Configuring Custom Notifications for Significant Enterprise Events

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## Introduction

ACME Capital want to implement some business processes around email notification at following stages:

* Send username and password along with some Administrators details at the time of user creation

Requirement is to send Email Notifications to specific target users for the communication of username and password generated during user creation. OIM OOTB pre-seeds the Notification template that defines the format/content of this notification, but ACME wants to change the same. This is one of the use cases covered in the current lab.

The solution would focus on changing the e-mail notification text content by using the OIM Advanced Console to suit the business need. OIM out-of-box does not provide the details for Administrator i.e. Contact Phone or E-Mail address when an e-mail notification is generated. One such e-mail notification use case is when a User is created without providing User Login and Password details. In this scenario, an e-mail notification is sent to the newly created user with OIM auto-generated User Login and Password along with the Administrator’s contact details.

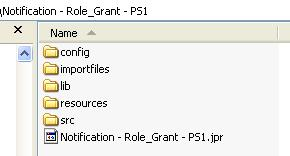
* Send notification to the user whenever he/she is added into a Role

For this use case, OIM OOTB does not have the provision of sending email notifications. Therefore the solution would be to digest into the relevant functional flow and at the relevant spot, inject a point of notification which should follow specific format/content (as per an OIM Notification template) and can be sent to desired list of (OIM) users. In this lab, the solution focuses on OIM SPI that can be used to write a custom post-process handler on a User operation. In particular this sample demonstrates sending of a Notification on Role assignment to a User. The User who has been assigned the Role will receive a E-mail notification of the Role being assigned.

## Content

4. 1. Description of Package

Collect the package from /odrive/dummydata/Lab 5/Notification - Role\_Grant - PS1.zip

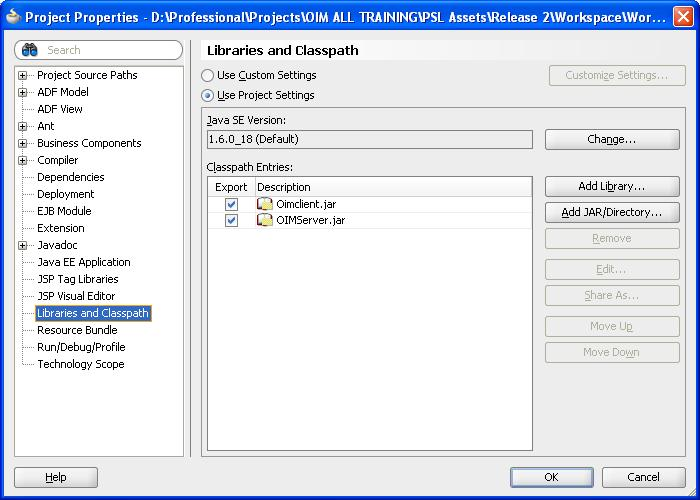


|  |  |
| --- | --- |
| **Folder Structure** | **Description** |
| PROJECT-CONTEXT]/config | Contains the event handler definitions file  Includes all .xml files including plugin.xml file. Except plugin.xml all other files will be chosen to be imported in Oracle MDS. |
| [PROJECT-CONTEXT]/resources | Includes all the required resources files. e.g.; text files, properties files, images, etc. |
| [PROJECT-CONTEXT]/lib | Includes all the required jar files. The project JAR file is as well created in this same folder. |
| [PROJECT-CONTEXT]/src | This includes the source files for oracle.iam.sample.notification.RoleGrantNotificationEvent.java   * What for this class Is used?   oracle.iam.sample.notification.RoleGrantNotificationEventResolver.java   * What for this class Is used? |
| [PROJECT-CONTEXT]/importfiles | The files which are required to be imported in OIM to make this event handler execute properly should be placed in this folder. |
| [PROJECT-CONTEXT]/ Notification - Role\_Grant - PS1.jpr | Project Package which can be open in JDeveloper. |

**Minimum required JAR files:** Once the project package is opened in the JDeveloper it is required that the minimum required JAR files be added in the project classpath. Not doing so will cause the compilation process to fail and hence the plugin won’t be deployed to OIM. So please make sure you have these JAR files (and any other required JAR files) added to the project classpath.

The following are the files which are required for this project along with the location where they can be found on the OIM server.

* + - **oimclient.jar** (/odrive/oracle/oim11g\_MWH/Oracle\_IDM1/server/client/oimclient.jar)
    - **OIMServer.jar** (/odrive/oracle/oim11g\_MWH/Oracle\_IDM1/server/apps/oim.ear/APP-INF/lib/OIMServer.jar)



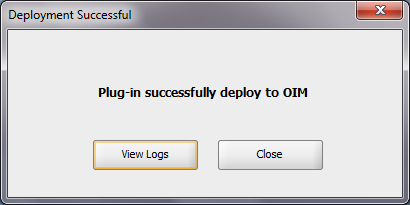
* 1. Deployment Procedure
     1. Deploy Event Handlers
  + Before trying to deploy any project, please make sure you have added the

dependent JAR files in the **project classpath**.

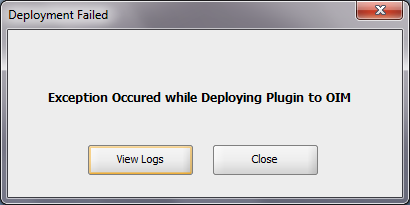
* + To perform single click deployment of implemented plug-in in JDeveloper,

“Tools” -> “OIM customization installer”-> “Deploy”

* + *If the deployment is successful, a success dialog will be shown.*



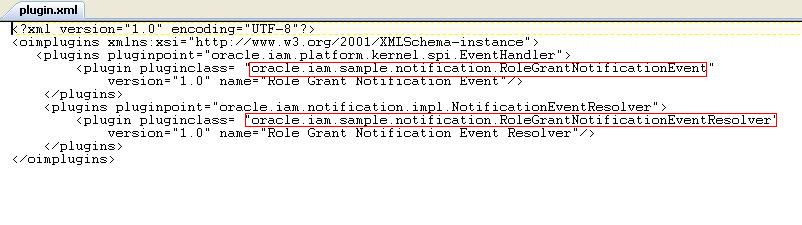
* + If the deployment fails, a failure dialog will be shown.



* 1. Verify Plugin Entries and Event Handler Registration
     1. Verify Plug-in Entries

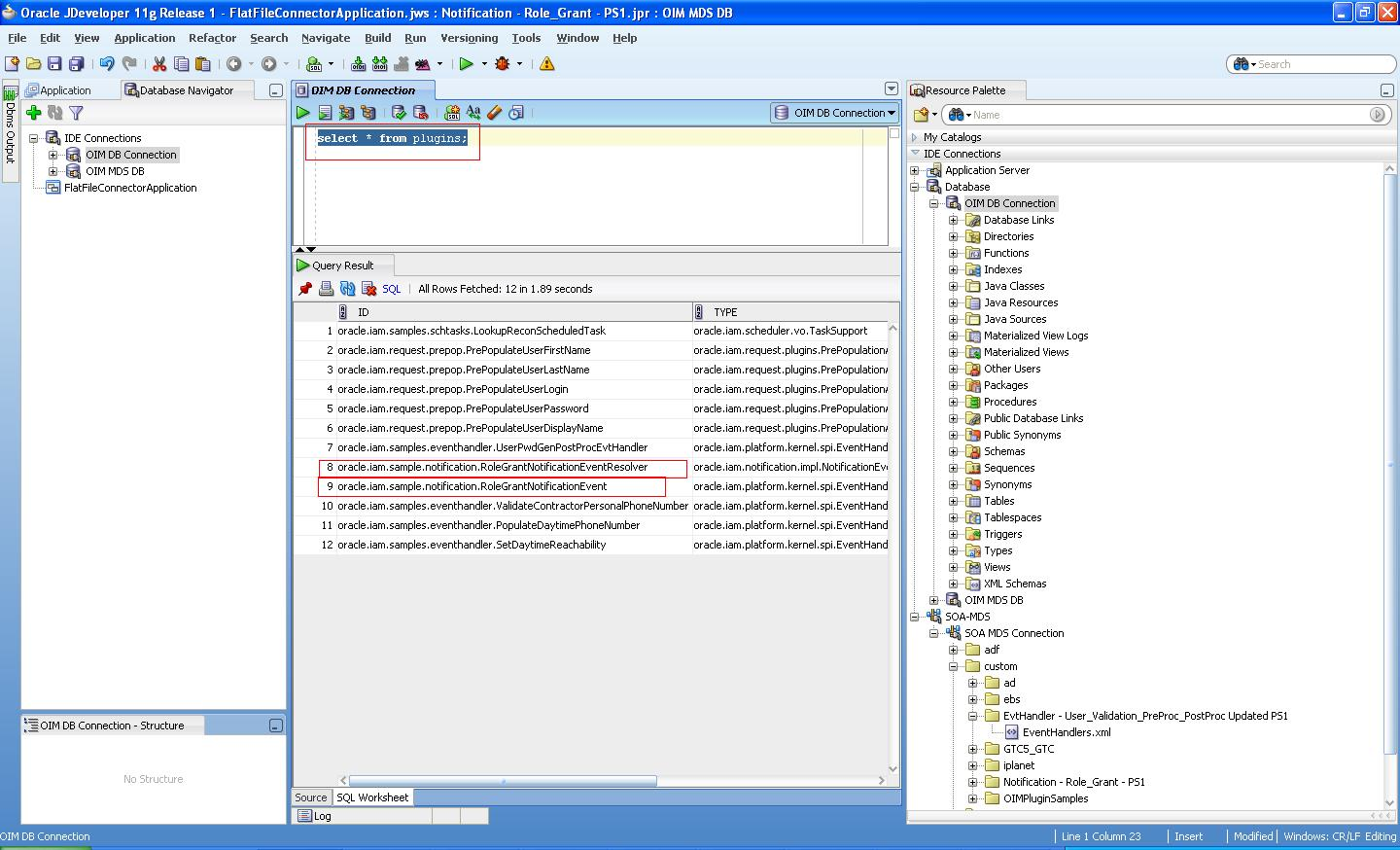
Let’s check plugin.xml under PROJECT-CONTEXT]/config.

There are 2 entries highlighted in RED.

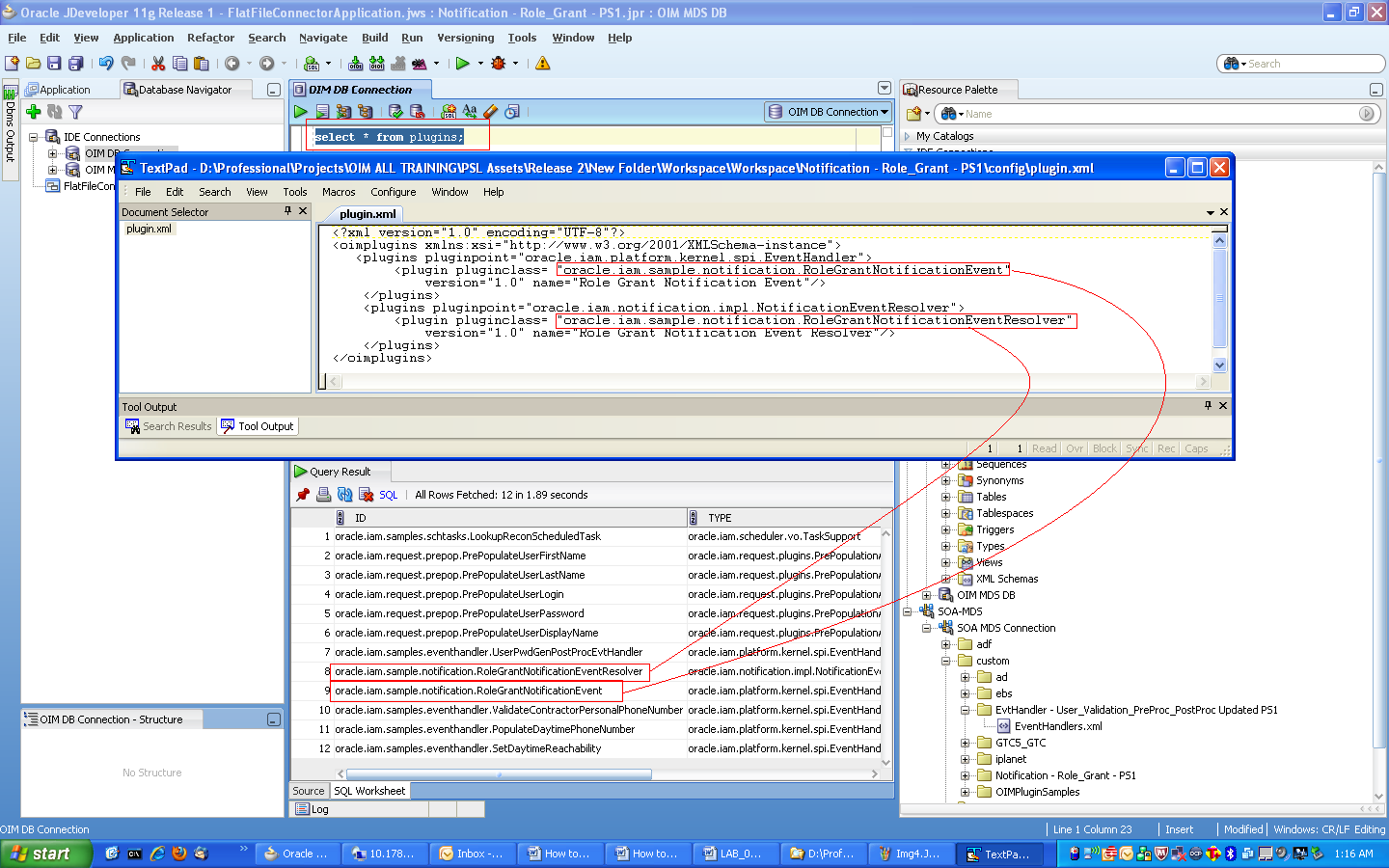


Let’s check Plugin table in OIM DB:

There should be 2 entries highlighted in RED.

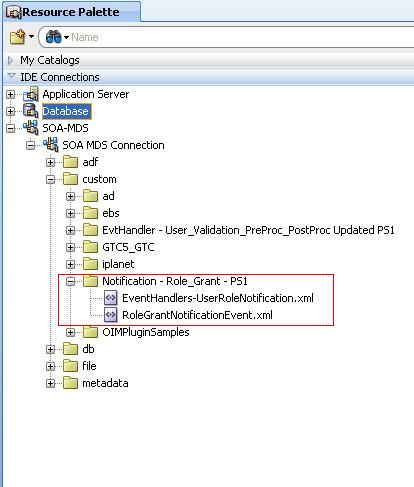


Let’s check the relationship between plugin.xml definition and Plugin table in OIM DB.



* + 1. Verify SOA MDS Repository for Event Handler Definition

Event handler definition files EventHandlers-UserRoleNotification.xml and RoleGrantNotificationEvent.xml under PROJECT-CONTEXT]/config should be seen under SOA-MDS Connection highlighted in Red.



* 1. Create OIM Metadata

Purpose

This step describes the procedure to create following OIM Metadata

* Configure “Email Server” IT Resource
* Modify OOB Generate Password Notification Email Template
* Create RoleGrantedNotificaionTemplate and Associate it with RoleGrantedNotificaitonEvent

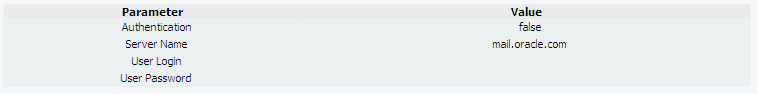
Steps

* + 1. Configure Email Server IT Resource

Note : If this training content is being used by people who do not work for Oracle and therefore do not have Oracle email ids, should go for using a JES (Java Email Server) based mail server installed and configured in the Training VM environment. Lab 1 contains the details about running this particular Email Server and using it with OIM.

Use following details to create Email Server IT Resource.

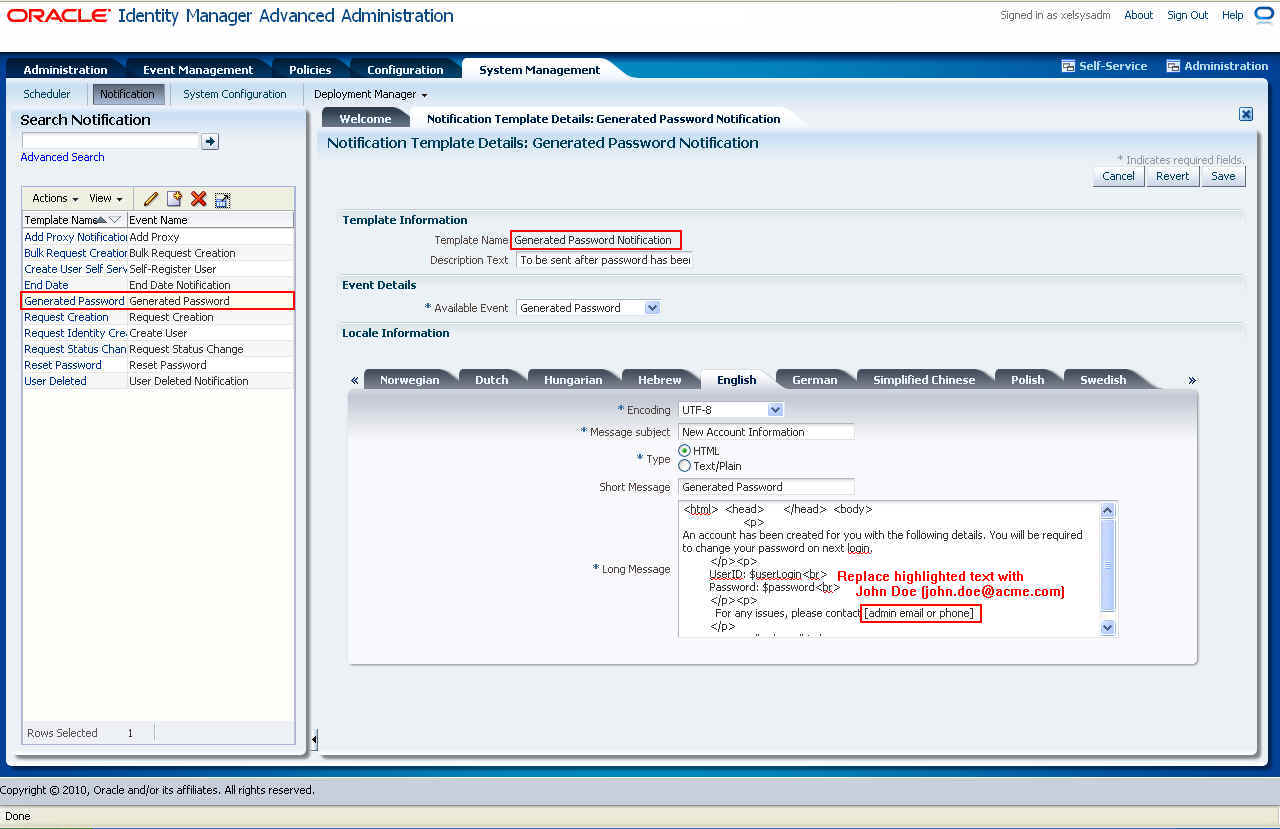




Make sure the e-mail notifications can be sent successfully.

* + 1. Modify OOB Generate Password Notification Email Template

Modify and Save notification template associated with auto-generated password so as to receive custom message as seen in the image below:



Note: The example above uses [john.doe@acme.com](mailto:john.doe@acme.com) as sample and should be replaced with a valid Administrator e-mail address.

* + 1. Create RoleGrantedNotificationTemplate and Associate it with RoleGrantedNotificationEvent

Create Notification template, containing content to be sent in notification for this event, using the Notification UI. The Template would be created in default locale. In this sample, it is English.

Create a custom Notification Template with values as:

\* **Template Name** : RoleGrantedNotificationTemplate

\* **Available Event** : RoleGrantedNotificationEvent

\* **Available Data** : Display\_Name

\* **Encoding** : UTF-8

\* **Message subject**:

User $Display\_Name has been assigned $UGP\_ROLENAME Role

\* **Type** : HTML

\* **Short Message** : Role Granted

\* **Long Message** :

<html>

<head></head>

<body>

<p>

Following user as been assigned role $UGP\_ROLENAME

</p><p>

User Name: $Display\_Name<br>

User ID: $User\_Login<br>

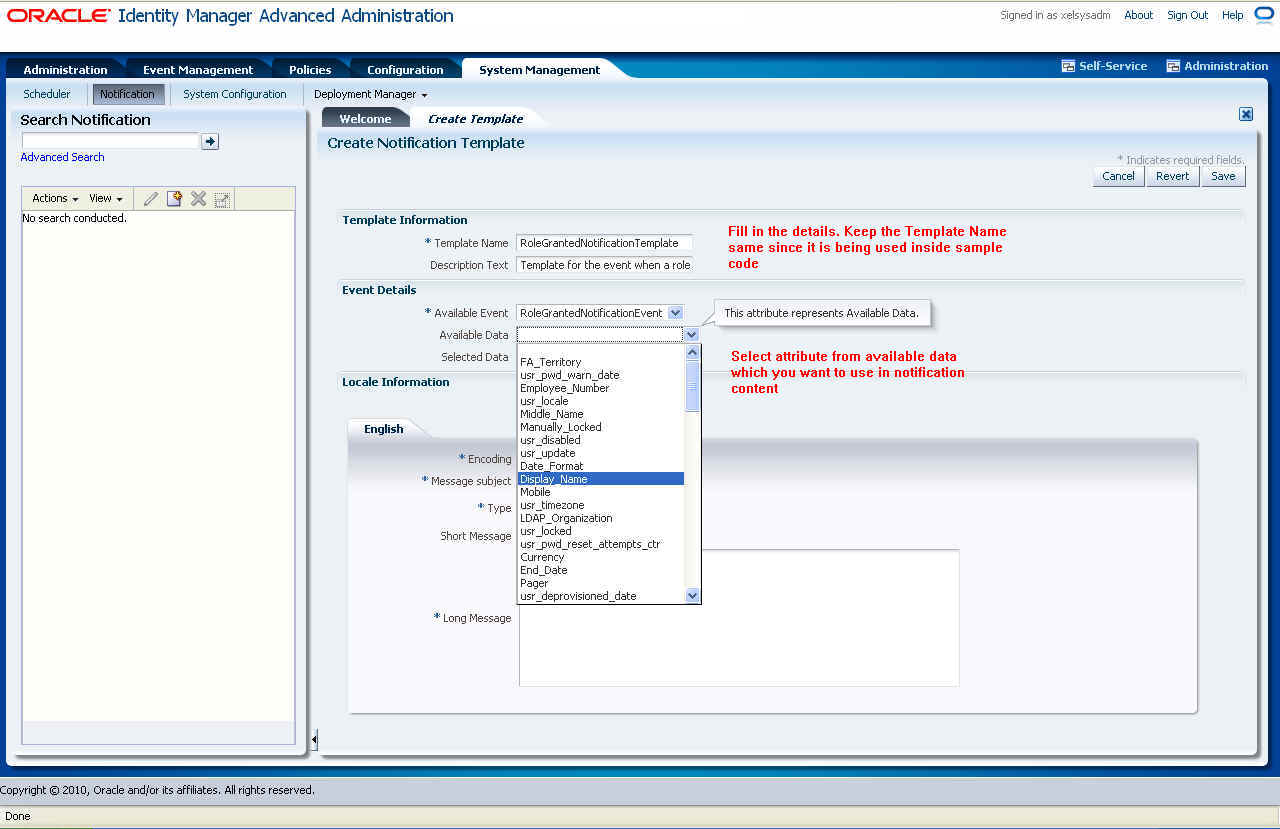
</p><p>

For any issues, please contact John Doe (john.doe@acme.com)

</p>

</body></html>

- Click "Save"



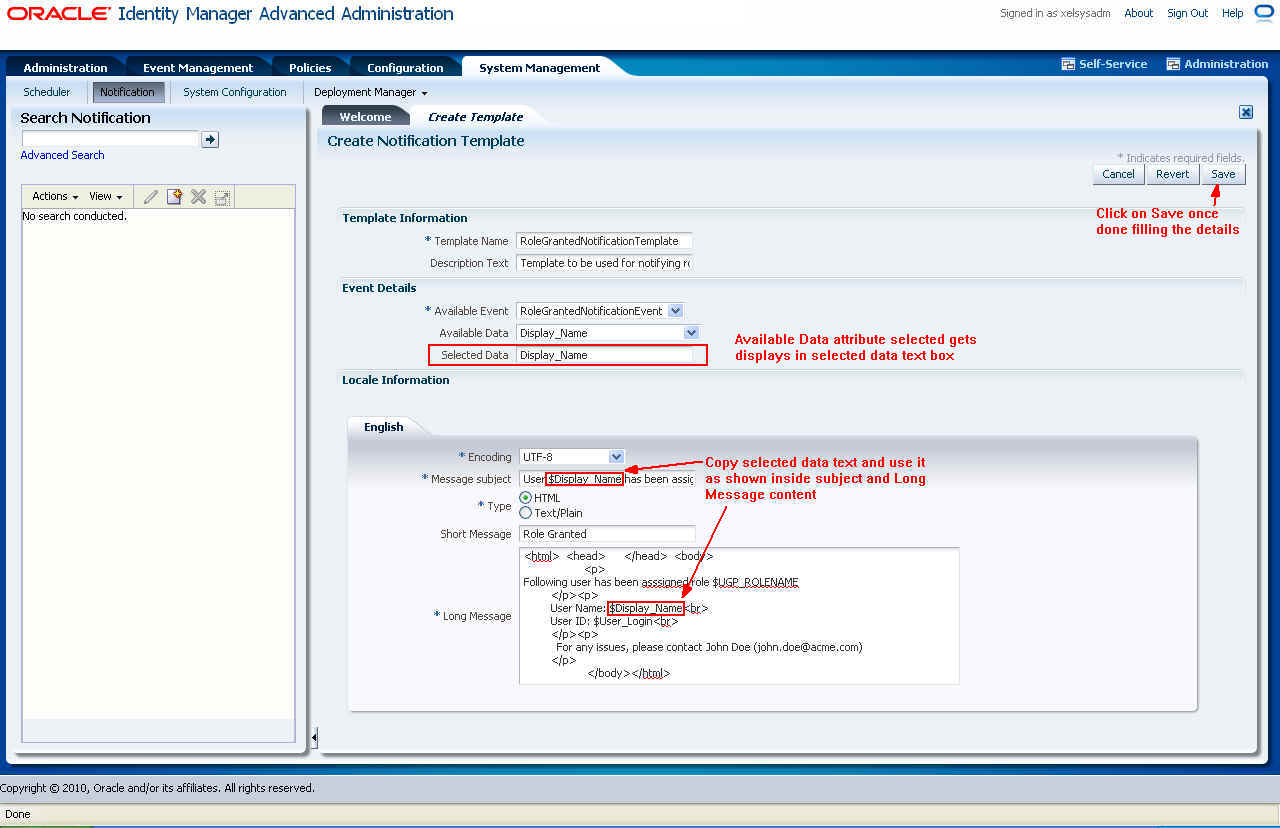


Fig: Screenshot showing how to select available data and use it inside template.

**[NOTES:**

* + - * 1. Keep template Name as ‘RoleGrantedNotificationTemplate’ as it is getting used inside sample. In case you want to use a different name, please modify following line inside RoleGrantNotificationEvent.java:

//Set template name to be used to send notification for this event event.setTemplateName("RoleGrantedNotificationTemplate");

* + - * 1. ‘UGP\_ROLENAME’ attribute used in the template is not available in available data drop-down but is used explicitly in the notification resolver class for role name. To change it, please modify following line inside RoleGrantNotificationEventResolver.java:

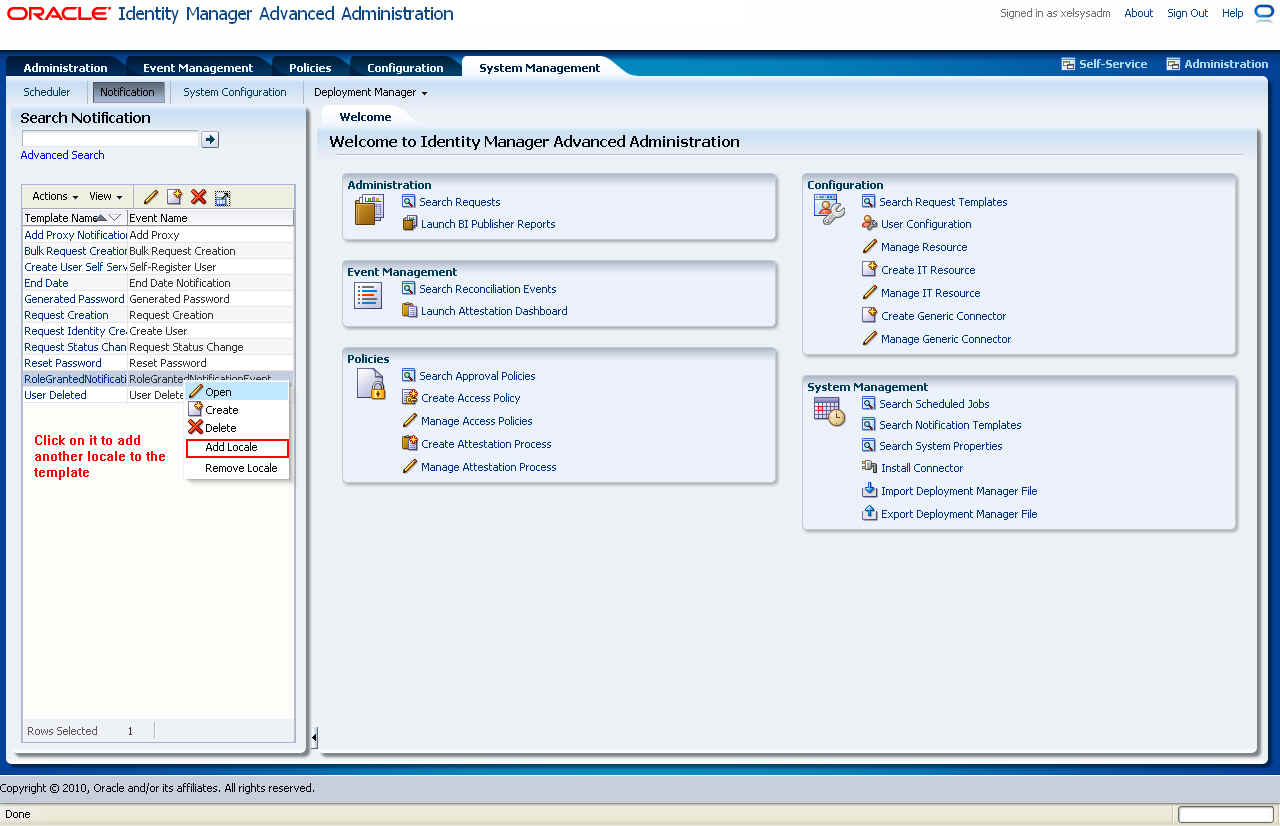
resolvedData.put("UGP\_ROLENAME", role.getName());

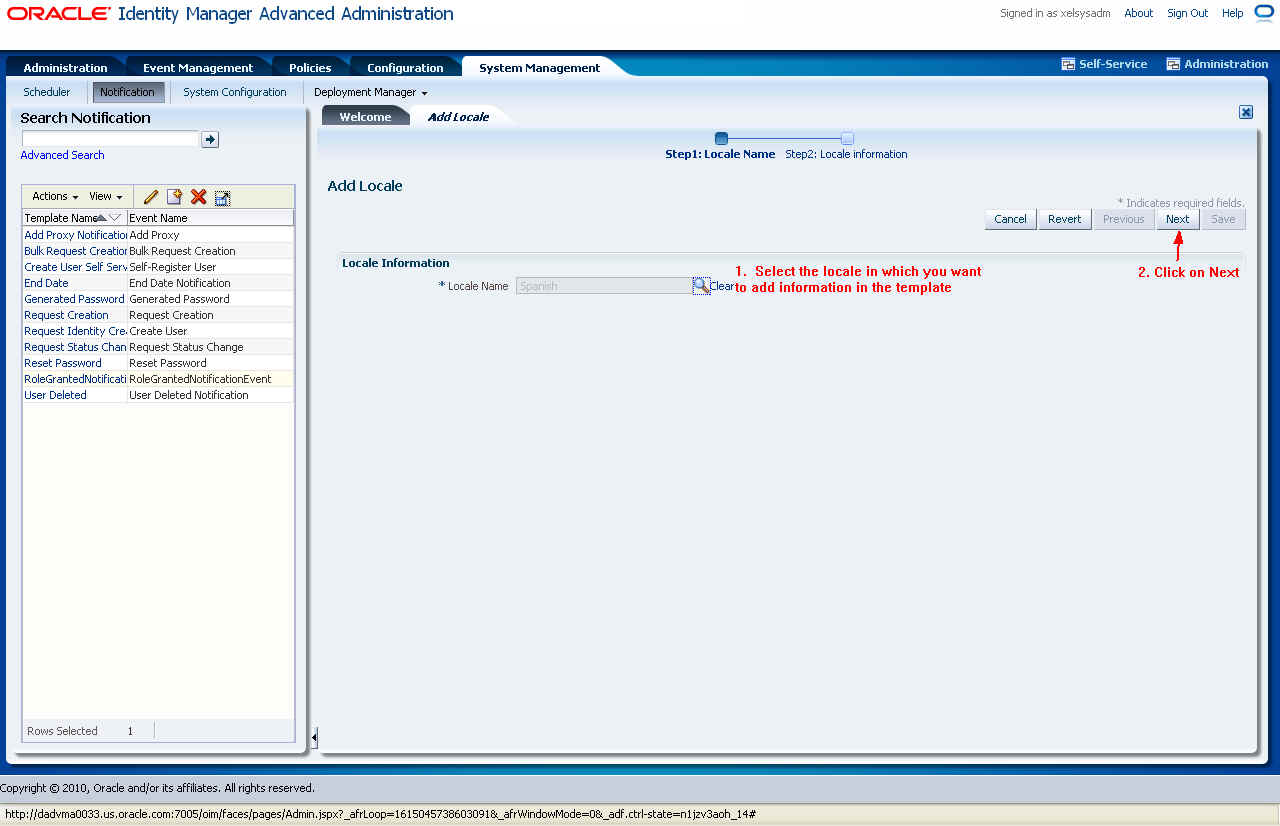
* + - * 1. Add a locale in the above created template if you want the notification to be sent in some other locale other than the default one.

Click on “Add Locale” to add locale to the corresponding notification template.

Select the locale in which you are interested in sending notification

Fill in details for this locale in the template



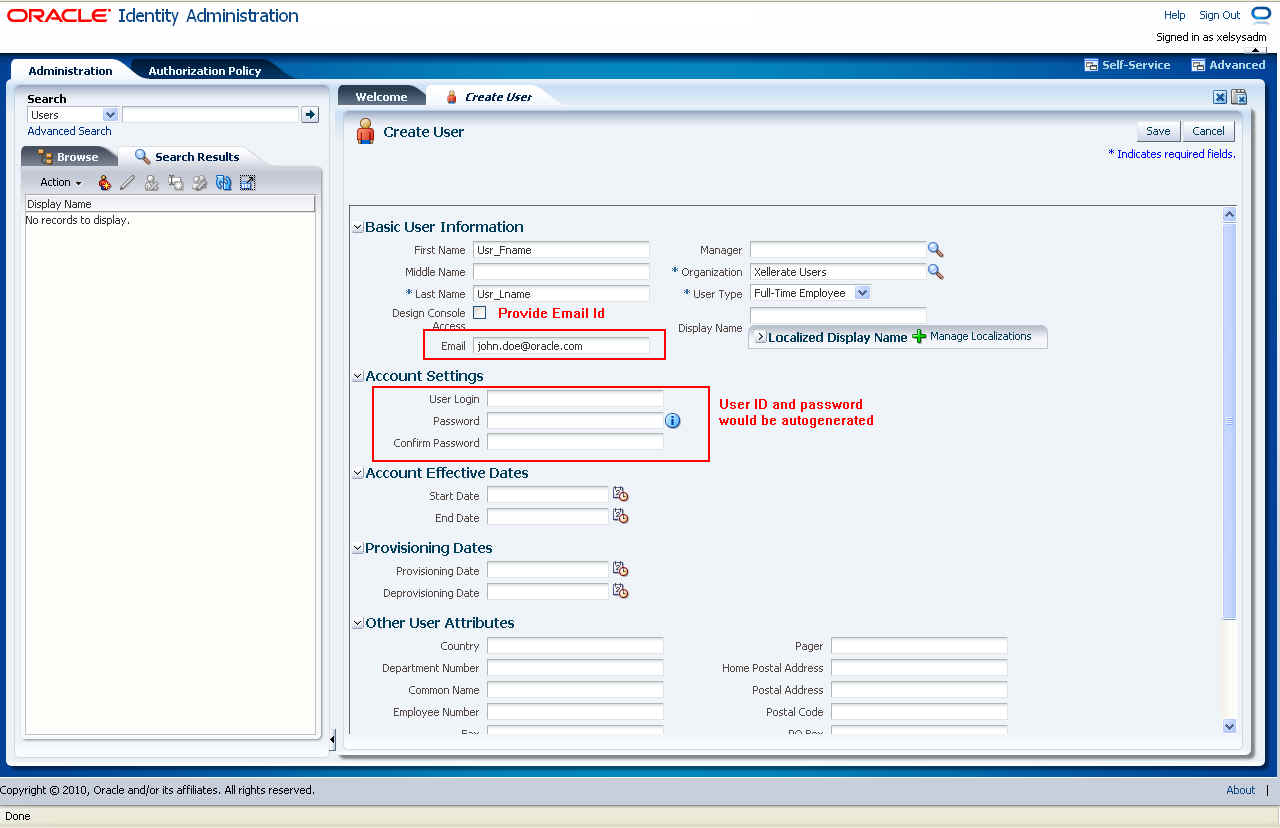


* 1. Test Email Notification During User Creation

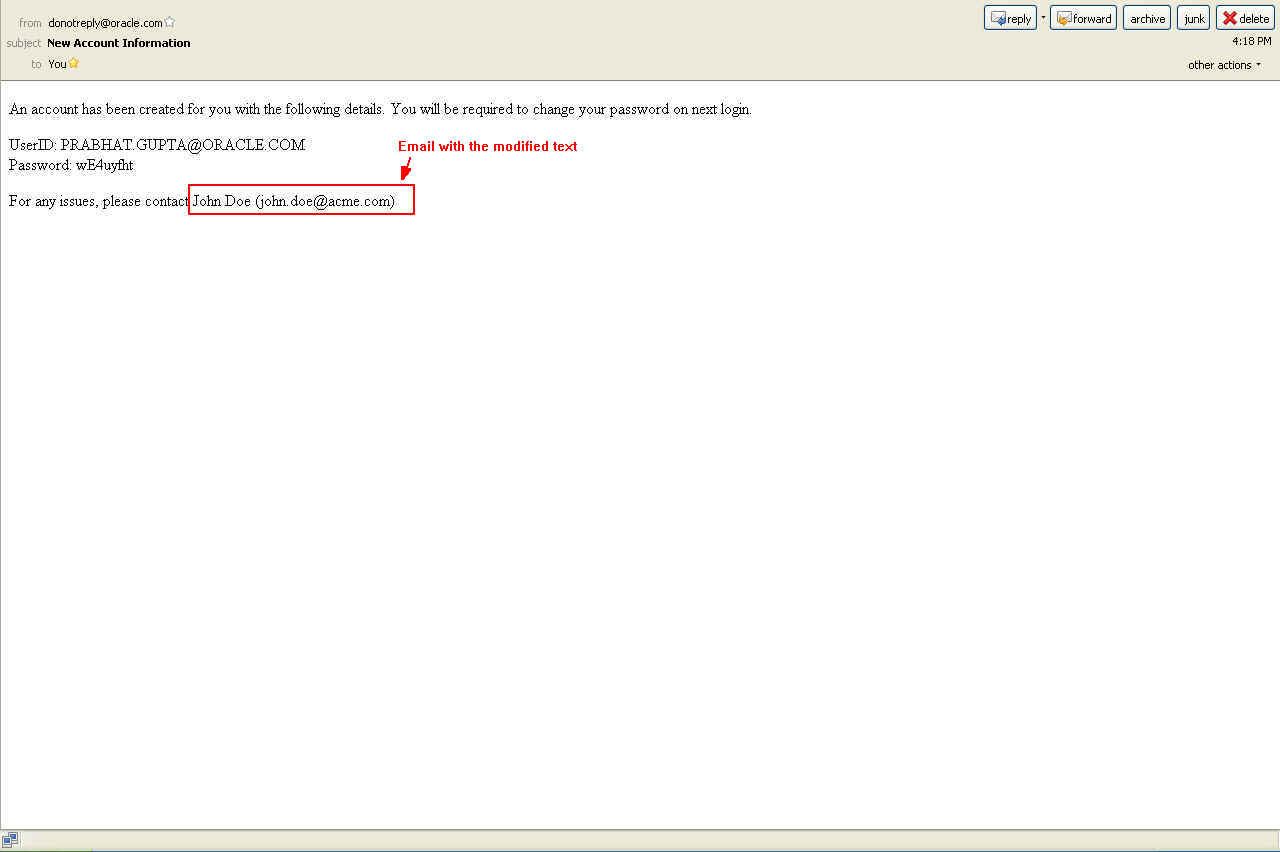
This section describes the procedure for testing the “Generated Password Notification” template customization.

Use the following steps to test the customization:

1. Log into OIM Administrative console and navigate to “Create User” page.
2. Provide valid email ID so that user can receive notification.
3. Do not provide username/password so as to have them auto-generated.



1. Check email account that was provided in Step 2 for the email notification as seen below.



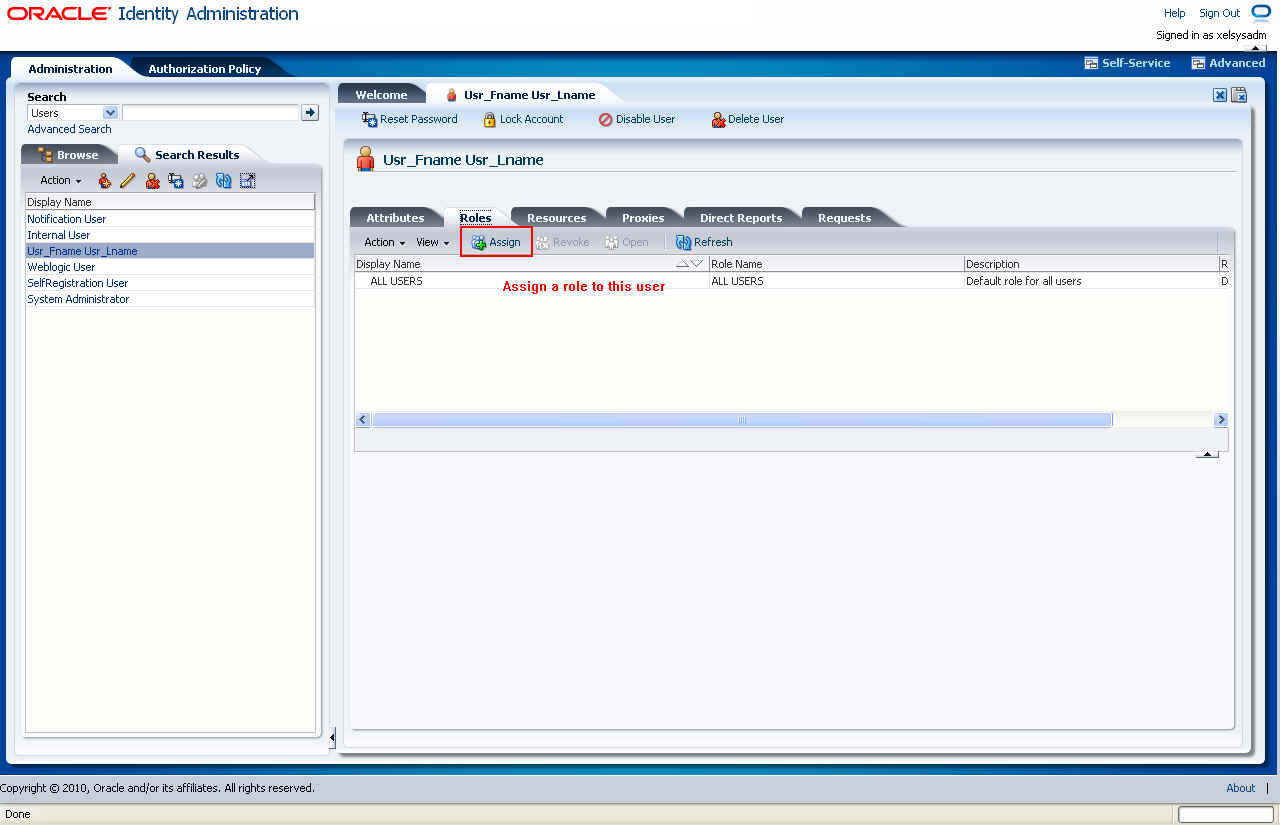
* 1. Test Email Notification During Role Assignment

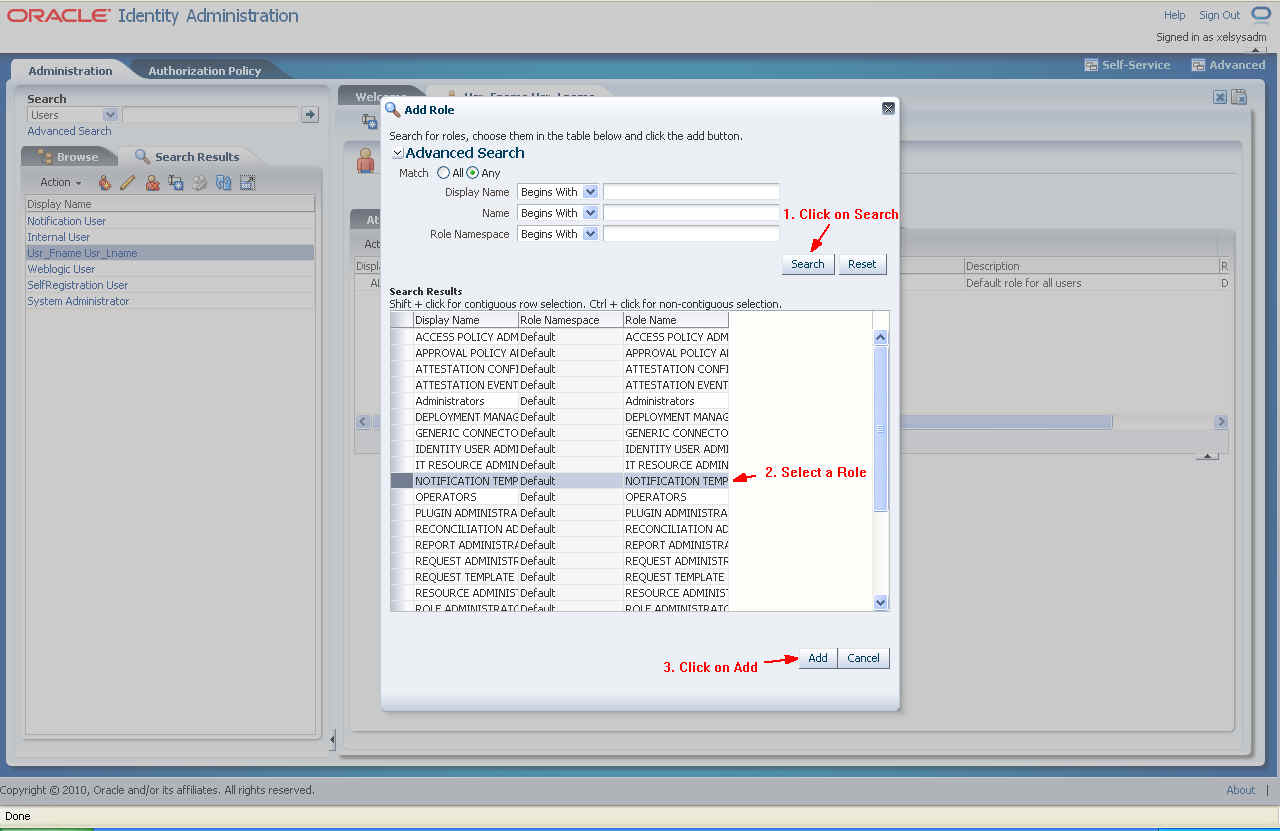
The sample can be run on the OIM installation on the same host.

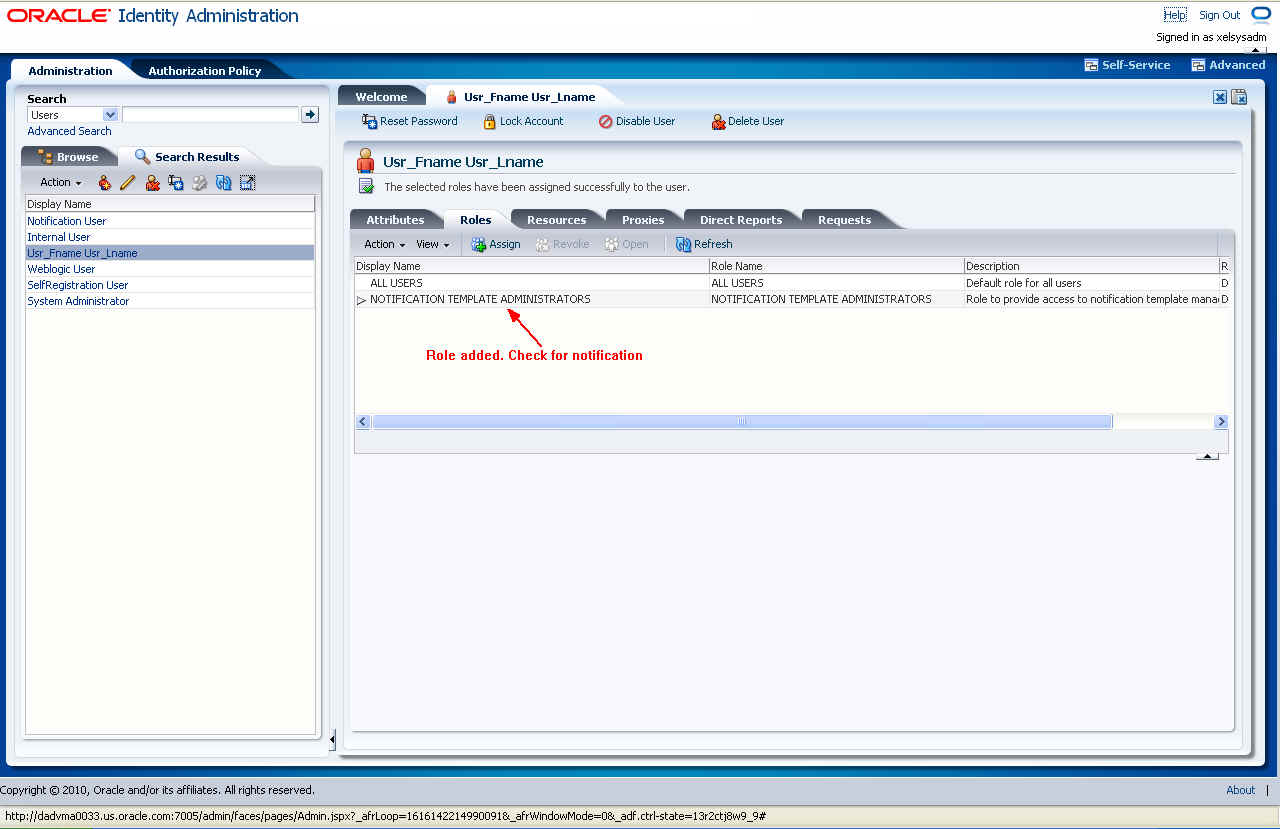
1. Access the OIM Administration Console
2. Login to Administration console with valid credentials
3. Create a User by providing the necessary attribute values. Save the User create operation.

Note: For testing purpose provide your valid E-Mail ID to receive e-mail.

1. Modify the user by assigning a Role.







1. Check the E-mail notification being sent to the E-Mail ID that was provided on User creation.

