRECONCILIATIONADDCREDENTIAL	Adds the credentials for the new provisioned application for the user . Works as follows : Gets the current resource name Then adds the credentials to the ESSO-PG by calling the Add Credentials method of the ESSO-PG admin console.

1. Import the *Xml\Adapters.xml,*. Use the deployment manager from the Web interface.

2. The names of the adapters will be displayed in the import window. Import all the adapters shown in the following screens. After the adapters are imported, the list of the adapters will be shown in the Adapter Factory table in the Design console.


http://192.168.1.227:8080 - Oracle Identity Manager - Microsoft Internet Explorer
Deployment Manager - Import
Click Add File to add more files.
Show Information
Reset
Legend
Summary
Deployment Manager
File Preview
Passlogix OIM Adapter
File Name: PasslogixOIMAdapters.xml
Exported By: XELSYSADM
Export Date: September 21, 2006 3:02:52 PM
Export Utility Version: 1.1.0.3
Exported From: jdbc:oracle:thin:@192.168.1.103:1521:OIMWEB
Cancel
<< Back
Add File
Add File
Import
Sent:1210,received:204670
Internet

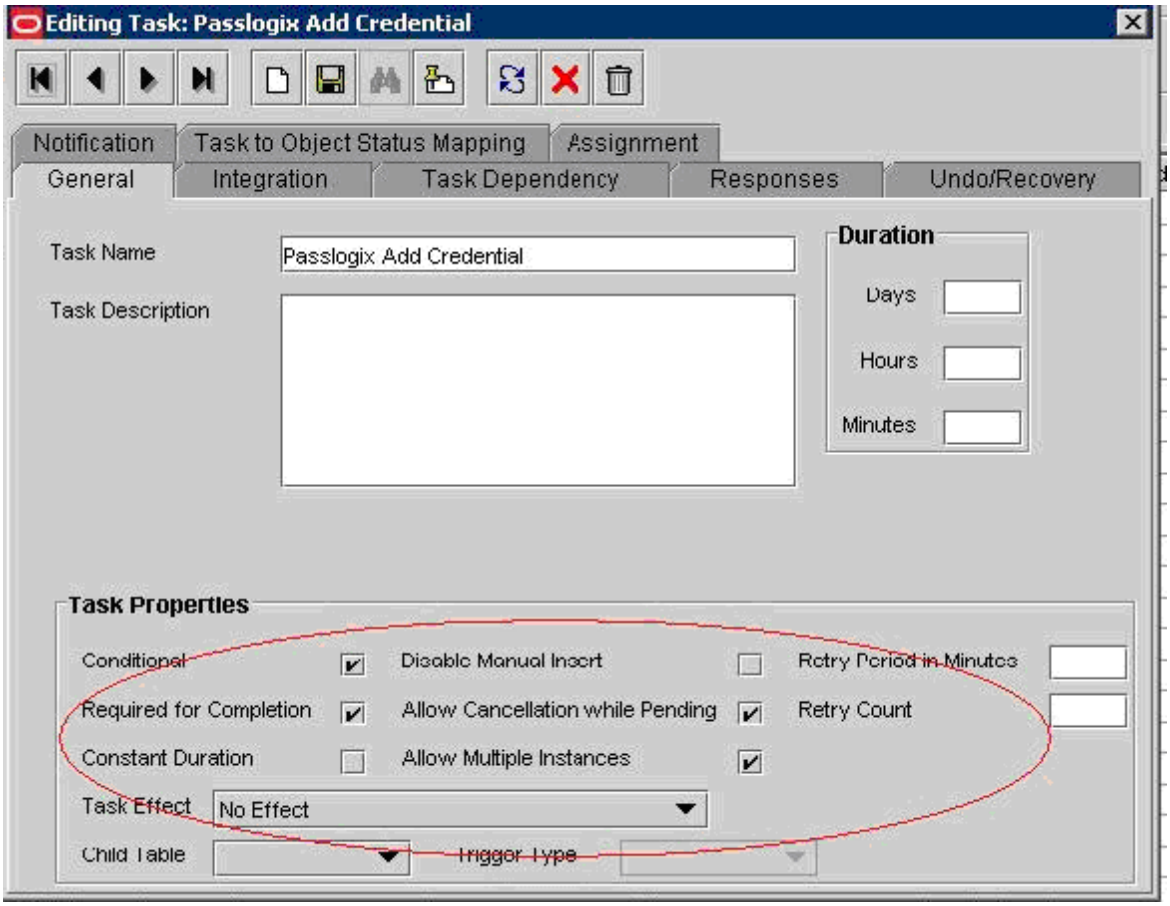

Click Add File to add more files.
Show Information
Reset
Legend
Summary
All: 6
Task Adapter: 6
Import Files
Adapters.xml
Add...
Substitutions
Add...
IT Resources
Add...
New Groups
Add...
Current Selections
AD User
AD User
adpPASSLOGIXROOTRESOURCEADDCREDENTI
adpPASSLOGIXDELETEUSERROOTRESOURCE
adpPASSLOGIXMODIFYPASSWORD
iPlanet User
iPlanet User
adpPASSLOGIXNONROOTRESOURCEDELETECR
adpPASSLOGIXNONROOTRESOURCEADDCREDE
adpPASSLOGIXRECONCILIATIONADDCREDENTI
adpPASSLOGIXMODIFYPASSWORD
Objects Removed From Import
Missing Dependencies To Create

Create the Passlogix Add Credential Process Task

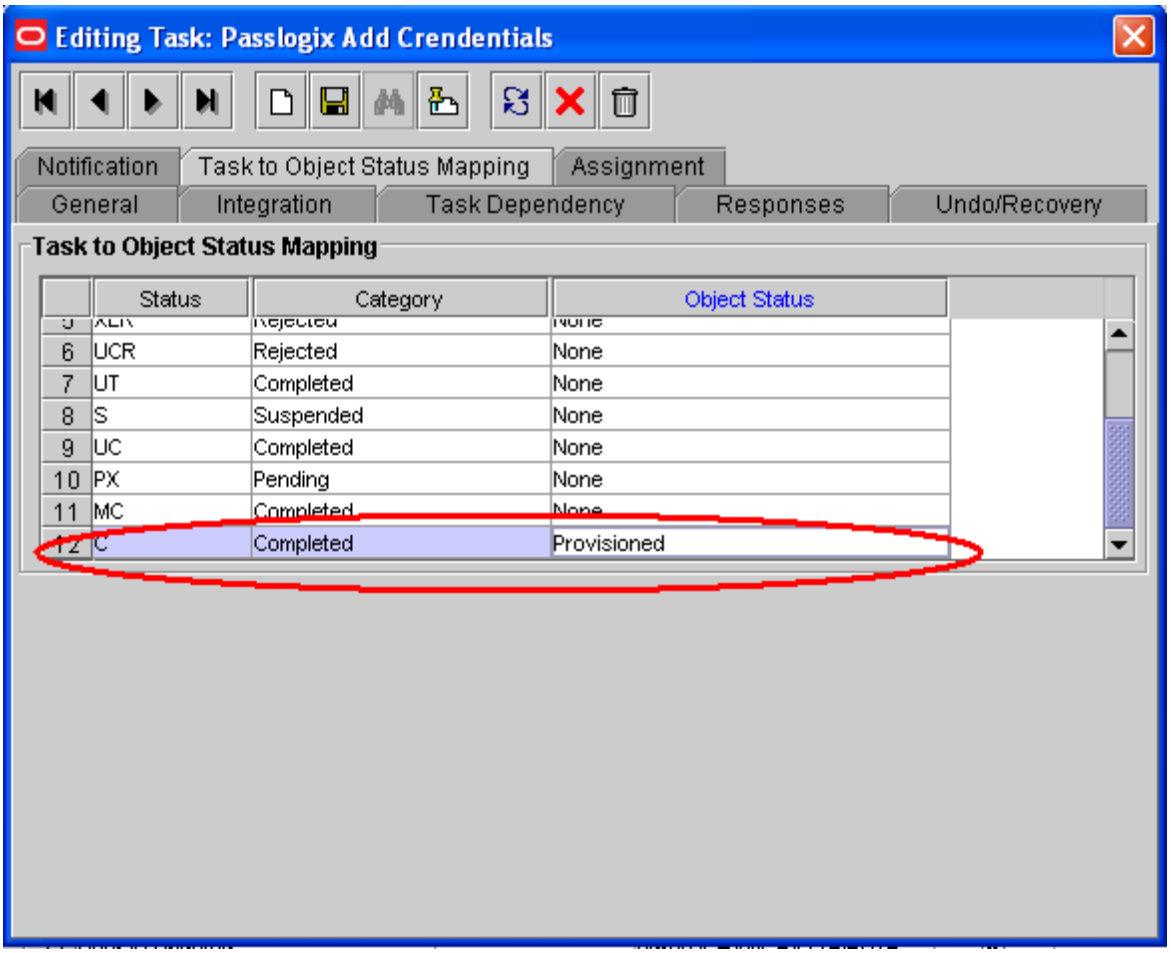
This section describes how to:

- create the Passlogix Add Credential Process Task
- attach the Passlogix Root Resource Add Credential adapter to it
- map the adapter variables.

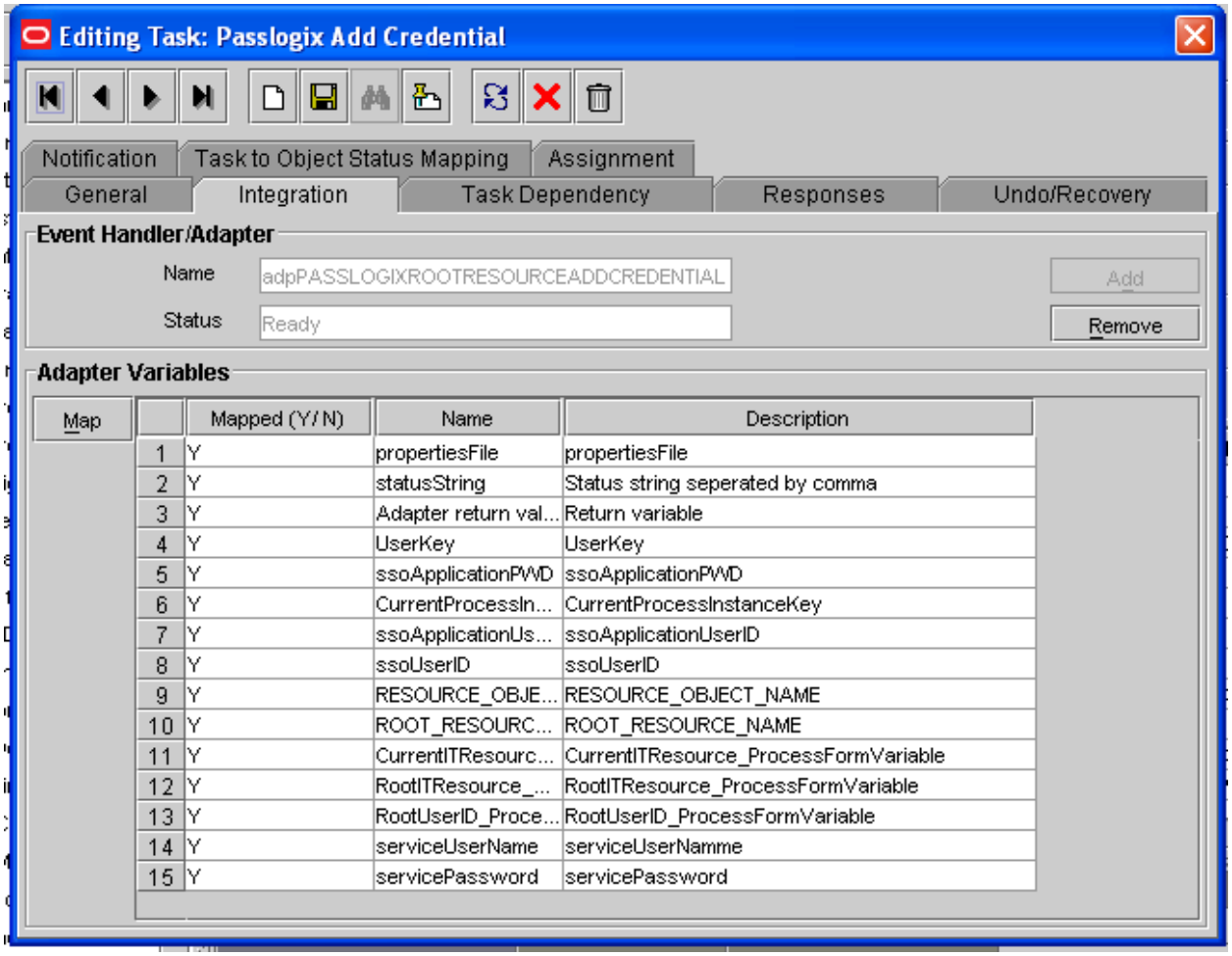
1. Open the AD User Process form that is already configured for basic user operations like creating, modifying, and deleting. Here the AD process is the same repository for the ESSO-LM. For the manual provisioning of the user, the user is first created on AD and then on the Oracle ESSO-PG administrative console.
2. Add a Passlogix Add Credential task.
3. Verify that the **Required for Completion, Allow Cancellation while Pending**, and **Conditional** check boxes are selected. Select **No Effect** from the **Task Effect** combination box.



4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map the Completed (C) process task status with the Provisioned resource object status.



5. Now under **Integration** tab attach the *adpPasslogixRootResourceAddCredential* adapter to the task and map its variables as shown in the next two screens.



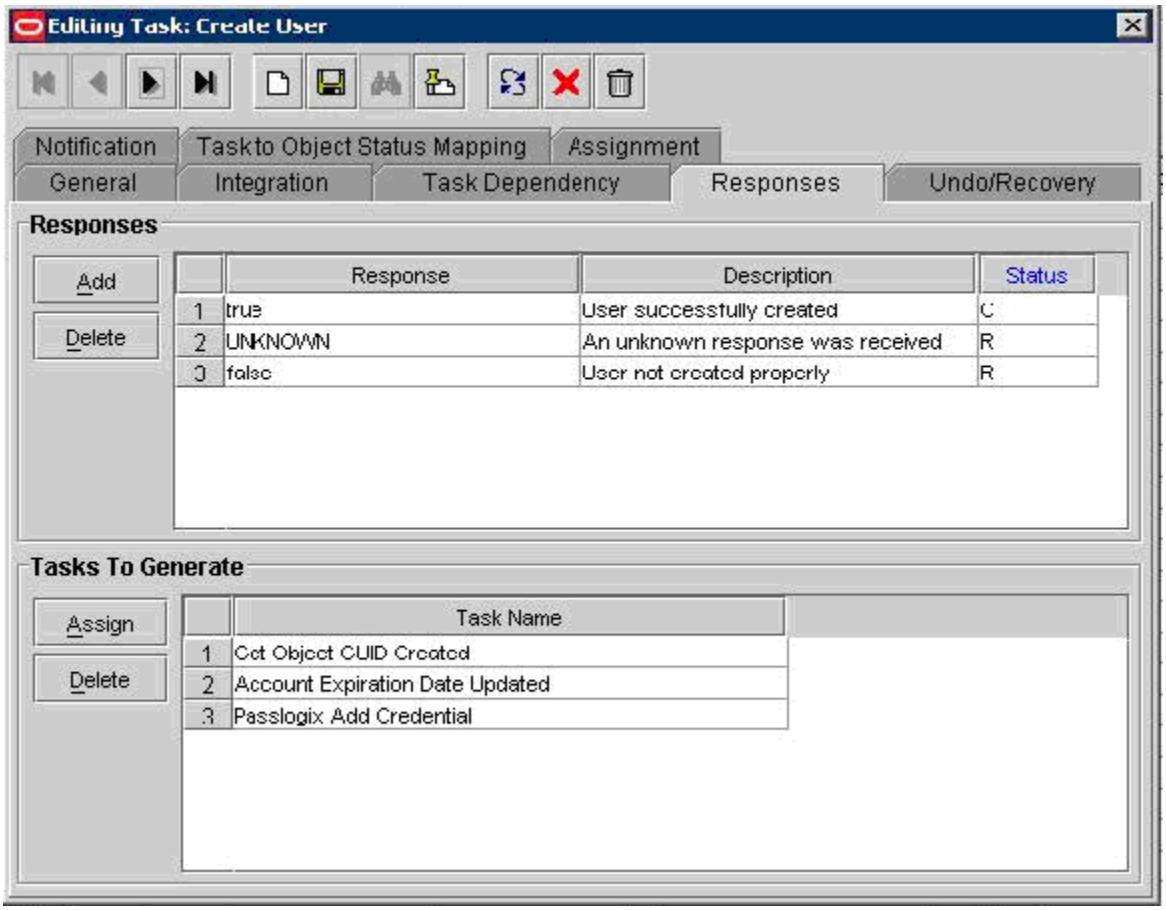
6. Map the variables for the task as shown in the following table:

Variable Name	Data Type	Map To	Qualifier	IT Asset Type/Literal Value	IT Asset Property
Adapter return value	Object	Response Code	NA	NA	
User Key	long	User Definition	User Key	NA	
ssoUserID	String	Process Data	User Id	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	
ssoApplicationPWD	String	Process Data	Password	NA	

CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_ADUSER_AD	NA
Root_Resource_Name	String	IT Resources	VgoADConstants	VGO PM Constant Resource	Root_Resource_Name
Root_Resource_Object_Name	String	IT Resources	VgoADConstants	VGO PM Constant Resource	Root_Resource_Object_Name
RootITResource_ProcessFormVariable	String	IT Resources	VgoADConstants	VGO PM Constant Resource	RootITResource_ProcFormVar
RootUserID_ ProcessFormVariable	String	IT Resources	VgoADConstants	VGO PM Constant Resource	RootUserID_ProcFormVar
serviceUserName	String	IT Resource	VgoADConstants	VGO PM Constant Resource	serviceUserName
servicePassword	String	IT Resource	VgoADConstants	VGO PM Constant Resource	servicePassword
Propertyfile	String	Literal	String	Exact path of the PMClientConfiguration.properties	
statusString	String	Literal	String	Comma separated status values which you want to be taken into consideration e.g. Provisioned, Disabled,Enabled	

This is the column name for IT Resource field of the Resource Object Form.

7. Under the **Responses** tab of Create User process task of the AD User process, select and highlight the **true** response. Then, from the **Tasks to Generate** region of this tab, select and assign the Passlogix Add Credential task. By doing this, you are configuring the Passlogix Add Credential to be fired when the user is successfully created for the AD workflow. This means that the credentials will be sent to the Oracle connector and the user will be registered with the ESSO-PG repository, which is the same AD root resource.



8. Click **Save**.

Create the Passlogix Change Password Process Task

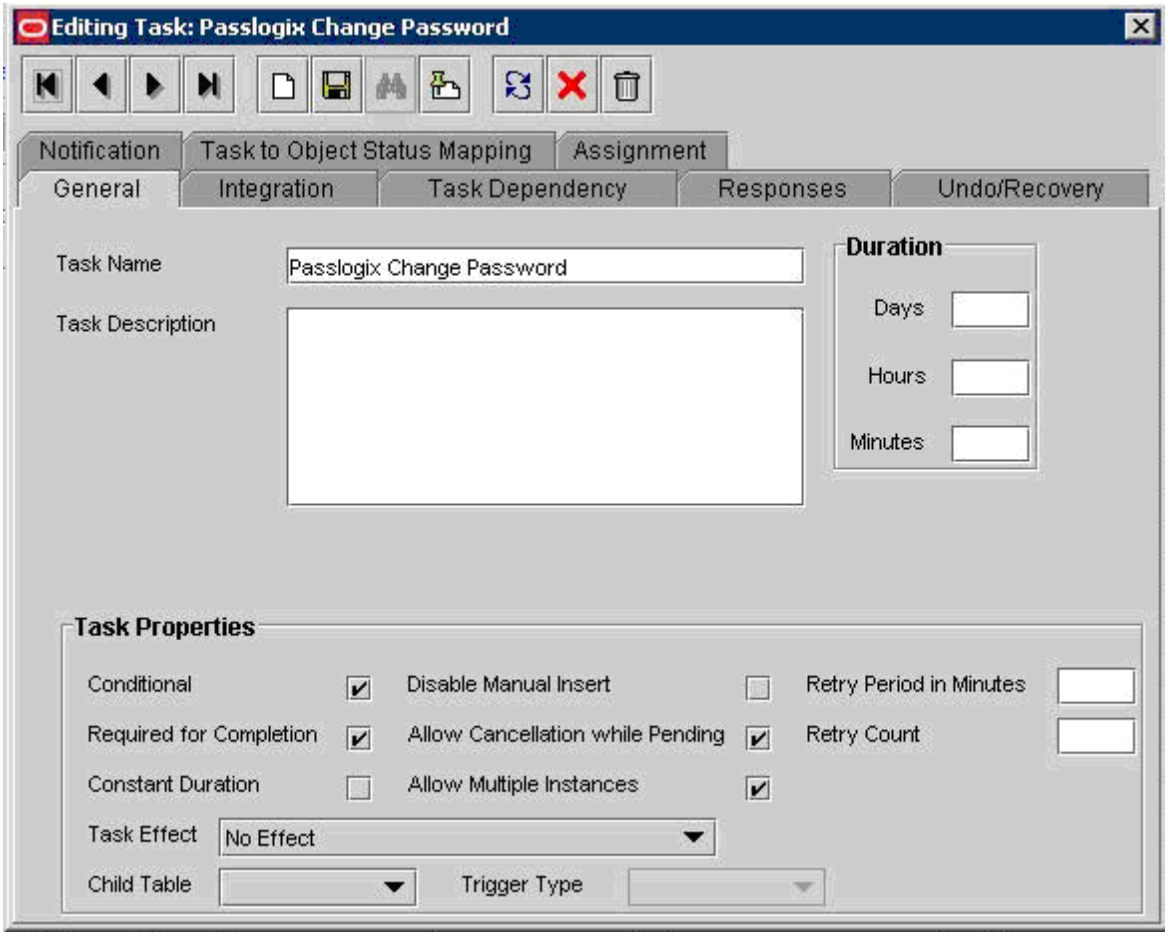
This section describes how to:

- create the Passlogix Change Password process task
- attach the Passlogix Modify password adapter
- map the adapter variables.

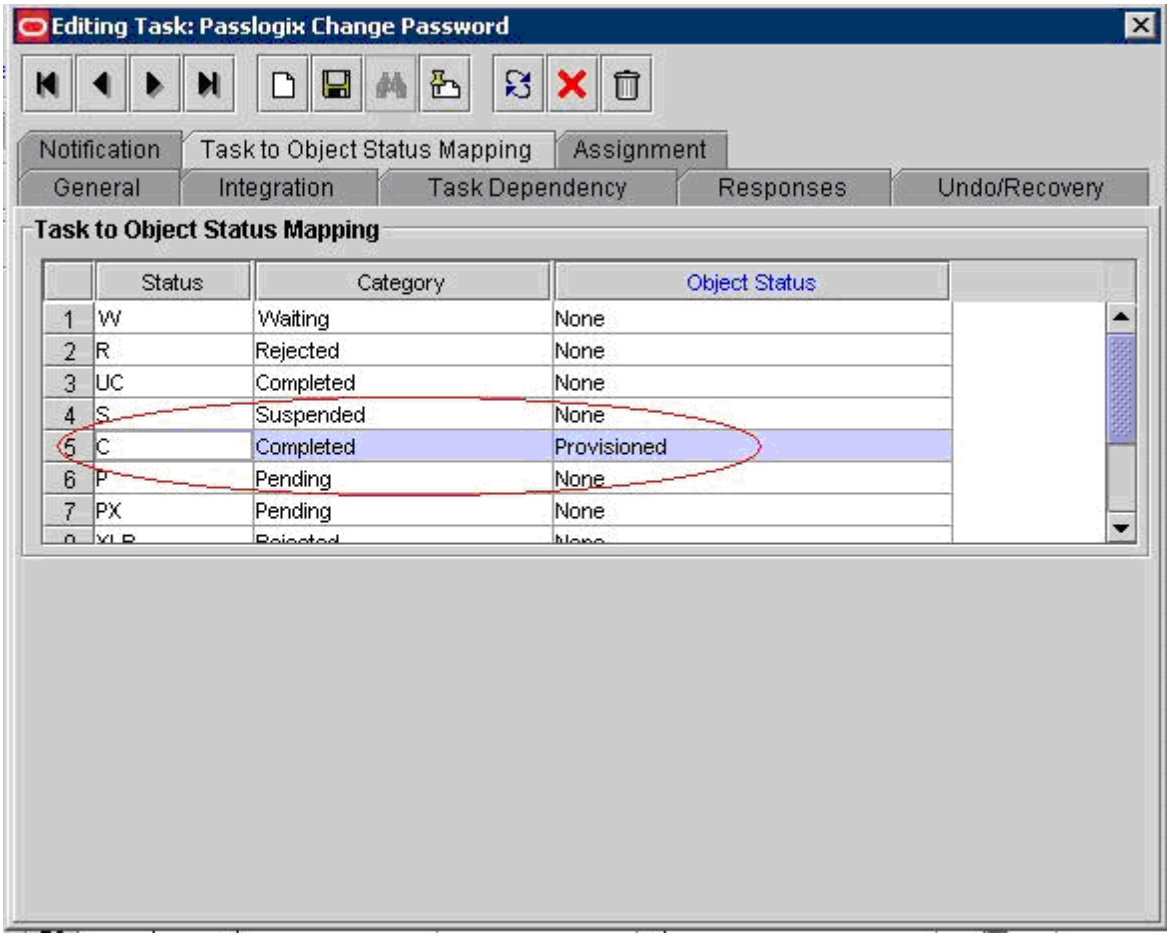
This task is called every time that there is a change in the password for the AD user profile. This call triggers a task related to change password task credential task for ESSO-PG.

To add a Passlogix Change Password process task:

1. Open the AD User Process definition.
2. Add a Passlogix Change Password task in the AD workflow.
3. Select the **Required for Completion, Allow Cancellation while Pending, Conditional,** and **Allow Multiple Instances** check boxes. Select **No Effect** from the **Task Effect** combination box.



4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map the Completed (C) process task status with the Provisioned resource object status.



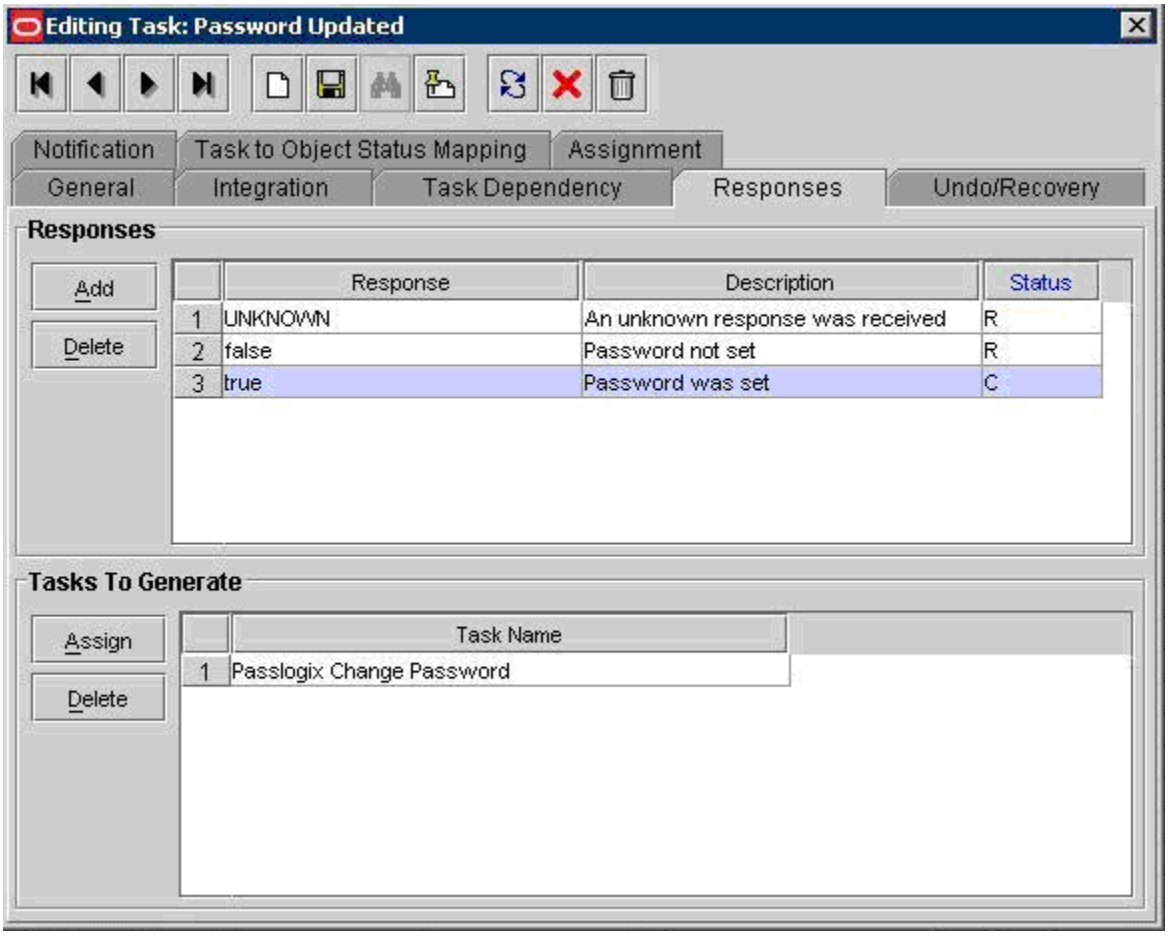
5. Under the **Integration** tab, attach the *adpPasslogixModifyPassword* adapter to the task and map its variables as follows:

Variable Name	Data Type	Map To	Qualifier	IT Asset Type / Literal Value	IT Asset Property
Adapter return value	Object	Response Code	NA	NA	
User Key	long	User Definition	User Key	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	
ssoApplicationPWD	String	Process Data	Password	NA	
CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_ADUSER_AD	NA
Root_Resource_Name	String	IT Resources	VgoADCons	*VGO PM Constant*	Root_Resource

Variable Name	Data Type	Map To	Qualifier	IT Asset Type / Literal Value	IT Asset Property
			tants	*Resource*	_Name
Root_Resource_Object_Name	String	IT Resources	VgoADConstants	*VGO PM Constant Resource*	Root_Resource_Object_Name
RootITResource_ProcessFormVariable	String	IT Resources	VgoADConstants	*VGO PM Constant Resource*	RootITResource_ProcFormVar
RootUserID_ ProcessFormVariable	String	IT Resources	VgoADConstants	*VGO PM Constant Resource*	RootUserID_ProcFormVar
serviceUserName	String	IT Resource	VgoADConstants	*VGO PM Constant Resource*	serviceUserName
servicePassword	String	IT Resource	VgoADConstants	*VGO PM Constant Resource*	servicePassword
Propertyfile	String	Literal	String	*Exact path of the PMClientConfiguration.propproperties*	
statusString	String	Literal	String	*Comma separated status values which you want to be taken into consideration e.g. Provisioned,Disabled,Enabled*	

This is the column name for IT Resource field of the Resource Object form.

6. Under the **Responses** tab of Password Updated process task of AD User process, select and highlight the **true** response. Then, from the **Tasks to Generate** region of this tab, select and assign the new created Oracle Change Password task.
   By doing this, you call the Oracle Change Password task for each change password task for the AD workflow. This will be same for any workflow that has a change password task in the workflow.



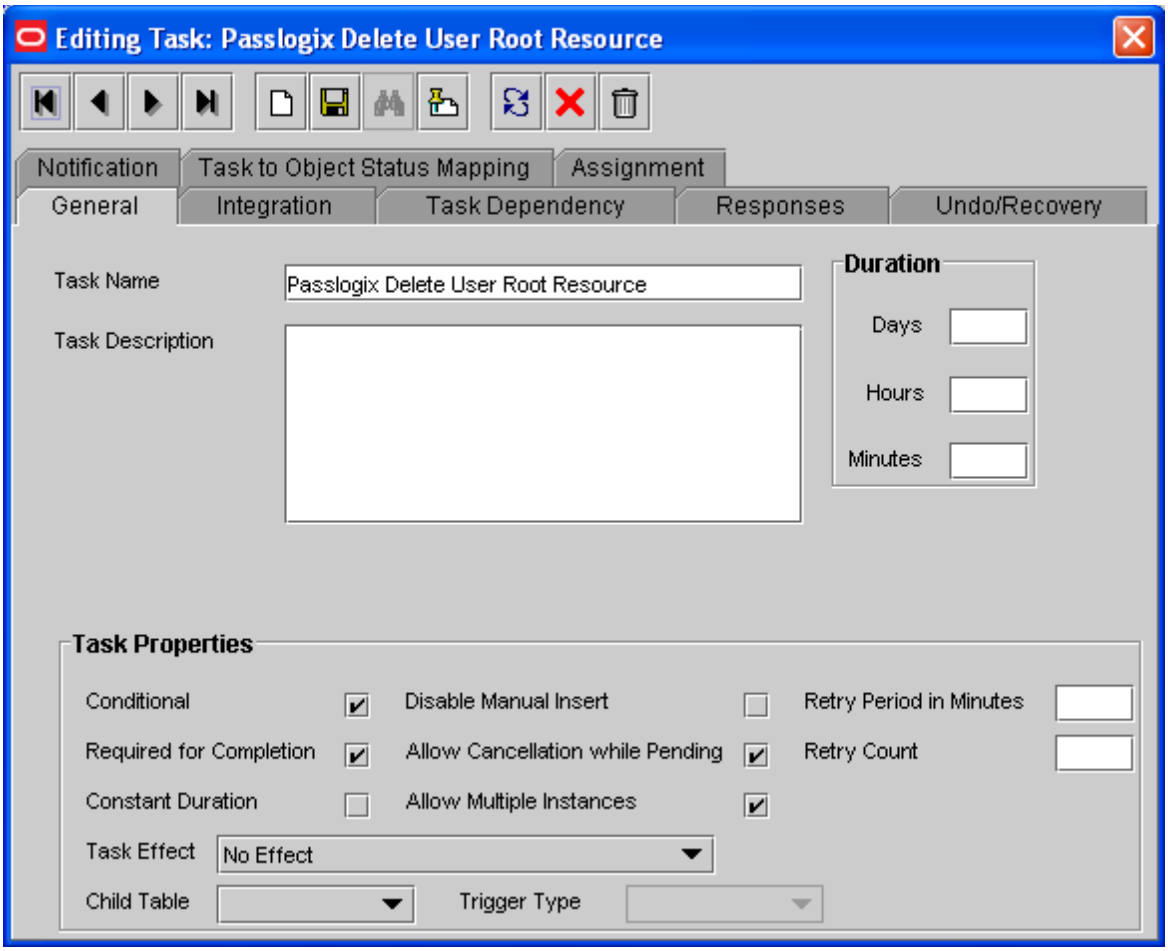
7. Click **Save**.

Create Passlogix Delete User Root Resource Process Task

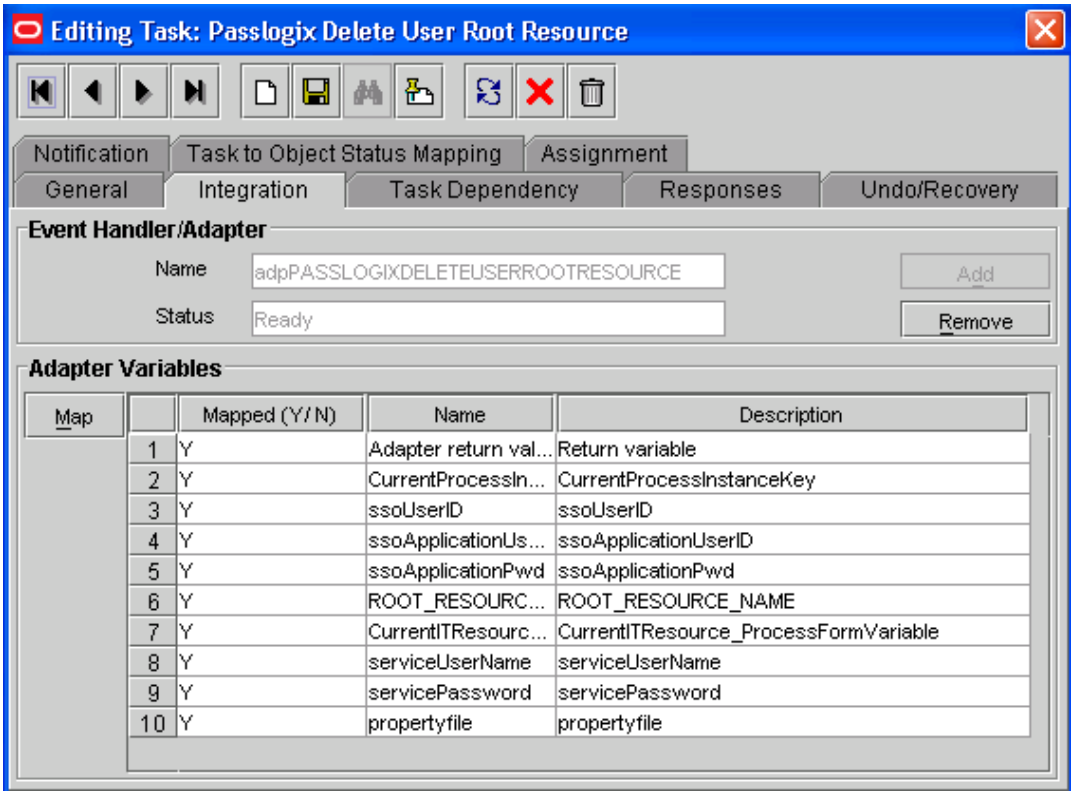
This section describes how to:

- create the Passlogix Delete User Root Resource process task
- attach the Passlogix Delete User Root Resource adapter
- map the adapter variables

1. Open the AD User Process form
2. Add a Passlogix Delete User Root Resource task.



3. Select the **Required for Completion, Allow Cancellation while Pending,** and **Conditional** check boxes. Select **No Effect** from the **Task Effect** combination box.
4. Under **Integration** tab, attach the a*dpPasslogixDeleteUserRootResource* adapter to the task and map its variables as shown in the following screen:

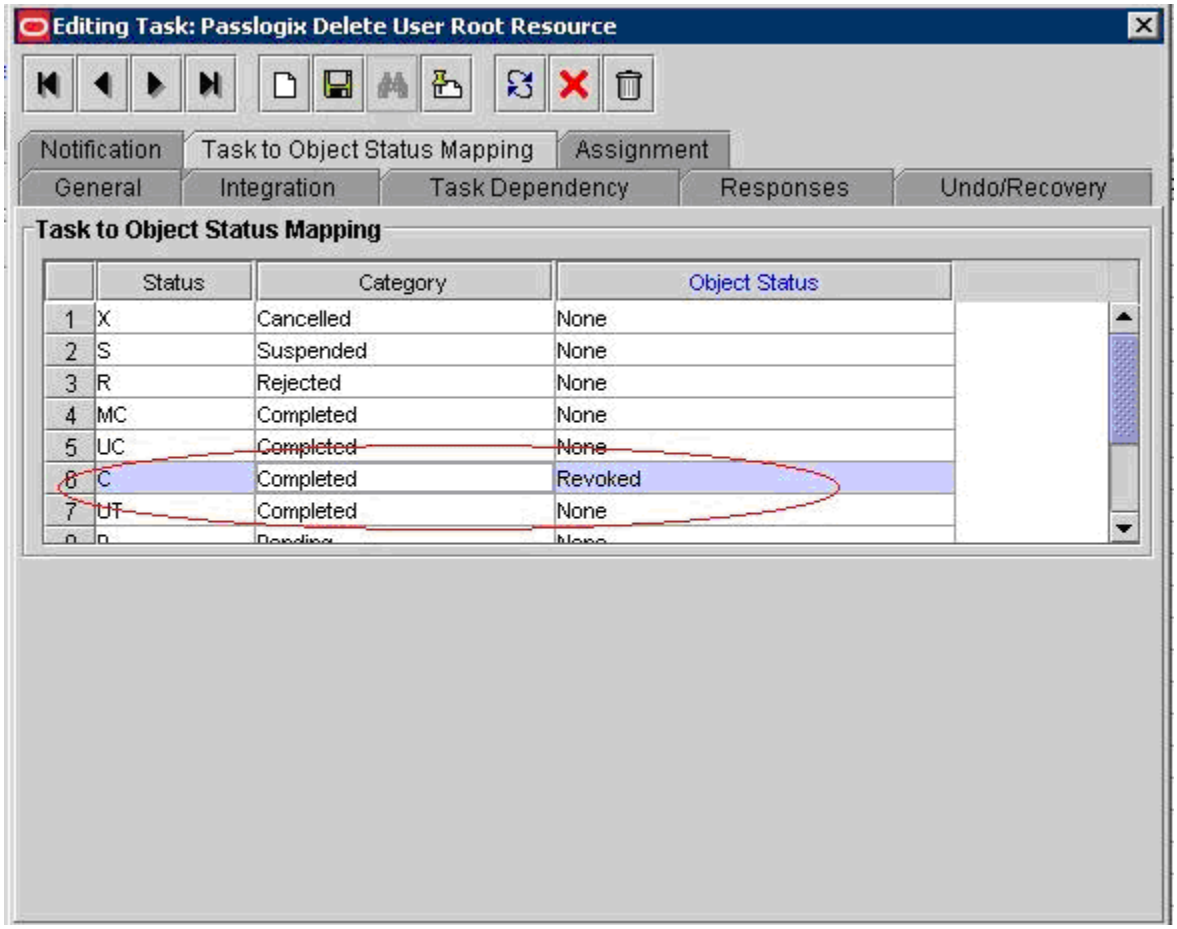


Variable Name	Data Type	Map To	Qualifier	IT Asset Type / Literal Value	IT Asset Property
Adapter return value	Object	Response Code	NA	NA	
ssoUserID	String	Process Data	User Id	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	
ssoApplicationPWD	String	Process Data	Password	NA	
CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	
*Root_Resource_Name	String	IT Resources	VgoADConstants	*VGO PM Constant Resource*	Root_Resource_Name
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_ADUSER_AD	
serviceUserName	String	IT Resource	VgoADConstants	*VGO PM Constant Resource*	serviceUserName

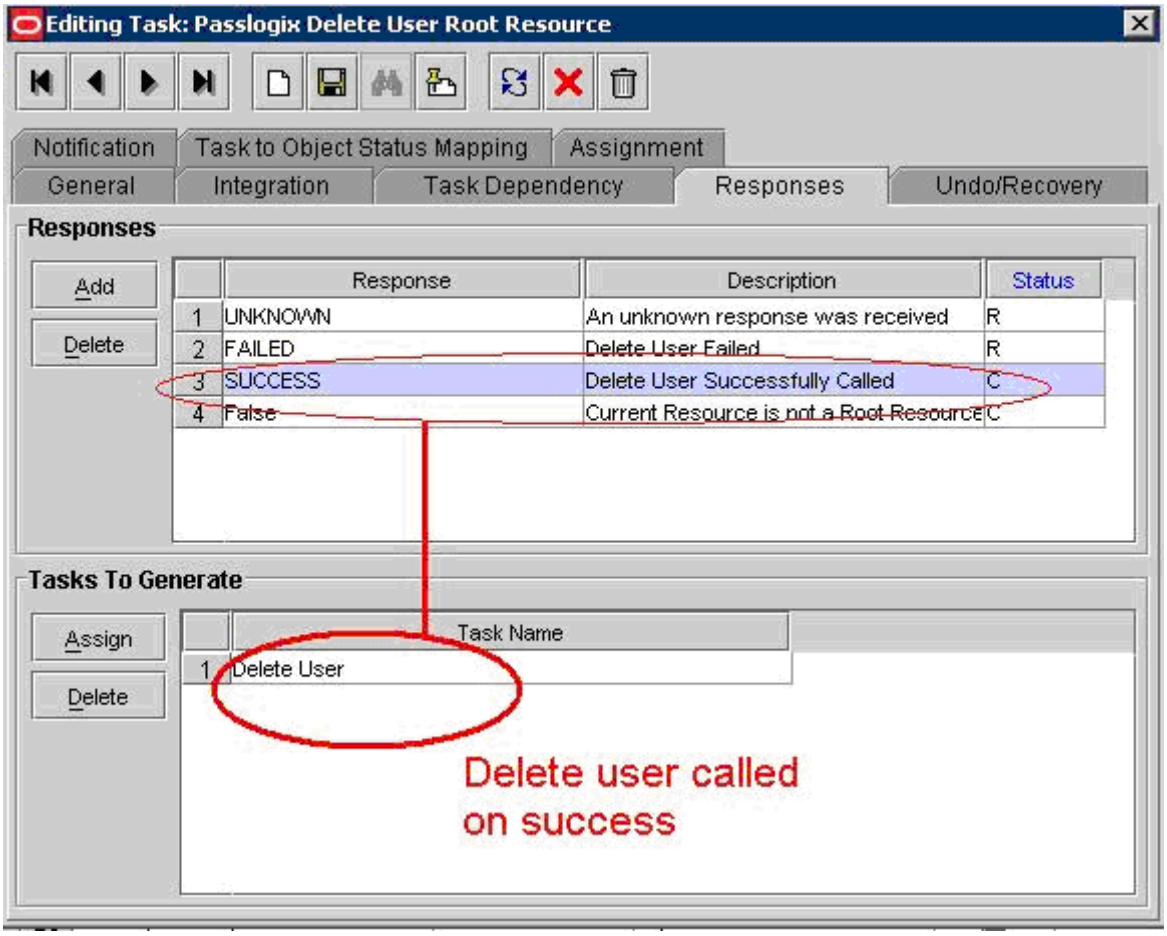
Variable Name	Data Type	Map To	Qualifier	IT Asset Type / Literal Value	IT Asset Property
servicePassword	String	IT Resource	VgoADConstants	*VGO PM Constant Resource*	servicePassword
Propertyfile	String	Literal	String	*Exact path of the PMClientConfiguration.properties*	

This is the Column Name for IT Resource field of the Resource Object form.

5. In the **Task to Object Status Mapping** tab of the Process Task window, map the Completed (C) process task status with the Revoked resource object status.

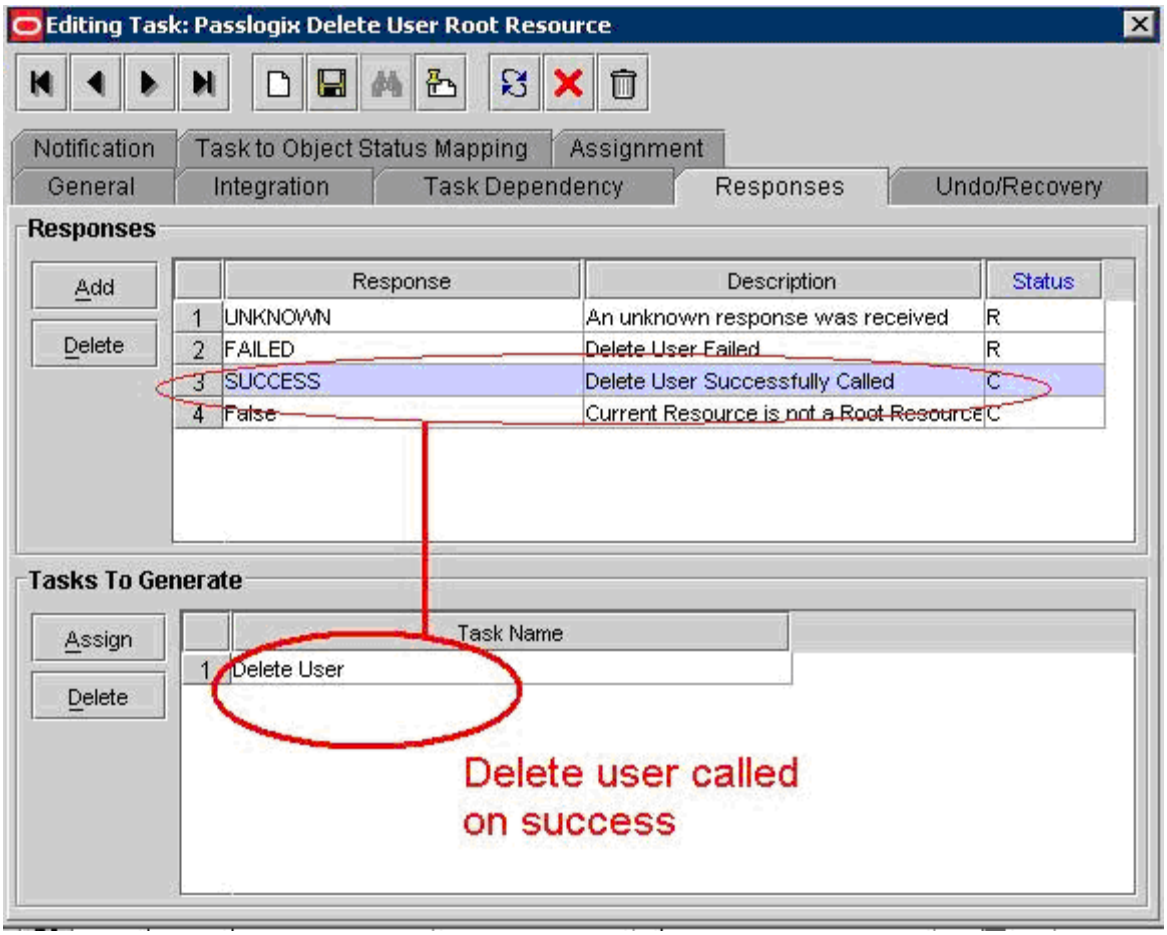


6. In the Create User Task window, in the **Undo Recovery** tab, select Delete User and delete it. Assign and add Oracle Delete User Root Resource task.

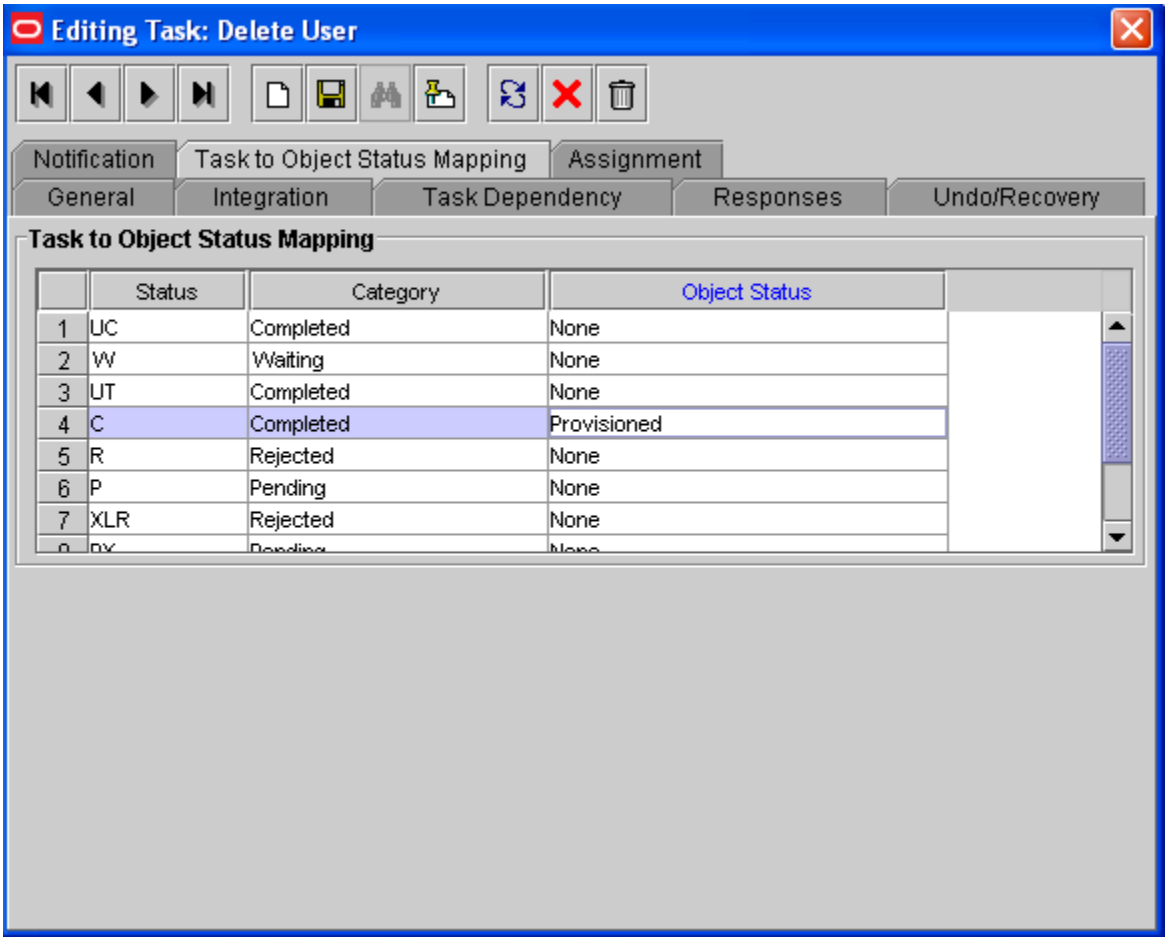


	Since in the case of Root Resource, the user is deleted first from ESSO-PG and then from Active Directory, therefore on calling Revoke, the Passlogix Delete User Root Resource process task should be triggered. Delete User should be called on Success of it.

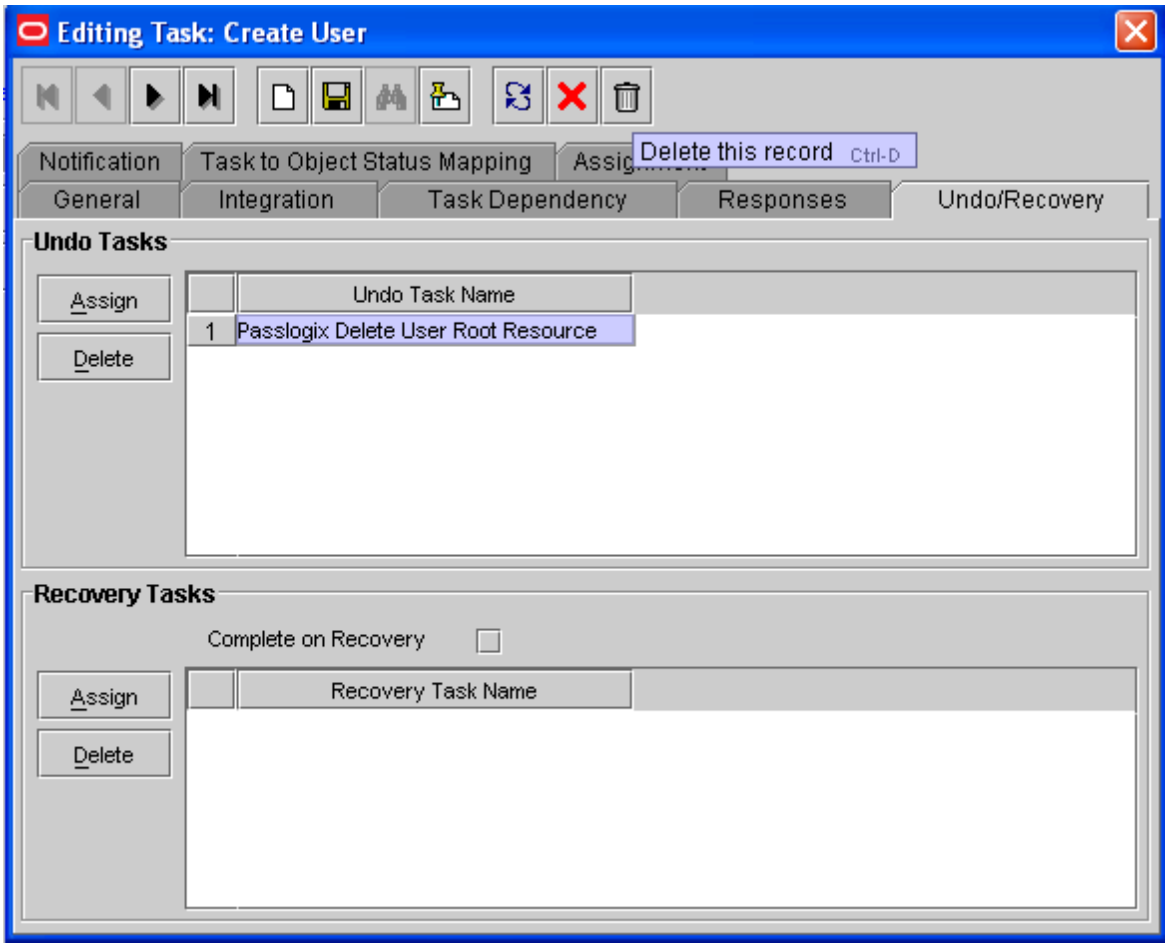
7. In the **Responses** tab of Passlogix Delete User Root Resource task window, select response code SUCCESS. Assign and add the Delete User process task.
8. In the **Responses** tab of Passlogix Delete User Root Resource task window, select response code **False**. Assign and add Delete User process task.



9. In the **Task to Object Status Mapping** tab of the Delete User Process Task window, change the mapping of the Completed (C) process task status from Revoked to Provisioned resource object status.



10. In the Create User task of the AD process workflow, go to the **Undo/Recovery** tab that is triggered when the Resource object is revoked.



11. Save all the tasks as required.

Workflow Configuration for iPlanet User Process

This section is for the Any Non-Root Resource workflow. It describes the adapter configuration for the Non-Root Resource workflows. The method is to identify the key tasks in the preconfigured workflows, mainly the Create User (Provisioning task), Delete User, and Change Password. These the tasks trigger the Oracle tasks and send the credentials to the ESSO-PG admin console.

After the Create User for the workflow, call the Add Passlogix Credentials task. After the Delete User task, call the Delete Passlogix Credential task. This can be done in the **Assign** tabs in the corresponding task.

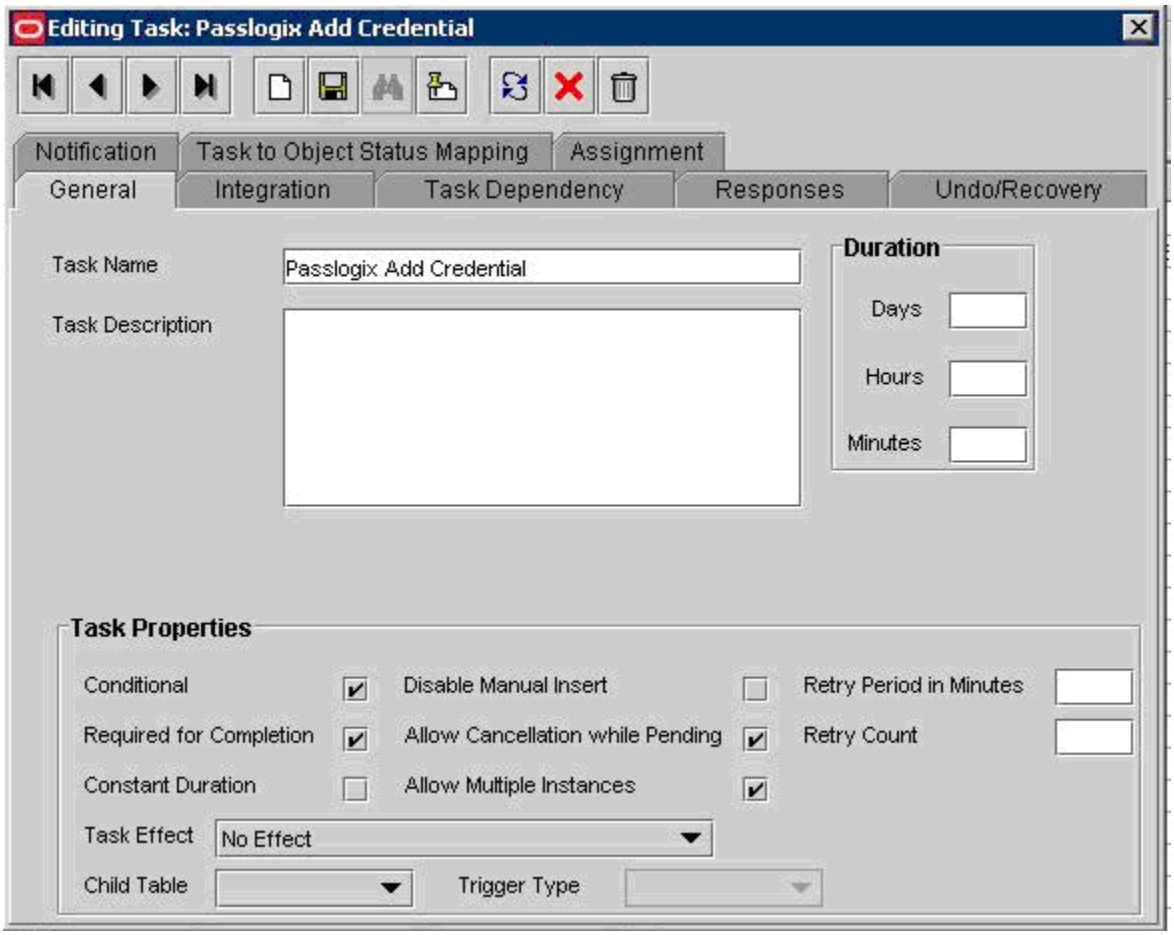
The following sample configurations are for the iPlanet workflow. Here the iPlanet workflow is the non root resource. Thus the credentials for the iPlanet can be sent to the Oracle ESSO-PG Administrative console. The real environment can have many non-root resource workflows like iPlanet.

Create the Passlogix Add Credential Process Task

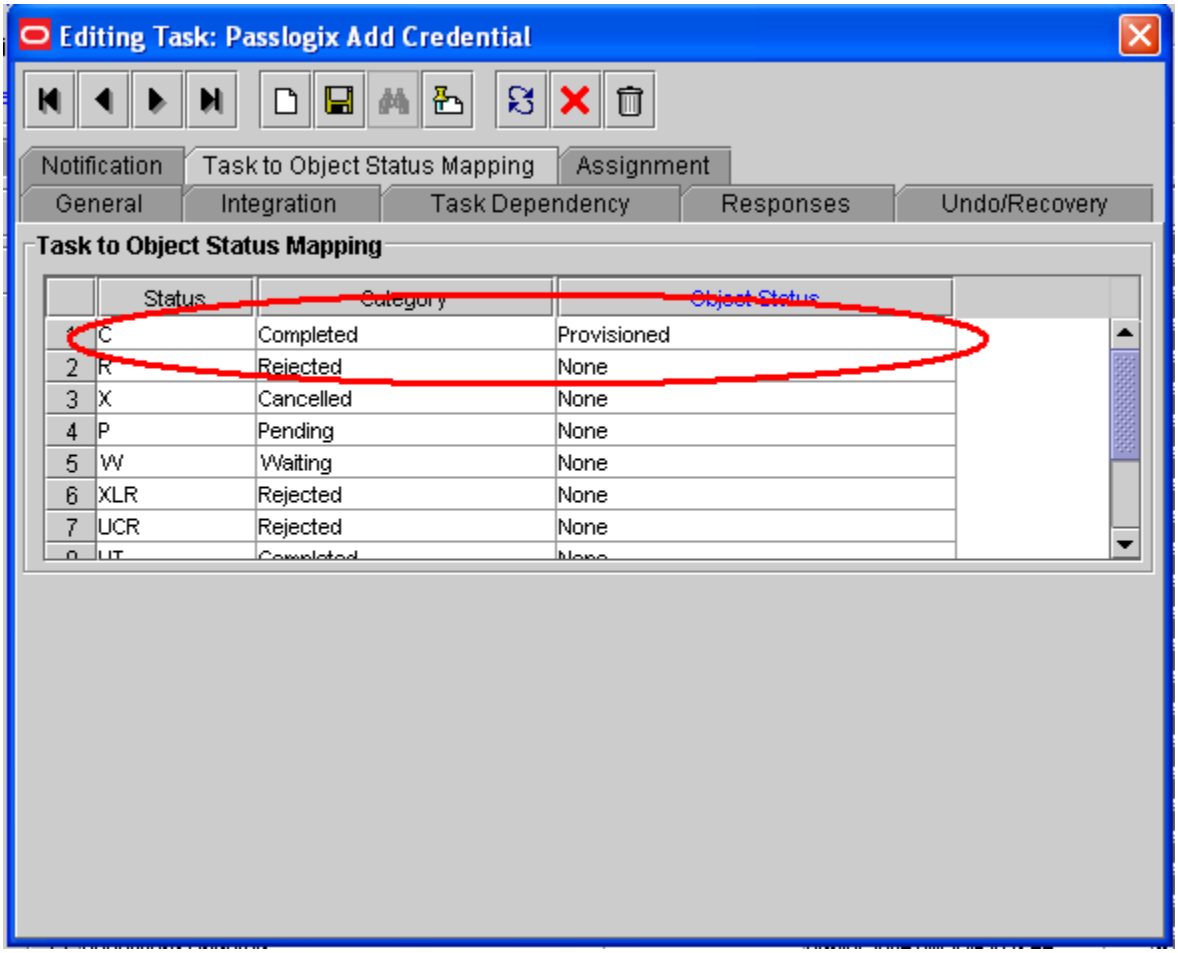
This section describes how to:

- create the Passlogix Add Credential process task
- attach the Passlogix Non Root Resource Add Credential adapter
- map the adapter variables.

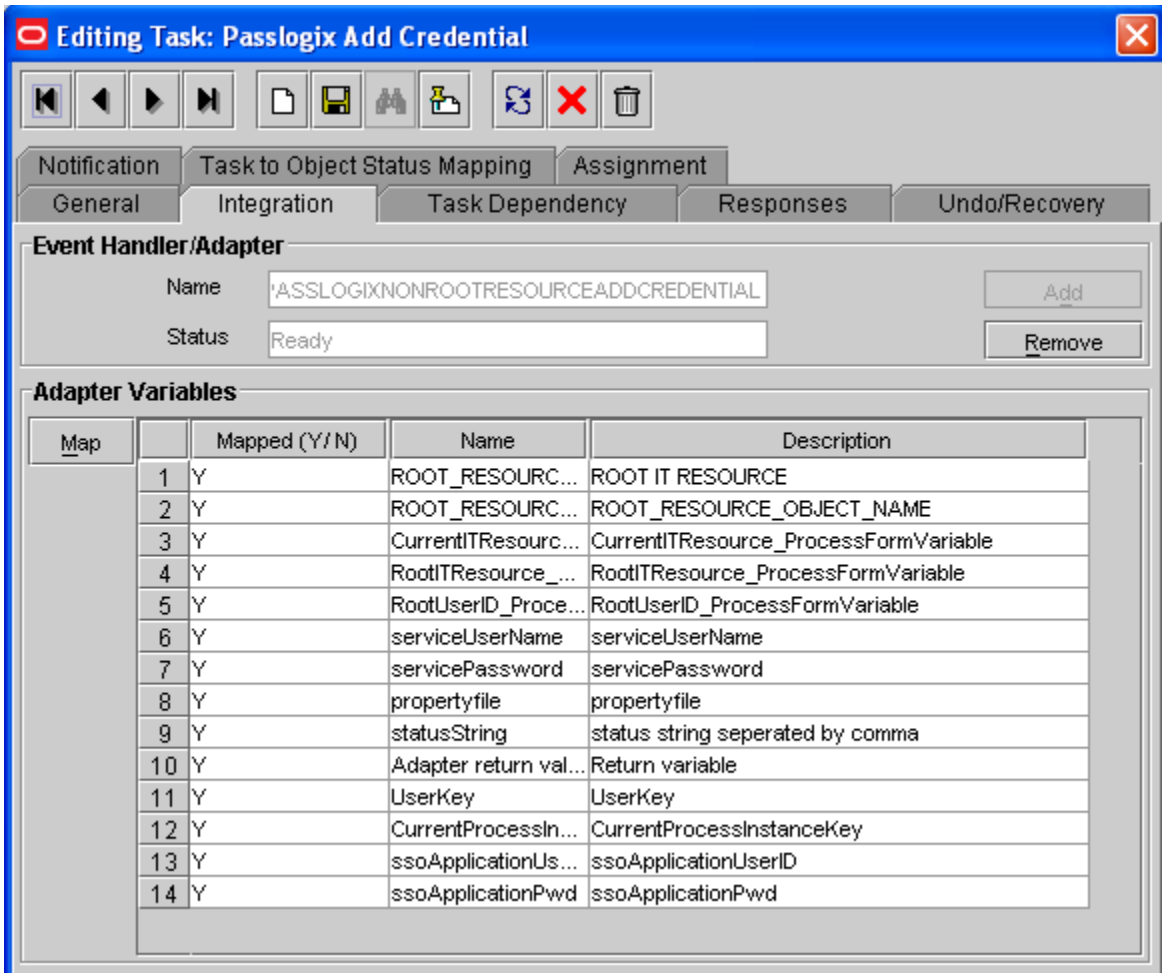
1. Open the **iPlanet User** Process form.
2. Add a Passlogix Add Credential task.
3. Select the **Required for Completion, Allow Cancellation while Pending,** and **Conditional** check boxes are selected. Select **No Effect** from the **Task Effect** combo box.



4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map the Completed (C) process task status with the Provisioned resource object status.



5. Under the **Integration** tab, attach the *adpPasslogixNonRootResourceAddCredential* adapter to the task, and map its variables as follows:

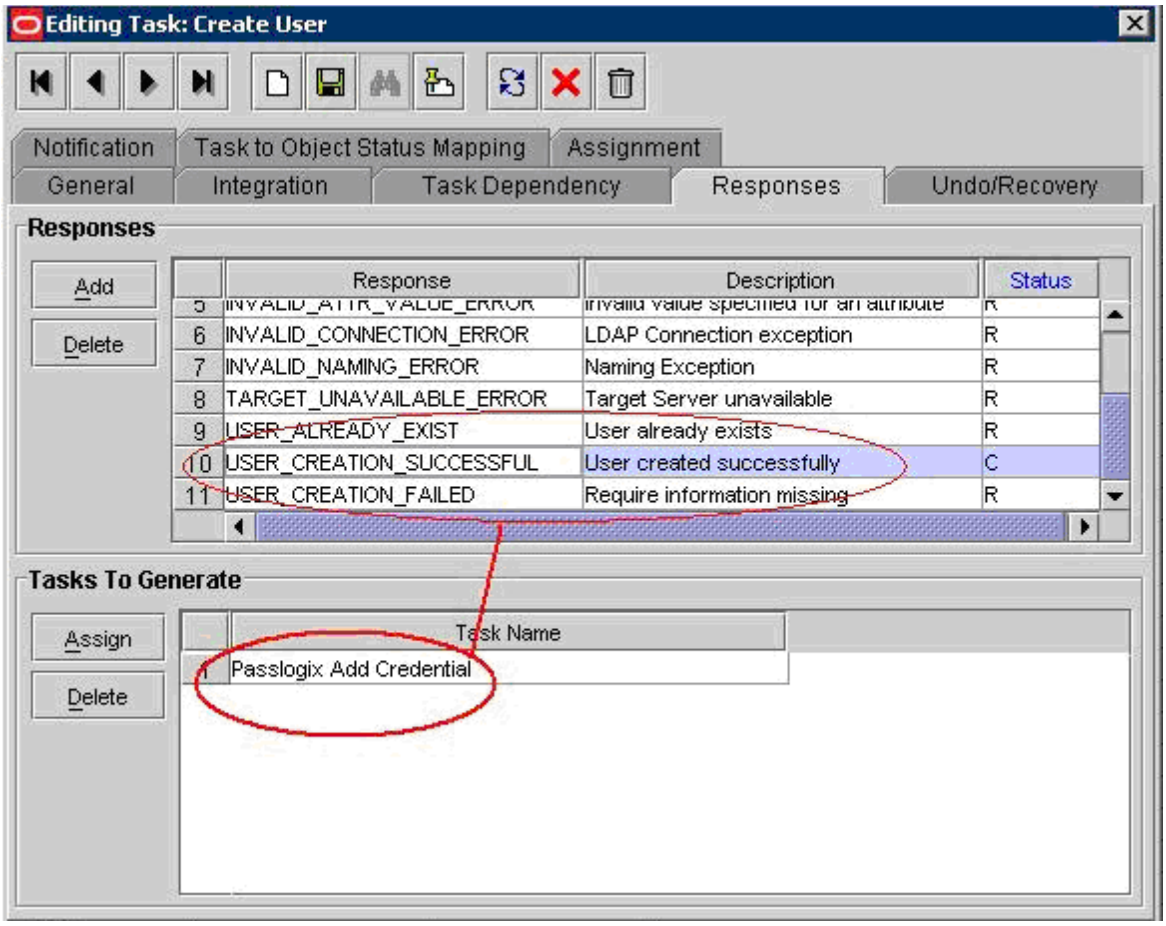


Variable Name	Data Type	Map To	Qualifier	*IT Asset Type/Literal Value*	IT Asset Property
Adapter return value	Object	Response Code	NA	*NA*	
User Key	long	User Definition	User Key	*NA*	
ssoApplicationUserID	String	Process Data	User Id	*NA*	
ssoApplicationPWD	String	Process Data	Password	*NA*	
CurrentProcessInstanceKey	long	Process Data	Process Instance	*NA*	
#CurrentITResource_ProcessFormVar	String	Literal	String	*UD_IPNT_USR_SERVER*	NA

Root_Resource_Name	String	IT Resources	VgoIPNTConstants	*VGO PM Constant Resource*	Root_Resource_Name
Root_Resource_Object_Name	String	IT Resources	VgoIPNTConstants	*VGO PM Constant Resource*	Root_Resource_Object_Name
RootITResource_ProcessFormVariable	String	IT Resources	VgoIPNTConstants	*VGO PM Constant Resource*	RootITResource_ProcFormVar
RootUserID_ ProcessFormVariable	String	IT Resources	VgoIPNTConstants	*VGO PM Constant Resource*	RootUserID_ProcFormVar
serviceUserName	String	IT Resource	VgoADConstants	*VGO PM Constant Resource*	serviceUserName
servicePassword	String	IT Resource	VgoADConstants	*VGO PM Constant Resource*	servicePassword
Propertyfile	String	Literal	String	*Exact path of the PMClientConfiguration.propproperties*	
statusString	String	Literal	String	*Comma separated status values which you want to be taken into consideration e.g. Provisioned,Disabled,Enabled*	

 # CurrentITResource_ProcessFormVar : This is the column name for IT Resource field of the Resource Object form . This field will be different for all the workflows and will be different for all workflows. This is just the sample field for preceding iPlanet workflow.

6. Under the **Responses** tab of Create User process task of the iPlanet User process, select and highlight the User_Creation_Successful response. Then, from the **Tasks to Generate** region of this tab, select and assign the Oracle Add Credential task.


Editing Task: Create User
Notification
Task to Object Status Mapping
Assignment
General
Integration
Task Dependency
Responses
Undo/Recovery
Responses
Add
Delete
Response
Description
Status
6 INVALID_CONNECTION_ERROR LDAP Connection exception R
7 INVALID_NAMING_ERROR Naming Exception R
8 TARGET_UNAVAILABLE_ERROR Target Server unavailable R
9 USER_ALREADY_EXIST User already exists R
10 USER_CREATION_SUCCESSFUL User created successfully C
11 USER_CREATION_FAILED Require information missing R
Tasks To Generate
Assign
Delete
Task Name
1 Passlogix Add Credential

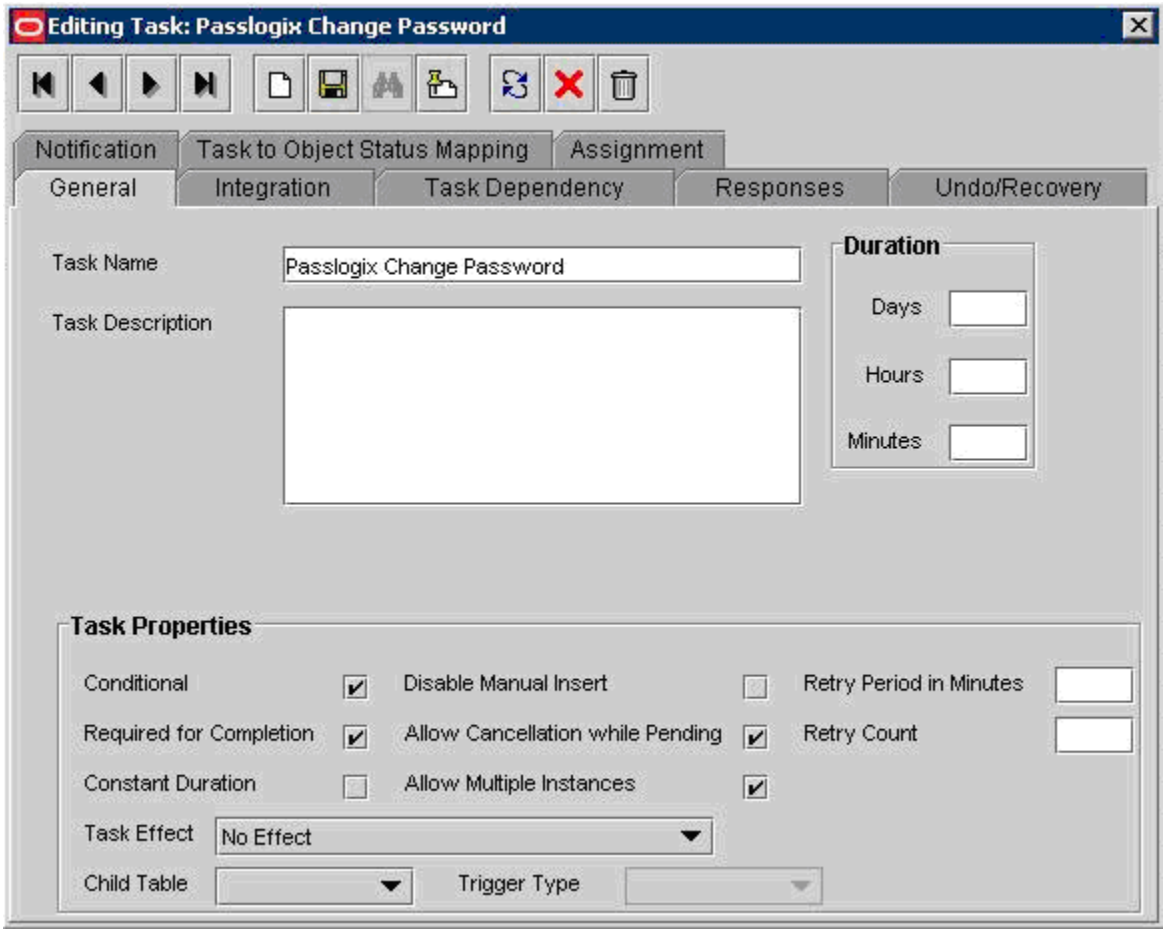
7. Click **Save**.

Create Passlogix Change Password Process Task

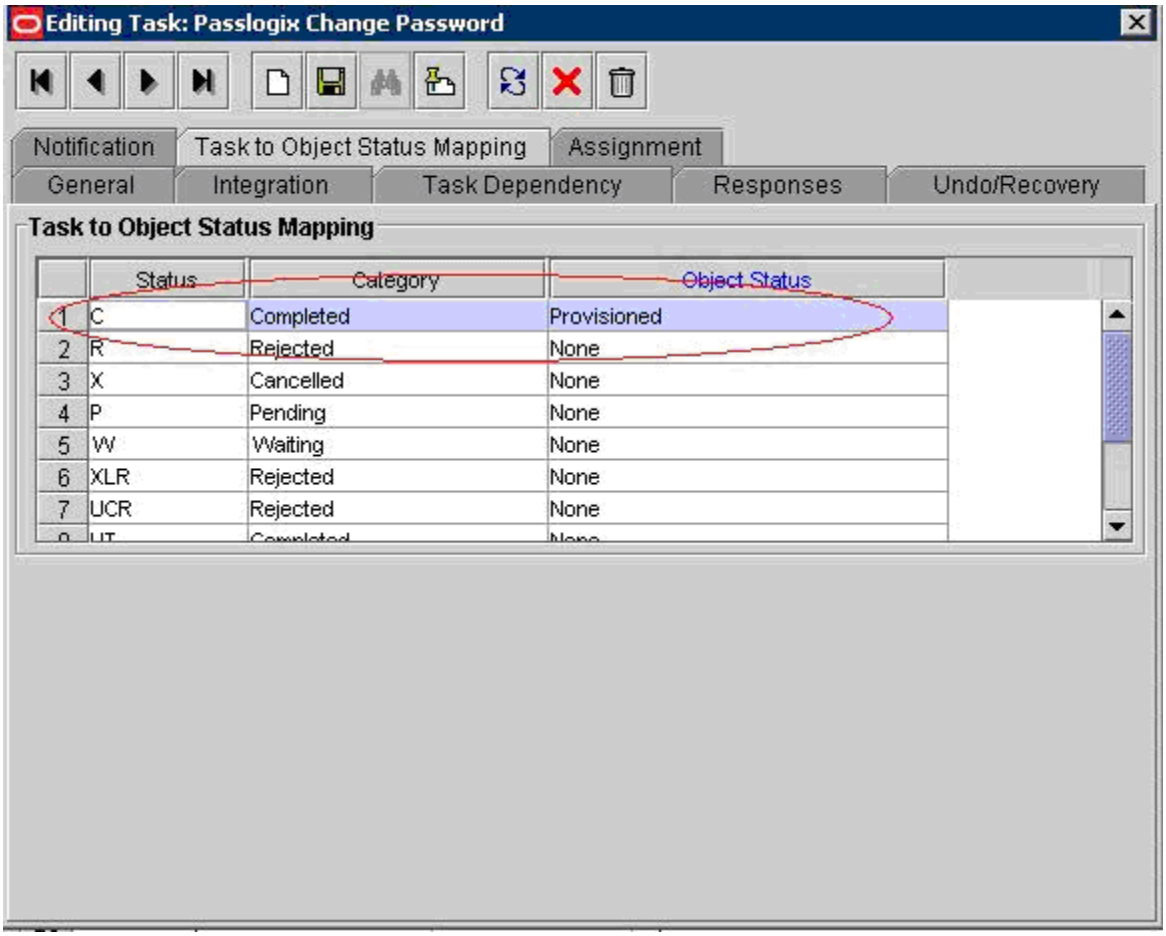
This section describes how to:

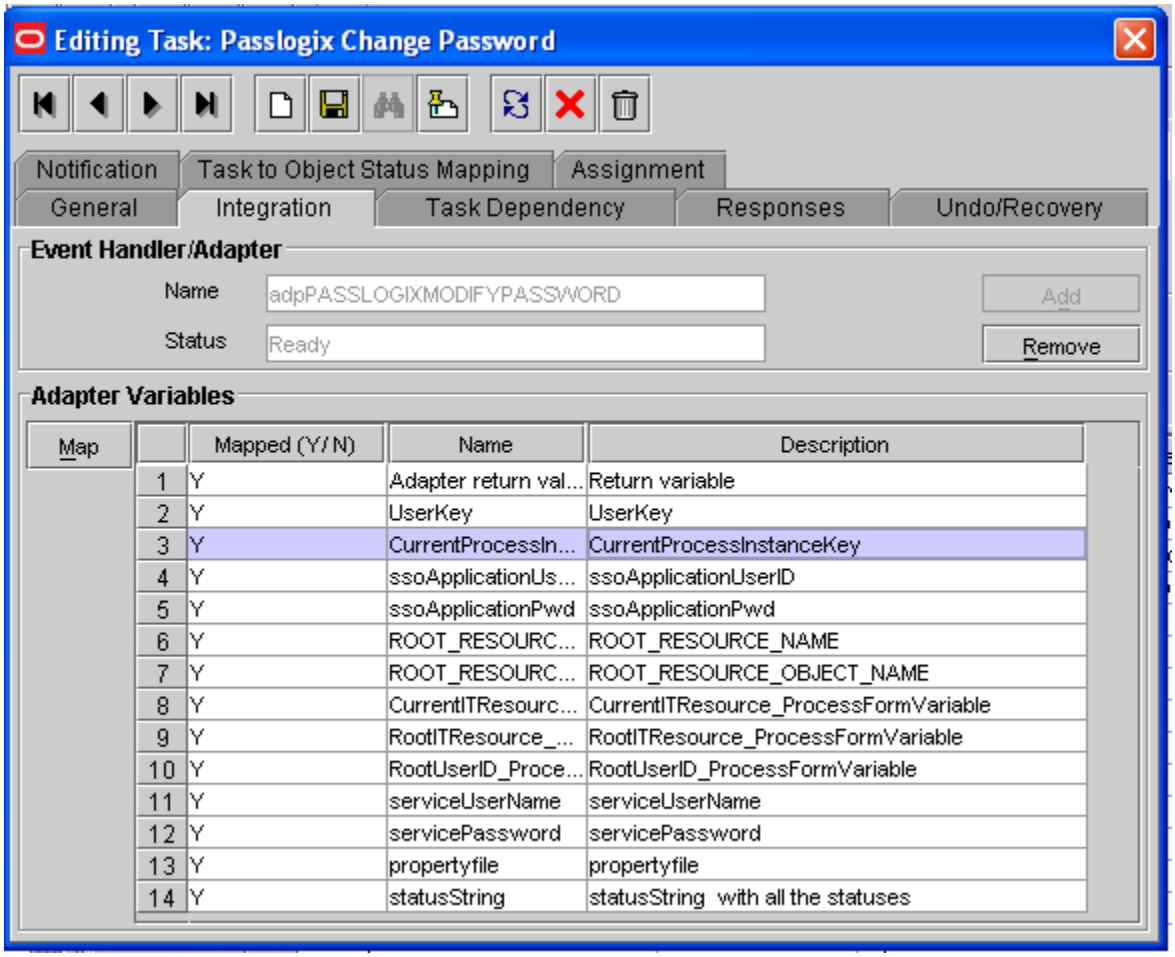
- create the Passlogix Change Password Process Task
- attach the Passlogix Modify Password adapter
- map the adapter variables.

1. Open the iPlanet User process form. The Change Password task is already there in the iPlanet workflow. The method is to make a Passlogix Change Password task and then assign it to the successful completion of the iPlanet Change Password task.
2. Add a Passlogix Change Password task. (This is for the iPlanet workflow.)
3. Select the **Required for Completion, Allow Cancellation while Pending, Conditional,** and **Allow Multiple Instances** check boxes are selected. Select **No Effect** from the **Task Effect** combo box.



4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map the Completed (C) process task status with the **Provisioned** resource object status.


Editing Task: Passlogix Change Password
Notification
Task to Object Status Mapping
Assignment
General
Integration
Task Dependency
Responses
Undo/Recovery
Task to Object Status Mapping
Status
Category
Object Status
1 C Completed Provisioned
2 R Rejected None
3 X Cancelled None
4 P Pending None
5 W Waiting None
6 XLR Rejected None
7 UCR Rejected None

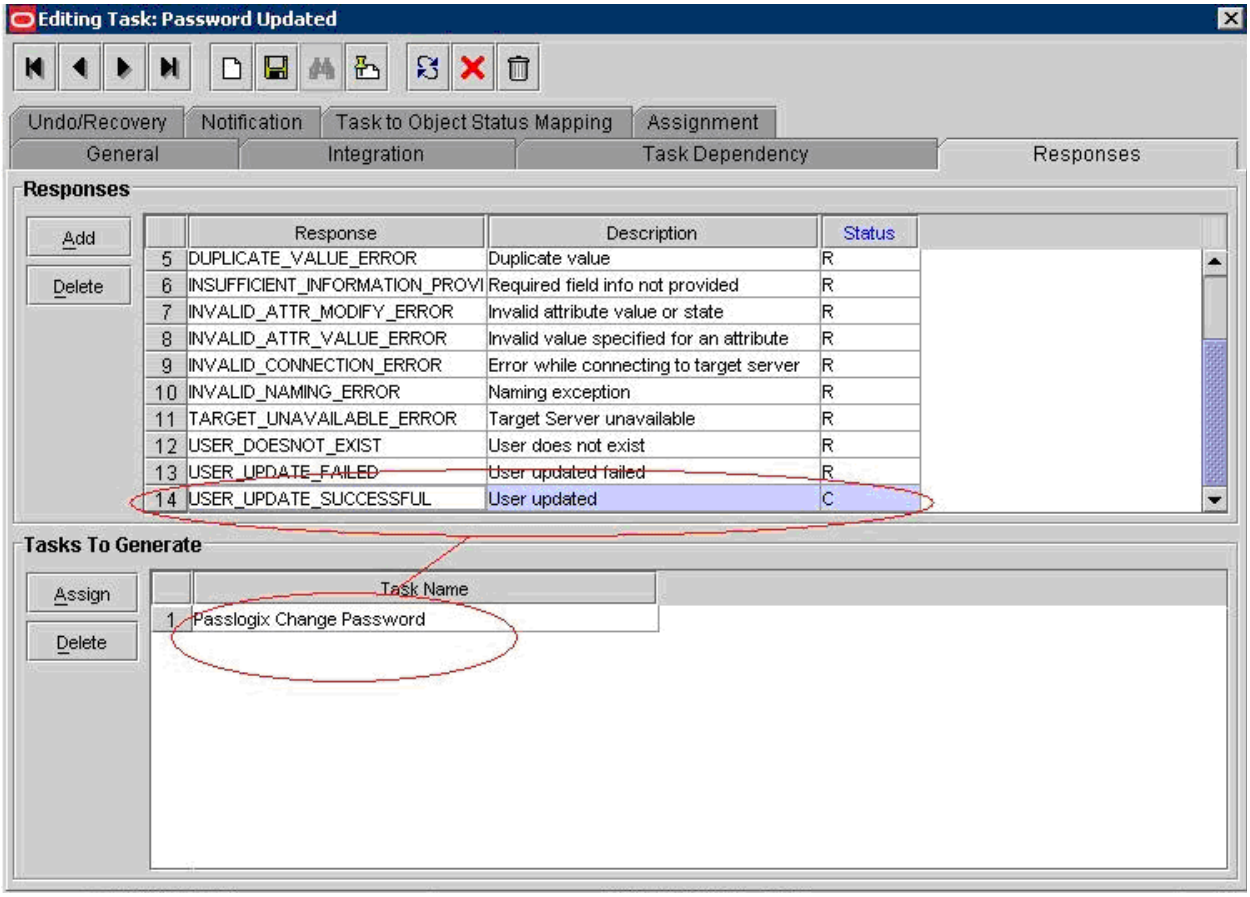


5. Now under the **Integration** tab, attach the *adpPasslogixModifyPassword* adapter to the task, and map its variables as follows:

Variable Name	Data Type	Map To	Qualifier	IT Asset Type/Literal Value	IT Asset Property
Adapter return value	Object	Response Code	NA	NA	
User Key	long	User Definition	User Key	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	
ssoApplicationPWD	String	Process Data	Password	NA	

CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_IPNT_USR_SERVER	NA
Root_Resource_Name	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	Root_Resource_Name
Root_Resource_Object_Name	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	Root_Resource_Object_Name
RootITResource_ProcessFormVariable	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	RootITResource_ProcFormVar
RootUserID_ ProcessFormVariable	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	RootUserID_ProcFormVar
serviceUserName	String	IT Resource	VgoADConstants	VGO PM Constant Resource	serviceUserName
servicePassword	String	IT Resource	VgoADConstants	VGO PM Constant Resource	servicePassword
Propertyfile	String	Literal	String	Exact path of the PMClientConfiguration.properties	
statusString	String	Literal	String	Comma separated status values which you want to be taken into consideration e.g. Provisioned, Disabled,Enabled	

This is the Column Name for IT Resource field of the Resource Object form.



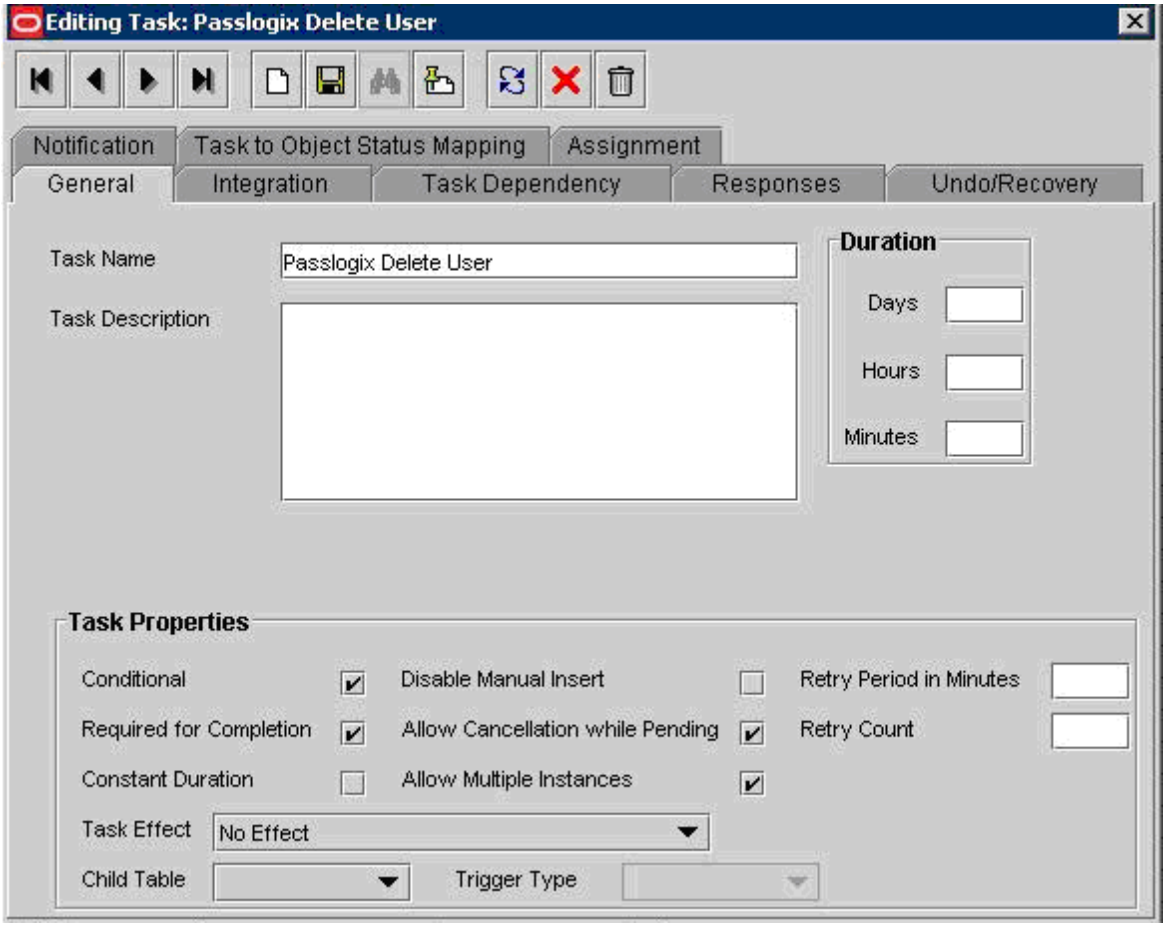
6. Under the **Responses** tab of Password Updated process task of the iPlanet User process, select and highlight the User_Update_Successful response. Then, from the **Tasks to Generate** region of this tab, select and assign the Passlogix Change Password task. By doing this you are telling the workflow to trigger the Change Passlogix task for all the password change requests for the parent workflow (in this case, the iPlanet workflow). This can be any non-root workflow.
7. Save all the tasks.

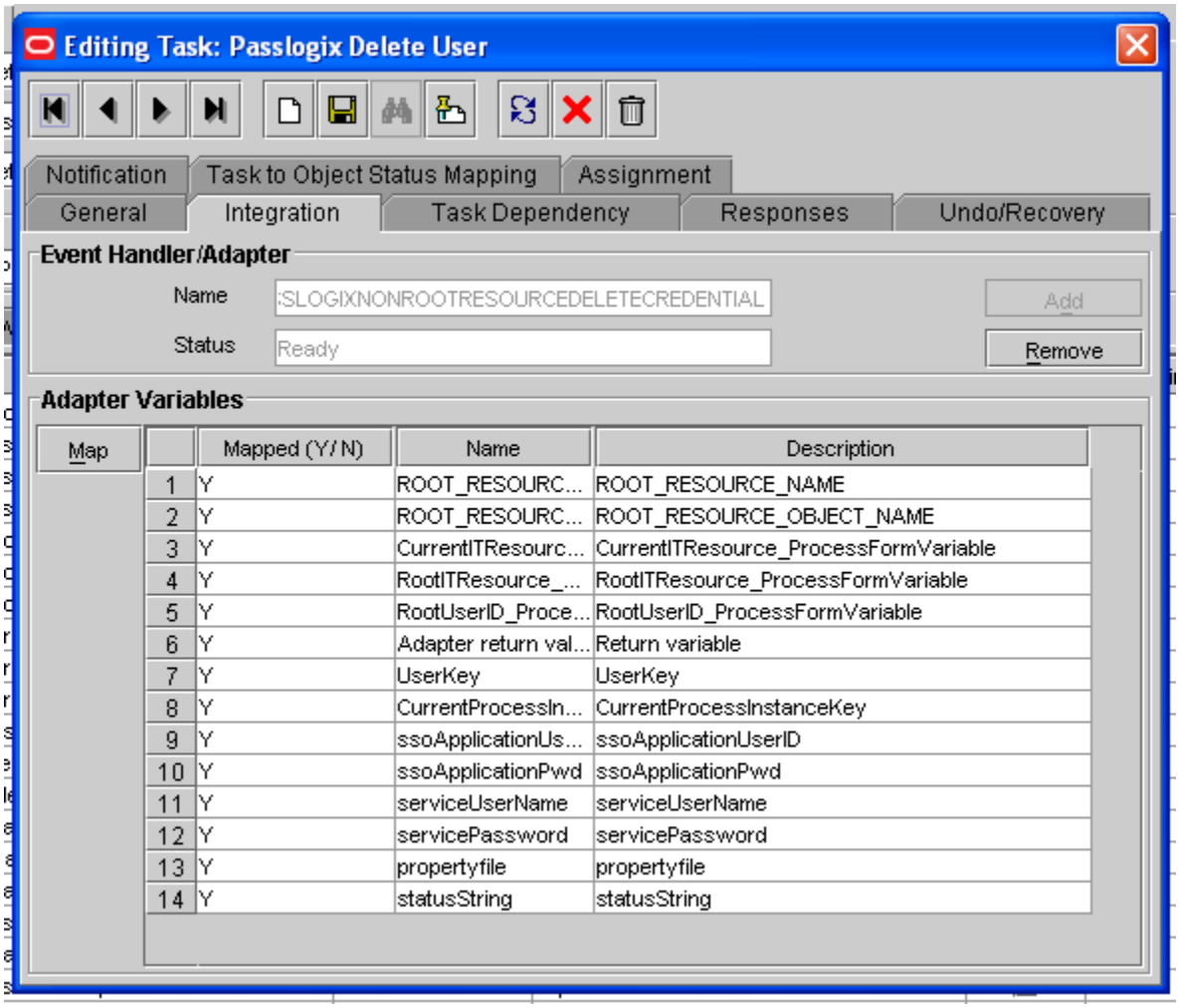
Create Passlogix Delete User Non Root Resource Process Task

This section describes how to:

- create the Passlogix Delete User Non Root Resource process task
- attach the Passlogix Non Root Resource Delete Credential adapter
- map the adapter variables.

1. Open the iPlanet User process form.
2. Add a Passlogix Delete User Non Root Resource task. Refer to Workflow Configuration for any Already Configured Process for details of all the adapters and their functionality for root and non-root resources.
3. Select the **Required for Completion, Allow Cancellation while Pending**, and **Conditional** check boxes are selected. Select **No Effect** from the **Task Effect** combo box.
4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map the Completed (C) process task status with the Provisioned resource object status.





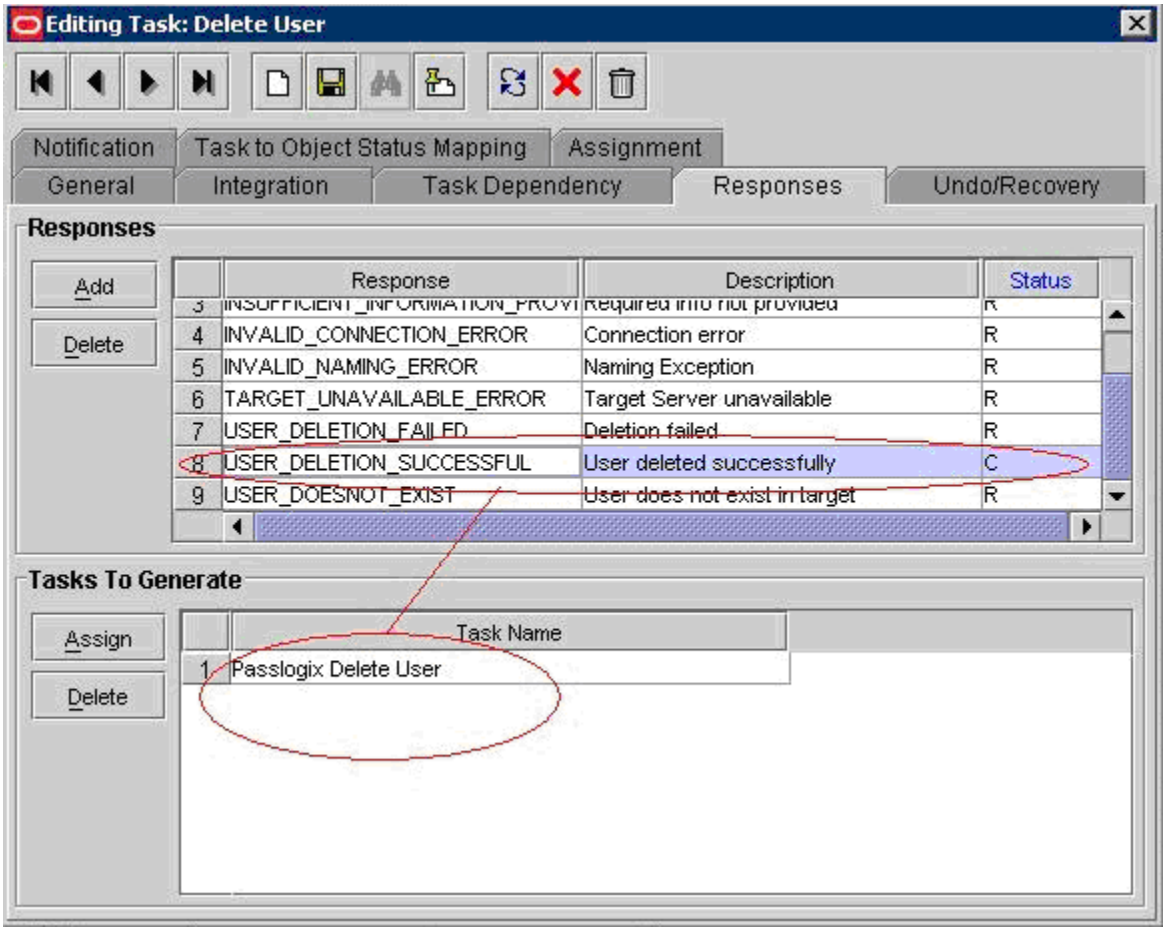
5. Under **Integration** tab, attach the *adpPasslogixNonRootResourceDeleteCredential* adapter to the task and map its variables as follows:

Variable Name	Data Type	Map To	Qualifier	IT Asset Type/Literal Value	IT Asset Property
Adapter return value	Object	Response Code	NA	NA	
User Key	long	User Definition	User Key	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	

ssoApplicationPWD	String	Process Data	Password	NA	
CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_IPNT_USR_SERVER	NA
Root_Resource_Name	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	Root_Resource_Name
Root_Resource_Object_Name	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	Root_Resource_Object_Name
RootITResource_ProcessFormVariable	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	RootITResource_ProcFormVar
RootUserID_ ProcessFormVariable	String	IT Resources	VgoIPNTConstants	VGO PM Constant Resource	RootUserID_ ProcFormVar
serviceUserName	String	IT Resource	VgoADConstants	VGO PM Constant Resource	serviceUserName
servicePassword	String	IT Resource	VgoADConstants	VGO PM Constant Resource	servicePassword
Propertyfile	String	Literal	String	Exact path of the PMClientConfiguration.properties	
statusString	String	Literal	String	Comma separated status values which you want to be taken into consideration e.g. Provisioned,Disabled,Enabled	

This is the Column Name for IT Resource field of the Resource Object form.

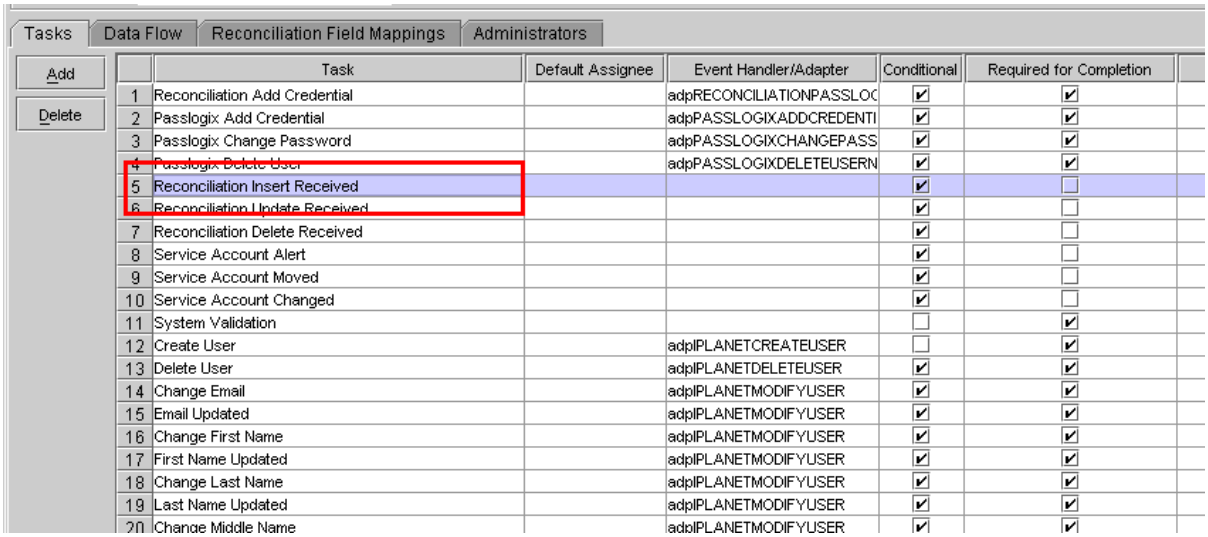
6. Under the **Responses** tab of Delete User process task of the iPlanet User process, select and highlight the User_Deletion_Successful response. Then, from the **Tasks to Generate** region of this tab, select and assign the *Passlogix Delete User Non Root Resource* task.



7. Click **Save**.

Workflow Configuration for Reconciliation Process

The following assumes that the reconciliation is already working on the preconfigured workflow (Root or Non-Root Resource). There is always a task called Reconciliation Insert Received in the Process workflow in OIM, which is provided when a new workflow (Process type) is created.



	Task	Default Assignee	Event Handler/Adapter	Conditional	Required for Completion
1	Reconciliation Add Credential		adpRECONCILIATIONPASSLOC	☑	☑
2	Passlogix Add Credential		adpPASSLOGIXADDCREDENTI	☑	☑
3	Passlogix Change Password		adpPASSLOGIXCHANGEPASS	☑	☑
4	Passlogix Delete User		adpPASSLOGIXDELETEUSERN	☑	☑
5	Reconciliation Insert Received			☑	☐
6	Reconciliation Update Received			☑	☐
7	Reconciliation Delete Received			☑	☐
8	Service Account Alert			☑	☐
9	Service Account Moved			☑	☐
10	Service Account Changed			☑	☐
11	System Validation			☐	☑
12	Create User		adpIPLANETCREATEUSER	☐	☑
13	Delete User		adpIPLANETDELETEUSER	☑	☑
14	Change Email		adpIPLANETMODIFYUSER	☑	☑
15	Email Updated		adpIPLANETMODIFYUSER	☑	☑
16	Change First Name		adpIPLANETMODIFYUSER	☑	☑
17	First Name Updated		adpIPLANETMODIFYUSER	☑	☑
18	Change Last Name		adpIPLANETMODIFYUSER	☑	☑
19	Last Name Updated		adpIPLANETMODIFYUSER	☑	☑
20	Change Middle Name		adpIPLANETMODIFYUSER	☑	☑

This task is triggered when the reconciliation event is received in any workflow. The method is to add the Reconciliation Add Credential task in the same workflow and integrate the *adpPasslogixReconciliationAddCredential* adapter to it. For every Reconciliation event that occurs, you will trigger the Add Passlogix Credential task and send the new credentials to the ESSO-PG server.

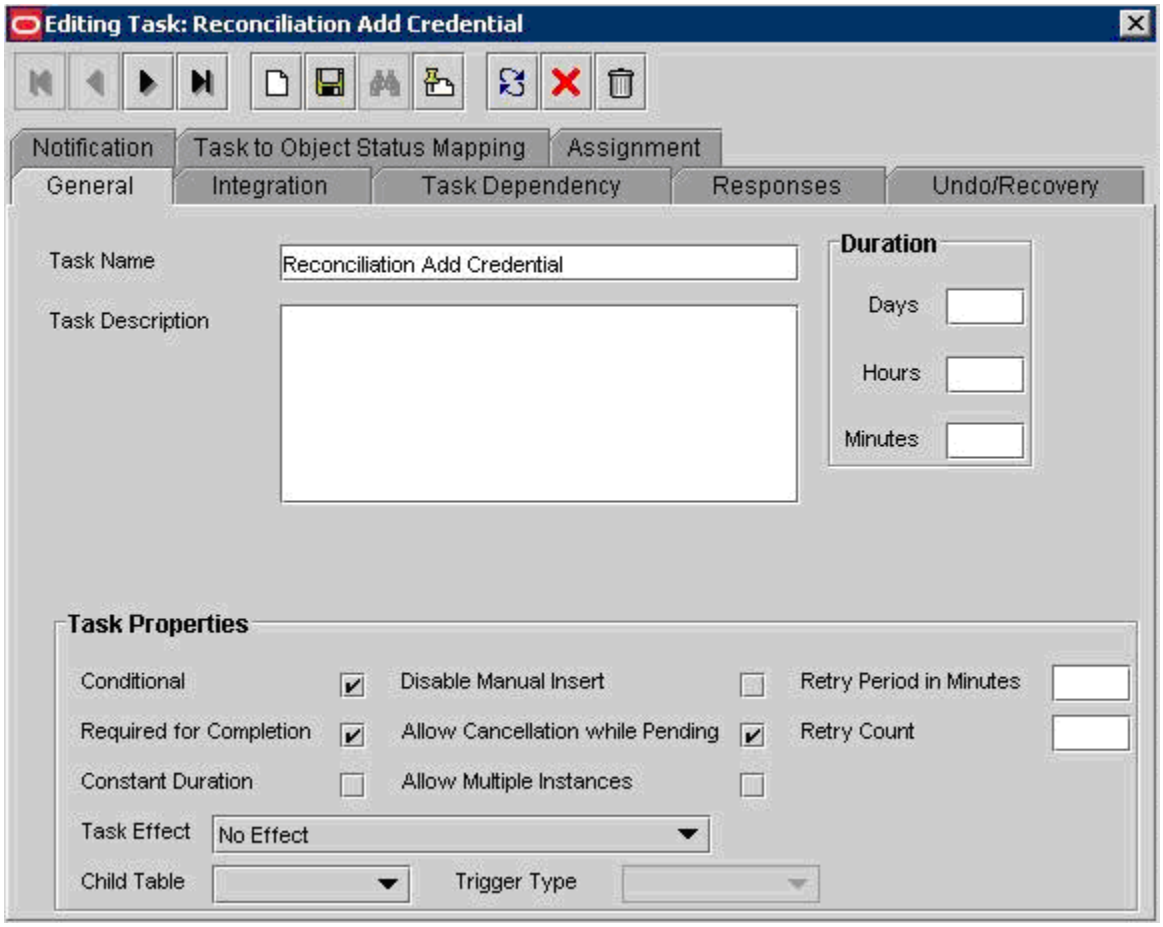
The following sections describes the sample iPlanet and AD Server reconciliation and how to add the Reconciliation Add Passlogix task.

Create Reconciliation Add Credential Process Task

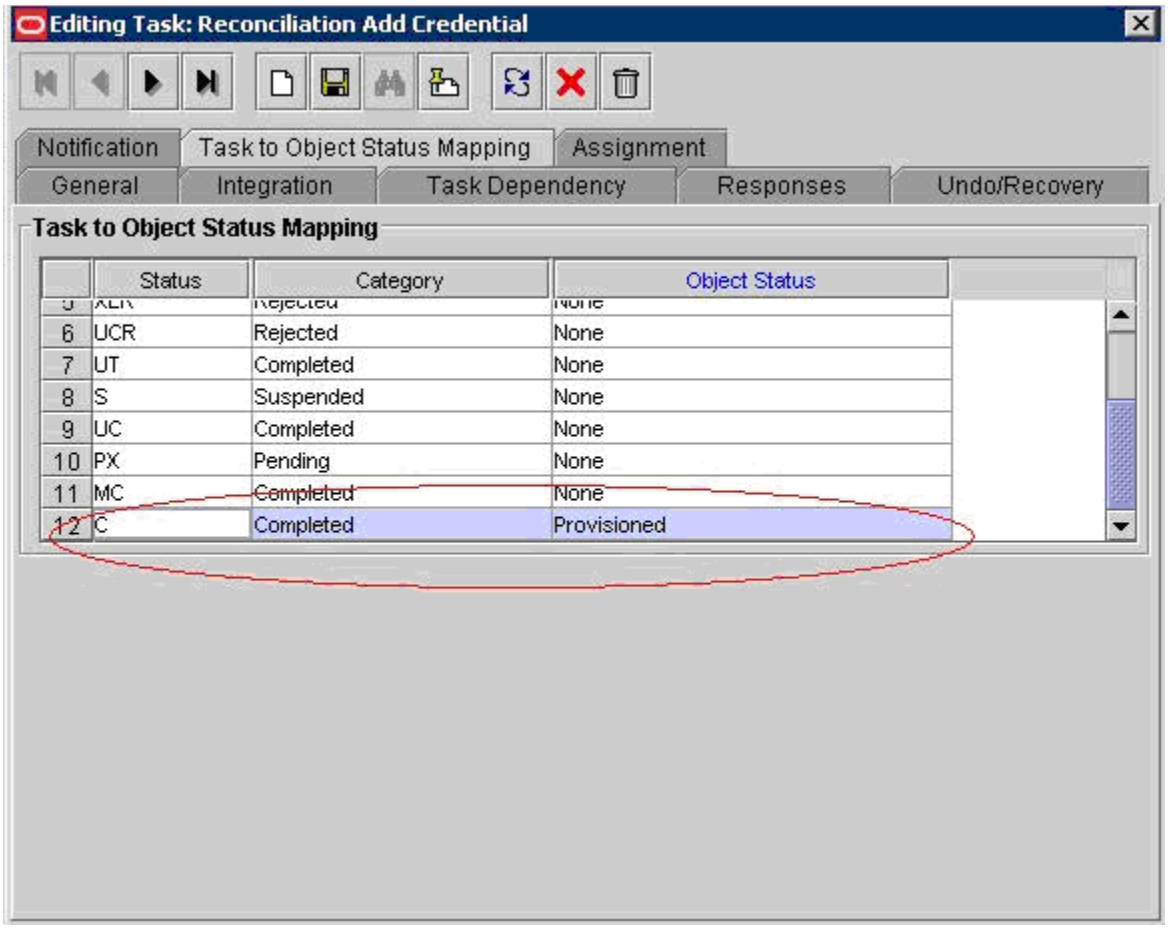
This section describes how to:

- create the Reconciliation Add Credential process task
- attach the Passlogix Reconciliation Add Credential adapter
- map the adapter variables.

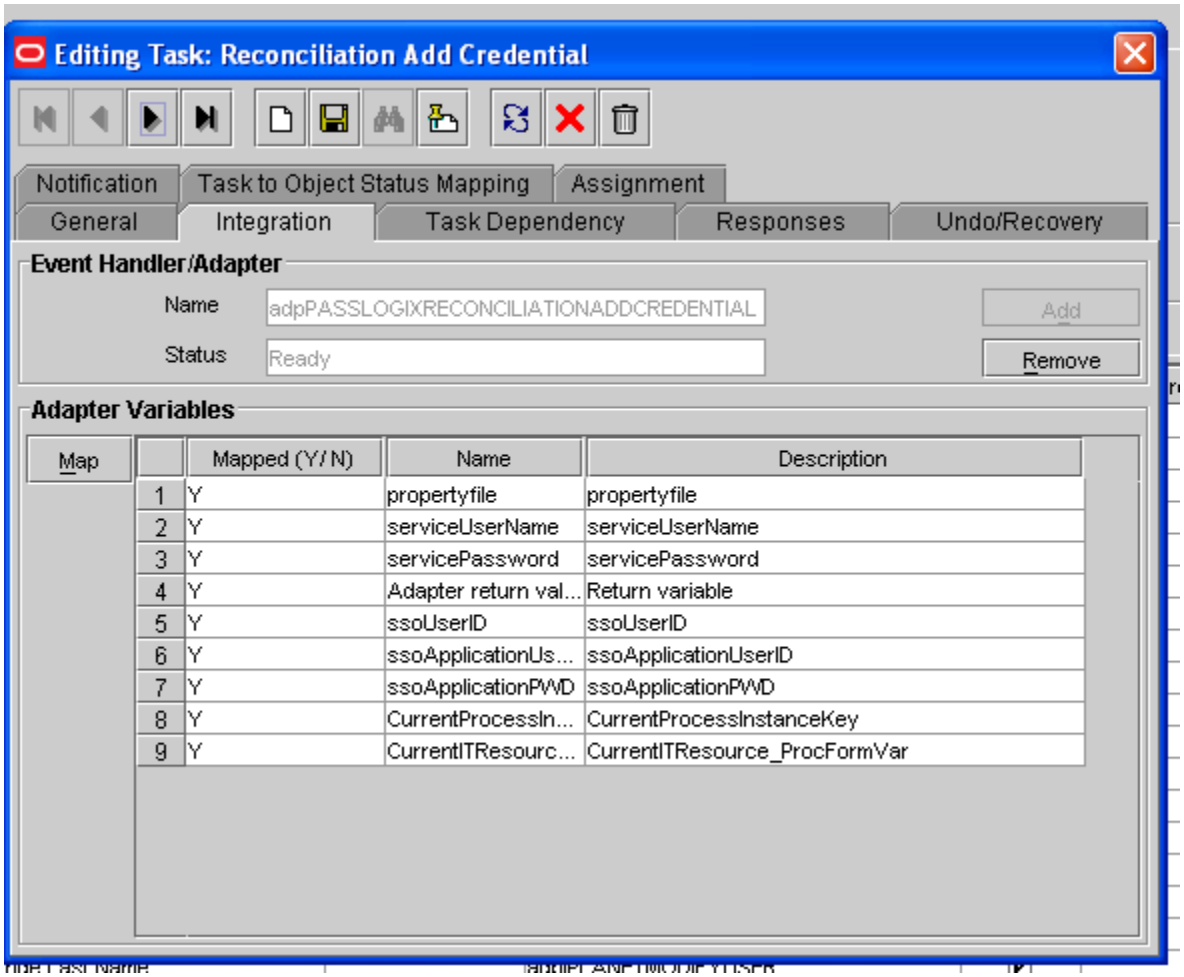
1. Open the iPlanet User process form.
2. Add a new Reconciliation Add Credential task.
3. Select the **Required for Completion, Allow Cancellation while Pending**, and **Conditional** check boxes are selected. Select **No Effec***t* from the **Task Effect** combination box.



4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map the Completed (C) process task status with the Provisioned resource object status.



5. Under the Integration tab, attach the *adpPasslogixReconciliationAddCredential* adapter to the task and map its variables as shown in the following screen and table:

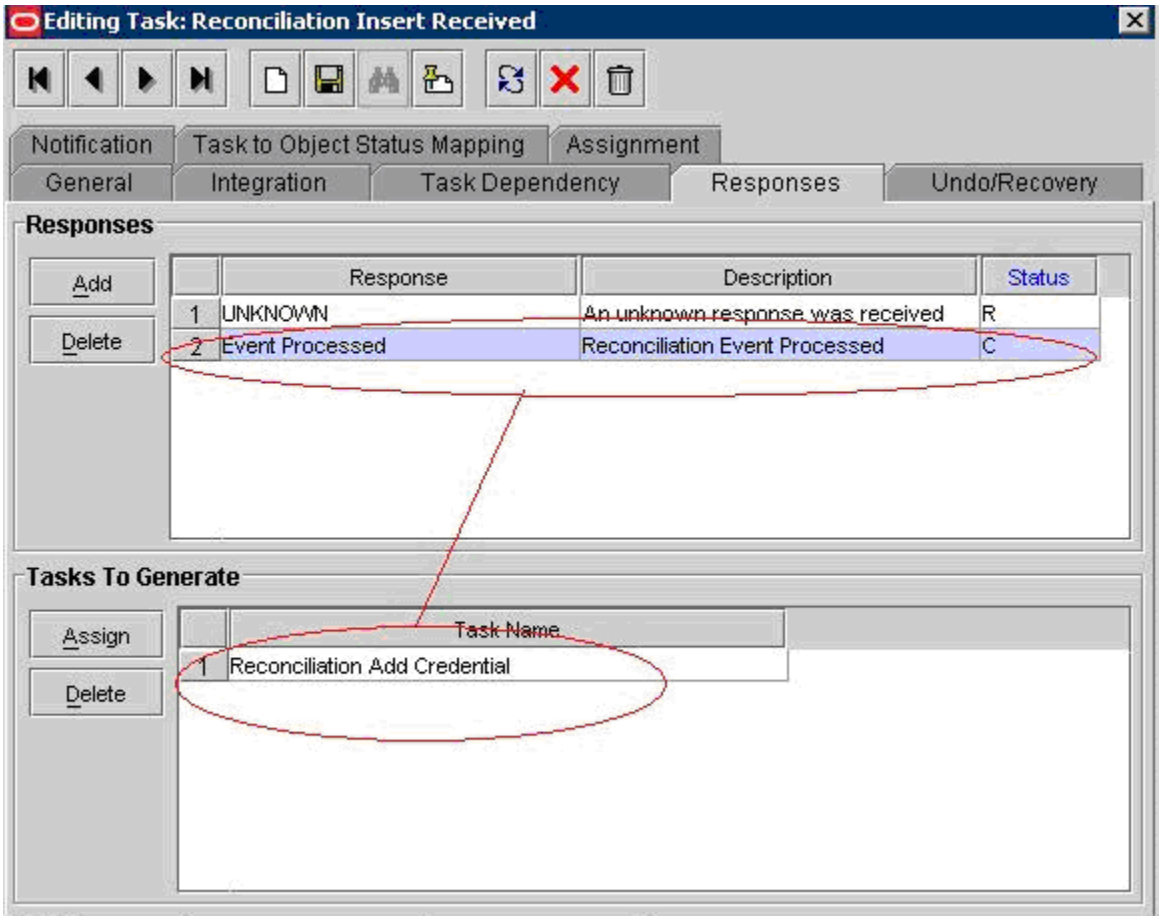


Variable Name	Data Type	Map To	Qualifier	Literal Value / IT Resource Type	IT Resource Property
Adapter return value	Object	Response Code	NA	NA	
ssoUserID	String	Process Data	User Id	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	
ssoApplicationPWD	String	Literal	String	Dummy	NA
CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_IPNT_USR_SERVER	
serviceUserName	String	Literal	String	*AS per Vgo installation*	NA

servicePassword	String	Literal	String	*As per Vgo Installation*	NA
Propertyfile	String	Literal	String	*Exact path of the PMClientConfiguration.proproperties*	

Refer to Workflow Configuration for Reconciliation Process for details about how this adapter works.

6. Under the **Responses** tab of the Reconciliation Insert Received process task of iPlanet User process, select the Event Processed response. From the **Tasks to Generate** region of this tab, select and assign the Reconciliation Oracle Add Credential task. This is the important step that tells the workflow logic to send the credentials to the Oracle code if the new user has been provisioned with the reconciliation process.



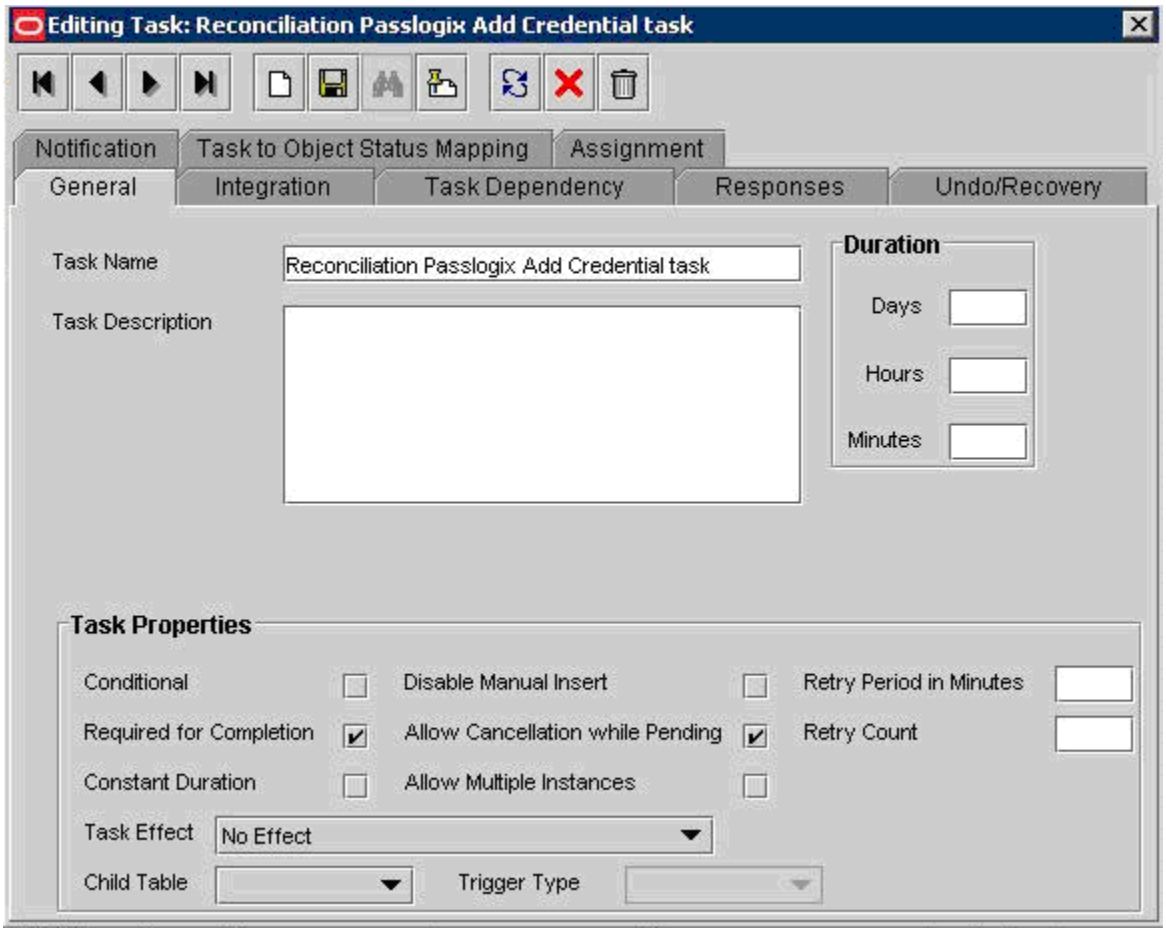
7. Save the tasks.

Create the Reconciliation Passlogix Add Credential Process Task

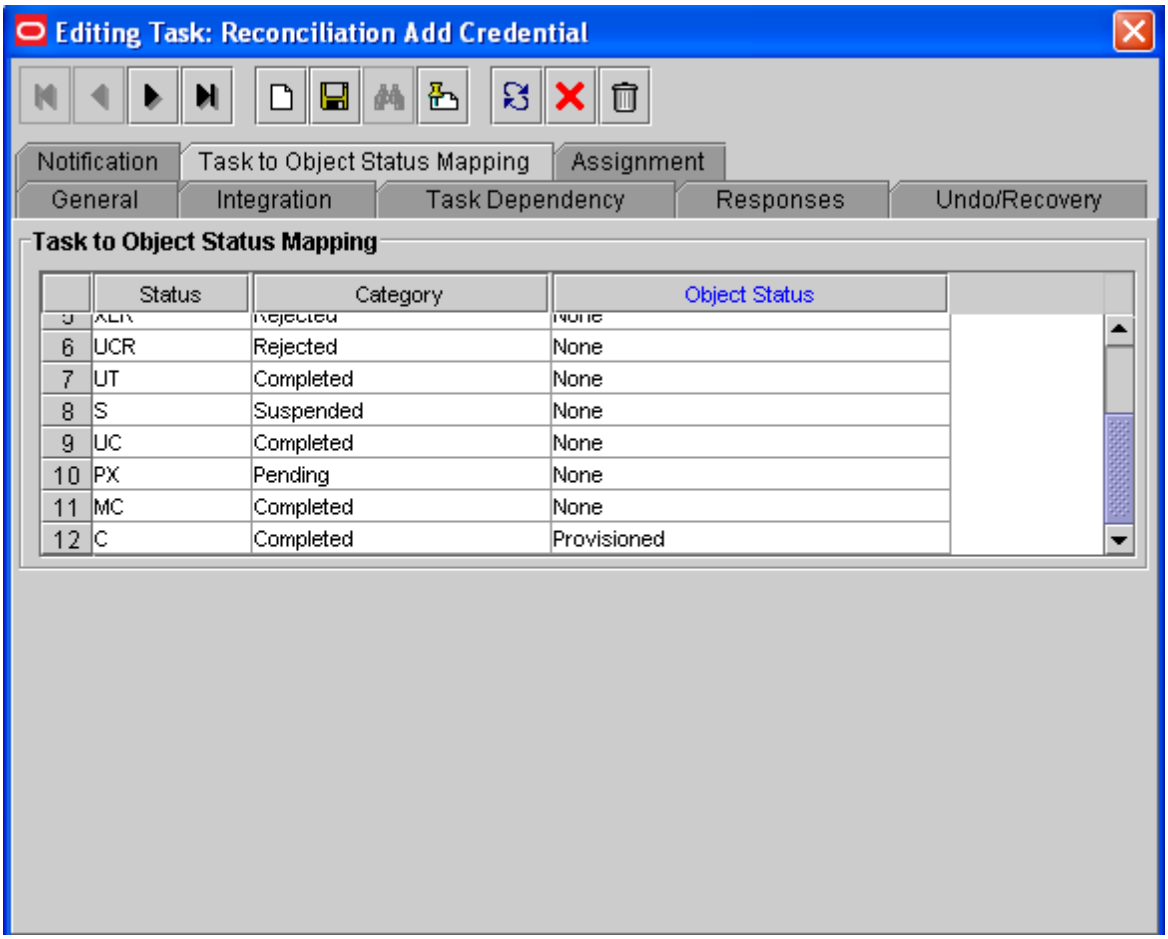
This section describes how to;

- Create the Reconciliation Passlogix Add Credential process task
- Attach the Passlogix Reconciliation Add Credential adapter
- Map the adapter variables.

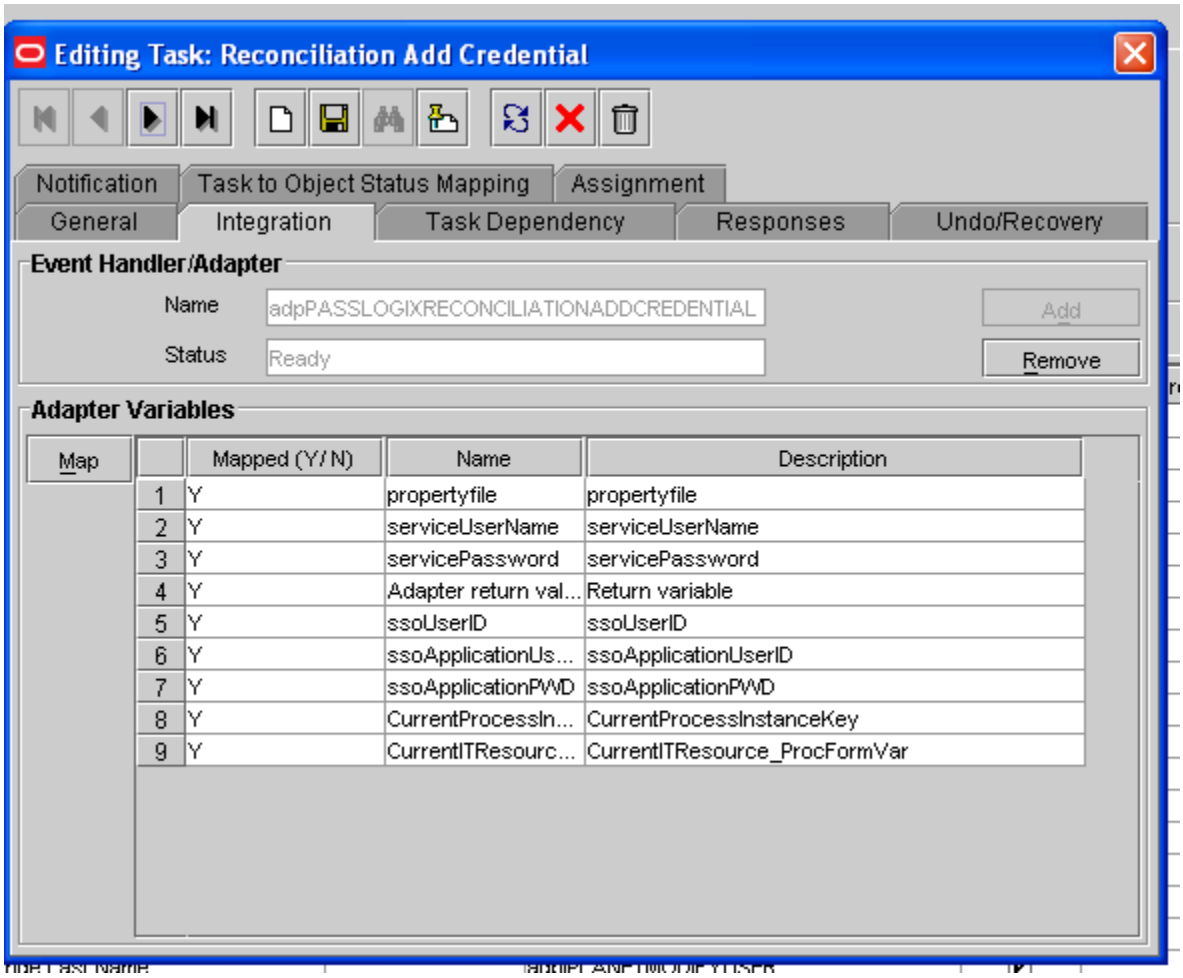
1. Open the AD User process form.
2. Add a Reconciliation Passlogix Add Credential task.
3. Select the **Required for Completion, Allow Cancellation while Pending**, and **Conditional** check boxes are selected. Select **No Effect** from the **Task Effect** combination box.



4. In the **Task to Object Status Mapping** tab of the Creating New Task window, map *the* Completed (C) process task status with the Provisioned resource object status.



5. Under **Integration** tab, attach the *adpPasslogixReconciliationAddCredential* adapter to the task and map its variables as follows:

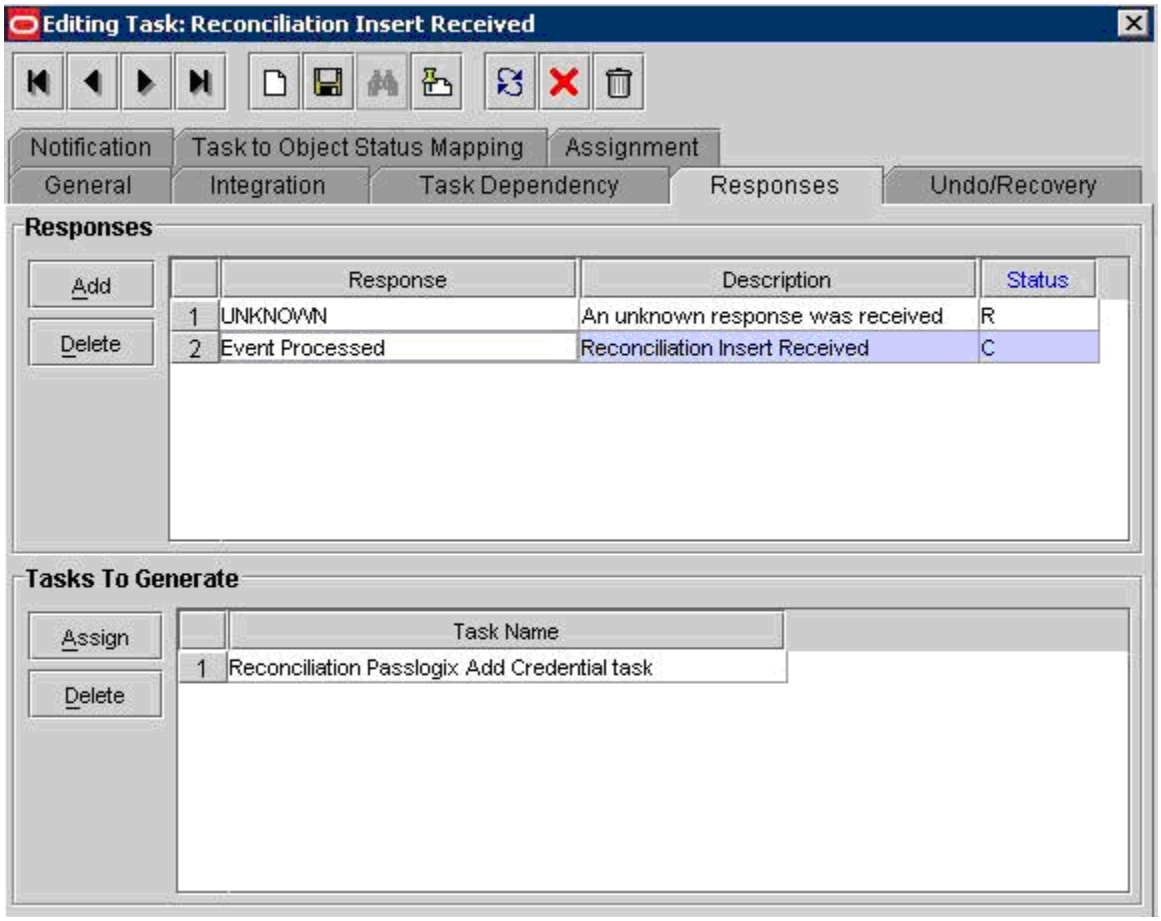


This is the Column Name for IT Resource field of the Resource Object form.

Variable Name	Data Type	Map To	Qualifier	Literal Value / IT Resource Type	IT Resource Property
Adapter return value	Object	Response Code	NA	NA	
ssoUserID	String	Process Data	User Id	NA	
ssoApplicationUserID	String	Process Data	User Id	NA	
ssoApplicationPWD	String	Literal	String	Dummy	NA
CurrentProcessInstanceKey	long	Process Data	Process Instance	NA	

Variable Name	Data Type	Map To	Qualifier	Literal Value / IT Resource Type	IT Resource Property
#CurrentITResource_ProcessFormVar	String	Literal	String	UD_ADUSER_AD	
serviceUserName	String	Literal	String	*AS per Vgo installation*	NA
servicePassword	String	Literal	String	*As per Vgo Installation*	NA
Propertyfile	String	Literal	String	*Exact path of the PMClientConfiguration.proproperties*	

6. Under the **Responses** tab of Reconciliation Insert Received process task of AD User process, select and highlight Event Processed response. Then, from the **Tasks to Generate** region of this tab, select and assign Reconciliation Passlogix Add Credentials.



7. Save the task before closing.

Assumptions:

a) In this case the new application(a fresh account) is being provisioned to the identity. So it's the responsibility of the reconciliation designer to put the value of the ESSO-PG resource field (the process form field which has default value) in the Reconciliation hashmap to be processed by the OIM reconciliation engine. This will be the case if the system has more than one ESSO-PG servers that can be assigned to a user for a particular application workflow. If the value is missing from the reconciliation code itself then the Reconciliation Add credentials task will fail. It is always assumed that if the field is important it should be made mandatory as a required field on the resource object level. So in that case there can have a seperate Process task that will run after Reconcilication Insert received and fill this form value based on some business rule and then call the Reconciliation Passlogix Add credentials. So it basically depends on what the business logic wants.

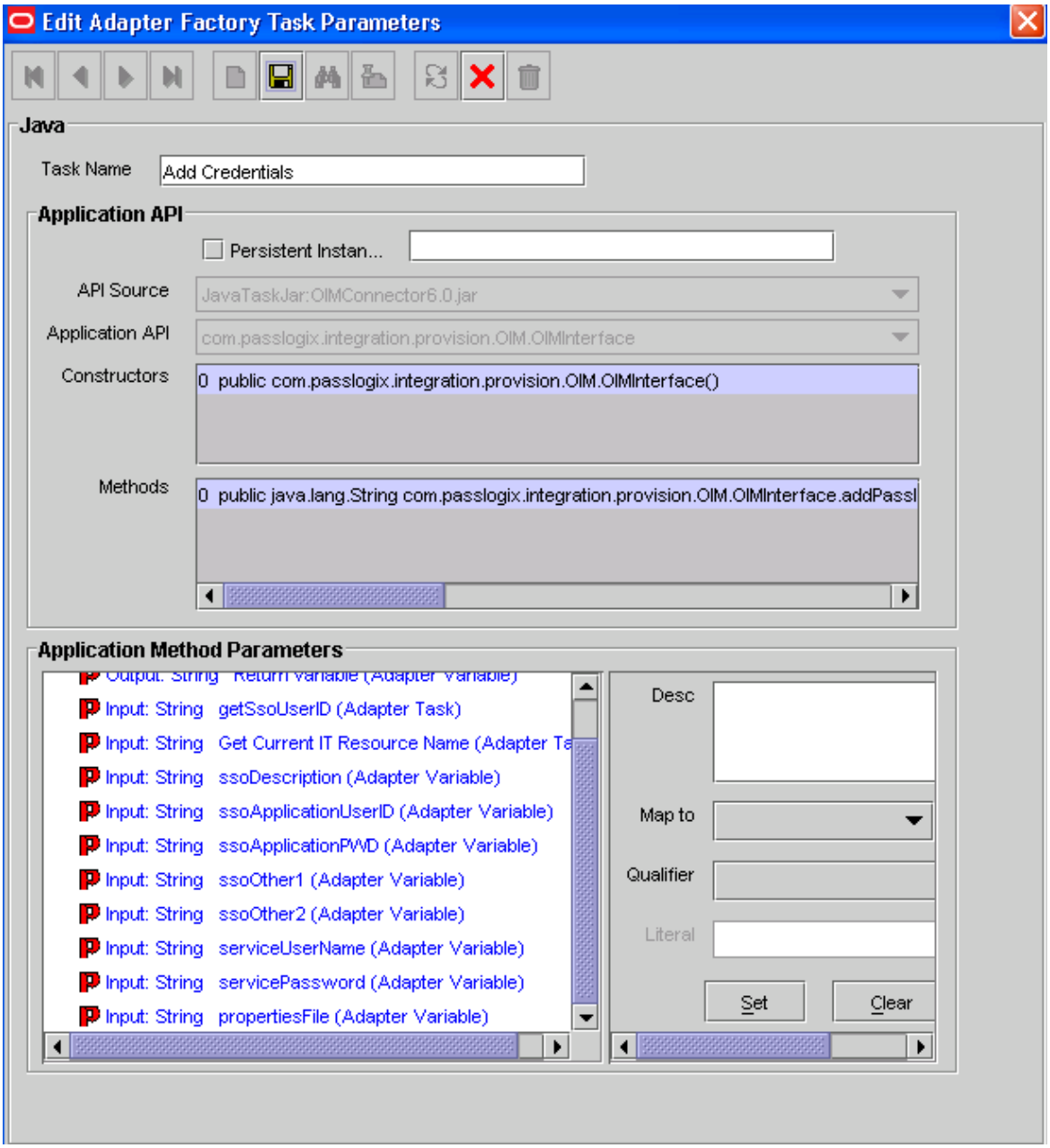
b) The serviceUsername and the Servicepassword are mapped to the IT resource VGO constants. These 2 fields are encypted on the backend database and are secured. If the multiple SSO servers are used the ESSO-PG servers can be configured as the IT resource of type VgoADConstants and the mapping can be done to the fields at runtime. The default uses only one VgoADConstants instance for mapping.

Glossary of the Variables

The following section explains the various adapters and the variables passed to the Oracle connector.

Passlogix Add Credentials Adapter

The following screen shows the adapter mapping for Add Passlogix Credentials. The same method signature is used for all the methods in the connector in which the same variables are passed.



The variables and the explanation are as follows: These variables are passed to the connector for communicating with the ESSO-PG.

Sr. No.	Name	Variable Explanation in OIM	Oracle Side	Comments
1	ssoUserID	This is the User ID of the new user in the Oracle repository.		The same user ID should be present in the Active Directory that the Oracle is using as a central repository. Identity Manager should provision the user on respective repository first and then try for adding credentials to Oracle.
2	ssoDescription	The name of the SSO used.		
3	ssoApplicationUserID	The new user ID for the already present application template.		
4	ssoOther1	Other required fields for the templates.		
5	ssoOther2	Other required fields for the templates.		
6	ssoApplicationPWD	This is the new password for the new application template.		
8	serviceUserName	The service username is used for the administrative login into the ESSO-PG client.		
9	servicePassword	The service password is used for the administrative login into the ESSO-PG client.		
10	propertyfile	This is the variable for getting the path of the PMClientConfiguration.properties file.		

Observations

- **WebLogic:** There will be some issues with the *Xalan.jar* loading. The following document assumes that the JDK is 1.4.2. For later versions of JDK, there should be no issues. Refer to the following for more information about these issues: http://xml.apache.org/xalan-j/faq.html#environmentcheck

- **OC4J**: Side-effects of removing the *(oc4j_home)\web services\lib\ commons-logging.jar* have not been found with the testing done so far. It still has to be looked upon for other options.

Using and Testing the Sample Workflow

This is a test environment deployment document which will use the XMLs as the sample workflow (*Resourceobjects.xml*, *ITresources.xml*, *lookups.xml*) from the package provided.

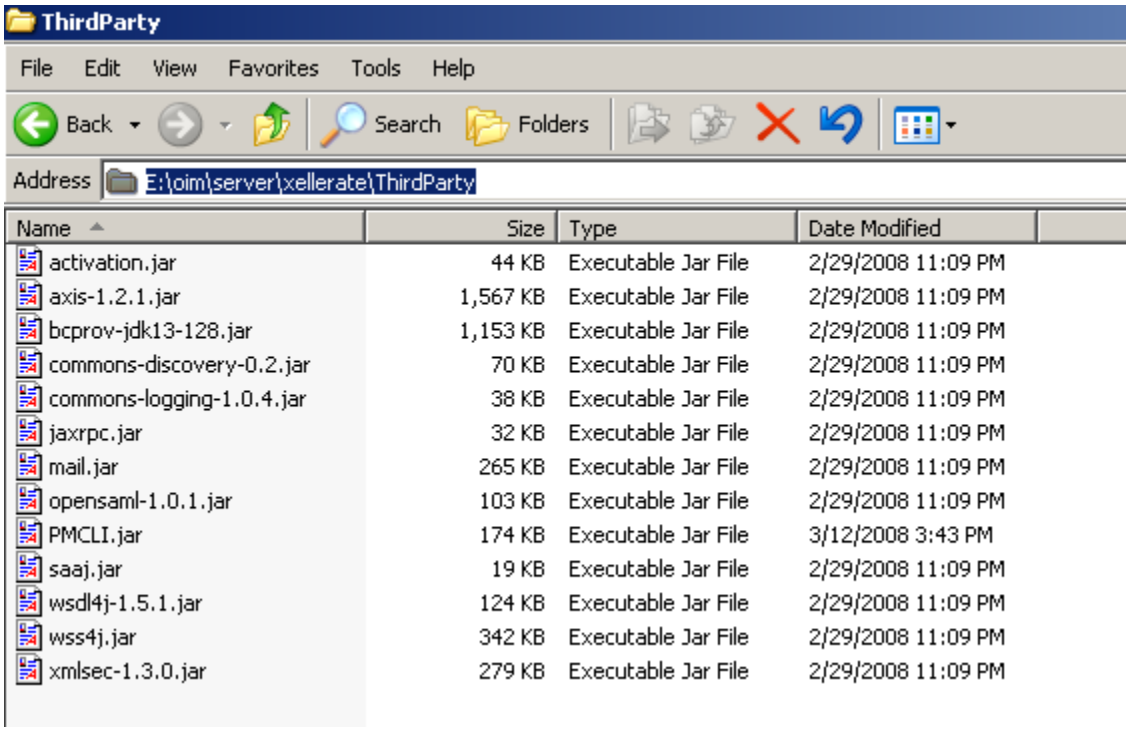
Deployment Environment

1. JBoss 4.0.3 SP1 as the application server
2. OIM 9.1.0.1849.0
3. Java version j2sdk1.4.2_15
4. Please refer the JBoss installation section for the installation steps.

Libraries

1. Copy the following jars from the package in the <*oim\server\xellerate\ThirdParty*> directory.

Sr. No.	Name of	Versions
1.	PMCLI.jar	174 KB
2.	activation.jar	1.0.2
3.	axis.jar	1.2.1
4.	bcprov-jdk13-128.jar	1.28.0
5.	commons-discovery-0.2.jar	0.2
6.	commons-logging-1.0.4.jar	1.0.4
7.	jaxrpc.jar	-
8.	opensaml-1.0.1.jar	1.0.1
9.	saaj.jar	-
10.	wsdl4j-1.5.1.jar	1.5.1
11.	wss4j.jar	-
12.	xmlsec-1.3.0.jar	1.3.0



The java version here tested is j2sdk1.4.2_15.

2. Copy the following files in the below table to

   <jboss-4.0.3SP1_home>\lib\endorsed

   which are provided with the package.

   You might have to replace the older version. If so, replace it with the files in the package that have the following ISO path: *ISO\Libraries\JavaCLI\1.4\endorsed*.

3. Replace or put the following jars:

Sr. No.	**Name of Jar**	**Versions**
1.	dom.jar	Xerces-J_2_5_0
2.	jaxp-api.jar	1.3
3.	sax.jar	Xerces-J_2_5_0
4.	xalan.jar	2.1.4
5.	xercesImpl.jar	Xerces-J_2_5_0

Deploying the Oracle Connector

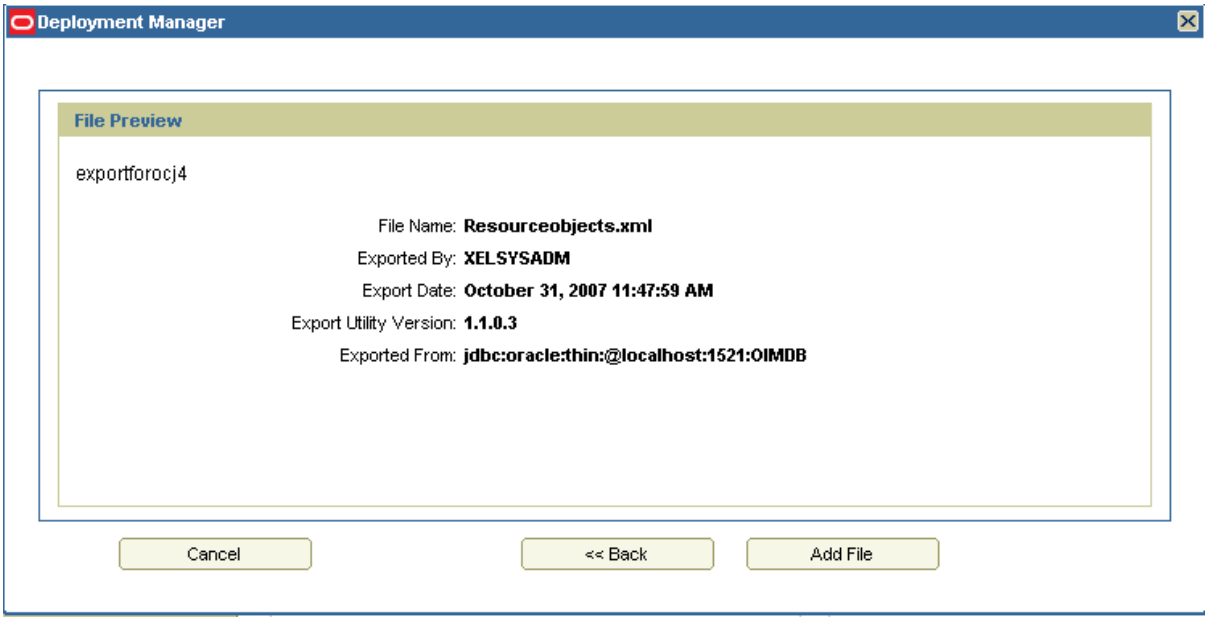
1. Change the properties file in *OIMConnector-6.0.jar* to set the service URL of the respective environment.

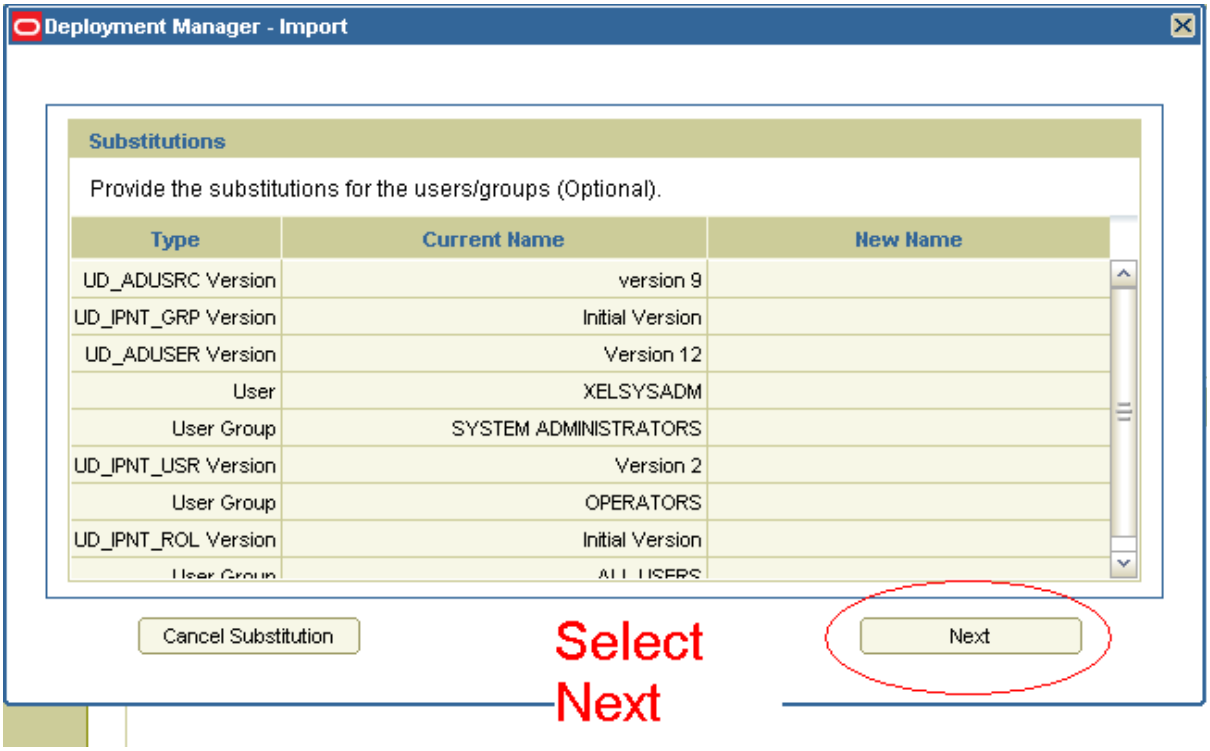
2. Rebuild the jar and copy the OIMConnector-6.0.jar from the package and put it in the *<oim_server_home>\xellerate\JavaTasks* directory. This package contains the sample AD server workflow so you need the out-of-the-box AD connector pack, which is not with this package.

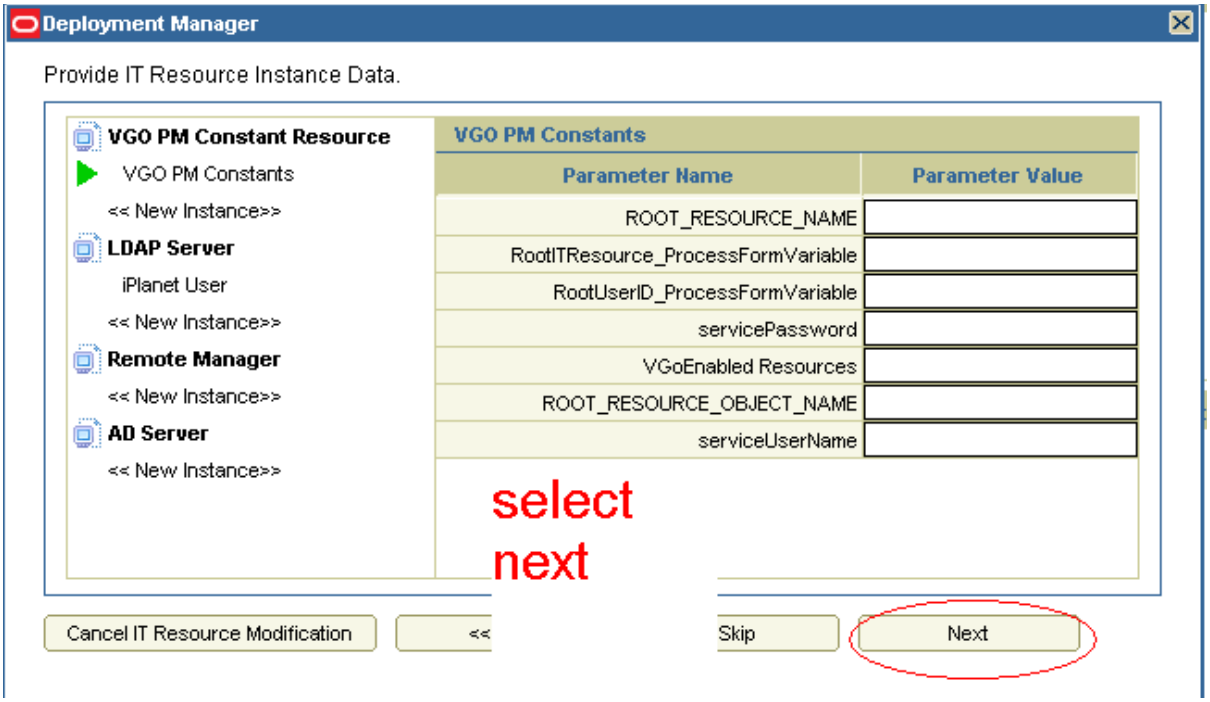
   The connector used for testing for AD was *xliActiveDirectory.jar*, which is in the OIM connector pack in the directory servers folder.

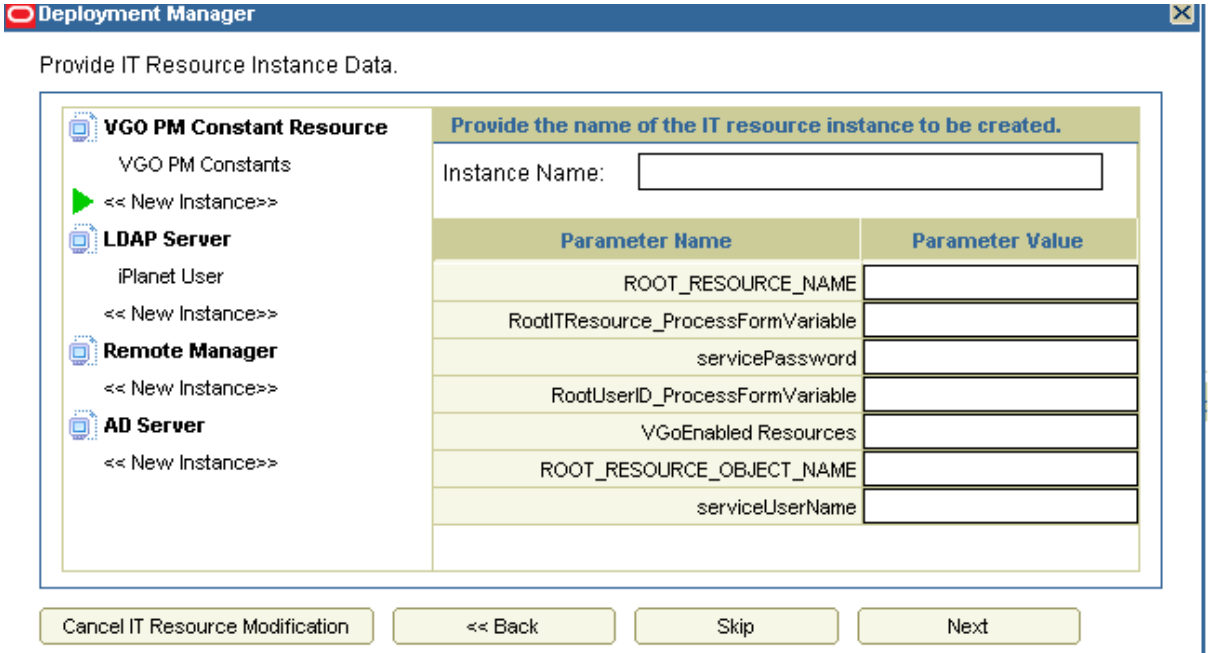
3.4 Importing the XML

1. Import the XML *Resourceobjects.xml*. (This is the sample workflow.) Select everything in the XML. Follow the steps shown in the next four screens.

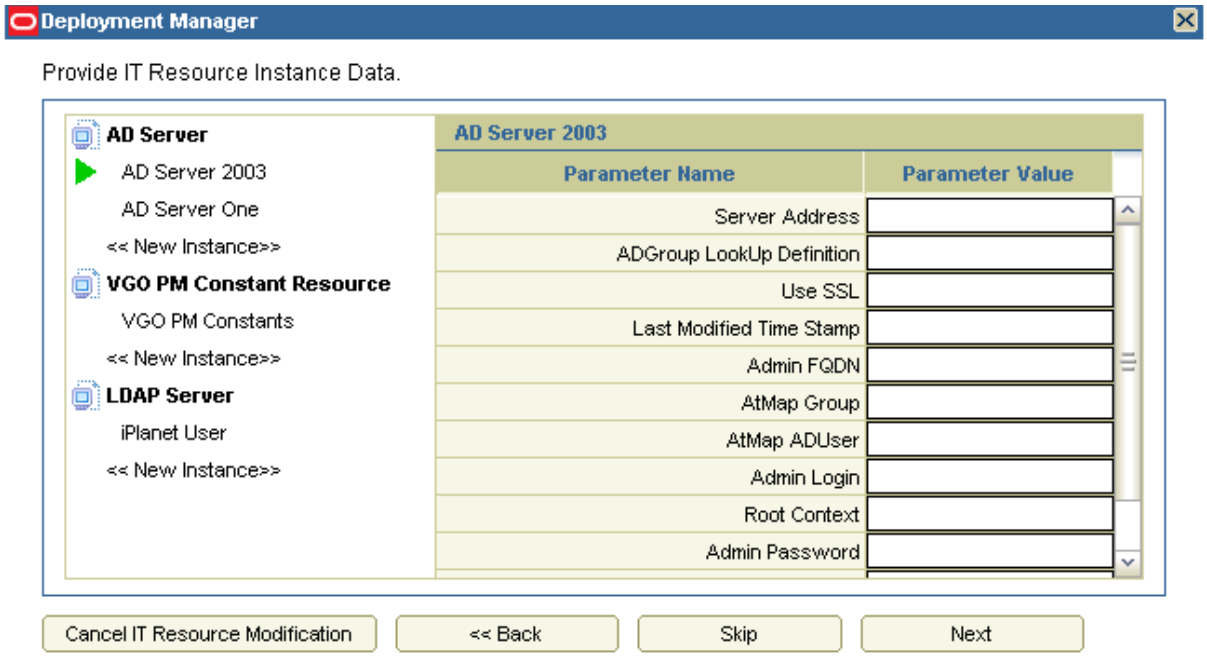



Deployment Manager - Import
Substitutions
Provide the substitutions for the users/groups (Optional).
Type
Current Name
New Name
UD_ADUSRC Version
version 9
UD_IPNT_GRP Version
Initial Version
UD_ADUSER Version
Version 12
User
XELSYSADM
User Group
SYSTEM ADMINISTRATORS
UD_IPNT_USR Version
Version 2
User Group
OPERATORS
UD_IPNT_ROL Version
Initial Version
Cancel Substitution
Select
Next
Next


Deployment Manager
Provide IT Resource Instance Data.
VGO PM Constant Resource
VGO PM Constants
<< New Instance>>
LDAP Server
iPlanet User
<< New Instance>>
Remote Manager
<< New Instance>>
AD Server
<< New Instance>>
VGO PM Constants
Parameter Name
Parameter Value
ROOT_RESOURCE_NAME
RootITResource_ProcessFormVariable
RootUserID_ProcessFormVariable
servicePassword
VGoEnabled Resources
ROOT_RESOURCE_OBJECT_NAME
serviceUserName
select
next
Cancel IT Resource Modification
<<
Skip
Next



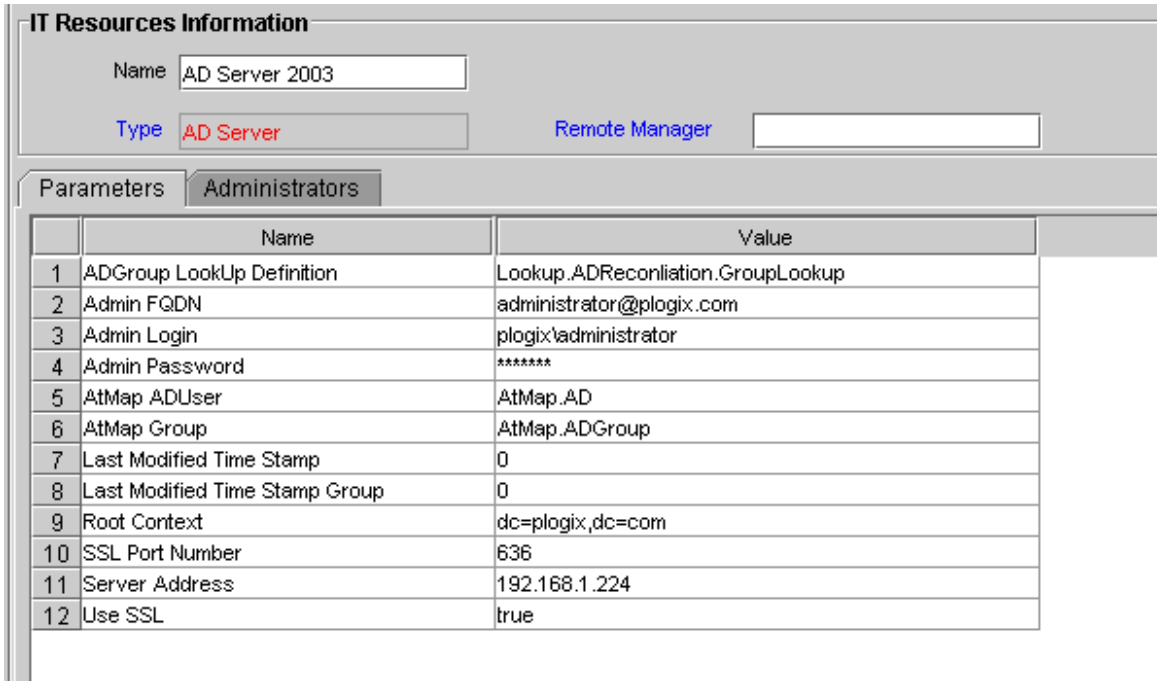
Skip this new instance for all the other It Resources



Creating a new instance is optional
If required create or skip the new instance option

Fill in the Values of the AD Server 2003 or AD Server One

It is the resource that is connected to Oracle for its repository. These are the sample values:



	Name	Value
1	ADGroup LookUp Definition	Lookup.ADReconliation.GroupLookup
2	Admin FQDN	administrator@plogix.com
3	Admin Login	plogix\administrator
4	Admin Password	*******
5	AtMap ADUser	AtMap.AD
6	AtMap Group	AtMap.ADGroup
7	Last Modified Time Stamp	0
8	Last Modified Time Stamp Group	0
9	Root Context	dc=plogix,dc=com
10	SSL Port Number	636
11	Server Address	192.168.1.224
12	Use SSL	true

SSL is enabled for AD

The certificate must be imported from the AD server to the OIM JVM that is used by the JBoss so that the creation of the user is successful.

There is a standard procedure to import the AD certificate from the AD of a particular system, which is specified in the OIM connector guide for active directory in a section entitled “Configuring SSL.”

The example command will be on the command prompt as:

```
keytool -import -alias passcert -file ActiveDir.cer -keystore

C:\j2sdk1.4.2_15\jre\lib\security -storepass changeit
```

After you import the certificate, restart the machine so that the JVM has the new certificate. Then start the OIM server again.

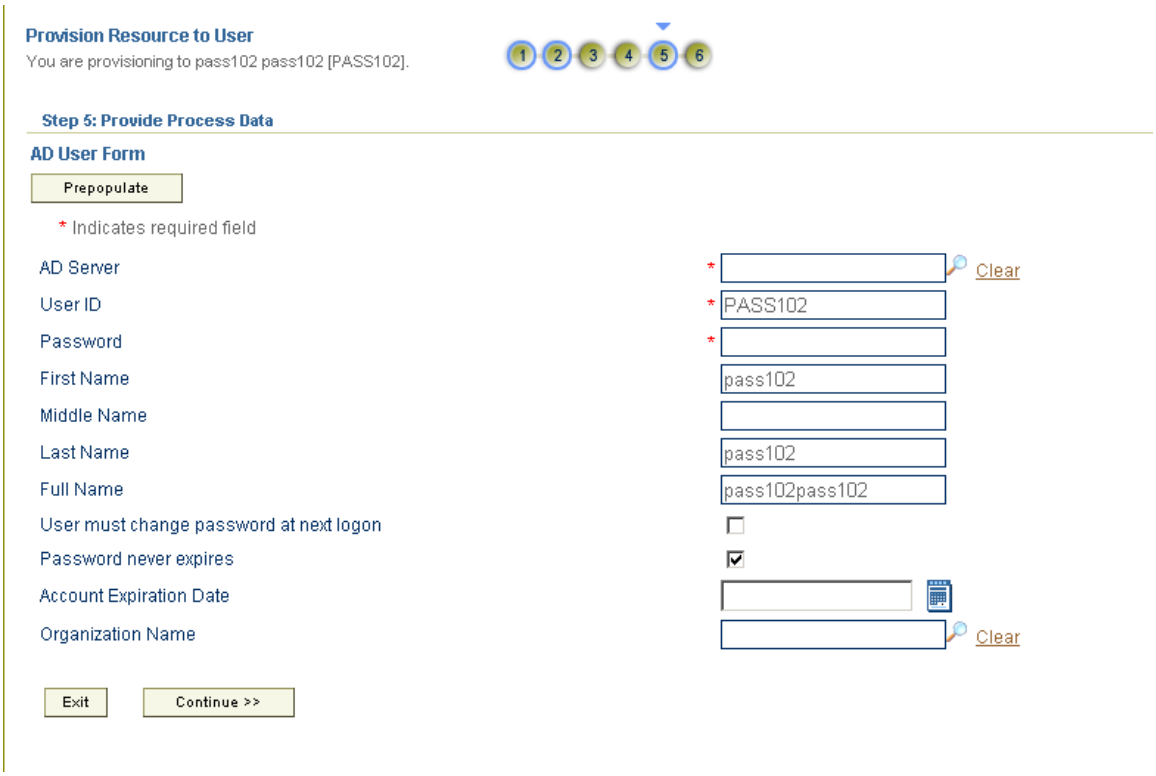
Adding Values to the VGO Constants Resource

The root resource should be configured as follows:

ROOT_RESOURCE_NAME	AD Server 2003
ROOT_RESOURCE_OBJECT_NAME	AD User
RootITResource_ProcessFormVariable	UD_ADUSER_AD
RootUserID_ProcessFormVariable	UD_ADUSER_UID
serviceUserName	As per the Vgo Installation
servicePassword	As per the Vgo Installation

Test cases for Creating a New AD User

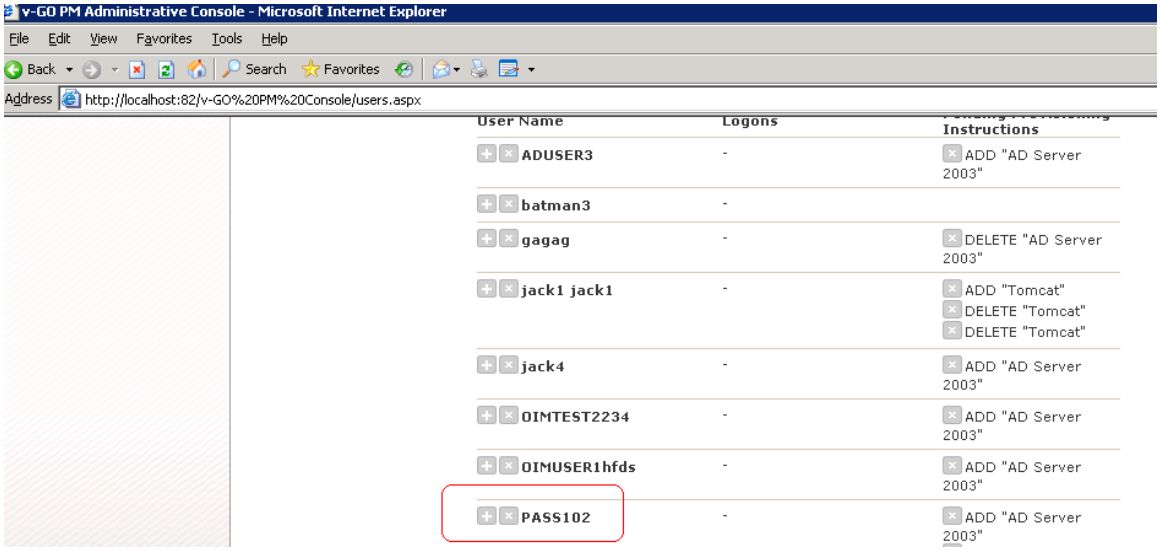
1. Create a fresh OIM user.
2. Add the AD server Resource Object to it. The process form will be displayed with the prefilled values.



3. Select the AD Server Lookup and select AD Server 200," which was filled in with the IT resource values in Fill in the Values of the AD Server 2003 or AD Server One.

   The password has a strong policy so use a strong policy password or the Add User Creation will fail.
4. Verify that the "AD Server 2003" is already there on the ESSO-PG side as a template else the Oracle code will fail.

At the completion of this task, the user will be created on the AD server. The user can be verified and the credentials will be added to Oracle.



The server log triggers the Add User Creation and the Add Oracle Credentials. Refer to the bolded text to see the checkpoints in the whole process

First the AD user is created

```
08/03/07 18:26:29 Running CONCATFIRSTANDMIDDLE

08/03/07 18:26:29 Target Class =
com.thortech.xl.util.adapters.tcUtilStringOperations

08/03/07 18:26:29 Running CONCATLAST

08/03/07 18:26:29 Target Class =
com.thortech.xl.util.adapters.tcUtilStringOperations

08/03/07 18:26:53 Running Get Attribute Map

08/03/07 18:26:53 Running Get Path

08/03/07 18:26:53 Running Create User

08/03/07 18:26:54 object created: cn=TESTM1023

08/03/07 18:26:56 Running Get Path

08/03/07 18:26:56 Running GETRDN
```

```
08/03/07 18:26:56 Target Class =
com.thortech.xl.util.adapters.tcUtilStringOperations

08/03/07 18:26:56 Running Get User ObjectGUID

08/03/07 18:27:00 Running GETADPROCESSFORMDATA

08/03/07 18:27:00 Running GETADITRESOURCEKEY

08/03/07 18:27:00 Running MAPCRITERIAFORADITRESOURCE

08/03/07 18:27:00 Target Class =
com.thortech.xl.util.adapters.tcUtilHashTableOperations

08/03/07 18:27:00 Running GETADITRESOURCEINSTANCES

08/03/07 18:27:01 Running GETADITRESOURCENAME
```

Then the credentials for the Oracle are added

```
08/03/07 18:27:01 Running ADDPASSLOGIXCREDENTIAL1

08/03/07 18:27:01 Target Class =
com.passlogix.integration.provision.OIM.OIMInterface

08/03/07 18:27:01 Command Invoker class is
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:01 Trying to start reading the component classes

08/03/07 18:27:01 Read the component class name as
com.passlogix.integration.provision.client.apicommand.APICommandAddCredCom
mand

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandAddCredCom
mand

08/03/07 18:27:01 Initializing APICommand
com.passlogix.integration.provision.client.apicommand.APICommandAddCredCom
mand

08/03/07 18:27:01 Set up APICommand
com.passlogix.integration.provision.client.apicommand.APICommandAddCredCom
mand

08/03/07 18:27:01 Starting
APICOmmandcom.passlogix.integration.provision.client.apicommand.APICommand
AddCredCommand

08/03/07 18:27:01 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandAddCredCom
mand

08/03/07 18:27:01 Read the component for 1 as
com.passlogix.integration.provision.client.apicommand.APICommandCancel

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandCancel

08/03/07 18:27:01 Initializing APICommand
com.passlogix.integration.provision.client.apicommand.APICommandCancel

08/03/07 18:27:01 Set up APICommand
com.passlogix.integration.provision.client.apicommand.APICommandCancel

08/03/07 18:27:01 Starting
APICOmmandcom.passlogix.integration.provision.client.apicommand.APICommand
Cancel

08/03/07 18:27:01 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandCancel
```

```
08/03/07 18:27:01 Read the component for 2 as
com.passlogix.integration.provision.client.apicommand.APICommandDelCredCom
mand

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandDelCredCom
mand

08/03/07 18:27:01 Initializing APICommand
com.passlogix.integration.provision.client.apicommand.APICommandDelCredCom
mand

08/03/07 18:27:01 Set up APICommand
com.passlogix.integration.provision.client.apicommand.APICommandDelCredCom
mand

08/03/07 18:27:01 Starting
APICOmmandcom.passlogix.integration.provision.client.apicommand.APICommand
DelCredCommand

08/03/07 18:27:01 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandDelCredCom
mand

08/03/07 18:27:01 Read the component for 3 as
com.passlogix.integration.provision.client.apicommand.APICommandDelUserCom
mand

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandDelUserCom
mand

08/03/07 18:27:01 Initializing APICommand
com.passlogix.integration.provision.client.apicommand.APICommandDelUserCom
mand

08/03/07 18:27:01 Set up APICommand
com.passlogix.integration.provision.client.apicommand.APICommandDelUserCom
mand

08/03/07 18:27:01 Starting
APICOmmandcom.passlogix.integration.provision.client.apicommand.APICommand
DelUserCommand

08/03/07 18:27:01 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandDelUserCom
mand

08/03/07 18:27:01 Read the component for 4 as
com.passlogix.integration.provision.client.apicommand.APICommandModCredCom
mand

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandModCredCom
mand
```

```
08/03/07 18:27:01 Initializing APICommand
com.passlogix.integration.provision.client.apicommand.APICommandModCredCom
mand

08/03/07 18:27:01 Set up APICommand
com.passlogix.integration.provision.client.apicommand.APICommandModCredCom
mand

08/03/07 18:27:01 Starting
APICOmmandcom.passlogix.integration.provision.client.apicommand.APICommand
ModCredCommand

08/03/07 18:27:01 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandModCredCom
mand

08/03/07 18:27:01 Read the component for 5 as
com.passlogix.integration.provision.client.apicommand.APICommandStatus

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandStatus

08/03/07 18:27:01 Initializing APICommand
com.passlogix.integration.provision.client.apicommand.APICommandStatus

08/03/07 18:27:01 Set up APICommand
com.passlogix.integration.provision.client.apicommand.APICommandStatus

08/03/07 18:27:01 Starting
APICOmmandcom.passlogix.integration.provision.client.apicommand.APICommand
Status

08/03/07 18:27:01 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandStatus

08/03/07 18:27:01 Read the component for 6 as
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:01 Created an instance of
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:01 Initialized the
com.passlogix.integration.provision.client.apicommand.APICommandInvoker
```

The date is passed to the Oracle API as a command

```
08/03/07 18:27:01 Initializing APICommandInvoker with params service URL :
http://192.168.1.224:82/v-GO%20PM%20Service/UP.asmx,service User Name :
plogix\administrator,service user password : <*****>,service client name :
<Provisioning Agent>,<null>

08/03/07 18:27:04 Initialized APICommandInvoker
```

```
08/03/07 18:27:04 Setting up
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:04 Starting the
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:04 Completed the setup of
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:04 Command Invoker located as
com.passlogix.integration.provision.client.apicommand.APICommandInvoker

08/03/07 18:27:04 Read the component for 7 as null

08/03/07 18:27:04 The initialization of the Provisioning Manager Client
was successful.

08/03/07 18:27:04 Invoking the command add_credential with parameters
{sso_password=Sena@120, sso_application=AD Server 2003,
sso_userid=TESTM1023, sso_app_userid=TESTM1023}

08/03/07 18:27:04 Invoking APICommandInvoker.

08/03/07 18:27:04 Invoking command add_credential

08/03/07 18:27:04 Populating arguments for command add_credential

08/03/07 18:27:04 Returning 'operation' for command add_credential

08/03/07 18:27:04 No Execution time provided.

Default Execution Time set to 'NOW'.

08/03/07 18:27:04 Sending command Instruction to Web Service

08/03/07 18:27:11 Successfully sent command Instruction to Web Service
```

The success string is returned finally from the ESSO-PG side

```
08/03/07 18:27:11 Invoked the command add_credential with return 0edc100c-
bba3-4cf2-a74d-335e8fcbabbd

08/03/07 18:27:11 addPasslogixCredential Method Success
```

Appendix

Delete the adapter task from the adpPasslogixChangePassword adapters

1. Open the OIM Design Console.

2. Go to **Development Tools -> Adapters Factory**.

3. Open the Passlogix Change Password adapter and delete the **"printdata" and "printset"** tasks as shown in Figure 1.

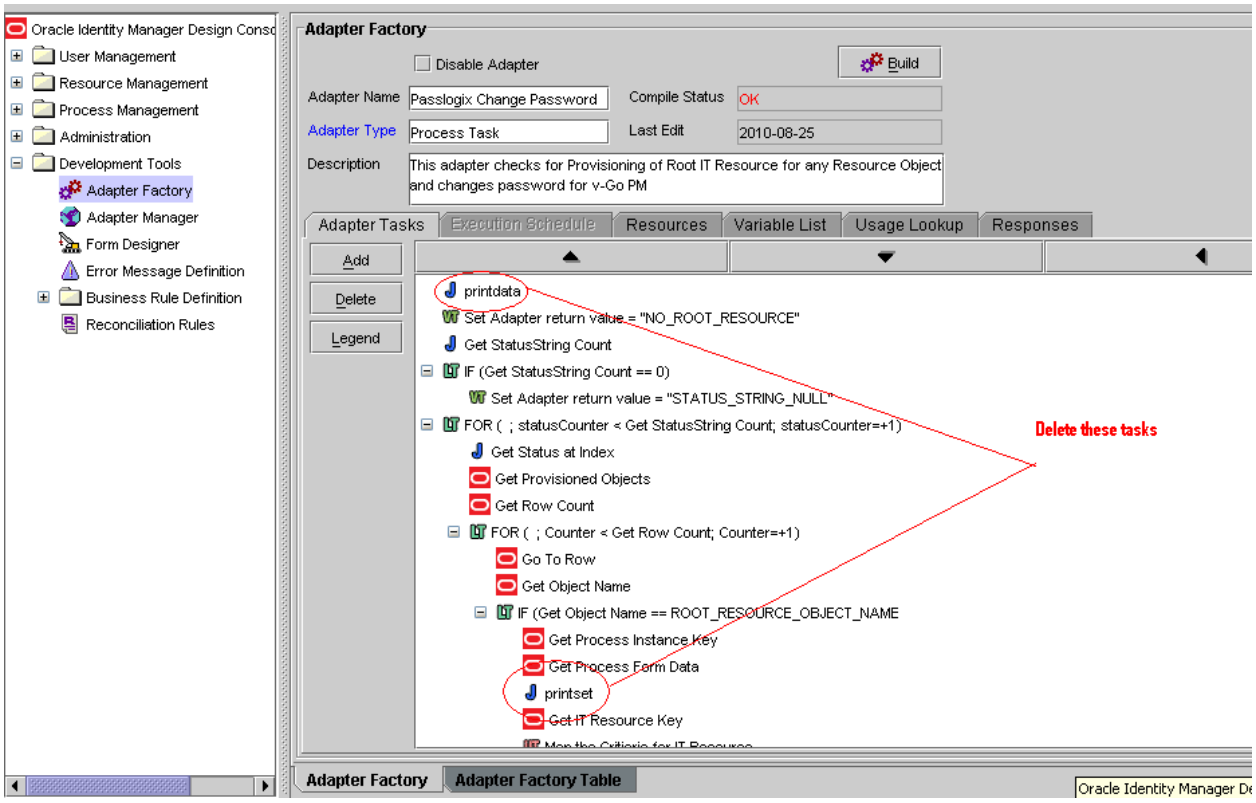


Figure 1

4. Recompile the adapter using **"Build"** button as shown in Figure 2.

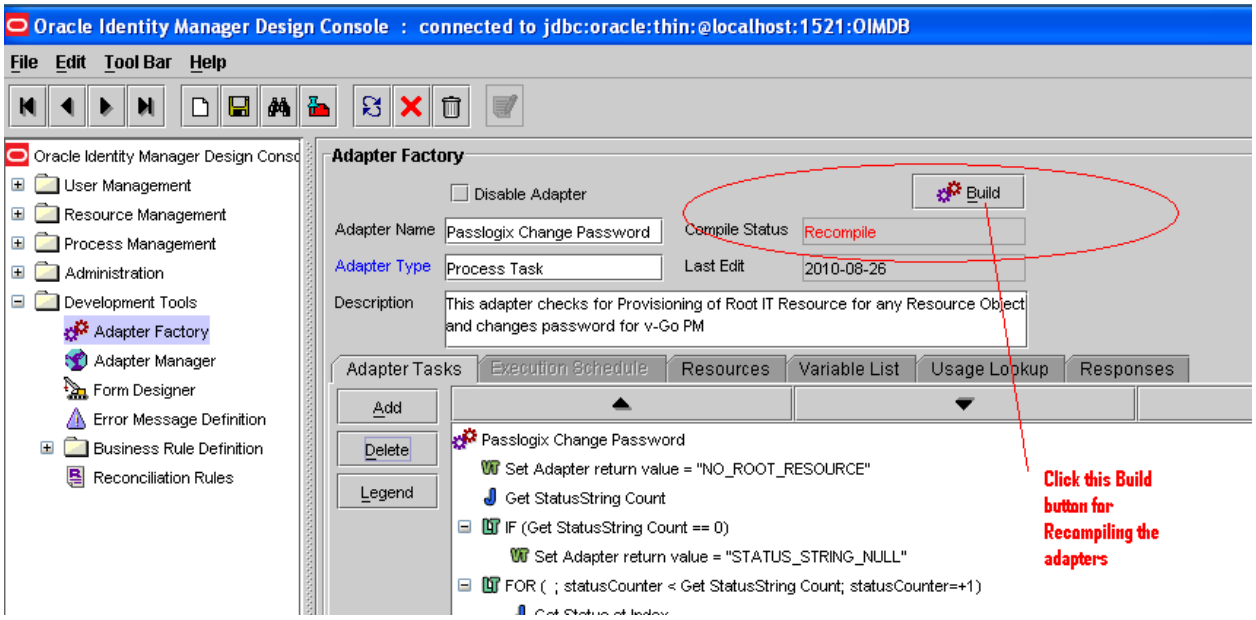


Figure 2