Oracle Application Express: Administration

Activity Guide

D56361GC10
Edition 1.0
June 2011
D73409

Author

Salome Clement

Technical Contributors and Reviewers

Veerabhadra Rao Putrevu, Manish Pawar, Chaitanya Koratamaddi, Terri Jennings, Marcie Young, Klaus Husermann, Joel Kallman, Wayne Abbott, James Spiller, Iloon Ellen, Jason Straub, Matthew Gregory

This book was published using: Oracle Tutor

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Practices for Lesson 1: Course Overview

Chapter 1

Practice 1-1: Practices Overview

There are no hands-on practices for this lesson. A few guidelines for the rest of the practices are listed here.

- You will be assigned a machine by your instructor to perform all the practices.
- You can access all the lab, code example, and solution files from the **`/home/oracle/labs`** folder.
- The software to be installed in located under **`/stage`** directory.

Practices for Lesson 2: Introduction to Application Express

Chapter 2

Practice 2: Introduction to Application Express

Overview

This practice consists of a series of quiz questions designed to check your understanding of the key concepts discussed in this lesson. You can attempt these questions as given below. To access an html format of the quiz, open the `quiz.html` file from the `/home/oracle/labs/files/quiz.html` directory or click here.

Assumptions

None

Questions

a. Oracle Application Express is a tool used to deploy web-based applications created using `mod_plsql`.
   - o True
   - o False

b. Which of the following statements are true regarding Oracle Application Express?
   1) It allows you to create applications and application components declaratively.
   2) It allows you to create only applications that should be deployed to the web.
   3) It provides a graphical interface to perform administration tasks.
   4) It requires a separate client-side software installation.
   5) It has a simple installation but a complex configuration.

c. Which of the following components from the Oracle Application Express architecture is responsible for rendering the application webpages?
   1) Application schema
   2) Metadata repository
   3) Application Express engine
   4) Web server
   5) Web browser

d. Which of the following statements describes a workspace in Oracle Application Express?
   1) The area within Oracle Application Express from where you can administer all the applications created using Oracle Application Express.
   2) The area you log in to to create, maintain, and deploy your applications in Oracle Application Express.
   3) A private database where you can store data and metadata related to your Oracle Application Express applications.

e. The workspace from which you configure, administer, and monitor an entire Oracle Application Express instance is called _____.

f. Match the Oracle Application Express roles to their correct descriptions.

1) I can only view applications created in Oracle Application Express.
2) I can create applications as well as create users in the workspace.
3) I can create applications and database objects.
4) I create workspaces and workspace administrators.

a) Instance Administrator
b) Workspace Administrator
c) Developer
d) End User

g. You want to create a page to administer database objects. Which of the following components of the Application Express development interface will you use?

1) SQL Workshop
2) Administration
3) Administration Services
4) Application Builder
5) Team Development

Practice Solutions 2: Introduction to Application Express

Overview

This practice solution consists of the answers to the quiz questions designed to check your understanding of the key concepts discussed in this lesson. The answers are given in bold.

Assumptions

None

Questions

a. Oracle Application Express is a tool used to deploy web-based applications created using `mod_plsql`.
   - **False:** Oracle Application Express is used to create, maintain, as well as deploy applications.

b. Which of the following statements are true regarding Oracle Application Express?
   1) **It allows you to create applications and application components declaratively.**
   2) It allows you to create only applications that should be deployed to the web.
   3) **It provides a graphical interface to perform administration tasks.**
   4) It requires a separate client-side software installation.
   5) It has a simple installation but a complex configuration.

c. Which of the following components from the Oracle Application Express architecture is responsible for rendering the application webpages?
   1) Application schema
   2) Metadata repository
   3) **Application Express engine**
   4) Web server
   5) Web browser

d. Which of the following statements describes a workspace in Oracle Application Express?
   1) The area within Oracle Application Express from where you can administer all the applications created using Oracle Application Express.
   2) **The area you log in to to create, maintain, and deploy your applications in Oracle Application Express.**
   3) A private database where you can store data and metadata related to your Oracle Application Express applications.

e. The workspace from which you configure, administer, and monitor an entire Oracle Application Express instance is called **an internal workspace** .

f. Match the Oracle Application Express roles to their correct descriptions.
   1) I can only view applications created in Oracle Application Express.
   2) I can create applications as well as create users in the workspace.
   3) I can create applications and database objects.
   4) I create workspaces and workspace administrators.

End User
Workspace Administrator
Developer
Instance Administrator

g. You want to create a page to administer database objects. Which of the following components of the Application Express development interface will you use?
   1) SQL Workshop
   2) Administration
   3) Administration Services
   4) **Application Builder**
   5) Team Development

Practices for Lesson 3: Installing Application Express

Chapter 3

Practice 3: Installing Application Express

Overview

In this practice, you will verify some system requirements and then install APEX in full development environment mode. You will also configure the users required for proper functioning of APEX.

Assumptions

You have been assigned a machine by your instructor to perform these practices.

Tasks

a. Verify that the `SYSTEM` tablespace has at least 100 MB of free space.
b. Verify that an `APEX` tablespace is created and has at least 185 MB of free space.
c. Verify that Oracle XML Database is installed.
d. Install APEX in full development environment.
e. Locate and view the installation log to confirm that the installation was successful.
f. Query the `DBA_REGISTRY` table to confirm that the installation is valid.
g. Review the database users created.
h. Change the password for Admin user to Welcome1.
i. Unlock `APEX_PUBLIC_USER` user and set its password to Welcome1.
j. Use the script `lab_03_j1` to grant connect privileges to the `APEX_040000` user.
k. Grant the `APEX_040000` user privileges to use the Oracle Text URL datastore.
l. Change the number of `JOB_QUEUE_PROCESSES` to 20.

Practice Solutions 3: Installing Application Express

Overview

In these practice solutions, the steps to verify some system requirements, install APEX in full development environment mode, and configure the users required for proper functioning of APEX are provided.

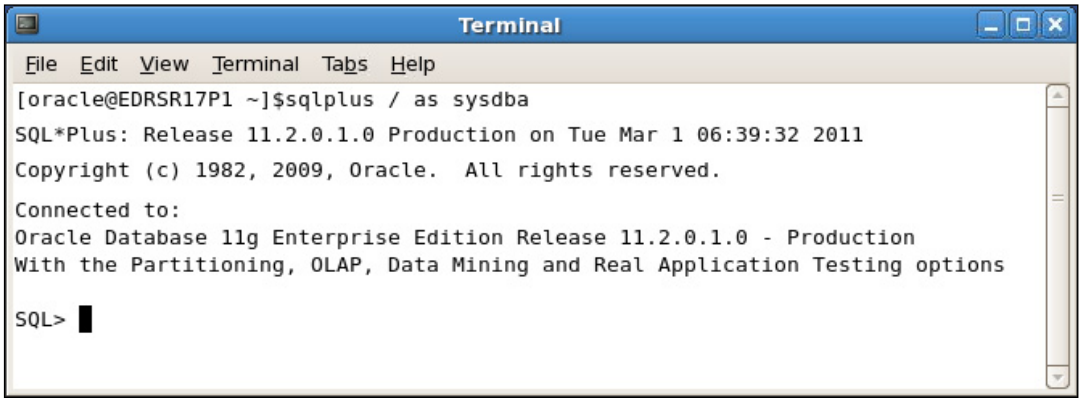
Assumptions

You have been assigned a machine by your instructor to perform these practices.

Solutions

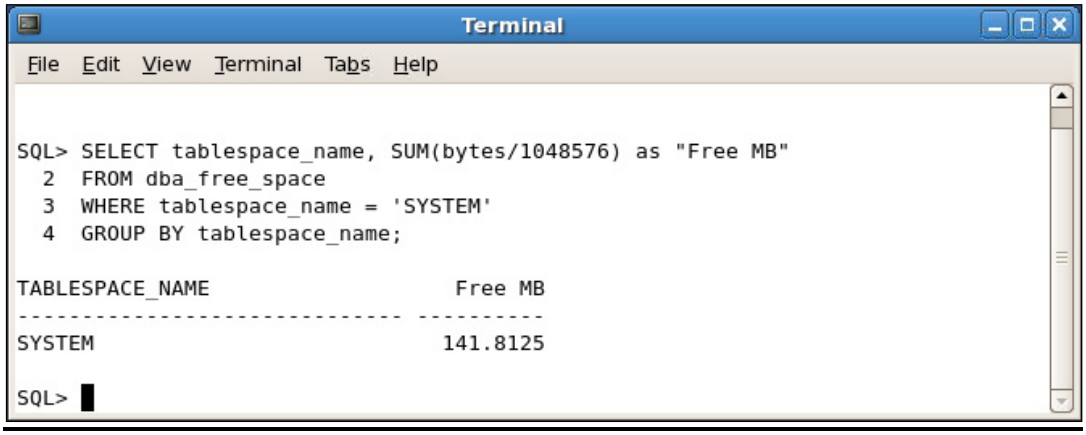
a. Verify that the `SYSTEM` tablespace has at least 100 MB of free space.

1) Open a terminal window. To connect to SQL*Plus as sysdba, enter **`sqlplus / as sysdba`** and press Enter.



2) Enter the following query.

```
SELECT tablespace_name, SUM(bytes/1048576)  as "Free MB"
FROM dba_free_space
WHERE tablespace_name='SYSTEM'
GROUP BY tablespace_name;
```



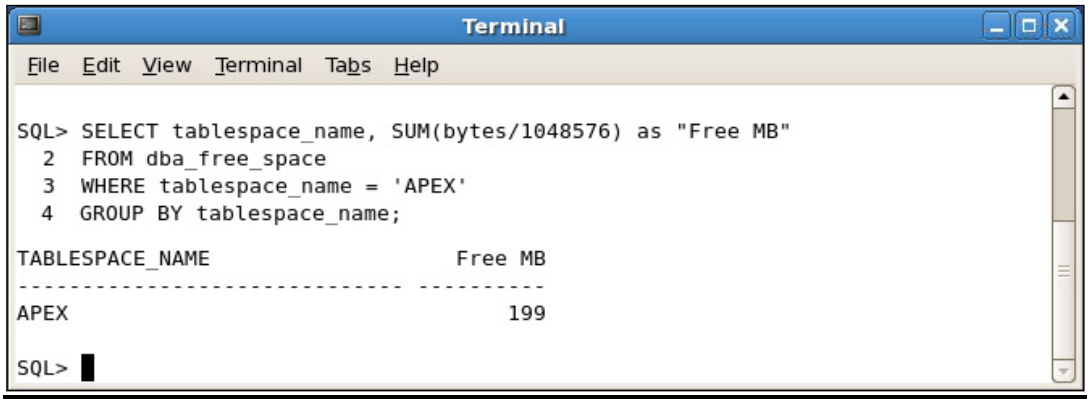
The `SYSTEM` tablespace has approximately 141 MB of free space.

Note: The actual MB value might differ for you.

b. Verify that an `APEX` tablespace is created and has at least 185 MB of free space.

1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and enter the following query.

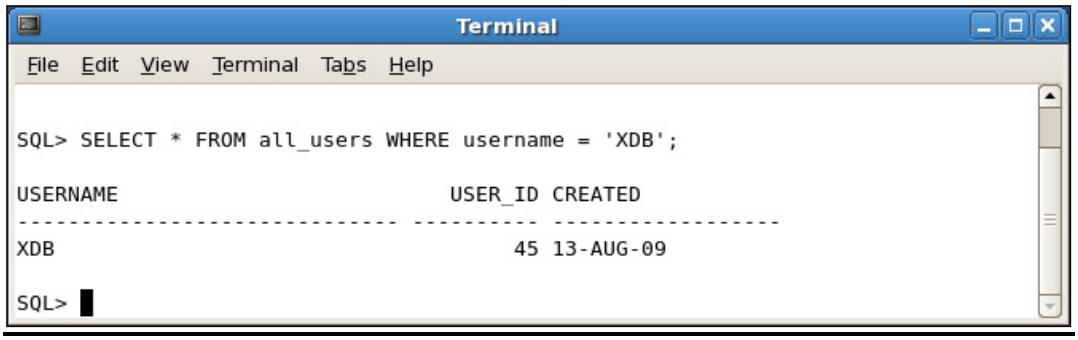
```
SELECT tablespace_name, SUM(bytes/1048576)  as "Free MB"
FROM dba_free_space
WHERE tablespace_name='APEX'
GROUP BY tablespace_name;
```



c. Verify that Oracle XML Database is installed.

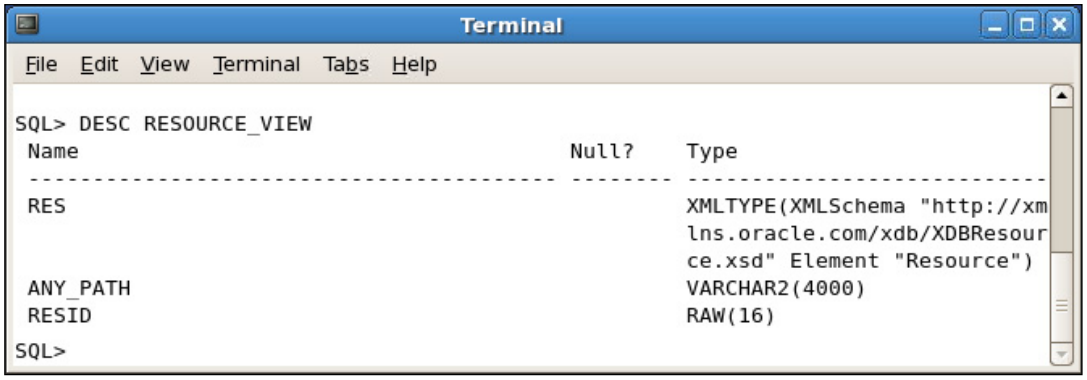
1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and enter the following query.

```
SELECT * FROM all_users WHERE username = 'XDB';
```



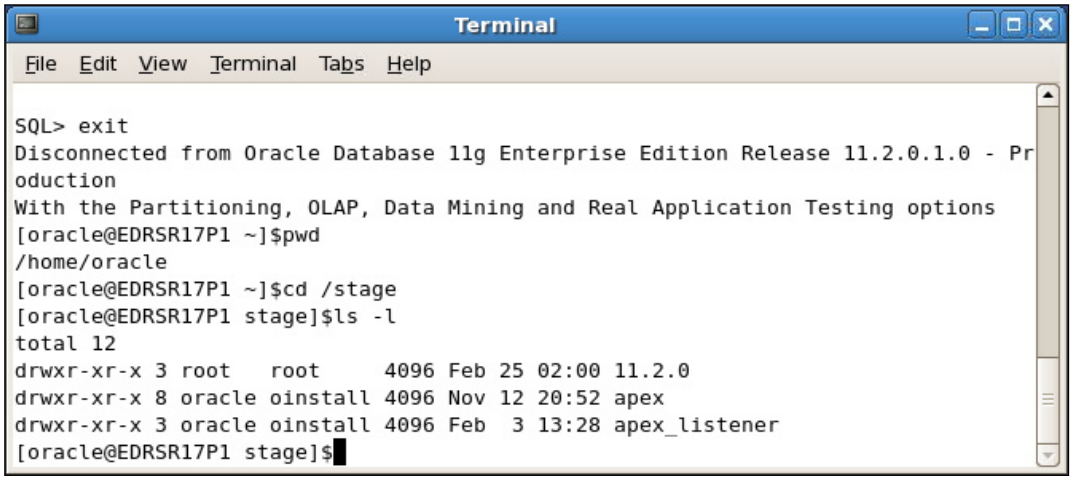
2) If the above query returns a result, enter the following command:

```
DESC RESOURCE_VIEW
```

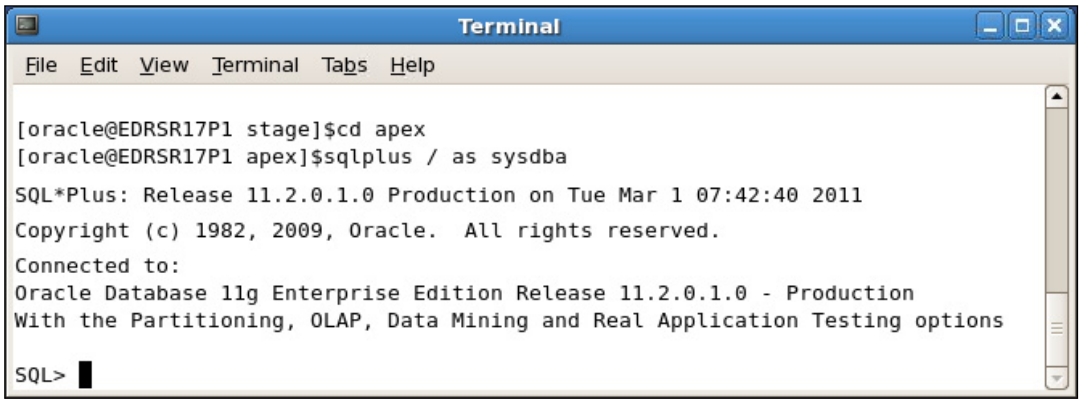


d. Install APEX in full development environment.

1) If you are already connected to SQL*Plus, enter **exit** to return to the terminal prompt.
2) To identify the current working directory, enter **pwd** and press Enter.
3) To confirm if the apex directory has write privileges, enter **cd /stage** and press Enter. Next, enter **ls -l** and press Enter.



4) To set the current working directory to the apex folder, enter **cd apex** and press Enter.
5) To connect to SQL*Plus as sysdba, enter **sqlplus / as sysdba** and press Enter.

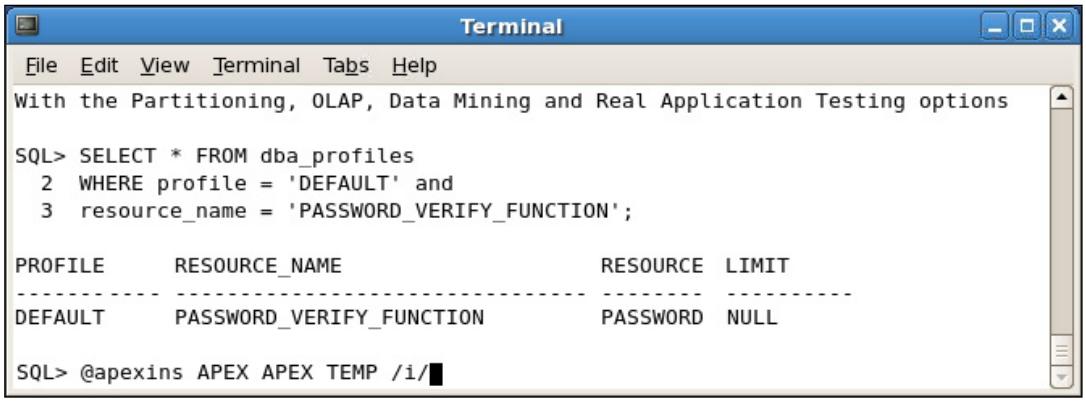


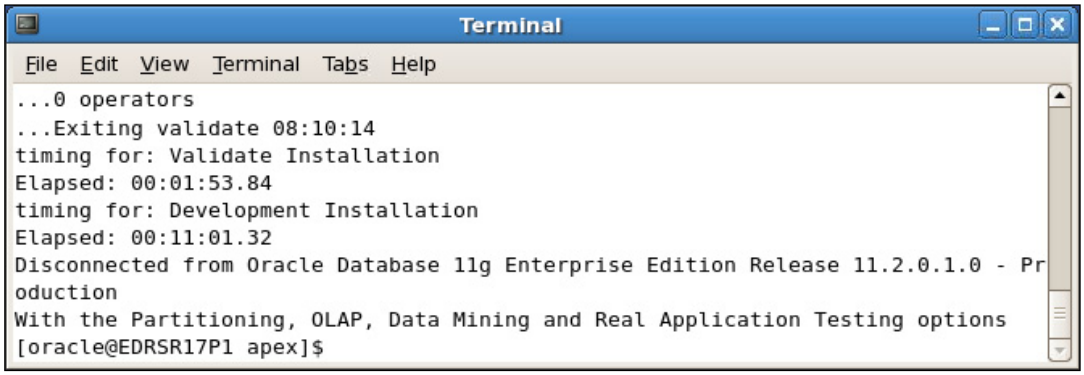
6) Check if any password complexity rules exist for the default profile by entering the following query

```
SELECT * FROM dba_profiles
WHERE profile ='DEFAULT' and
resource_name = 'PASSWORD_VERIFY_FUNCTION';
```

7) Now, install APEX in full development environment by running the `apexins.sql` file.

```
@apexins APEX APEX TEMP /i/
```

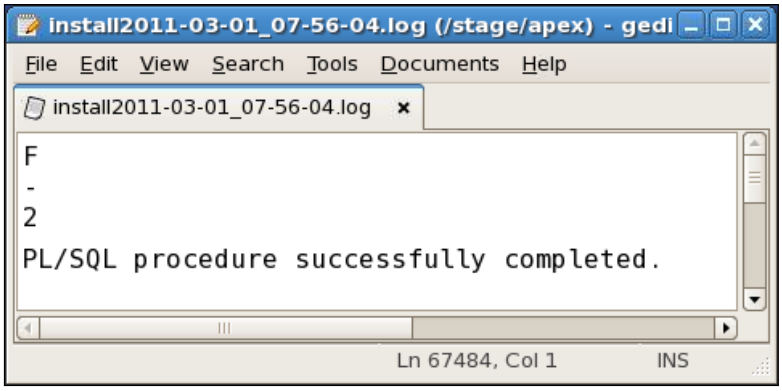




Note: If you receive a "file not found" or "unable to read/open file" error, then ensure that you connected to SQL*Plus from the `/stage/apex` directory.

e. Locate and view the installation log to confirm that the installation was successful.

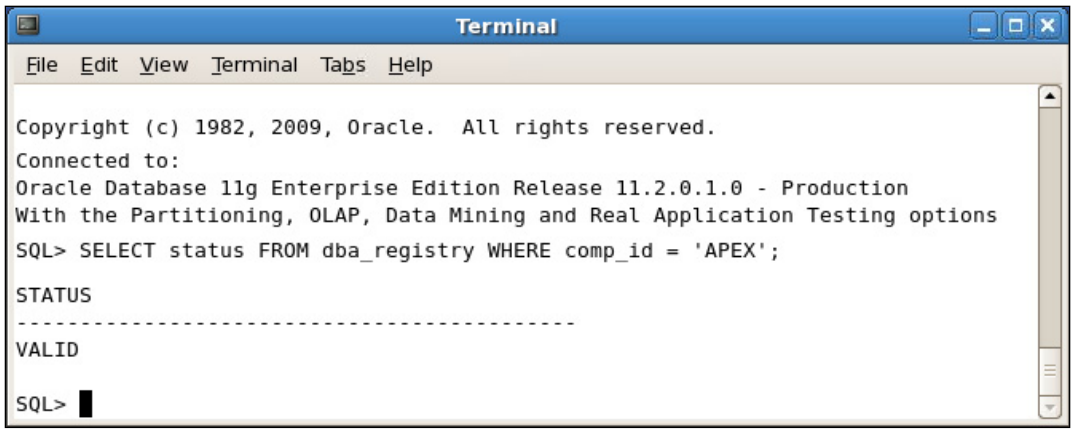
1) Open a file browser and navigate to `/stage/apex`. Locate the log file and open it to view its contents. You should see a success message stating that the installation was successful.



f. Query the `DBA_REGISTRY` table to confirm that the installation is valid.

1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and enter the following query.

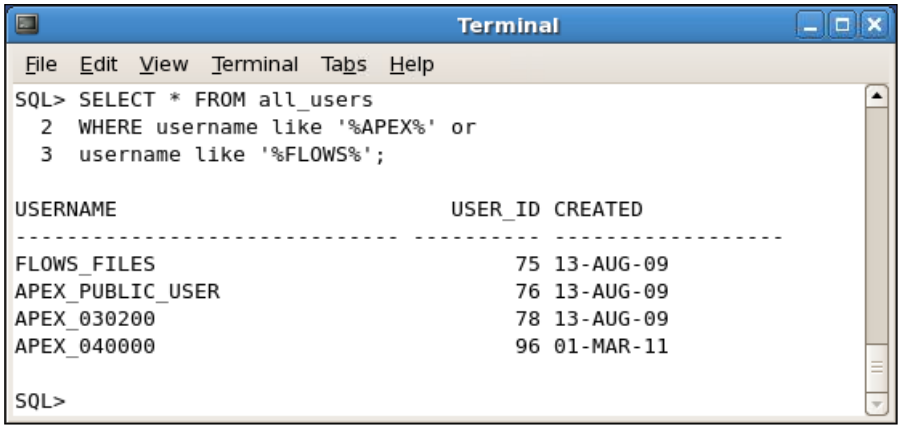
```
SELECT status FROM dba_registry WHERE comp_id = 'APEX';
```



g. Review the database users that get created.

1) To view the APEX users, ensure that in a terminal window you are connected to SQL*Plus as sysdba and enter the following query.

```
SELECT * from all_users
WHERE username LIKE '%APEX%' OR
username LIKE '%FLOWS%';
```

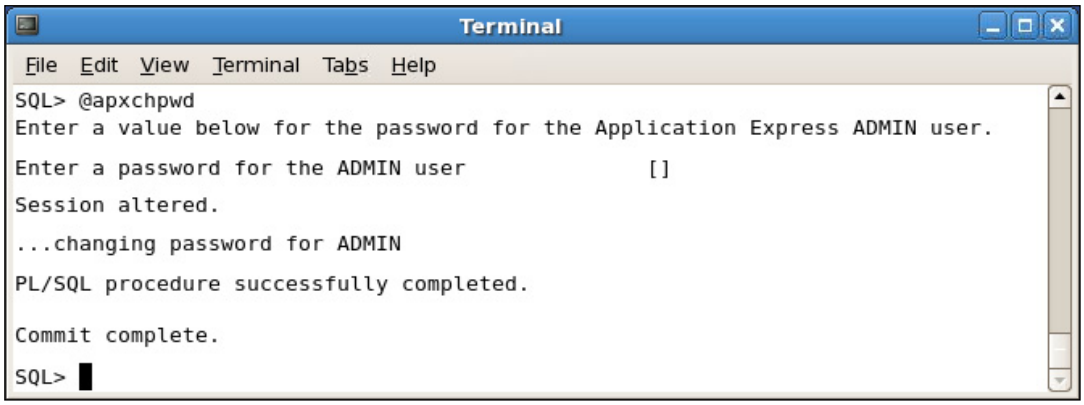


h. Change password for Admin user to Welcome1.

1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and run the `apxchpwd.sql` file.

```
@apxchpwd.sql
```

2) When prompted, enter **`Welcome1`** for password.

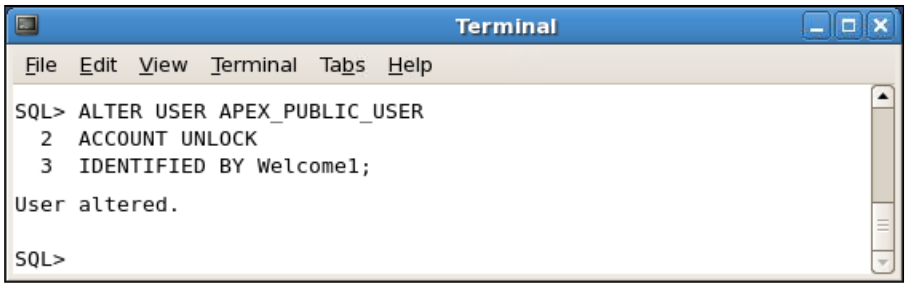


Note: If you receive a "file not found" or "unable to read/open file" error, then ensure that you connected to SQL*Plus from the `/stage/apex` directory.

i. Unlock `APEX_PUBLIC_USER` user and set its password to Welcome1.

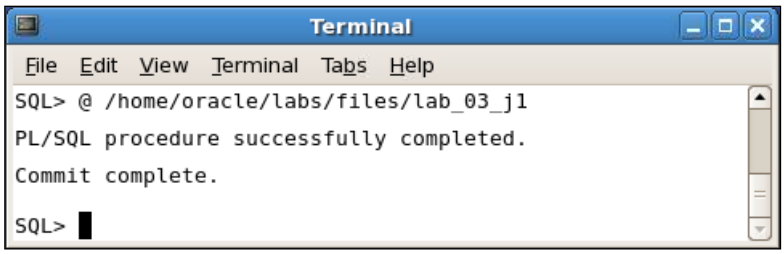
1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and enter the following command.

```
ALTER USER APEX_PUBLIC_USER ACCOUNT UNLOCK
IDENTIFIED BY Welcome1
```



j. Use the script `lab_03_j1` to grant connect privileges to the `APEX_040000` user.

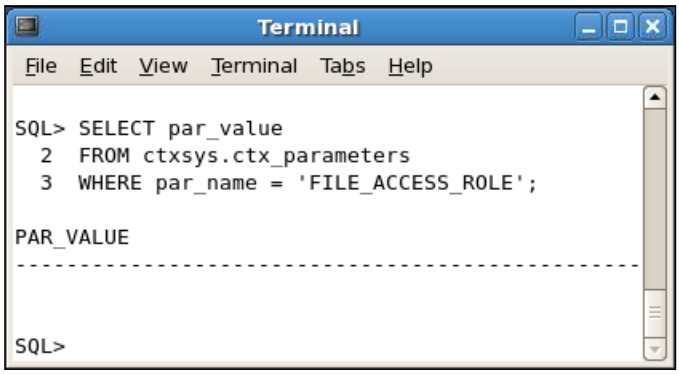
1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and run the `lab_03_j1` script file.



k. Grant the APEX_040000 user privileges to use the Oracle Text URL datastore.

1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and enter the following query to identify if a role to access Oracle Text URL datastore exists.

```
SELECT par_value
FROM ctxsys.ctx_parameters
WHERE par_name = 'FILE_ACCESS_ROLE';
```



2) Create a role called APEX_URL_DATASTORE_ROLE.

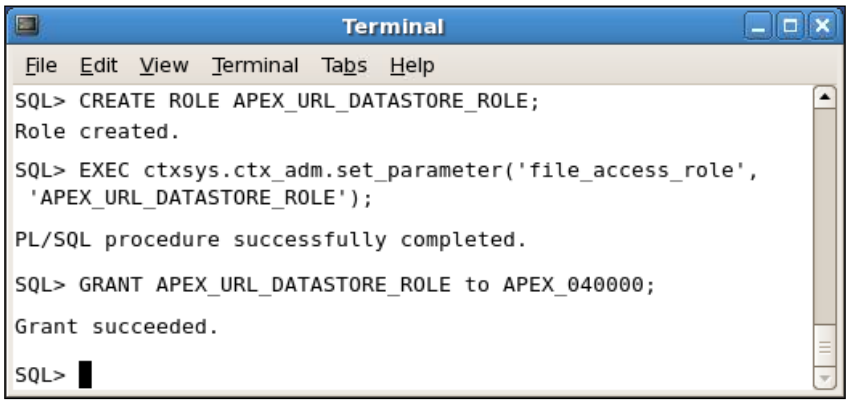
```
CREATE ROLE APEX_URL_DATASTORE_ROLE;
```

3) Add the privilege for accessing the URL datastore to the new role.

```
EXEC ctxsys.ctx_adm.set_parameter
('file_access_role', 'APEX_URL_DATASTORE_ROLE');
```

4) Grant the newly created role to APEX_040000.

```
GRANT APEX_URL_DATASTORE_ROLE to APEX_040000;
```



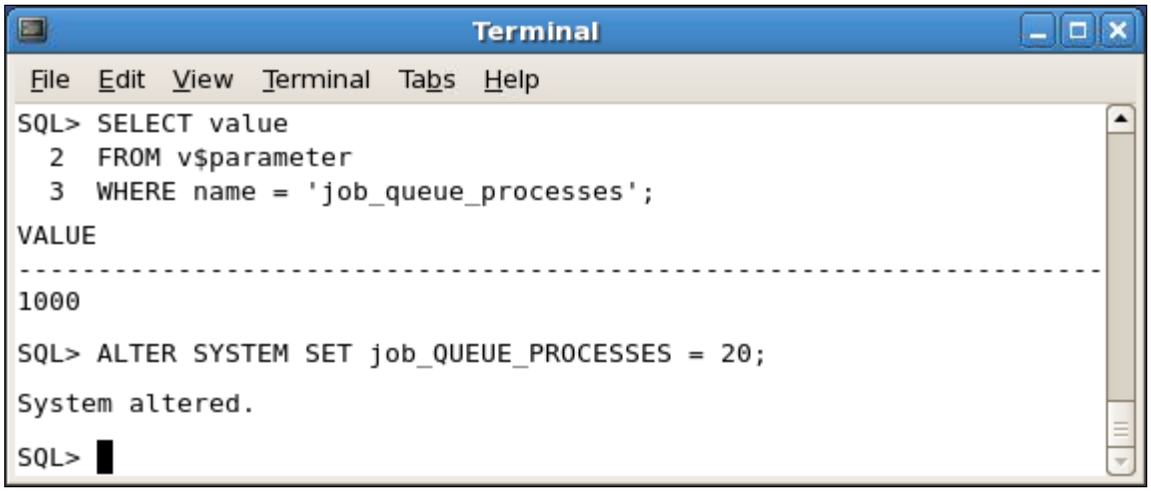
l. View the current value for the JOB_QUEUE_PROCESSES parameter and change the number of JOB_QUEUE_PROCESSES to 20.

1) In a terminal window, ensure that you are connected to SQL*Plus as sysdba and enter the following query.

```
SELECT VALUE
FROM v$parameter
WHERE NAME = 'job_queue_processes';
```

2) To set the number of JOB_QUEUE_PROCESSES to 20, enter the following command.

```
ALTER SYSTEM SET JOB_QUEUE_PROCESSES = 20;
```



Practices for Lesson 4: Installing and Configuring the Oracle APEX Listener

Chapter 4

Practice 4: Installing and Configuring the Oracle APEX Listener

Overview

In this practice, you will deploy APEX and APEX images to the WebLogic Server application server. You will create the WebLogic Server users and roles required to access APEX Listener. Finally, you will configure APEX Listener.

Assumptions

You have completed the previous practice of installing APEX in full development mode and configured the APEX accounts.

Tasks

a. Use a Java JAR command and create a WAR file named `i` for the Application Express images.
b. Deploy the `apex.war` file to the WebLogic Sever.
c. Deploy Application Express images WAR file to the WebLogic Server.
d. Create an administrator WebLogic Server user and an Admin role.
e. Assign the Admin role to the administrator user.
f. Create a manager WebLogic server user and a Manager role.
g. Assign the Manager role to the manager user.
h. Access the APEX Listener configuration interface and create a database connection. Apply the configuration and confirm that the Application Express login page is displayed correctly.
i. Access the APEX Listener administration interface and view all the available configuration options.

Practice Solution 4: Installing and Configuring Oracle APEX Listener

Overview

In these practice solutions, the steps to deploy APEX and APEX images to the WebLogic Server application server, create the WebLogic Server users and roles required to access APEX Listener, and configure APEX Listener are provided.

Assumptions

You have completed the previous practice of installing APEX in full development mode and configured the APEX accounts.

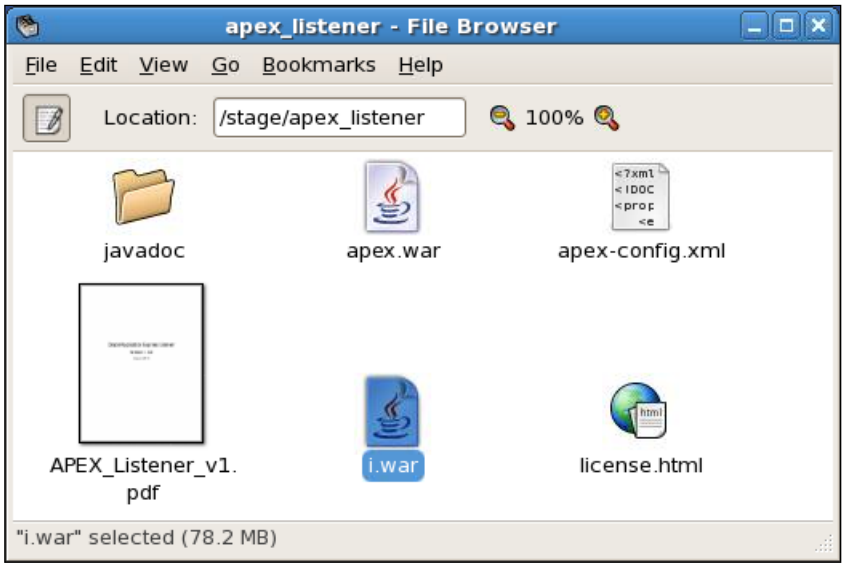
Solutions

a. Use a Java JAR command and create a WAR file named `i` for the APEX images.

1) Open a terminal window and enter **`pwd`** to view the current working directory.
2) To set the working directory to the images folder, enter **`cd /stage/apex/images`** and press Enter.
3) Enter the following JAR command. Notice the period (`.`) at the end of the command, which should not be missed out.

```
jar cvf0 /stage/apex_listener/i.war .
```

4) Using a file browser, navigate to the `/stage/apex_listener` directory and confirm that the `i.war` file got created.



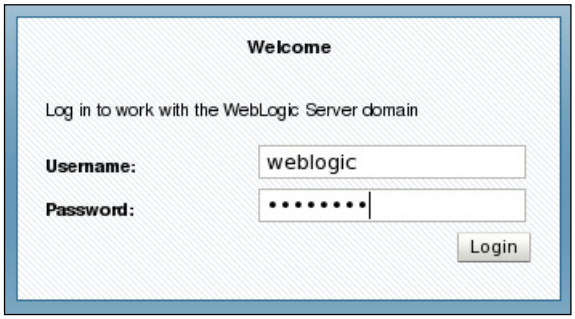
b. Deploy Application Express WAR file to the WebLogic Sever.

1) To start WebLogic Server, double-click the **Start_Weblogic** icon from the desktop.

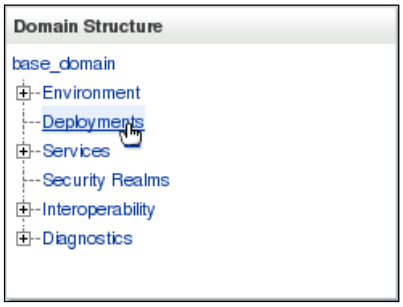
2) To access the WebLogic Server console, open a browser and enter the following URL in the browser address bar.

http://localhost:9001/console

3) Enter **`weblogic`** for Username and **`Welcome1`** for Password.



4) From the WebLogic Server administration home page, under Domain Structure, click the **Deployments** link.

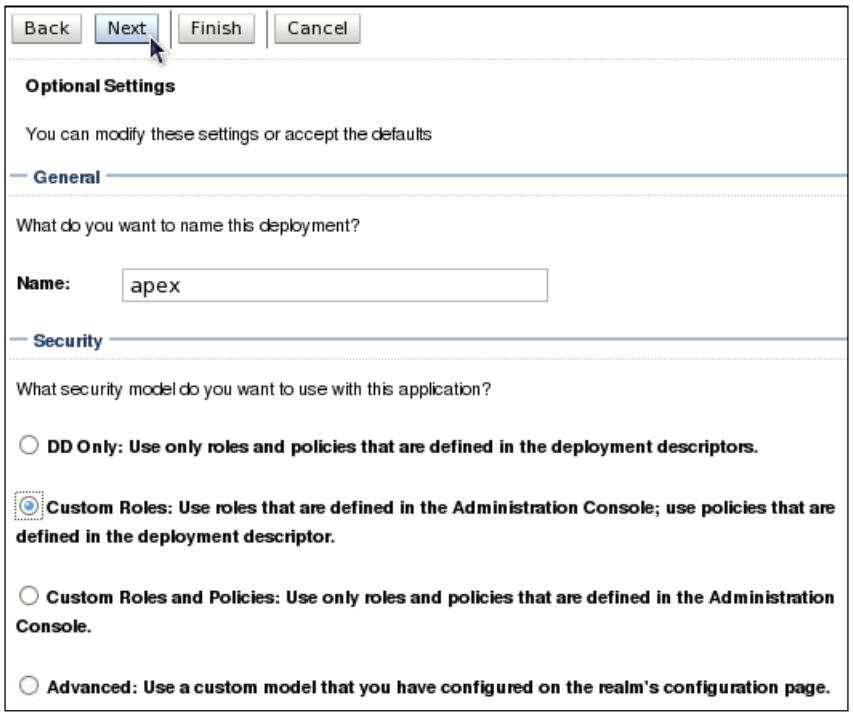


5) A summary of deployments is displayed. Click the **Install** button.

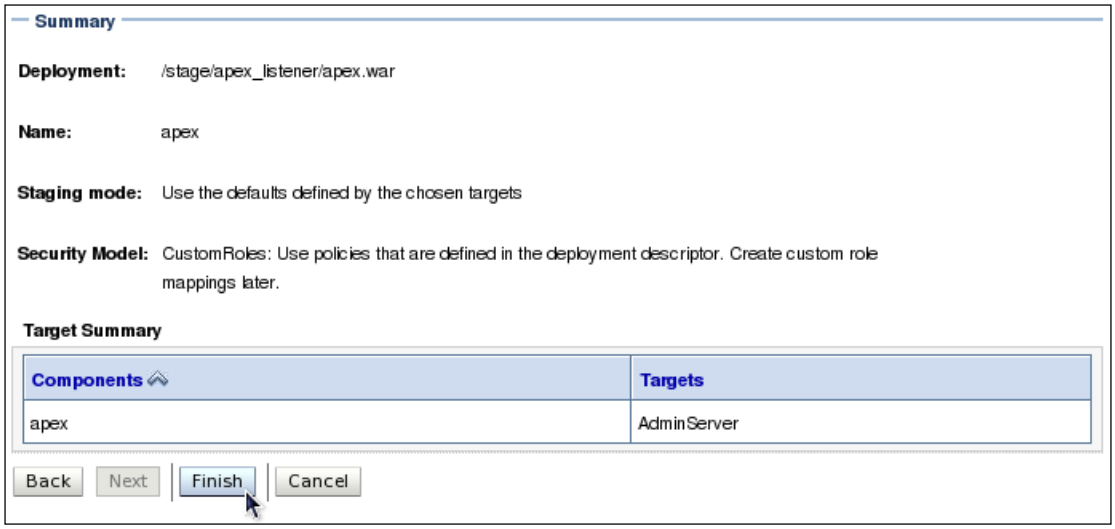
6) An install application wizard appears. Enter `/stage/apex_listener/apex.war` in the Path field and click **Next**.

7) Accept the default selection for targeting style and click **Next**.

8) Confirm that **apex** is entered in the Name field. Select **Custom Roles** for security model, and accept the default for the other fields. Click **Next**.

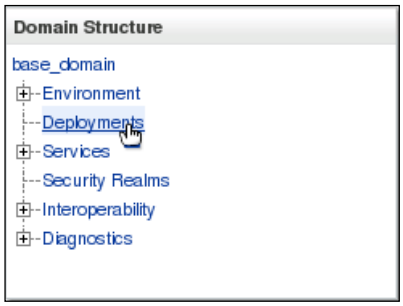


9) Review the summary information and click **Finish**.

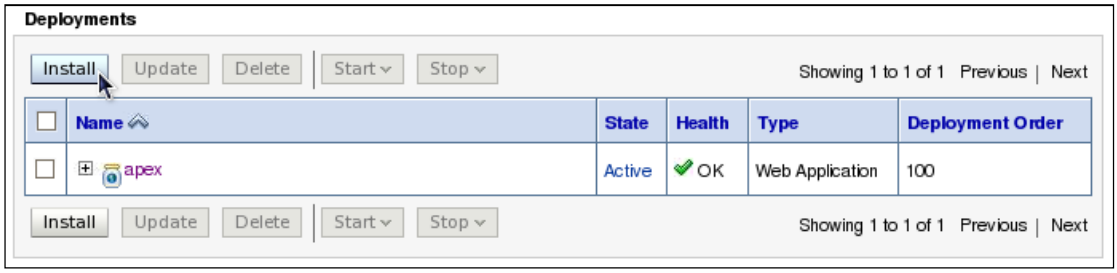


c. Deploy Application Express images WAR file to the WebLogic Server.

1) From the WebLogic Server administration home page, click the **Deployments** link.

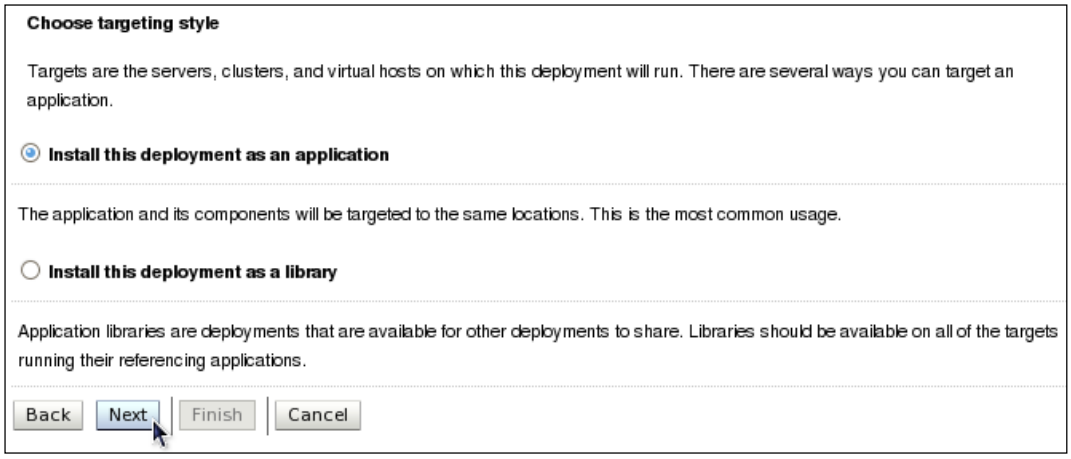


2) A summary of deployments is displayed. Click the **Install** button.

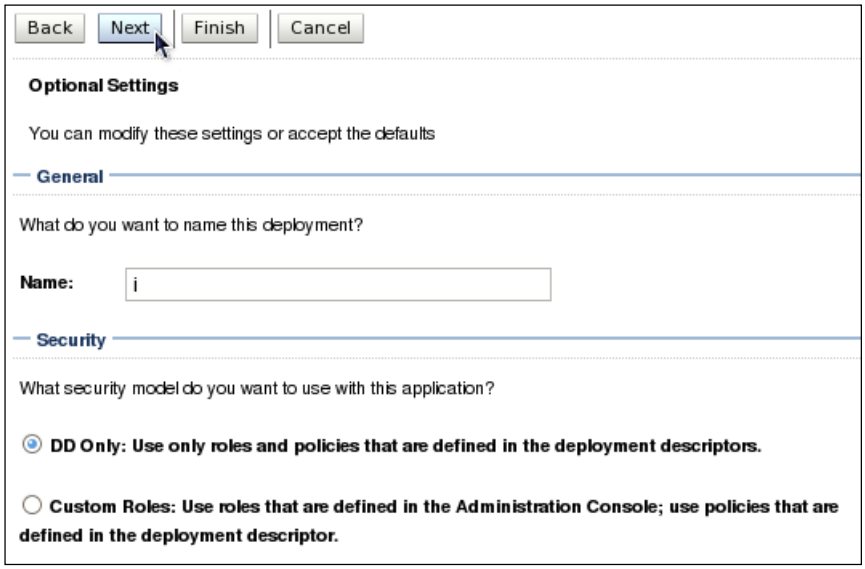


3) An install application wizard appears. Enter `/stage/apex_listener/i.war` in the Path field and click **Next**.

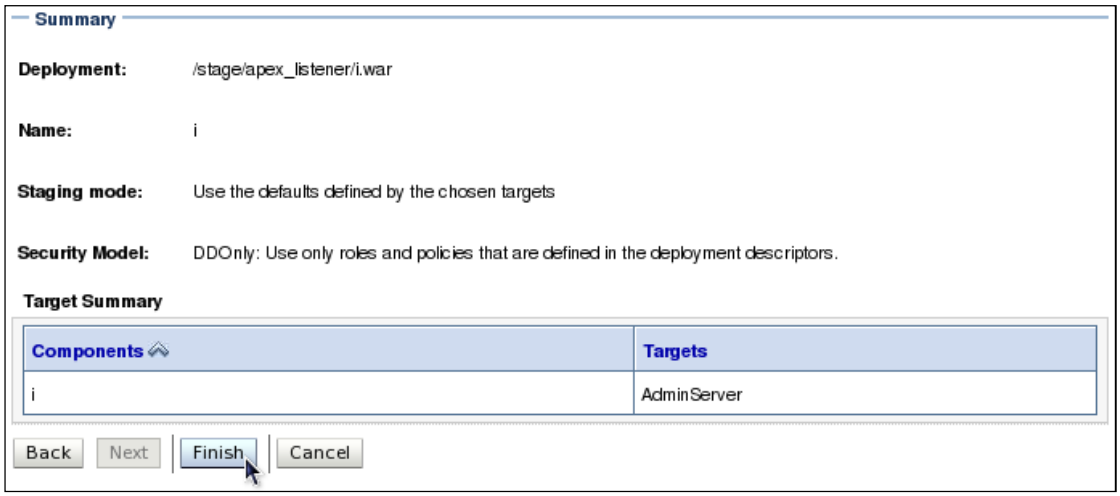
4) Accept the default selection for targeting style and click **Next**.



5) Confirm that `i` is entered in the Name field, **DD Only** is selected for security model, and accept the default for the other fields. Click **Next**.

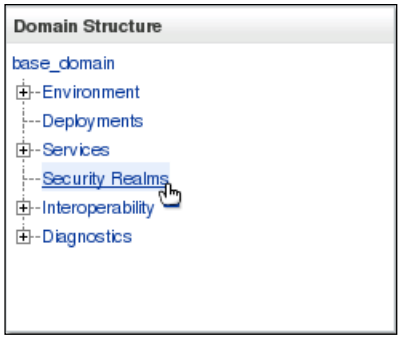


6) Review the summary information and click **Finish**.

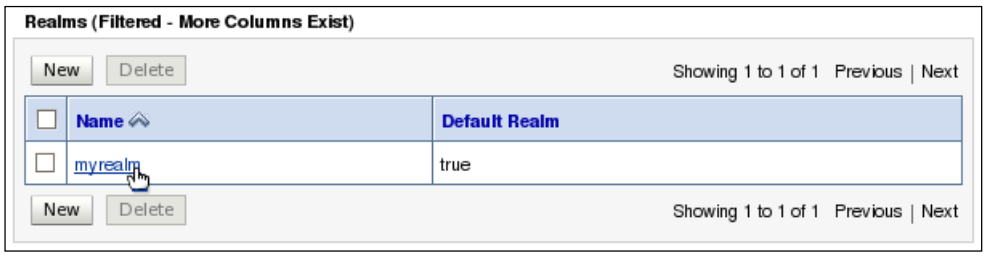


d. Create an administrator WebLogic Server user and an Admin role.

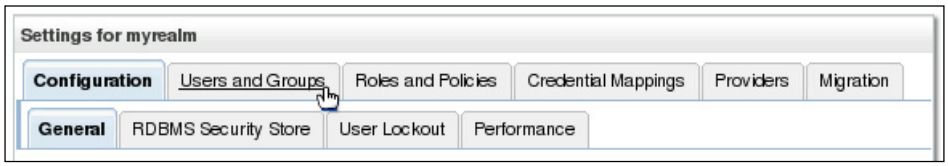
1) From the WebLogic Server home page, click the **Security Realms** link.



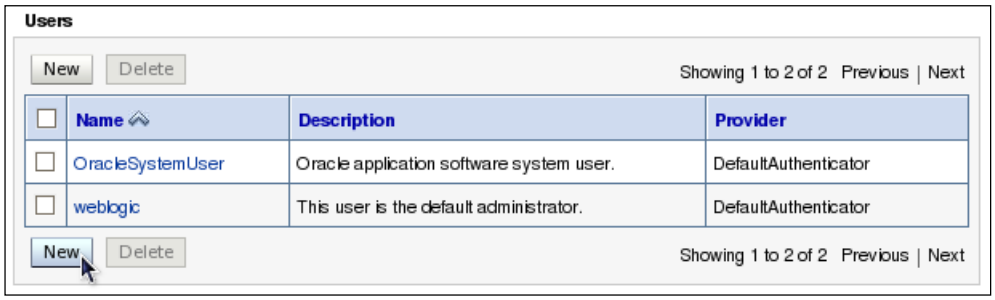
2) Click the **myrealm** link.



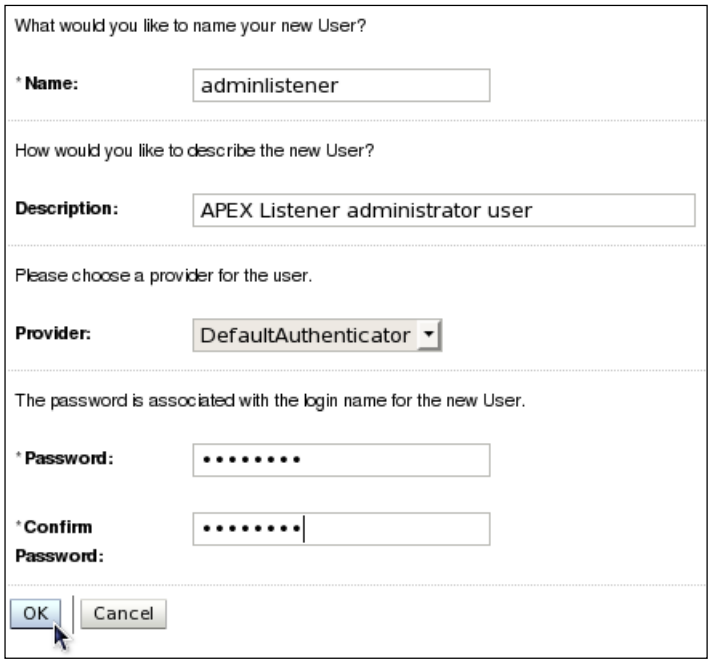
3) The settings for the security realm are displayed. Click the **Users and Groups** tab.



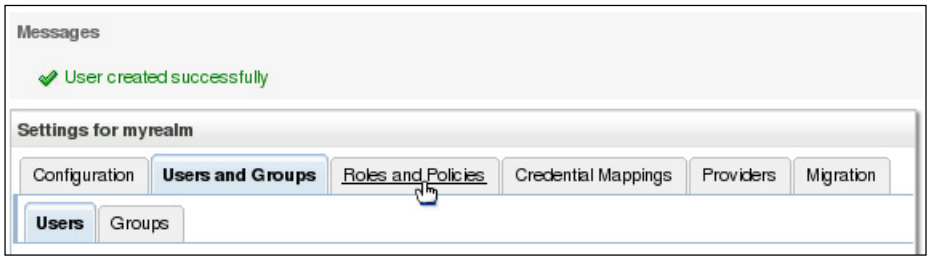
4) Click the **New** button.



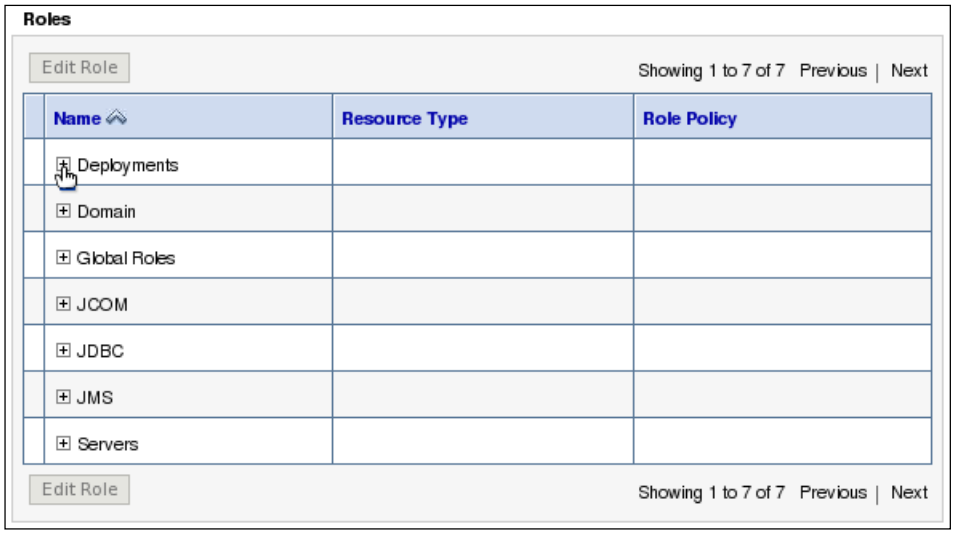
5) A Create New User page is displayed. In the Name field, enter **`adminlistener`**.
6) In the Description field, enter **`APEX Listener administrator user`**.
7) In the Provider drop-down list, ensure that **`DefaultAuthenticator`** is selected.
8) In the Password and Confirm Password fields, enter **`Welcome1`**.
9) Click **OK**.



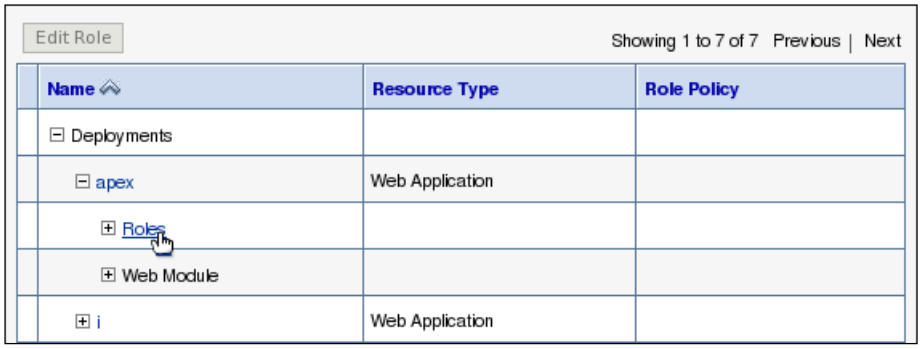
10) An administrator user is successfully created. To create an Admin role, click the **Roles and Policies** tab.



11) Expand the **Deployments** node and locate the apex node.

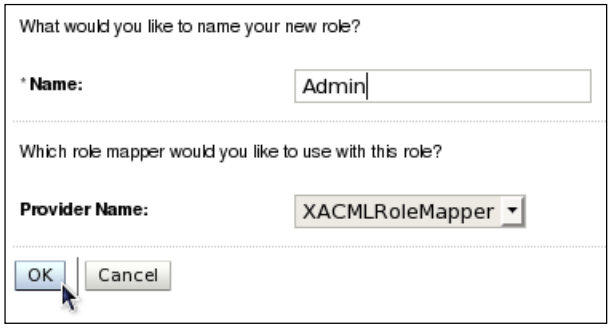


12) Expand the **apex** node and click **Roles**.



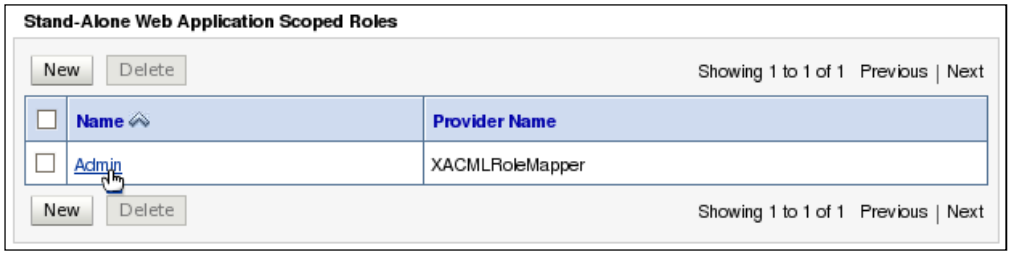
13) Click the **New** button.

14) Enter `Admin` in the Name field and click **OK**. Remember that role names are case-sensitive.

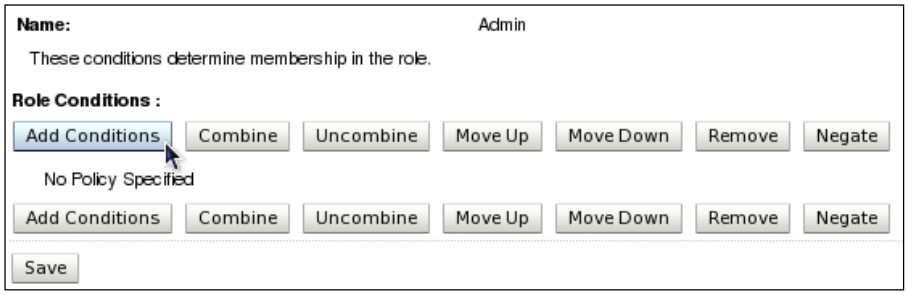


e. Assign the Admin role to the administrator user.

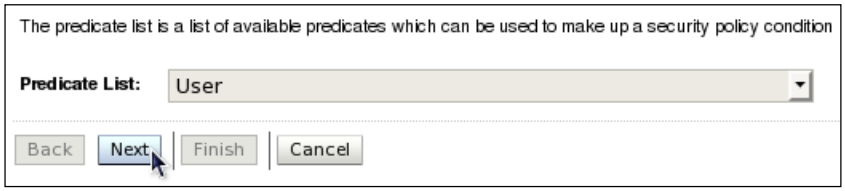
1) Click the **Admin** role name.



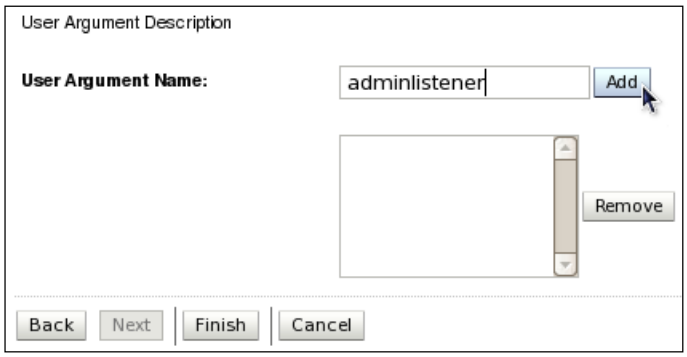
2) Click the **Add Conditions** button.



3) For Predicate List, select **User** and click **Next**.



4) Enter adminlistener and click **Add**.



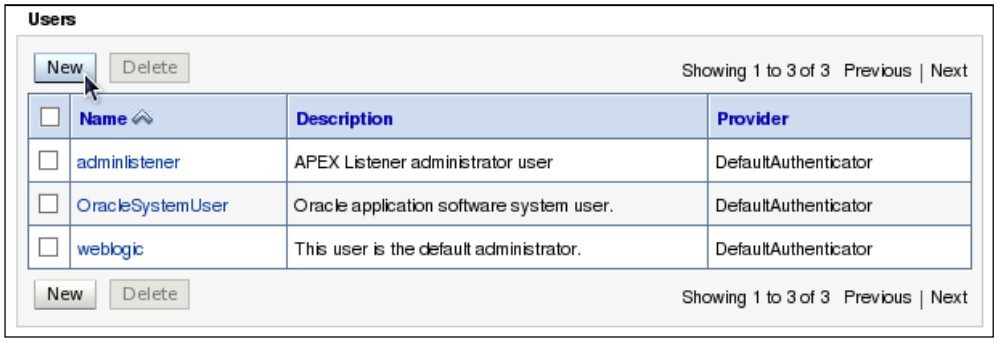
5) Click **Finish**.

6) Click the **Save** button.

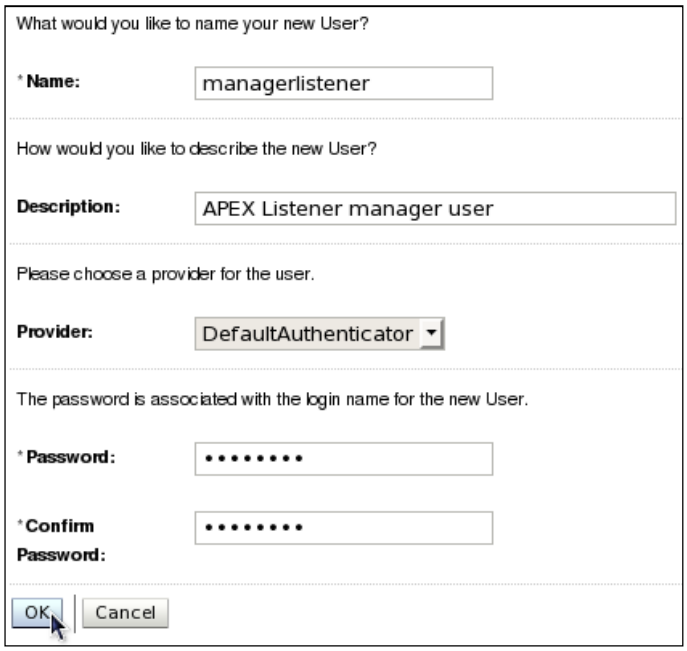
7) The changes are saved successfully. Click the **Users and Groups** link.

f. Create a manager WebLogic Server user and a Manager role.

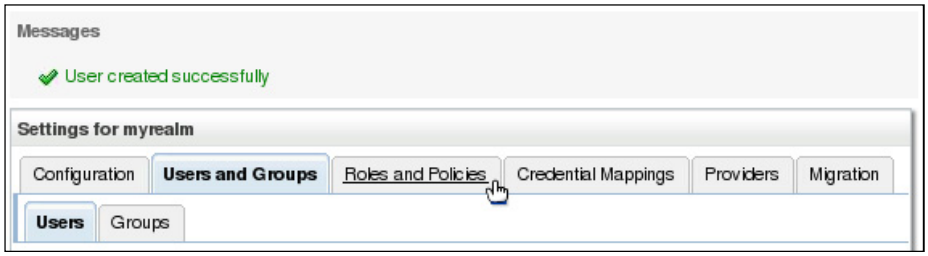
1) Click the **New** button.



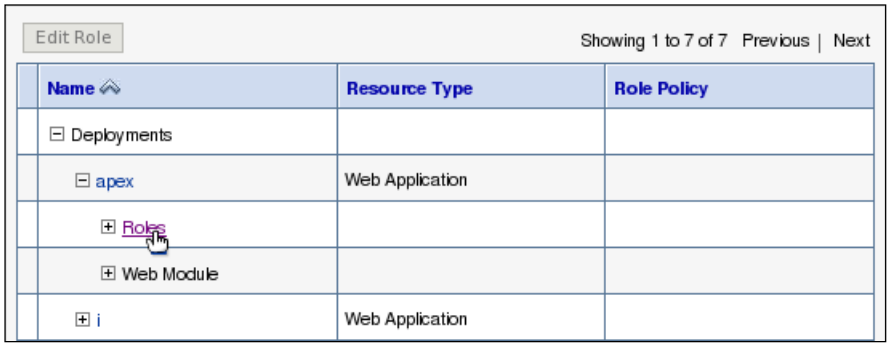
2) A Create New User page is displayed. In the Name field, enter **`managerlistener`**.
3) In the Description field, enter **`APEX Listener manager user`**.
4) In the Provider drop-down list, ensure that **`DefaultAuthenticator`** is selected.
5) In the Password and Confirm Password fields, enter **`Welcome1`**.
6) Click **OK**.



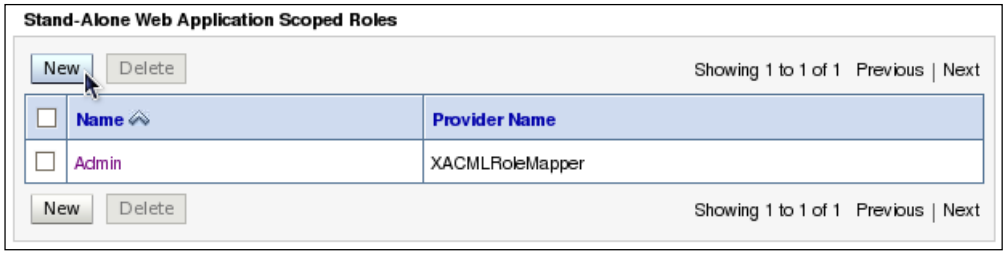
7) An administrator user is successfully created. To create a Manager role, click the **Roles and Policies** tab.



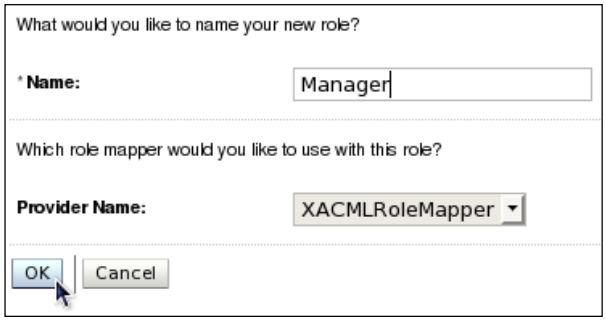
8) Expand Deployments node to locate the apex node and click **Roles**.



9) Click the **New** button.

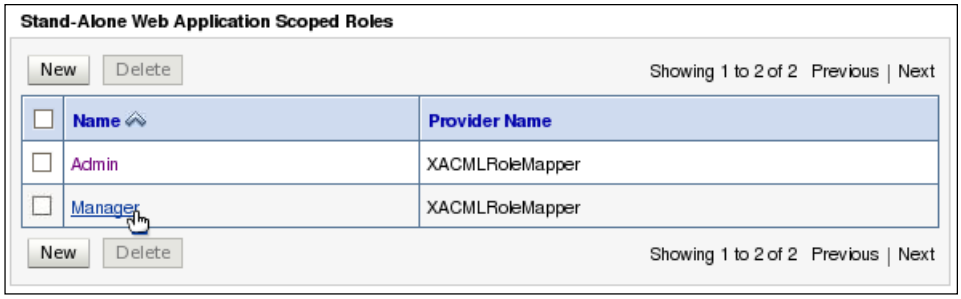


10) Enter Manager for the role Name field and click **OK**.

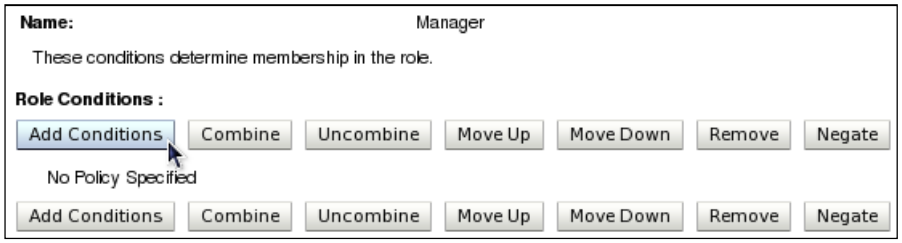


g. Assign the Manager role to the manager user.

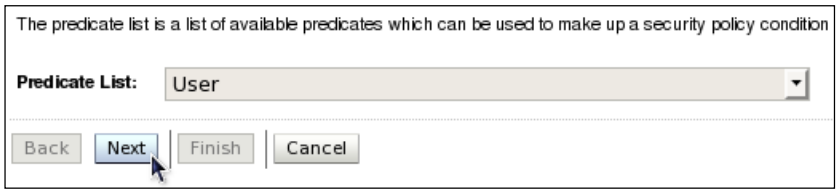
1) Click the **Manager** role name.



2) Click the **Add Conditions** button.



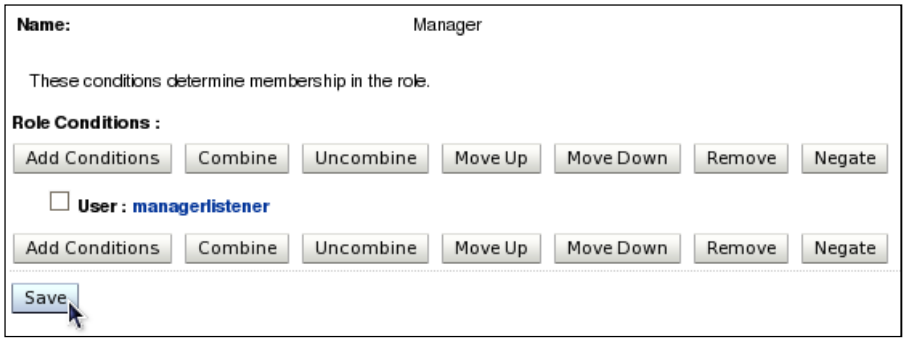
3) For Predicate List, select **User** and click **Next**.



4) Enter **managerlistener** and click **Add**.

5) Click **Finish**.

6) Click the **Save** button.



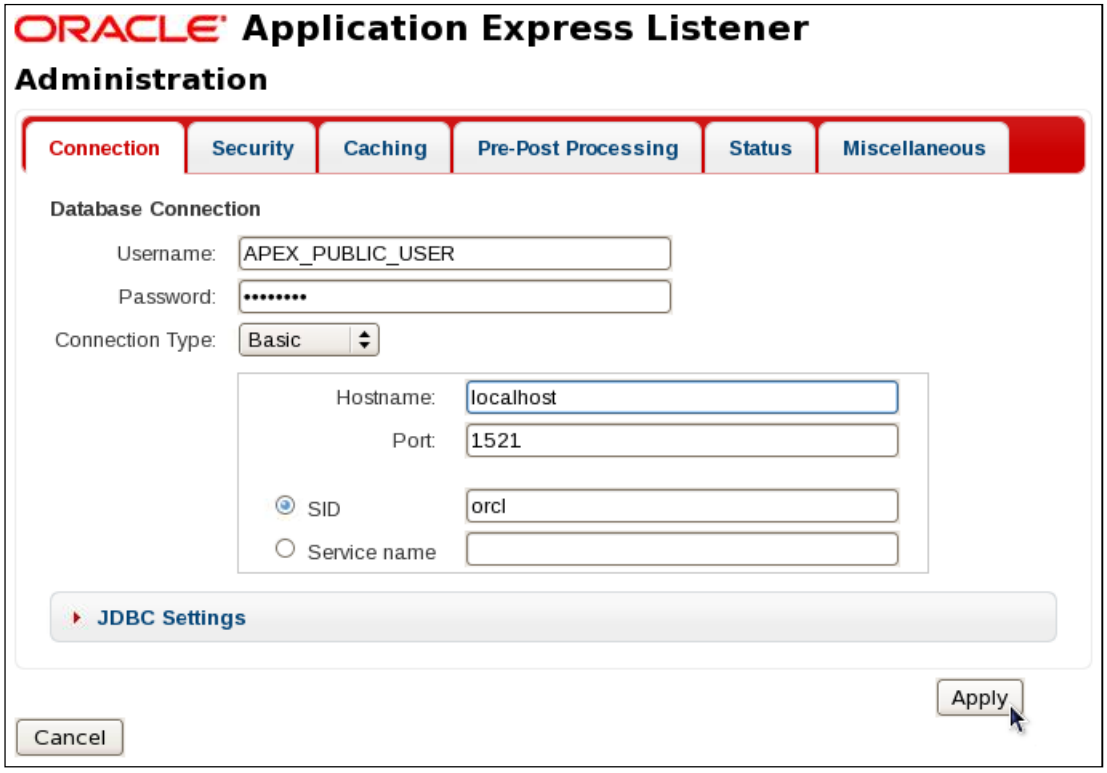
h. Access the APEX Listener configuration interface and create a database connection. Apply the configuration and confirm that the Application Express login page is displayed correctly.

1) Open a browser and enter the following URL.

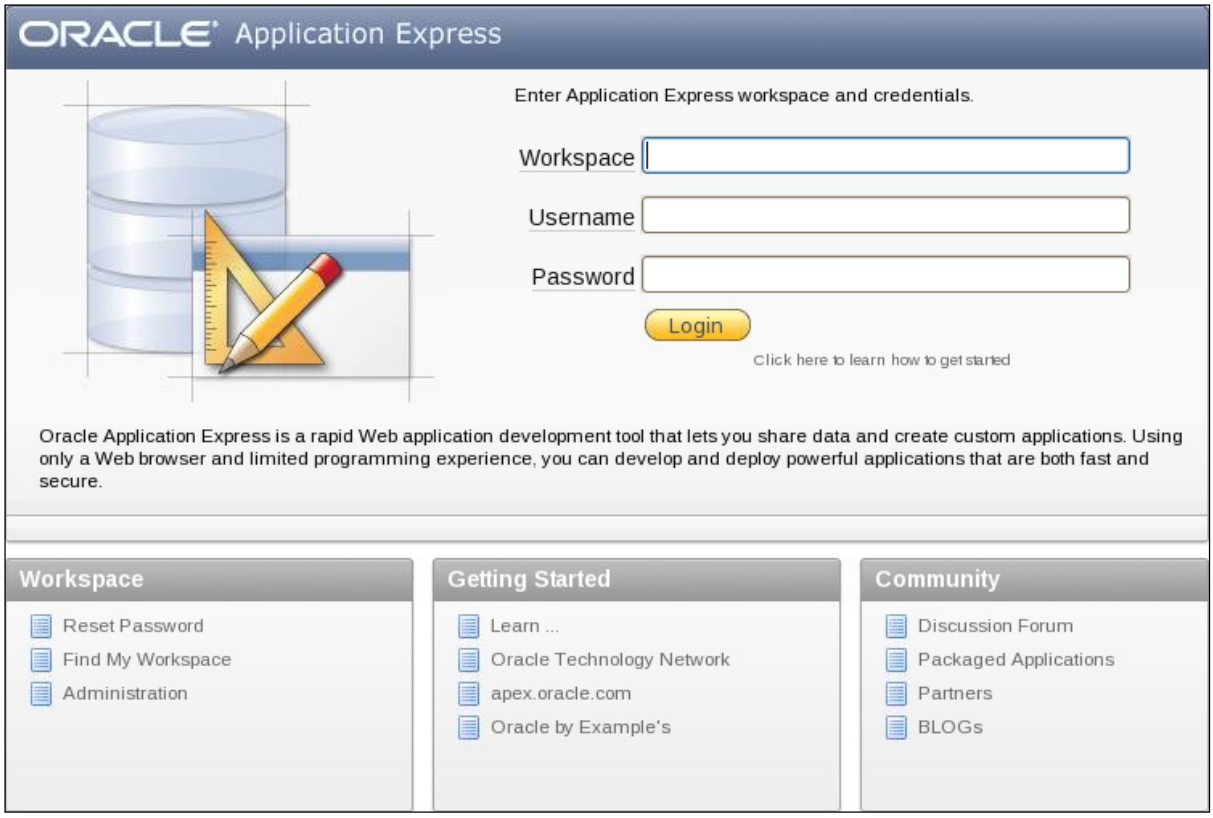
http://localhost:9001/apex/listenerConfigure

2) The APEX Listener administration appears. To create a database connection, enter `APEX_PUBLIC_USER` in the Username field. For Password, enter **`Welcome1`**, and for Hostname, enter **`localhost`**.

3) For the other fields, accept the default values and click the **Apply** button.



4) If you entered the correct details, the APEX development interface login page appears.

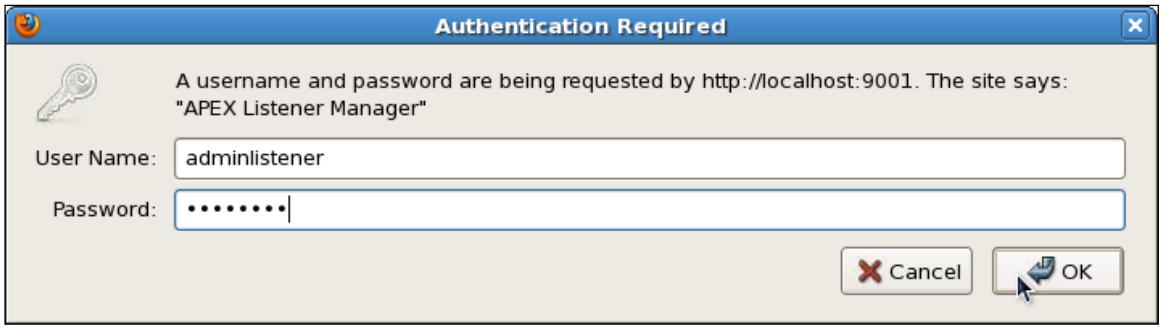


i. Access the APEX Listener administration interface and view all the available configuration options.

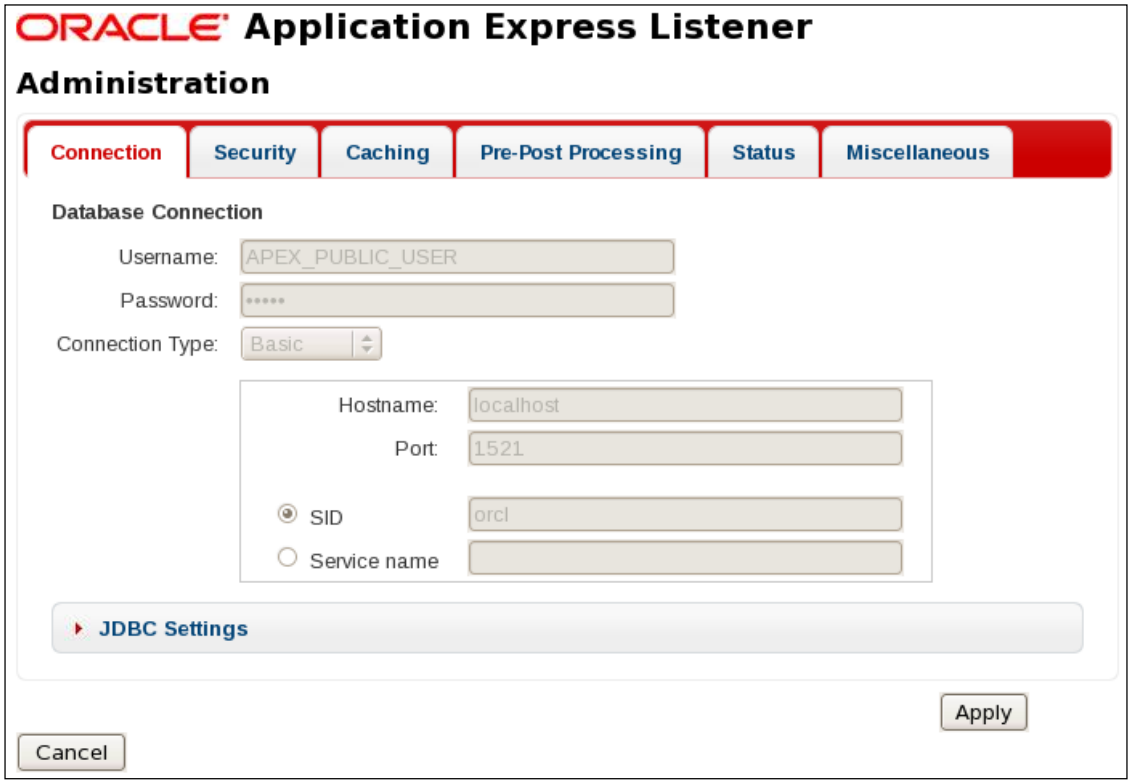
1) Open a browser and enter the following URL.

http://localhost:9001/apex/listenerAdmin

2) You will be prompted for the WebLogic administration user credentials. Enter **`adminlistener`** for User Name and **`Welcome1`** for Password.



3) If you entered the correct details, the APEX Listener Administration page is displayed. Click each tab and review the available options.



Practices for Lesson 5: Creating Workspaces

Chapter 5

Practice 5: Creating Workspaces, Users, and Schemas

Overview

In this practice, you will create a workspace and add users and schemas to the workspace.

Assumptions

You have completed the previous practices.

Tasks

a. Create a workspace using the following details.

Workspace Name	**ora01**
New Schema Name	**ora01**
Schema Password	**ora01**
Workspace Administrator Name	**ora01_admin**
Workspace Administrator Password	**ora01**
Workspace Administrator Email	**ora01_admin@oracle.com**

b. Configure workspace provisioning such that users can request for workspaces without email verification.

c. For the `ora01` workspace, create the following users.

User Role	**Developer**
User Name	**ora01_dev**
Email	**ora01_dev@oracle.com**
Password	**ora01**
User Role	**End user**
User Name	**ora01_user**
Email	**ora01_user@oracle.com**
Password	**ora01**

d. Add the existing **HR** database schema to the `ora01` workspace.

e. Create a new schema using the following details.

Schema Name	**apex_admin**
Password	**apex**
Default Tablespace	**APEX**
Temporary Tablespace	**TEMP**

f. View the database privileges for the schemas you have created for the `ora01` workspace.

Practice Solutions 5: Creating Workspaces, Users, and Schemas

Overview

In this practice solution, the steps to create a workspace and add users and schemas to the workspace are provided.

Assumptions

You have completed the previous practices.

Solutions

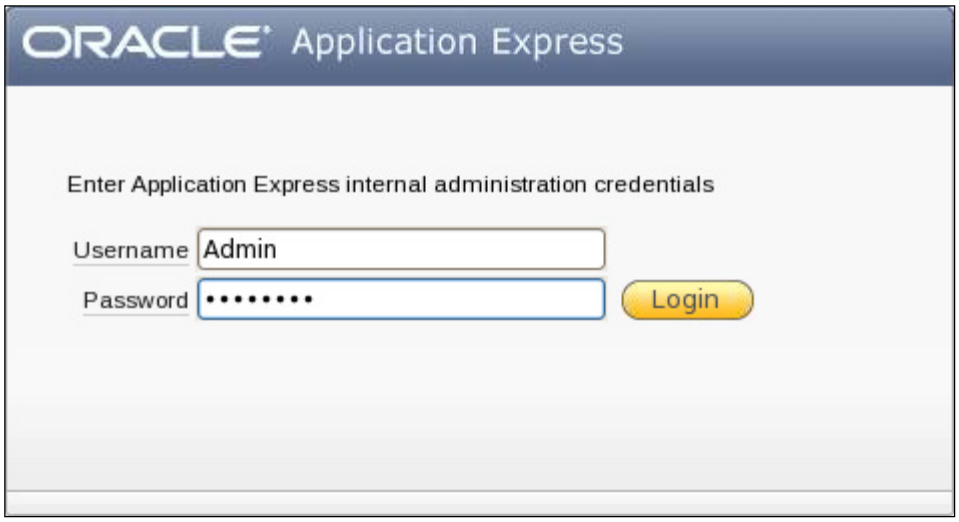
a. Create a workspace using the following details.

Workspace Name	`ora01`
New Schema Name	`ora01`
Schema Password	`ora01`
Workspace Administrator Name	`ora01_admin`
Workspace Administrator Password	`ora01`
Workspace Administrator Email	`ora01_admin@oracle.com`

1) Access the Administration Services using the following URL:

```
http://localhost:9001/apex/apex_admin
```

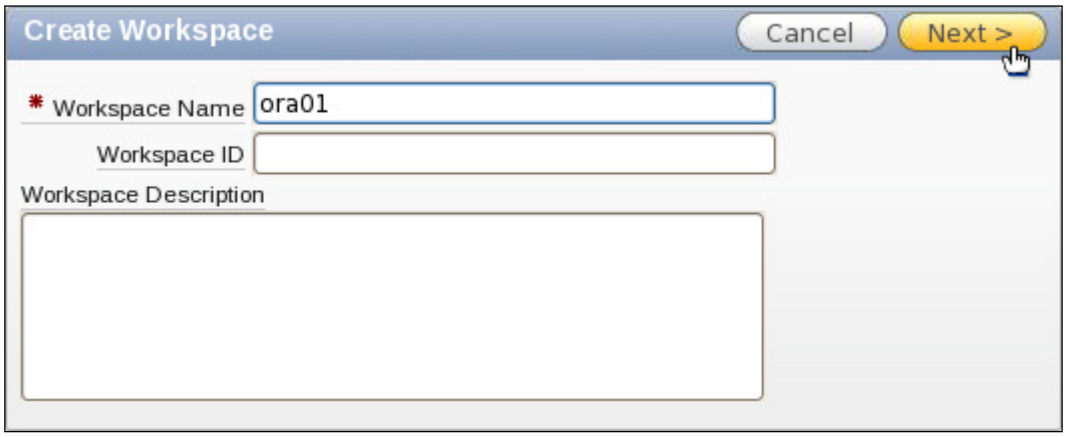
2) In the login page, enter `admin` for Username, `Welcome1` for Password, and click **Login**. (**Note:** This is the password you set for the admin user after installing APEX.)



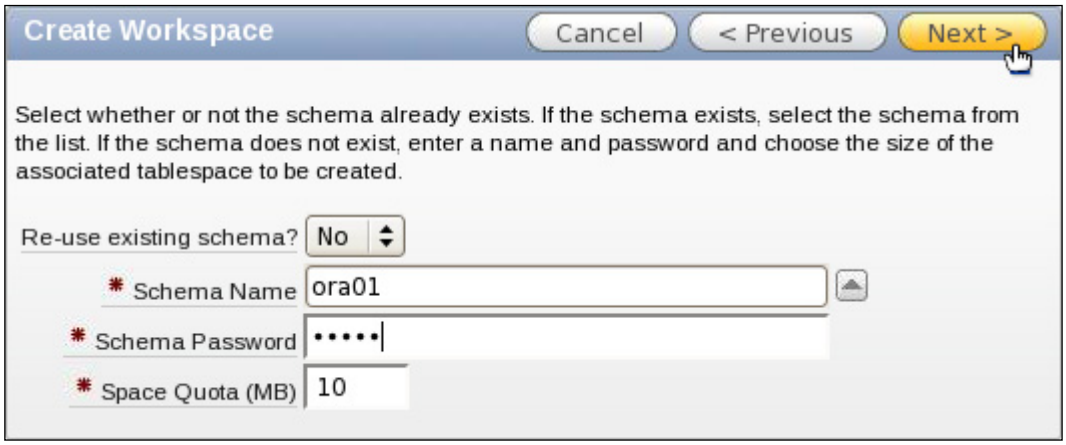
Note: You will be prompted to reset the password. Create a new password and log in to Administration Services using the new password.

3) From the Administration Services home page, click the **Create Workspace** button.

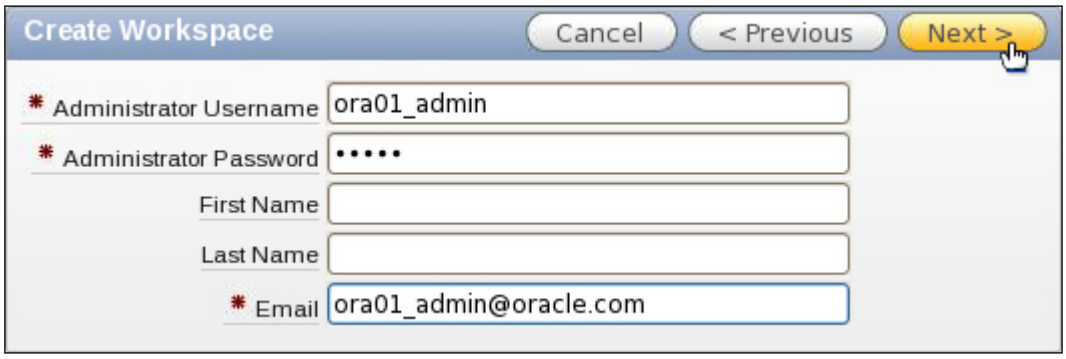
4) Enter `ora01` for Workspace Name and click **Next**.



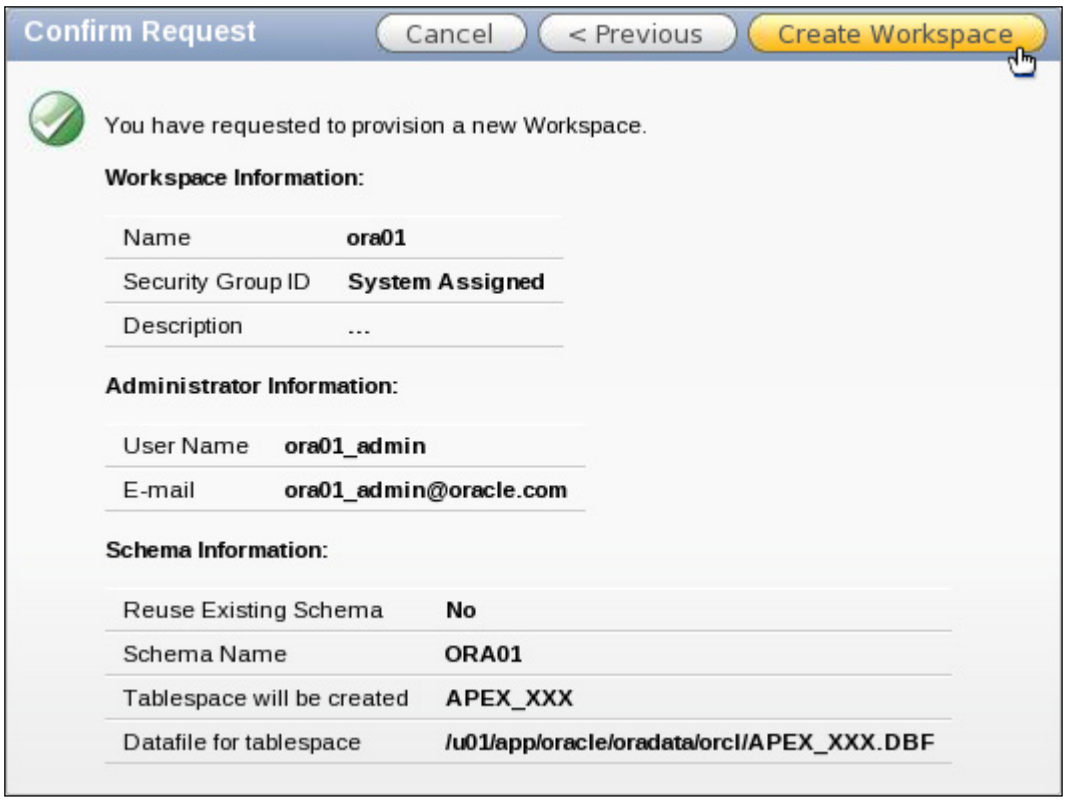
5) Enter `ora01` for Schema Name and Schema Password and click **Next**.



6) Enter **`ora01_admin`** for Administrator Username, **`ora01`** for Administer Password, and **`ora01_admin@oracle.com`** for Email. Click **Next**.



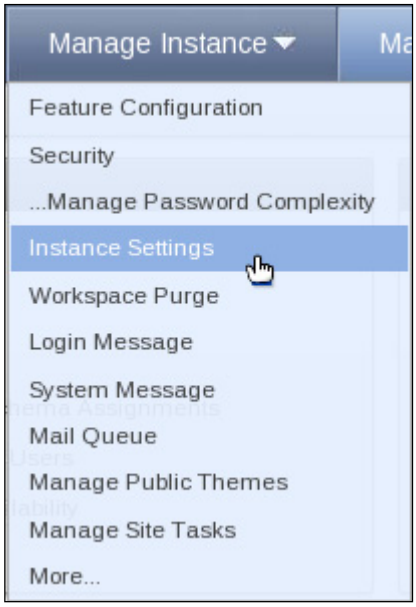
7) Review the entered details and click **Create Workspace**.



8) The workspace is created successfully. Click **Done**.

b. Configure workspace provisioning such that users can request for workspaces without email verification.

1) Click the down arrow in the Manage Instance tab and select **Instance Settings**.

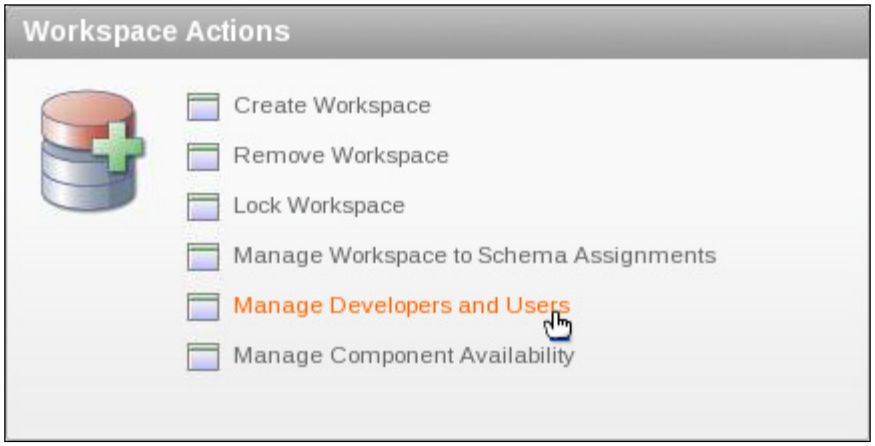


2) Under Self Service, select the **Request** radio button and click **Apply Changes**.

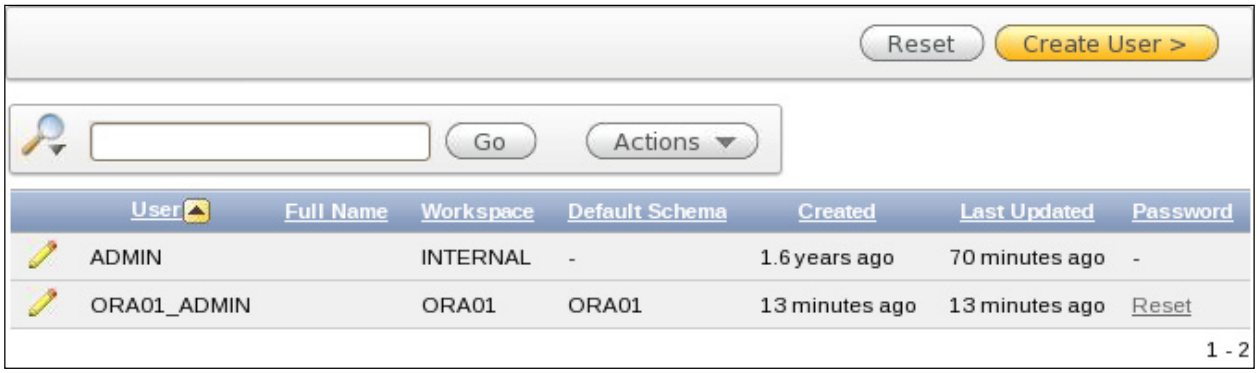
c. For the `ora01` workspace, create the following users.

User Role	**Developer**
User Name	**`ora01_dev`**
Email	**`ora01_dev@oracle.com`**
Password	**`ora01`**
User Role	**End user**
User Name	**`ora01_user`**
Email	**`ora01_user@oracle.com`**
Password	**`ora01`**

1) Click the **Manage Workspaces** tab and click the **Manage Developers and Users** link under Workspace Actions.

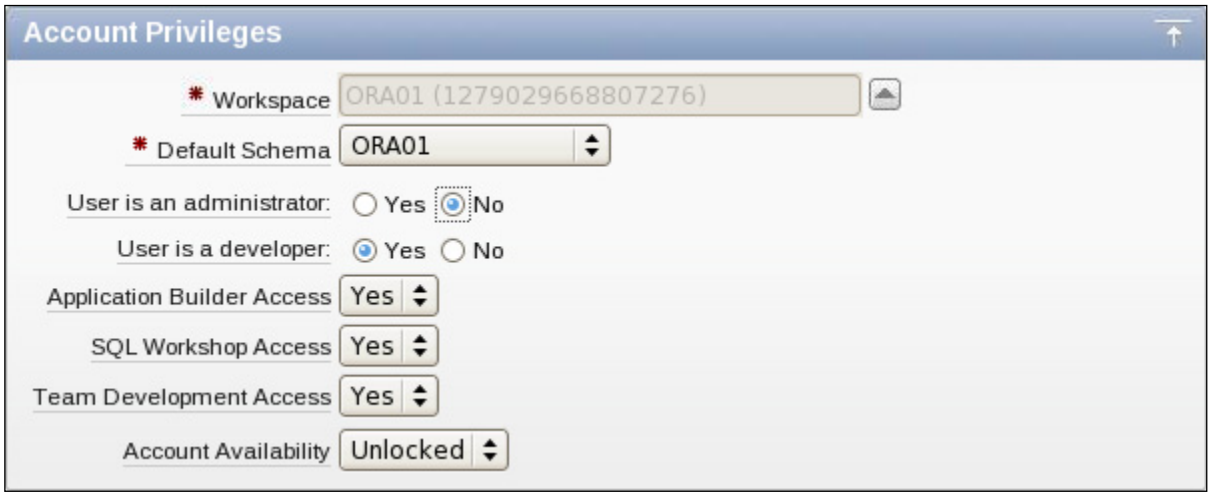


2) Click the **Create User** button.

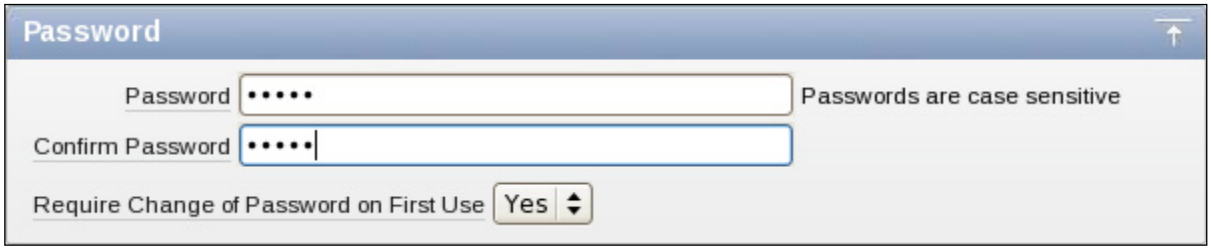


3) Enter `ora01_dev` for Username and `ora01_dev@oracle.com` for Email Address.

4) Select **ora01** for Workspace and **ora01** for Default Schema. Select **No** for User is an administrator.



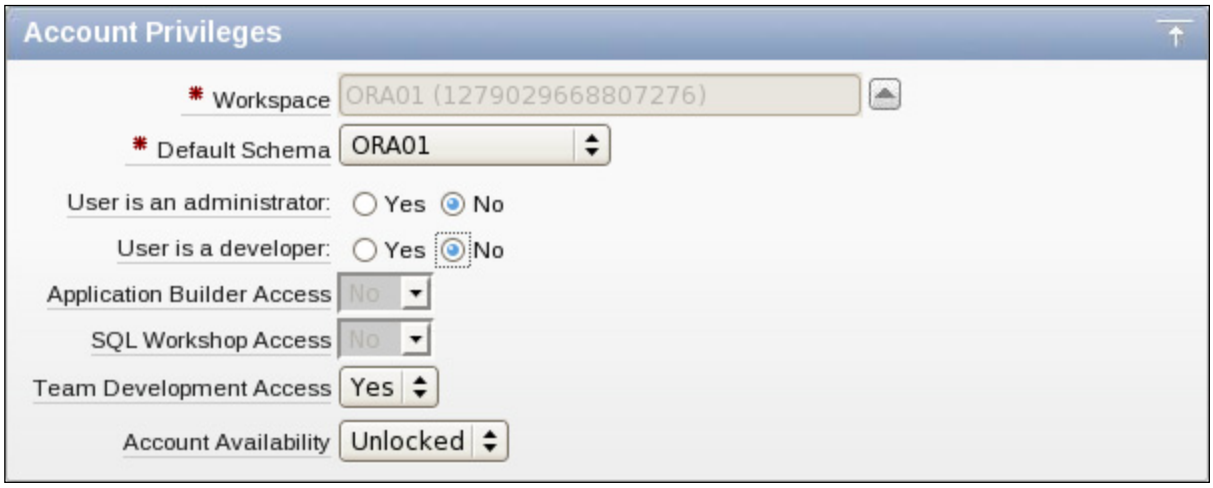
5) Enter **ora01** for Password and Confirm Password.



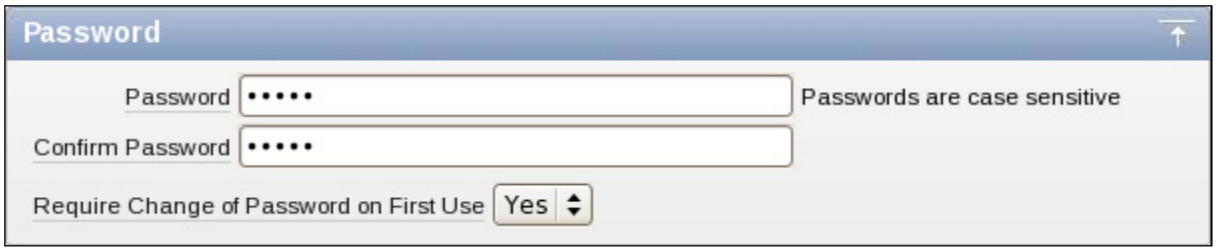
6) Click the **Create and Create Another** button.

7) Enter **ora01_user** for Username and **ora01_user@oracle.com** for Email Address.

8) Select **ora01** for Workspace and **ora01** for Default Schema. Select **No** for User is an administrator and **No** for User is a developer.



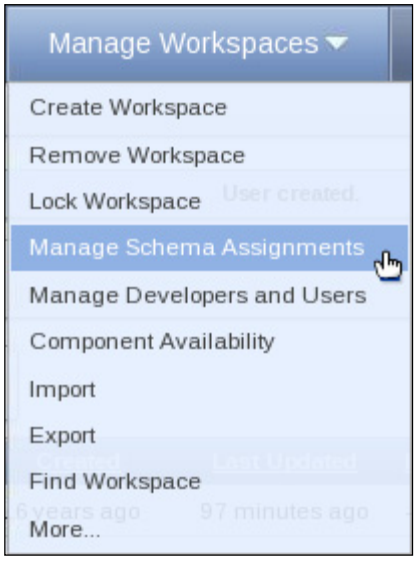
9) Enter **ora01** for Password and Confirm Password.



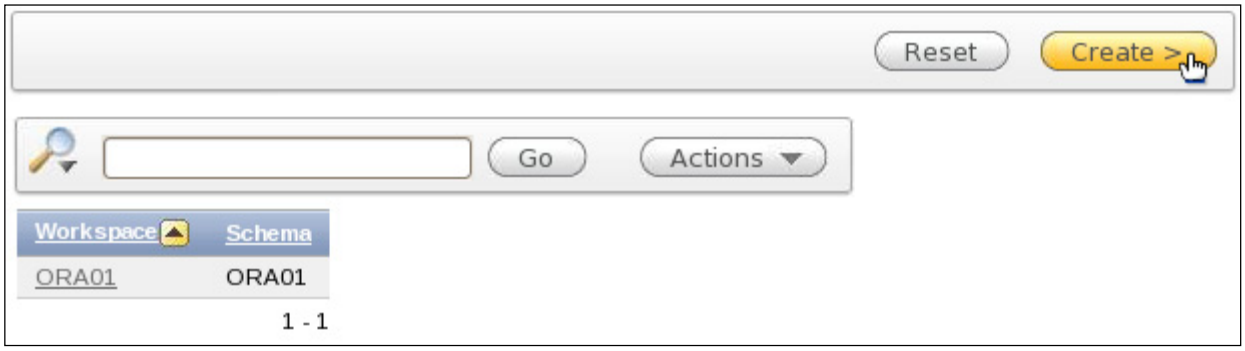
10) Click the **Create** button.

d. Add the existing **HR** database schema to the ora01 workspace.

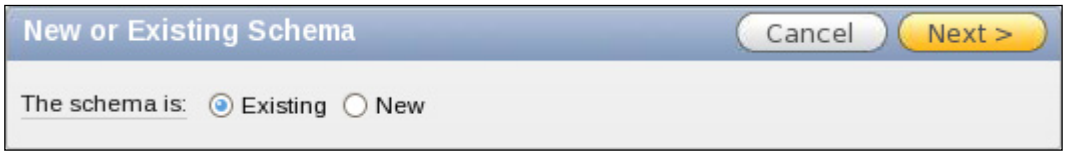
1) Click the down arrow in the Manage Workspaces tab and select **Manage Schema Assignments**.



2) Click the **Create** button.



3) Ensure that the **Existing** option is selected and click **Next**.



4) Select `ora01` for Workspace and click **Next**.

5) Select `HR` for Schema and click **Next**.

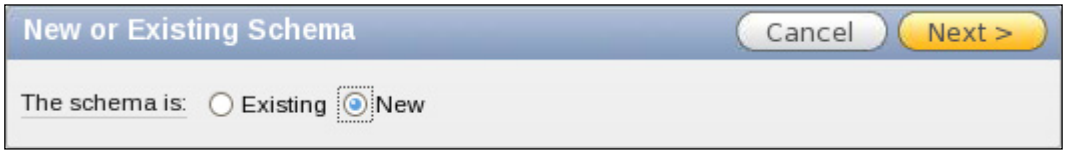
6) Review the details you entered and click **Add Schema**.

e. Create a new schema using the following details.

Schema Name	**apex_admin**
Password	**apex**
Default Tablespace	**APEX**
Temporary Tablespace	**TEMP**

1) From the Manage Workspace to Schema Assignments page, click the **Create** button.

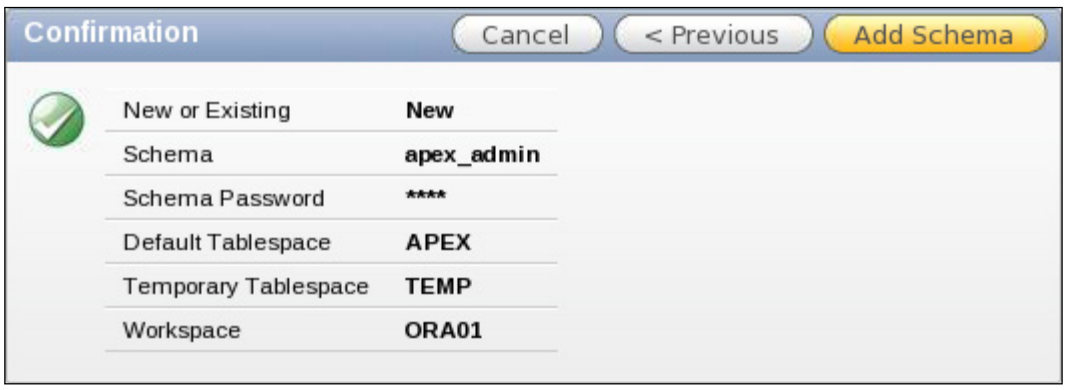
2) Select the **New** option and click **Next**.



3) Select **`ora01`** for Workspace and click **Next**.

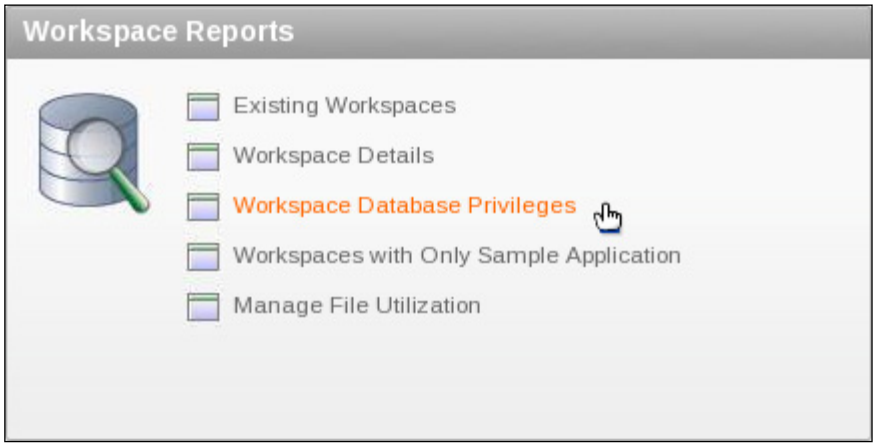
4) Enter **`apex_admin`** for Schema and **apex** for Password. Select **`APEX`** for Default Tablespace and **`TEMP`** for Temporary Tablespace. Click **Next**.

5) Review the details you entered and click **Add Schema**.

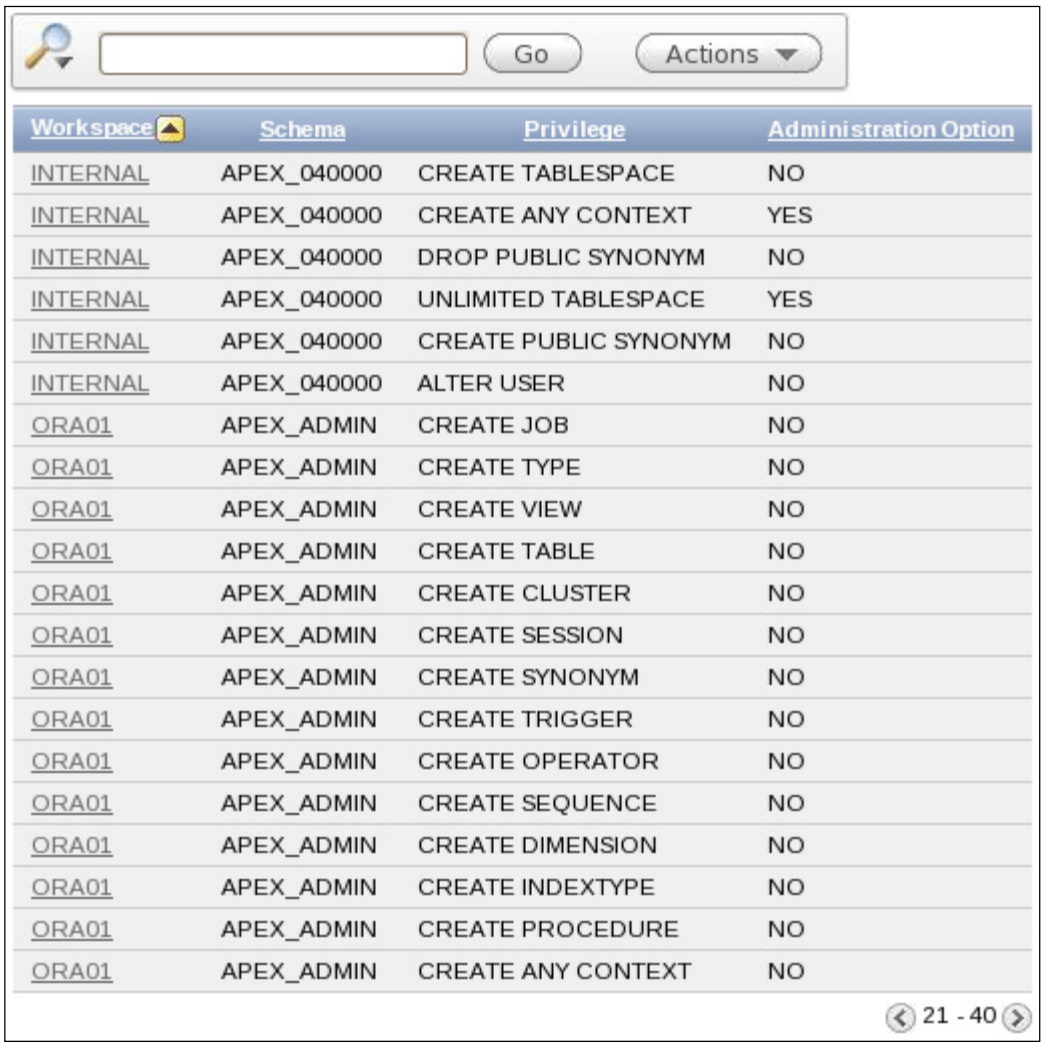


f. View the database privileges for the schemas you have created for the `ora01` workspace.

1) Click the **Manage Workspaces** tab and select the **Workspace Database Privileges** link under Workspace Reports.



2) An interactive report listing the database privileges for all schemas in each workspace is displayed.



Practices for Lesson 6: Configuring Administration Services

Chapter 6

Practice 6: Configuring Administration Services

Overview

In this practice, you will configure email, report printing, and some other settings.

Assumptions

You should have completed practices 3 and 4.

Tasks

a. Set apex_admin@oracle.com as the administrator email address for tasks that generate an email. Also, configure Administration Services so that you receive request notifications at the email address administrator@oracle.com.

b. Create a PDF file for the Developers and Users interactive report (that is, the Manage Developers and Users page). What happens?

c. Configure PDF printing of report regions. BI Publisher is already installed in your ACES machines. The port number is `9704` and the print server script is located at `/xmlpserver/convert`.

d. Again, create a PDF file for the Developers and Users interactive report. What happens?

e. Enable workspace purging by using the following details:
   - Use wksp_purge_admin@oracle.com as the user ID from which workspace inactive purge notifications are sent to workspace administrators.
   - Mark a workspace as inactive, if there is no activity in a workspace for 60 days.
   - Provide a 15-day period from the time a workspace is marked as inactive till it is actually purged.
   - Send reminder emails 5 days before a workspace is purged.
   - Allow a 30-day period from the time a workspace administrator confirms that they do not want to purge the workspace till the workspace is marked as inactive again.

f. Create a workspace password policy conforming to the following rules:
   - Password should contain at least eight characters.
   - It should be alphanumeric, with at least one uppercase character.
   - It should be different from the username and workspace name.

g. Enable users to monitor the database from the APEX development interface.

Practice Solutions 6: Configuring Administrative Services

Overview

In this practice solution, the steps to configure email, report printing, and some other settings are provided.

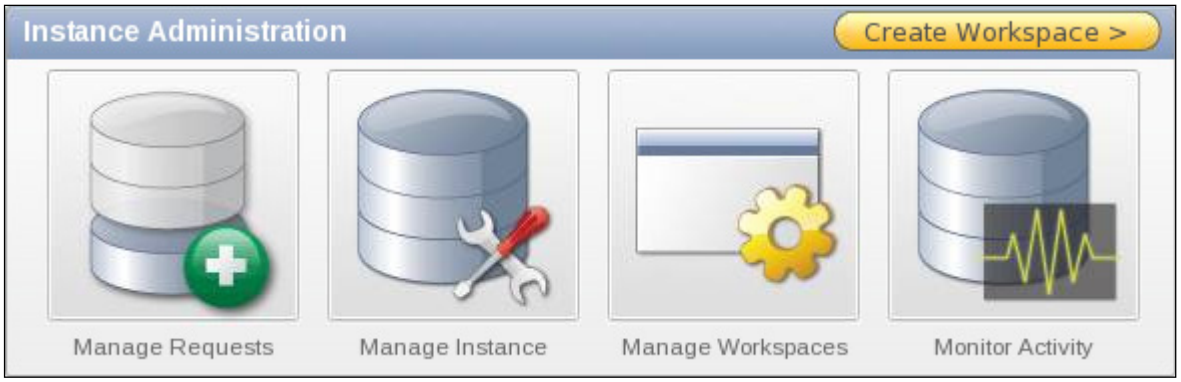
Assumptions

You should have completed practices 3 and 4.

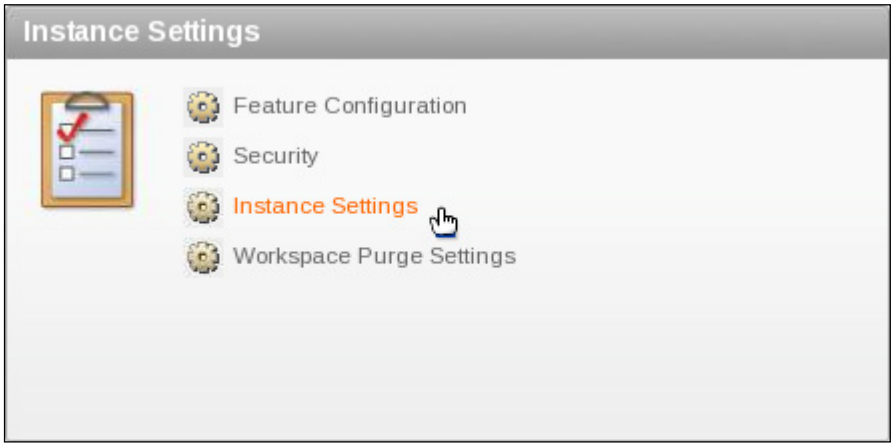
Solutions

a. Set apex_admin@oracle.com as the administrator email address for tasks that generate an email. Also, configure Administration Services so that you receive request notifications at the email address administrator@oracle.com.

1) From the Administration Services home page, click the **Manage Instance** icon.



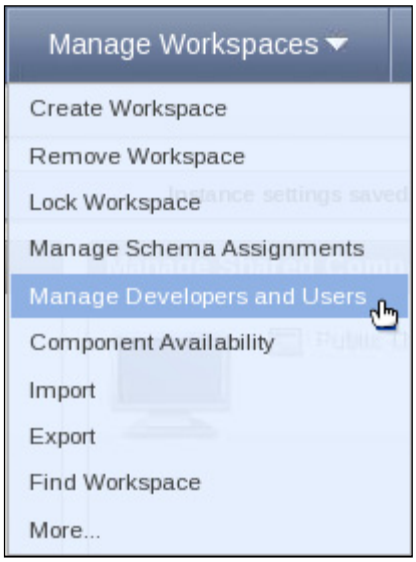
2) Click the **Instance Settings** link under Instance Settings.



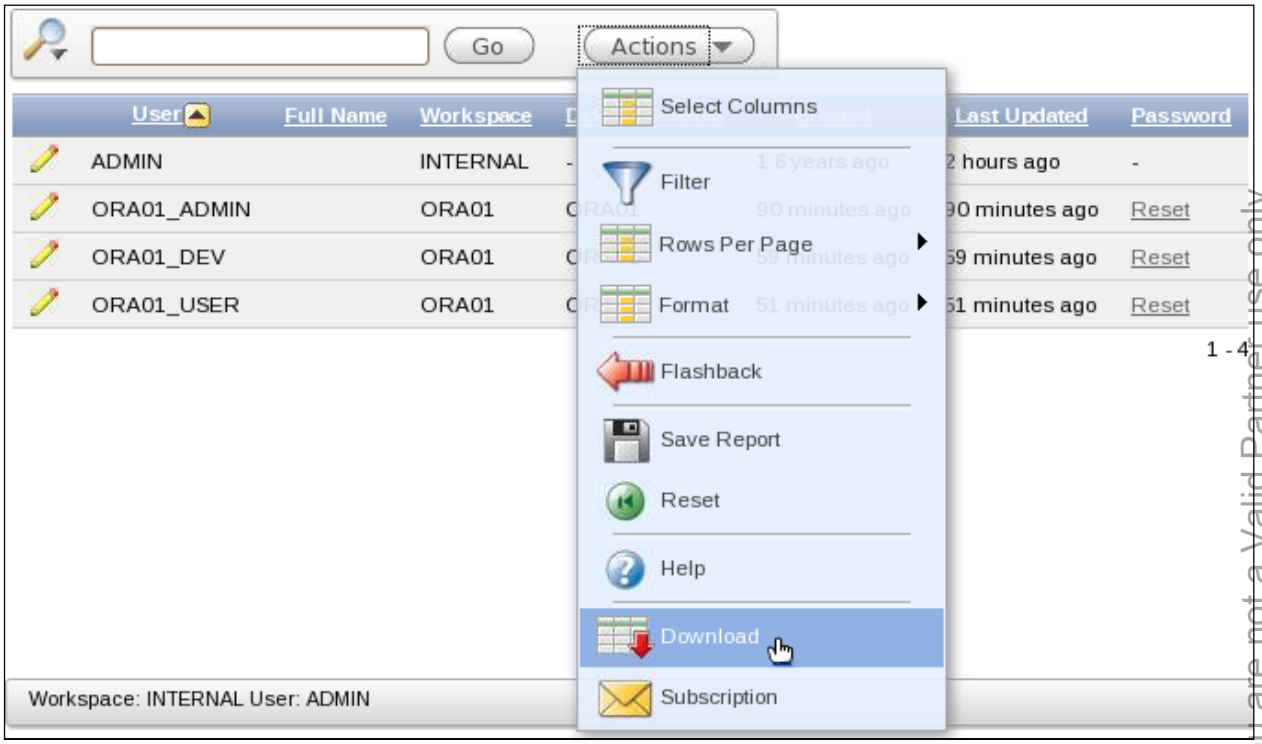
3) Click the Email tab. Enter **apex_admin@oracle.com** in Administration Email Address and **administrator@oracle.com** in Notification Email Address. Click **Apply Changes**.

b. Create a PDF file for the Developers and Users interactive report (that is, the Manage Developers and Users page). What happens?

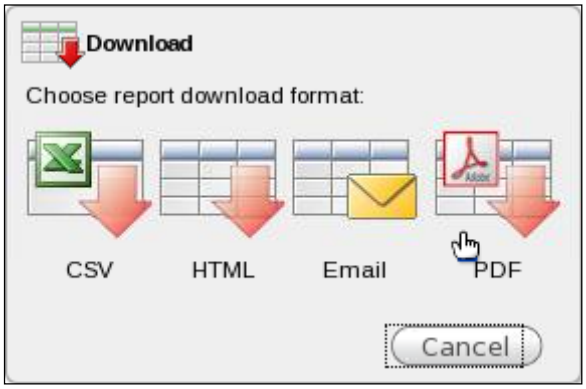
1) Click the down arrow in the Manage Workspaces tab and select **Manage Developers and Users** link.



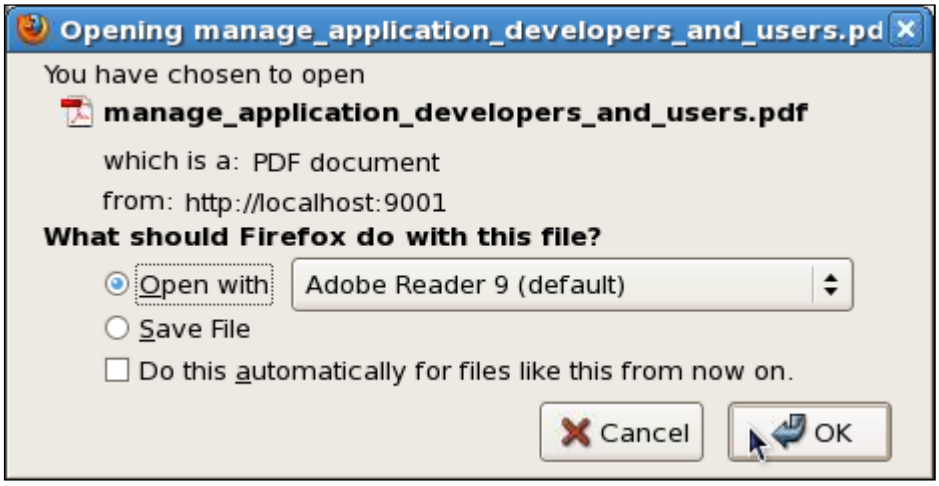
2) An interactive report listing all the users in the APEX instance is displayed. To save this report in PDF format, click the down arrow in the **Actions** button and select **Download**.



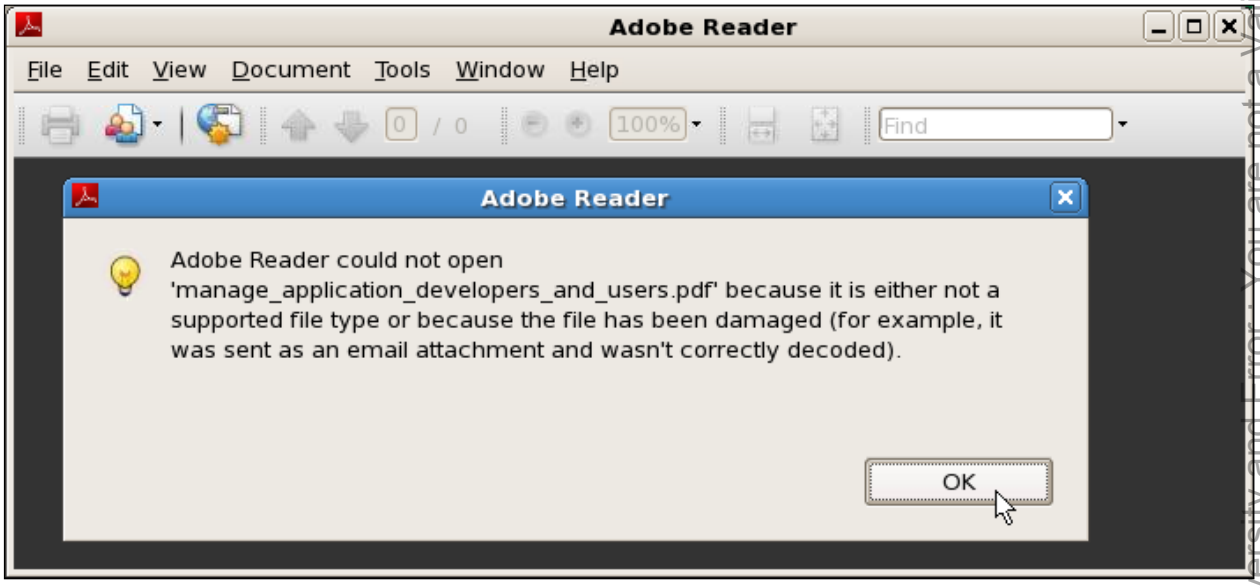
3) Select the PDF option.



4) Click **OK** to open this file by using Adobe Reader.

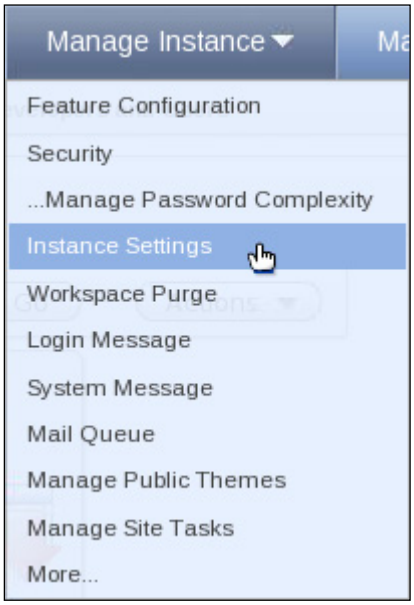


You will receive an error message. This is because you have not yet configured the Print Server by using BI Publisher. Click the **OK** button.

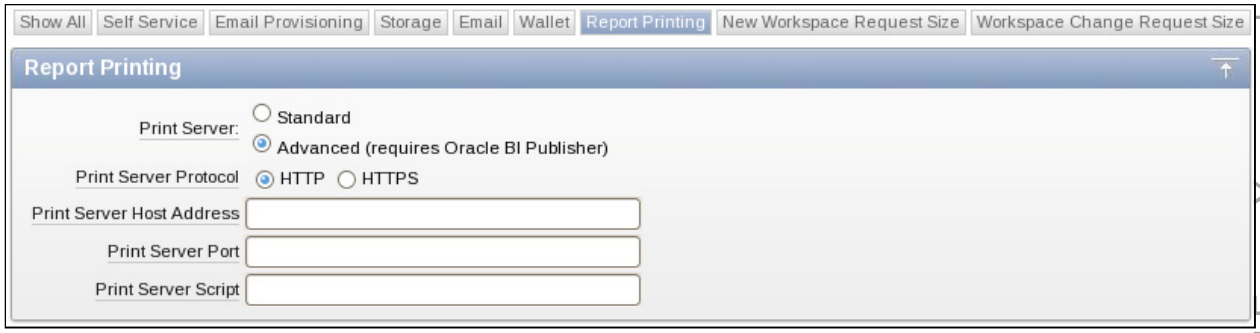


c. Configure PDF printing of report regions. BI Publisher is already installed in your ACES machines. The port number is 9704 and the print server script is located at `/xmlpserver/convert`.

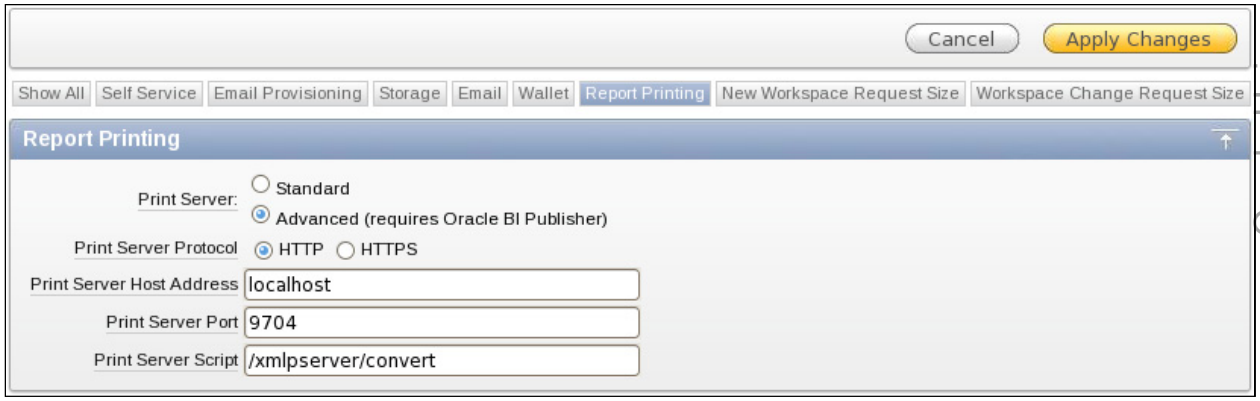
1) Click the down arrow in the Manage Instance tab and click **Instance Settings**.



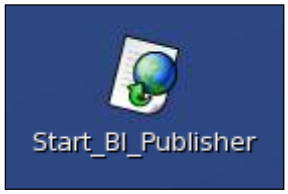
2) Click the **Report Printing** tab and select the **Advanced** option for Print Server.

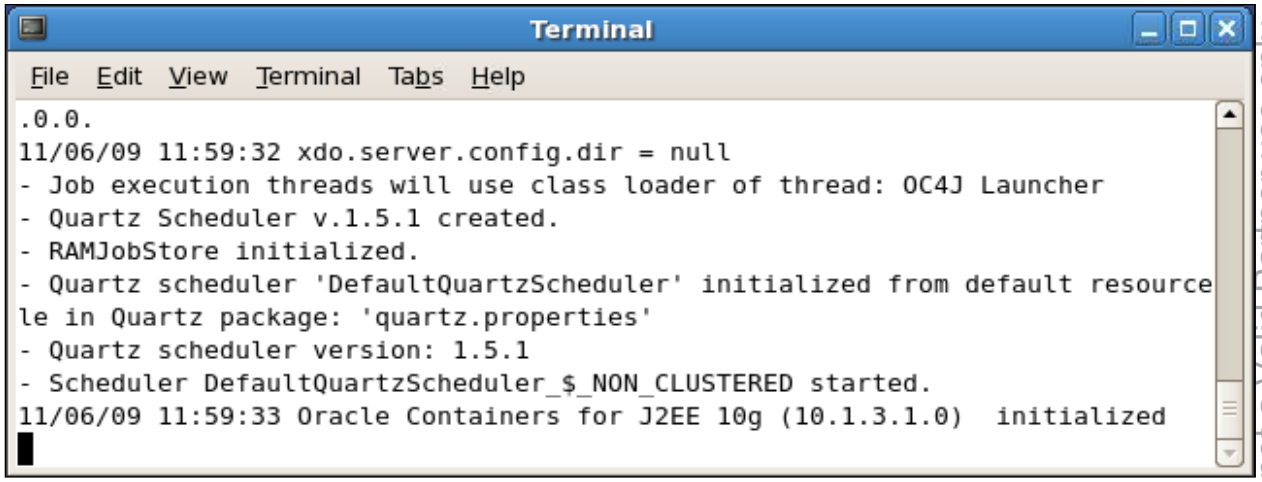


3) Enter **localhost** in the Print Server Host Address field and enter `9704` in the Print Server Port field. Enter **/xmlpserver/convert** in the Print Server Script field and click **Apply Changes**.



4) You have configured BI Publisher for APEX. To be able to use the BI Publisher services, you need to start it. Click the Start_BI_Publisher icon from the desktop.

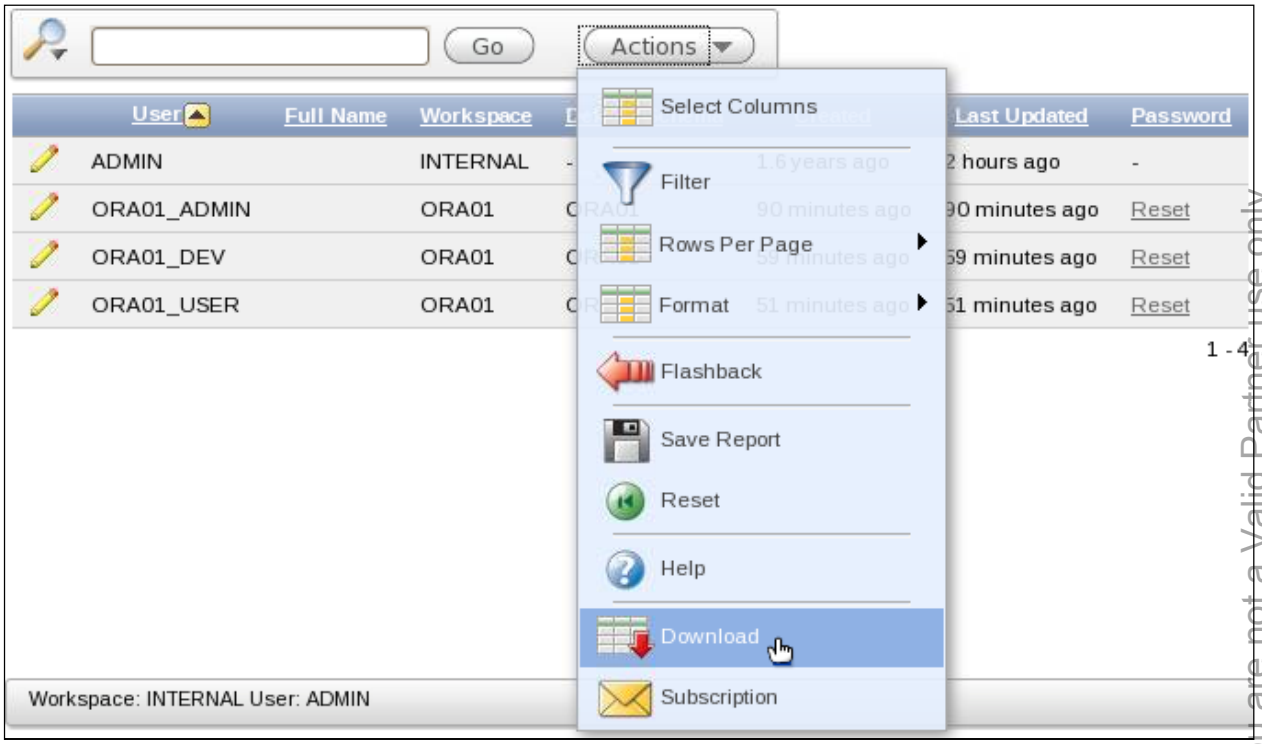




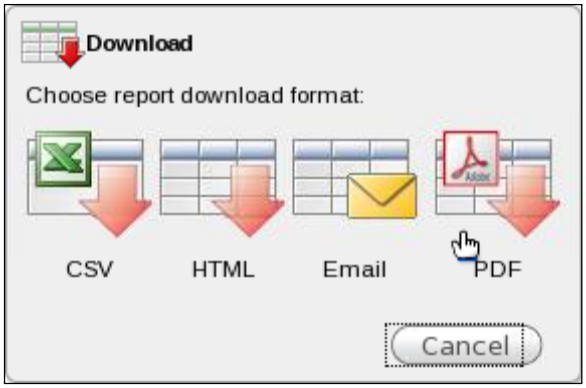
d. Again, create a PDF file for the Developers and Users interactive report. What happens?

1) Click the down arrow in the Manage Workspaces tab and select **Manage Developers and Users** link.

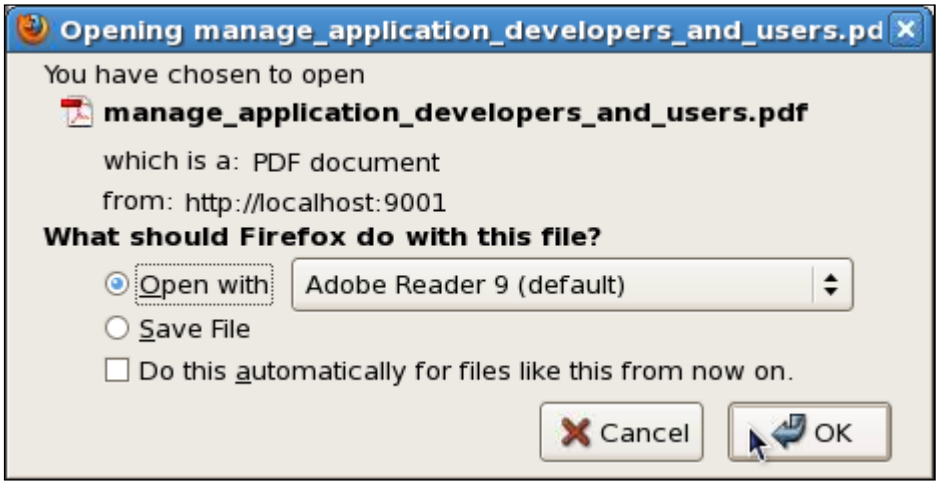
2) An interactive report listing all the users in the APEX instance is displayed. To save this report in PDF format, click the down arrow in the Actions button and select **Download**.



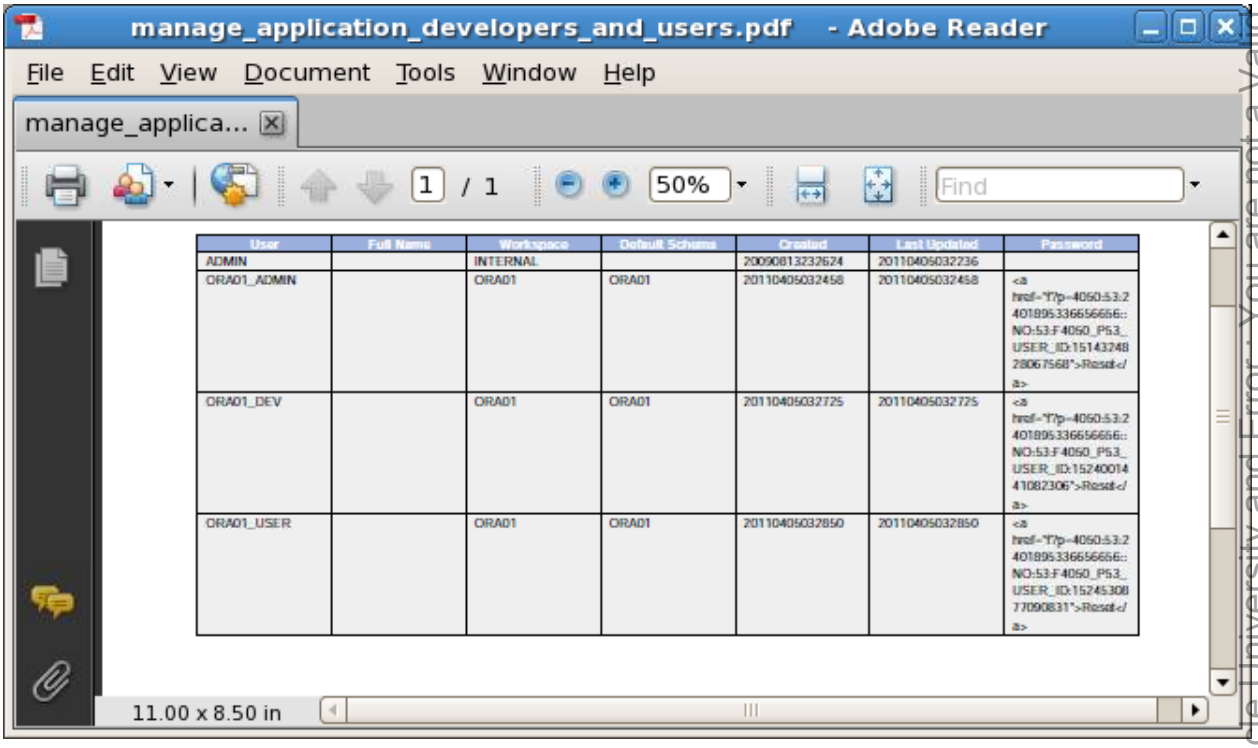
3) Select the **PDF** option.



4) Click **OK** to open this file by using Adobe Reader.



5) The PDF file is created successfully this time.

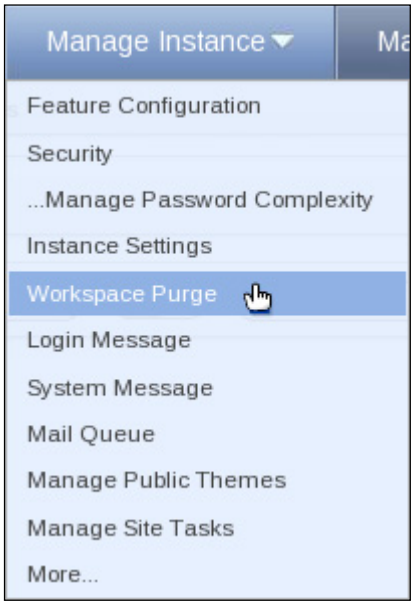


Note: If you are not able to create the PDF successfully, ensure that BI Publisher has been started.

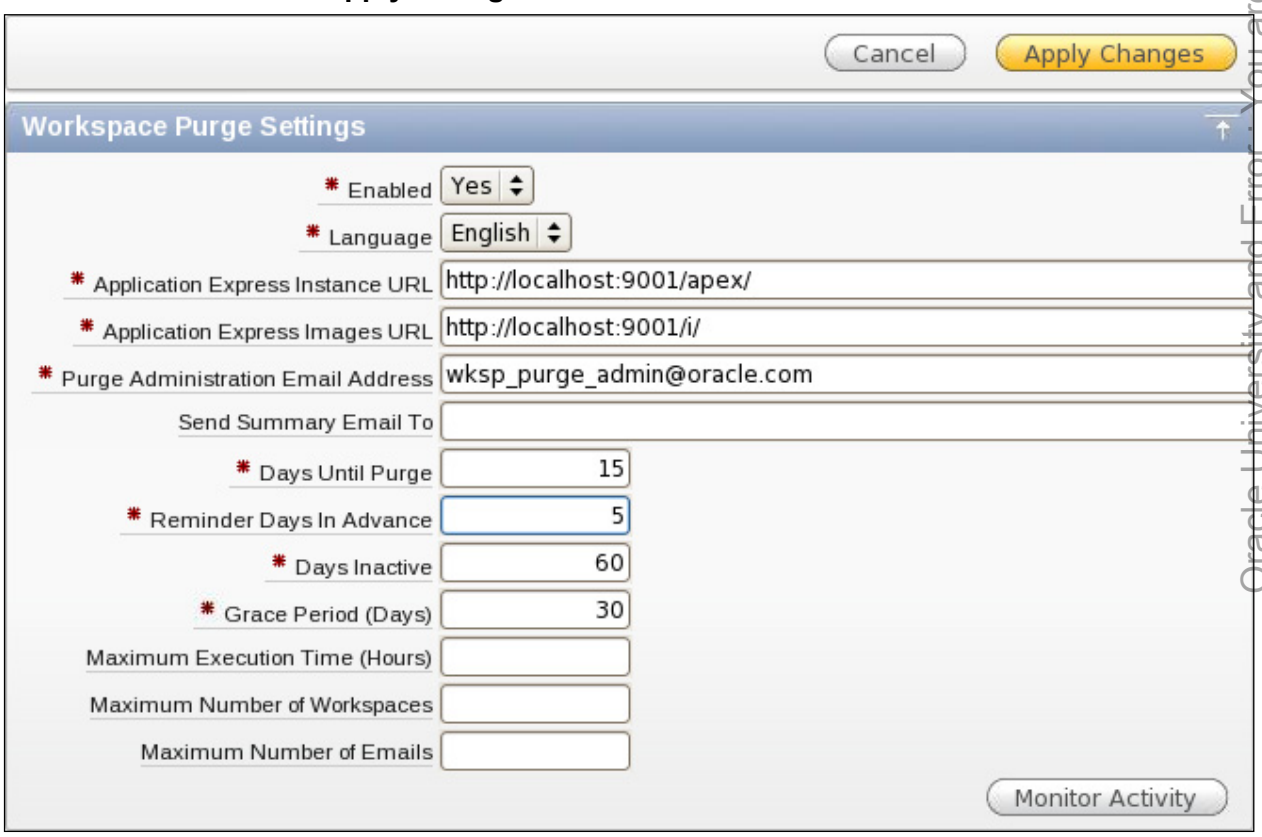
e. Enable workspace purging by using the following details:

- Use wksp_purge_admin@oracle.com as the user ID from which workspace inactive purge notifications are sent to workspace administrators.
- Mark a workspace as inactive, if there is no activity in a workspace for 60 days.
- Provide a 15-day period from the time a workspace is marked as inactive till it is actually purged.
- Send reminder emails 5 days before a workspace is purged.
- Allow a 30-day period from the time a workspace administrator confirms that they do not want to purge the workspace till the workspace is marked as inactive again.

1) Click the down arrow in the Manage Instance tab and select **Workspace Purge**.



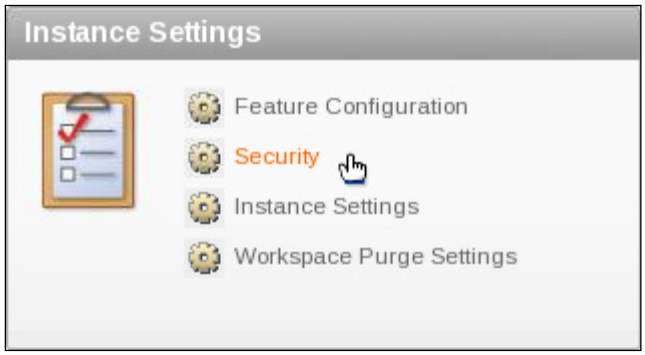
2) Select **Yes** for Enabled. Enter **wksp_purge_admin@oracle.com** in the Purge Administration Email Address field. Enter **60** in the Days Inactive field. Enter **15** in the Days Until Purge field. Enter **5** in the Reminder Days in Advance field. Enter **30** in the Grace Period field. Click **Apply Changes**.



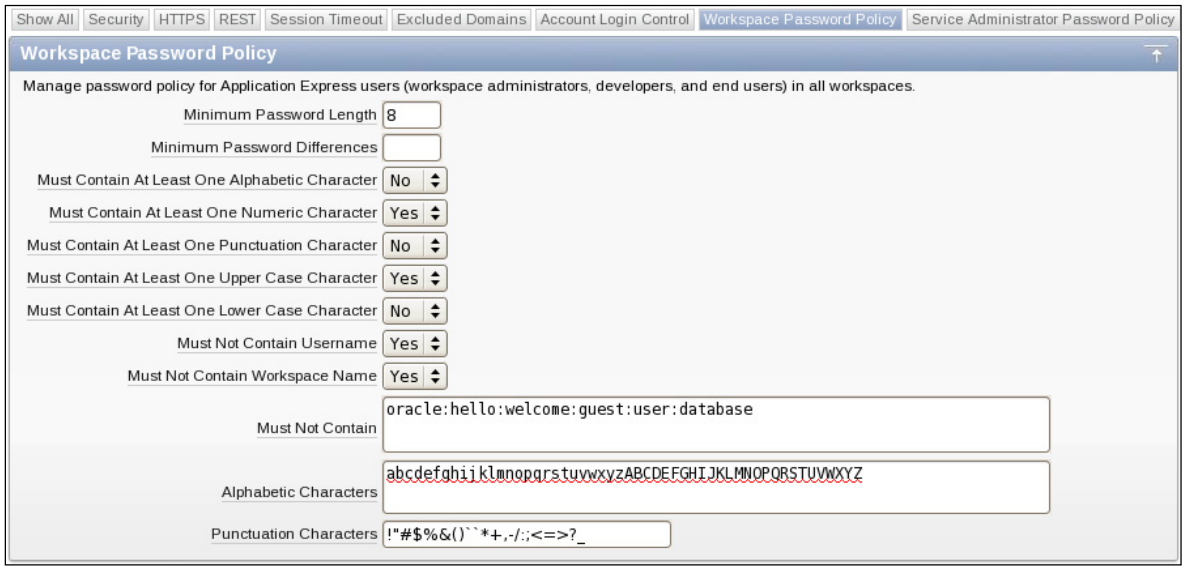
f. Create a workspace password policy conforming to the following rules.

- Password should contain at least eight characters.
- It should be alphanumeric, with at least one uppercase character.
- It should be different from the username and workspace name.

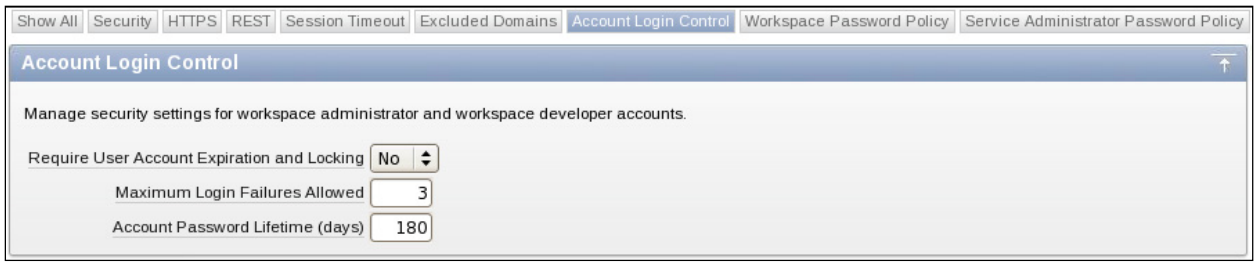
1) From the Manage Instance page, click the **Security** link under Instance Settings.



2) Click the **Workspace Password Policy** tab. Enter **8** in the Minimum Password Length field. Select **Yes** for the Must Contain At Least One Numeric Character, Must Contain At Least One Upper Case Character, Must Not Contain Username, and Must not Contain Workspace Name fields.



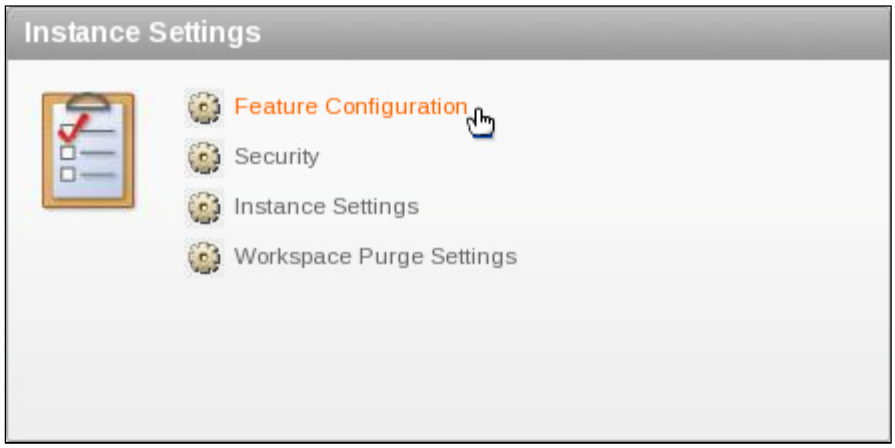
3) Click the **Account Login Control** tab. The Maximum Login Failures Allowed and Account Password Lifetime fields should not be blank. If these fields are blank, enter some values.



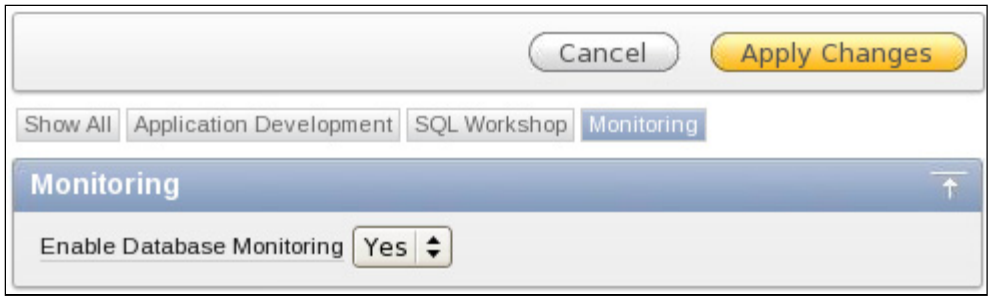
4) Click **Apply Changes**.

g. Enable users to monitor the database from the APEX development interface.

1) From the Manage Instance page, click the **Feature Configuration** link.



2) Click the **Monitoring** tab. Select **Yes** for Enable Database Monitoring and click **Apply Changes**.



Practices for Lesson 7: Administering a Workspace

Chapter 7

Practice 7: Administering a Workspace

Overview

In this practice, you will log in to the APEX development interface as a workspace administrator and perform various tasks.

Assumptions

You have completed all the previous labs.

Tasks

a. Log in to the `ora01` workspace you created in Practice 5 as the `ora01_admin` workspace administrator.
b. Place a request for a new schema called `Projects` for the `ora01` workspace.
c. Request for additional 10-MB storage for the `ora01` workspace.
d. Place a request to delete the `ora01` workspace.
e. Email the Workspace Summary Report for the latest week to my_manager@oracle.com.
f. Create a new developer user for the `ora01` workspace by using the following details:

User Role	Developer
User Name	**ora01_dev2**
Email	**ora01_dev2@oracle.com**
Password	**Developer2**

g. Display a report that lists all the active sessions in the workspace.
h. Display a report listing all the login attempts in to the workspace.
i. View the Workspace and Users dashboards.
j. From the APEX developer interface login page, request for a new workspace by using the following details:

First Name	**john**
Last Name	**smith**
Email Address	**john.smith@oracle.com**
Workspace name	**my_workspace**
New schema name	**my_schema**
New schema password	**my_schema**
Justification	**Practicing requesting a workspace.**

Practice Solutions 7: Administering a Workspace

Overview

In this practice solution, the steps to log in to the APEX development interface as a workspace administrator and perform various tasks are provided.

Assumptions

You have completed all previous labs.

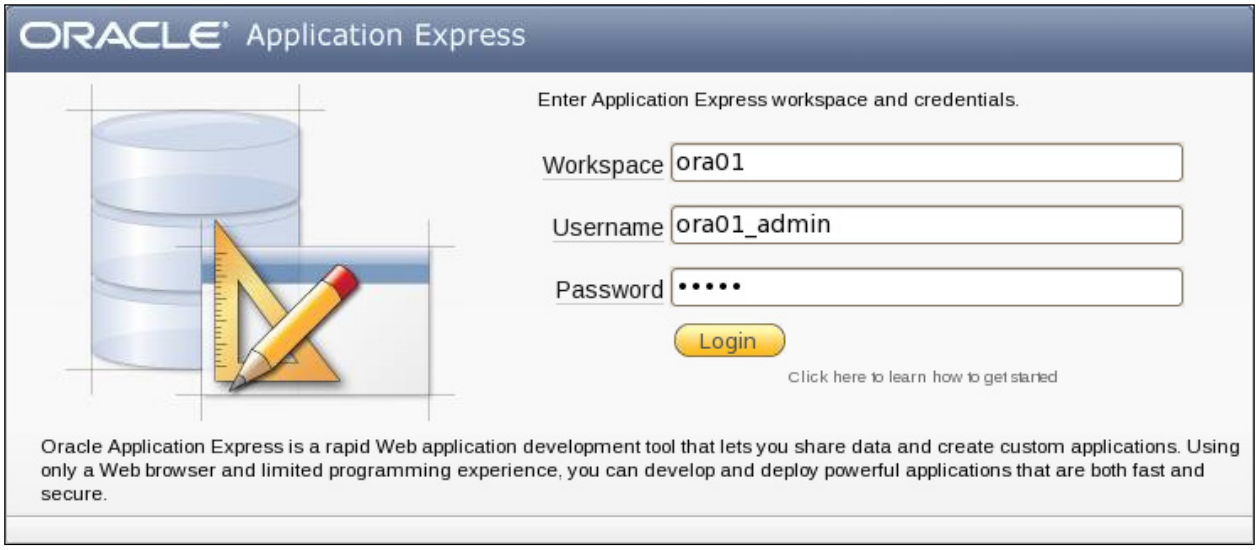
Solutions

a. Log in to the `ora01` workspace you created in Practice 5 as the `ora01_admin` workspace administrator.

1) Access the APEX development interface login page by using the following URL:

```
http://localhost:9001/apex
```

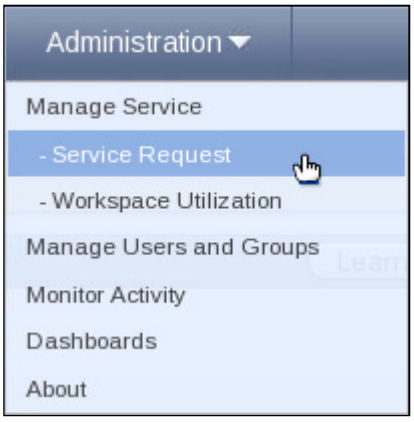
2) Enter **`ora01`** for workspace, **`ora01_admin`** for username, and **`ora01`** for password. Click the **Login** button.



You will be prompted to change the password. Remember the password policy you created earlier. Use a password like Apex1234. Log in again by using the new password.

b. Place a request for a new schema called `Projects` for the `ora01` workspace.

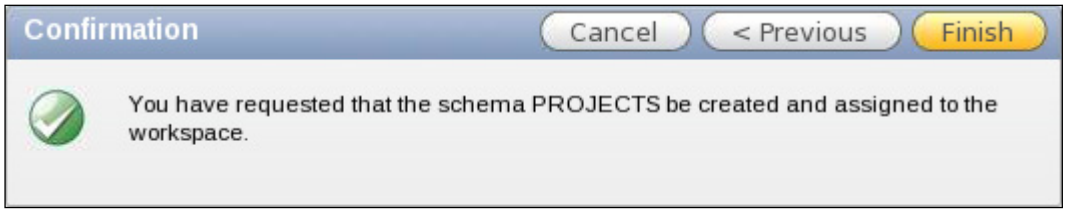
1) Click the down arrow in the Administration tab and select **Service Request**.



2) Select the **Request Schema** option and click **Next**.

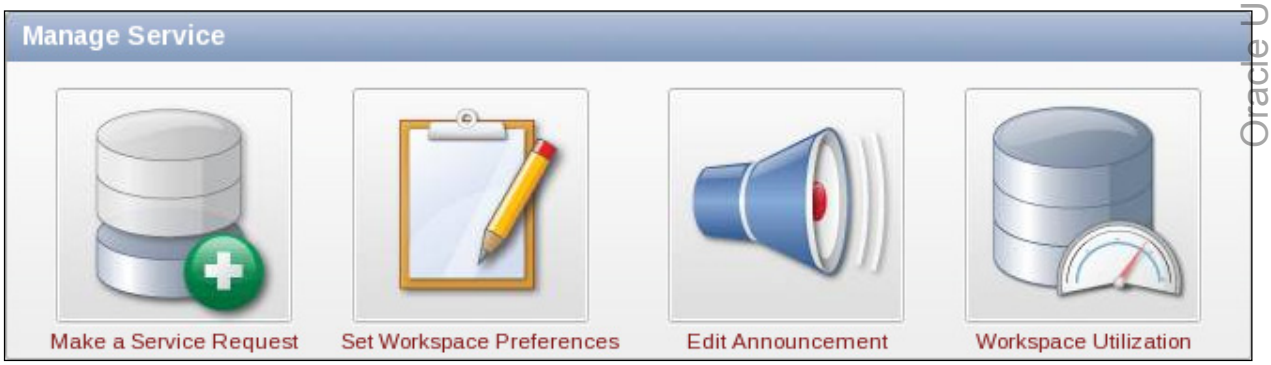
3) Select **Request a new schema** and enter **Projects** in the Schema Name field. Click **Next**.

4) Click **Finish**.



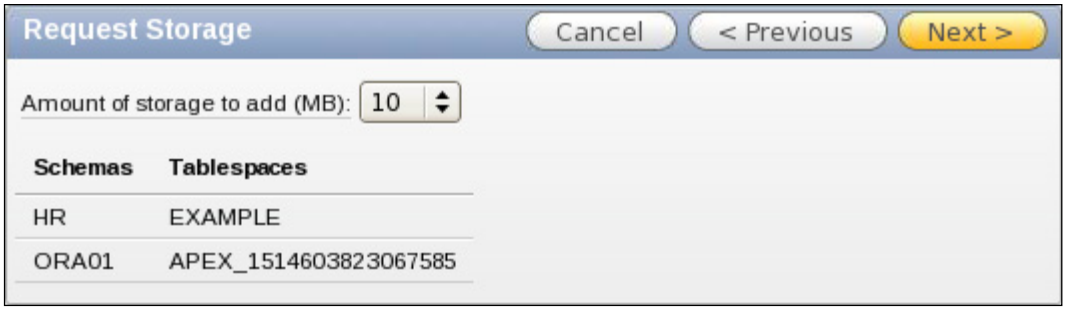
c. Request for additional 10-MB storage for the `ora01` workspace.

1) Click the **Make a Service Request** icon from the Manage Service page.

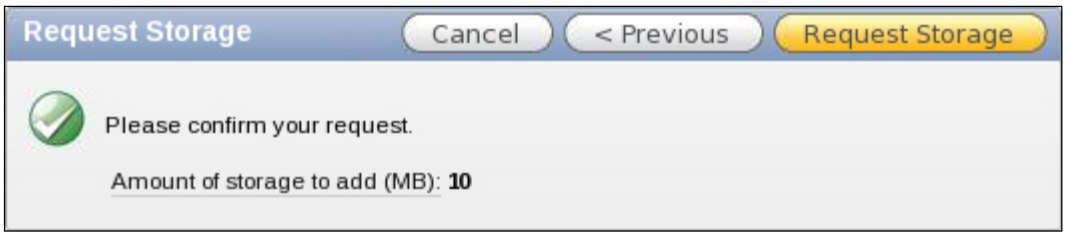


2) Select the **Request Storage** option and click **Next**.

3) Select **10** for the Amount of storage to add field and click **Next**.

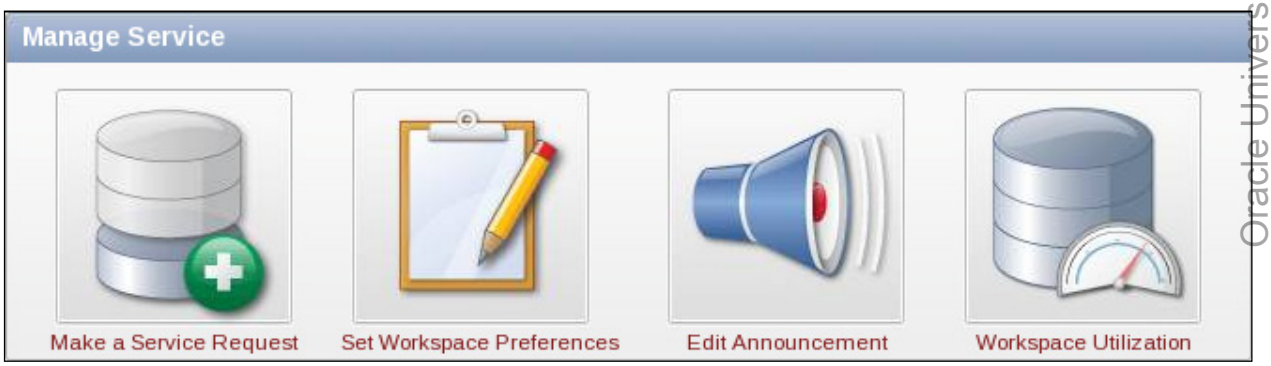


4) Click the **Request Storage** button.



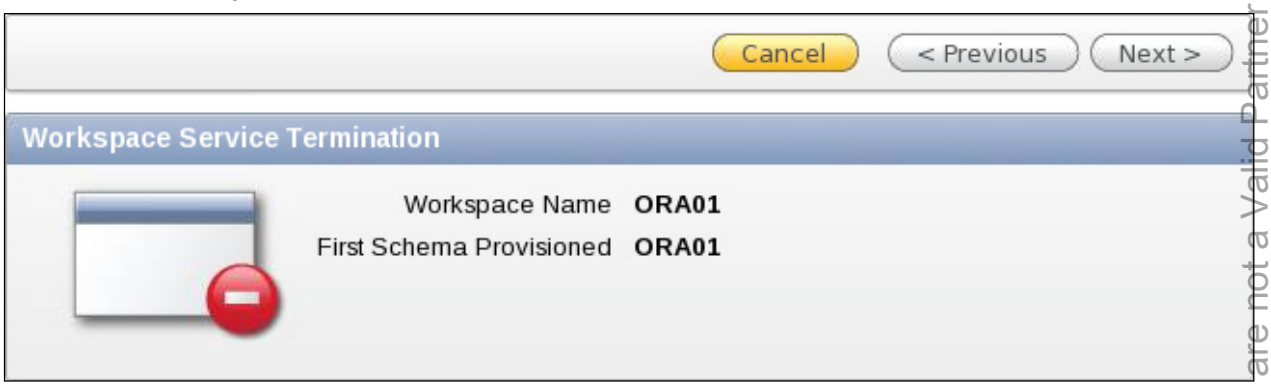
d. Place a request to delete the `ora01` workspace.

1) Click the **Make a Service Request** icon from the Manage Service page.



2) Select **Request Termination** and click **Next**.

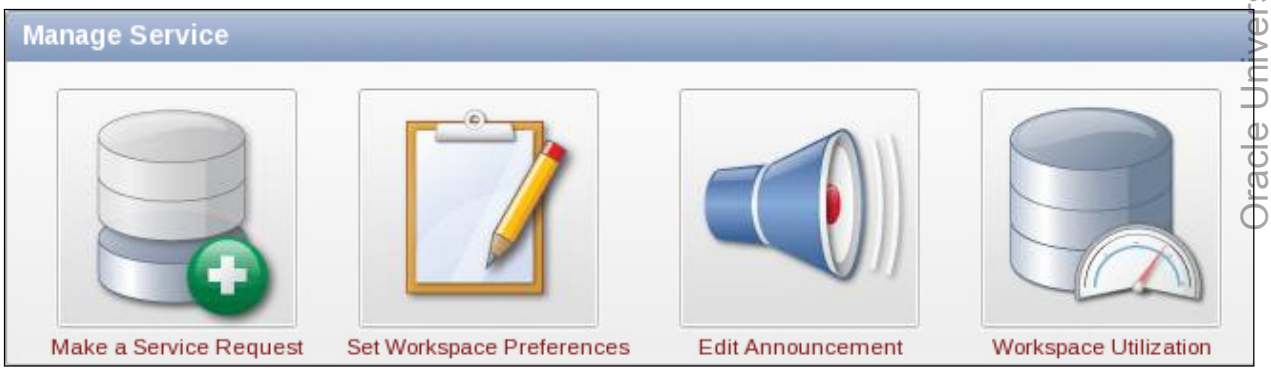
3) Review the displayed details and click **Next**.



4) Click the **Terminate Service** button.

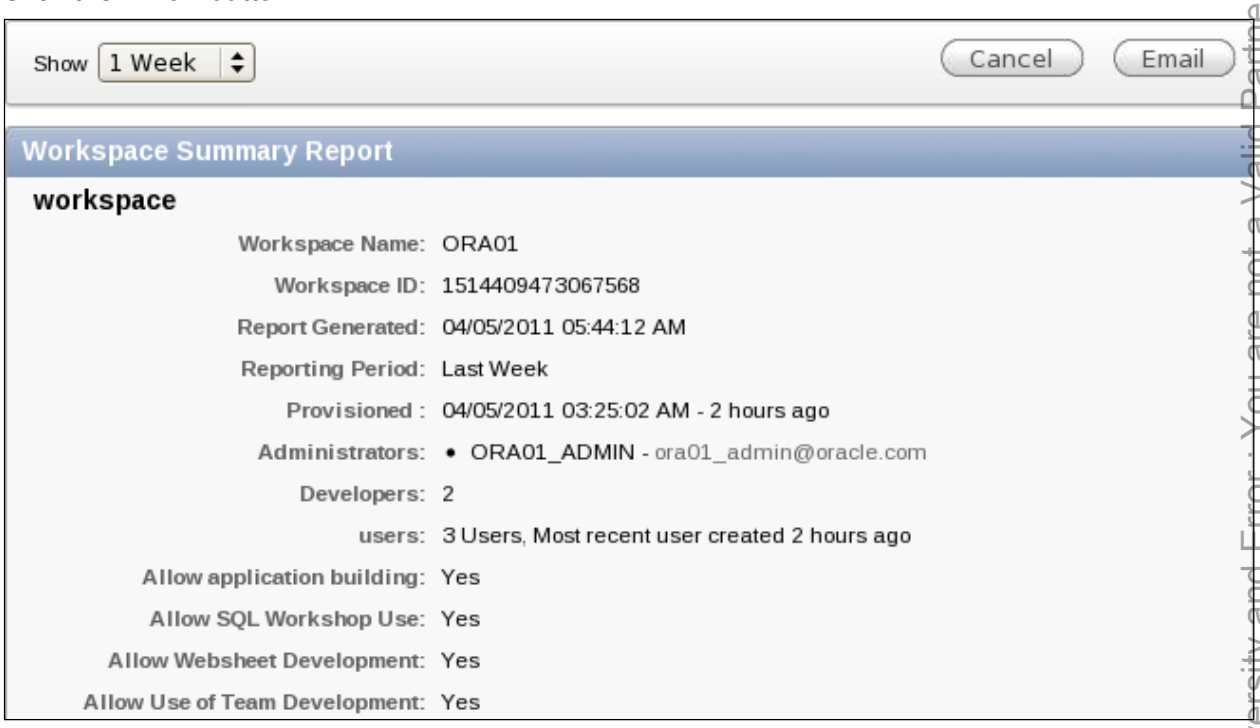
e. Email the Workspace Summary Report for the latest week to my_manager@oracle.com.

1) To view the Workspace Summary Report, click the **Workspace Utilization** icon from the Manage Service page.

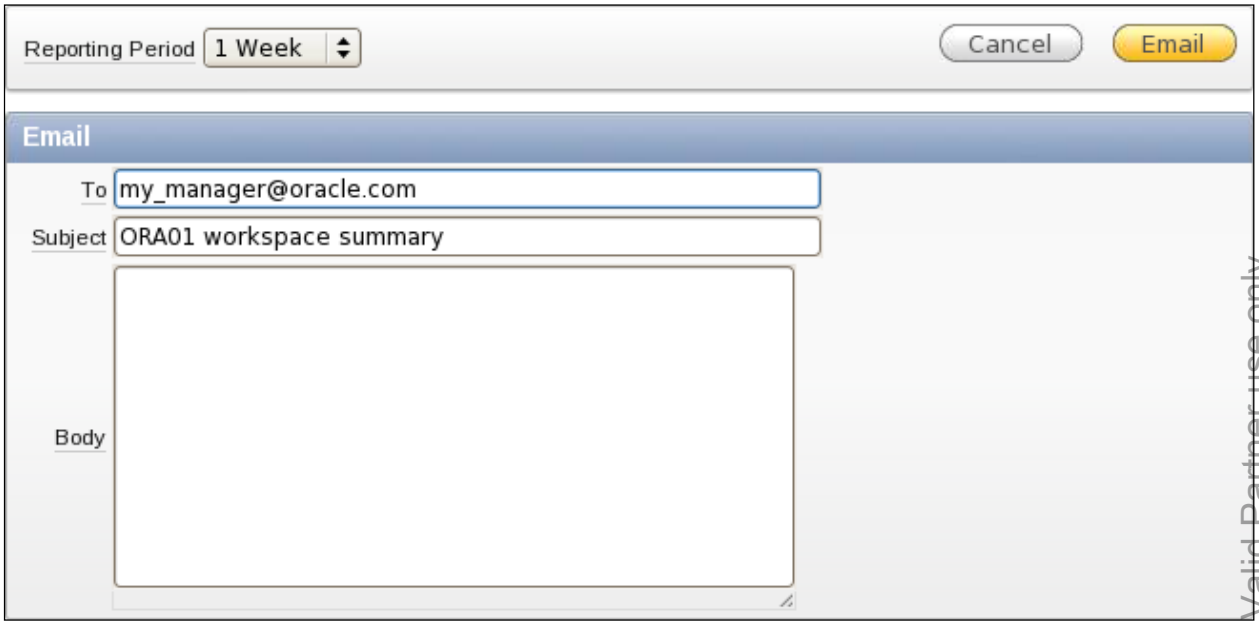


2) Select **1 Week** from the Show drop-down list.

3) Click the **Email** button.



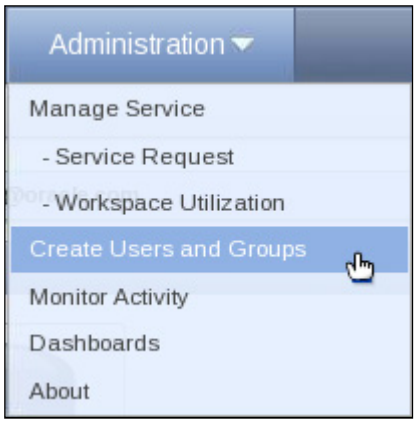
4) Enter **my_manager@oracle.com** in the To field and click **Email**.



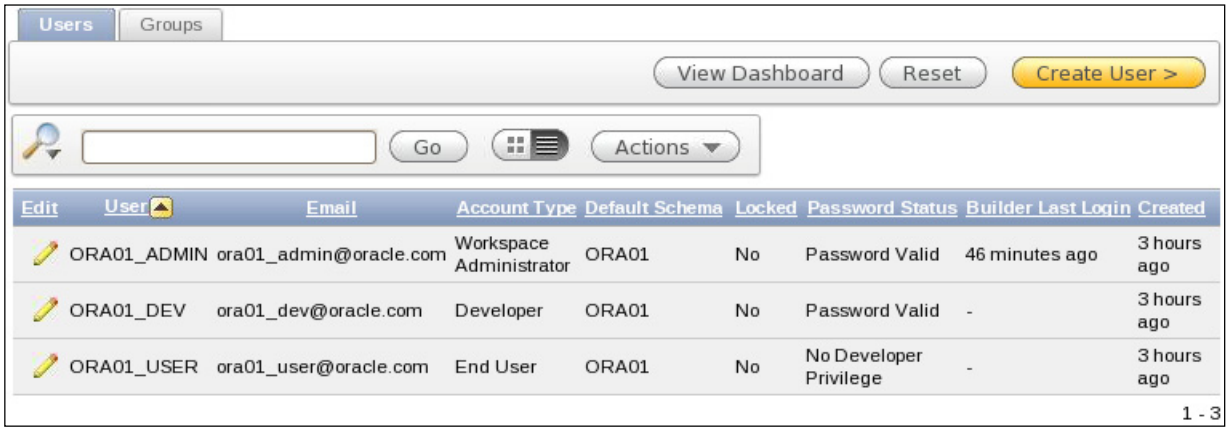
f. Create a new developer user for the `ora01` workspace by using the following details.

User Role	**Developer**
User Name	**`ora01_dev2`**
Email	**`ora01_dev2@oracle.com`**
Password	**`Developer2`**

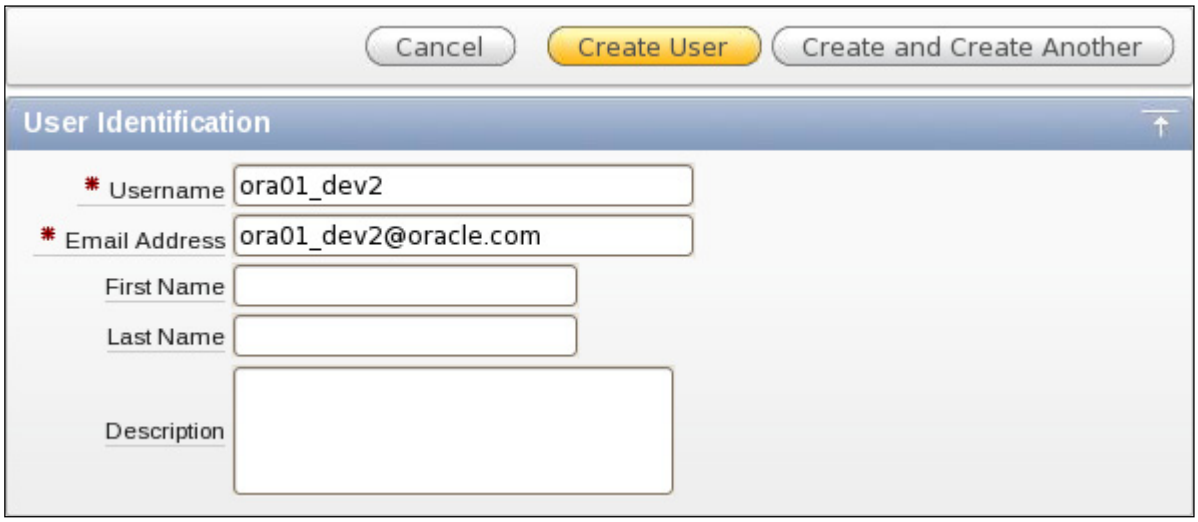
1) Click the down arrow in the Administration tab and select **Create Users and Groups**.



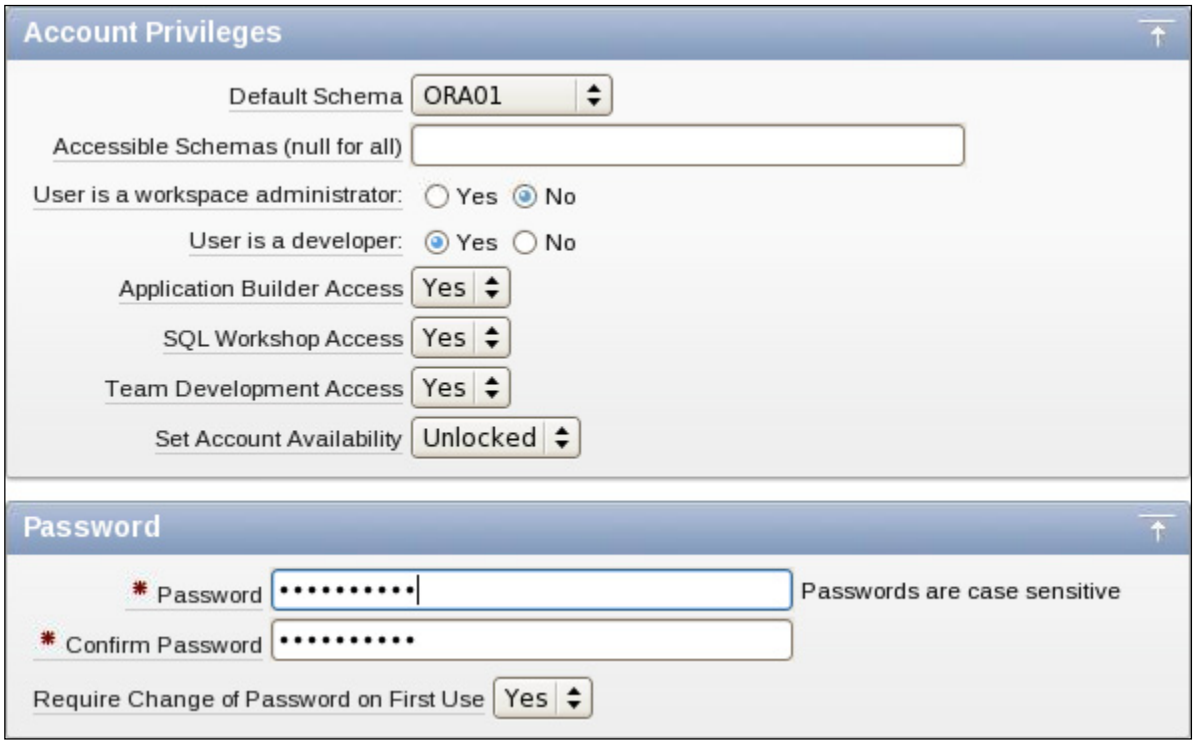
2) Click the **Create User** button.



3) Enter **`ora01_dev2`** for username and **`ora01_dev2@oracle.com`** for Email Address.



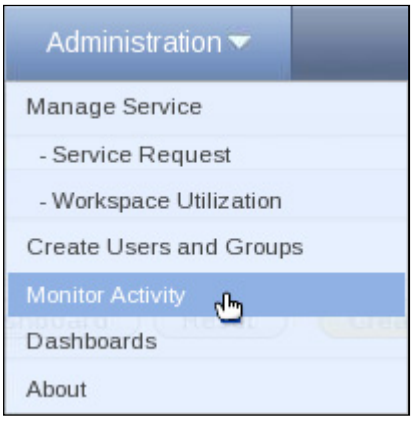
4) Accept the default settings for Account Privileges and enter `Developer2` for Password and Confirm Password fields.



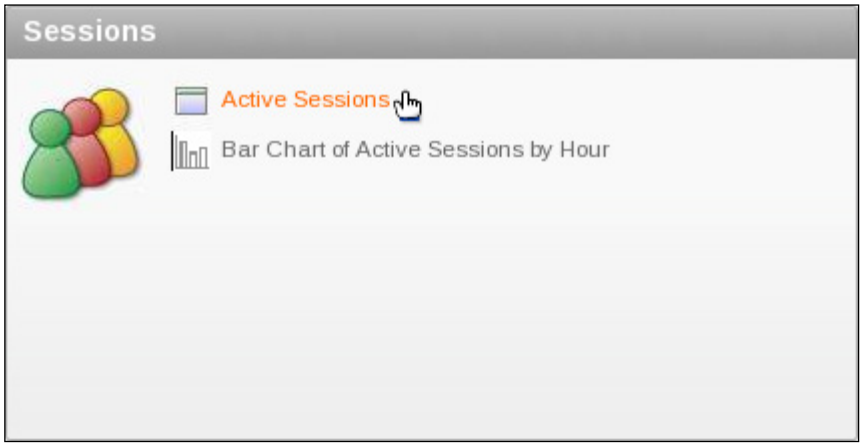
5) Click **Create User**.

g. Display a report that lists all the active sessions in the workspace.

1) Click the down arrow in the Administration tab and select **Monitor Activity**.



2) Select **Active Sessions** under Sessions.

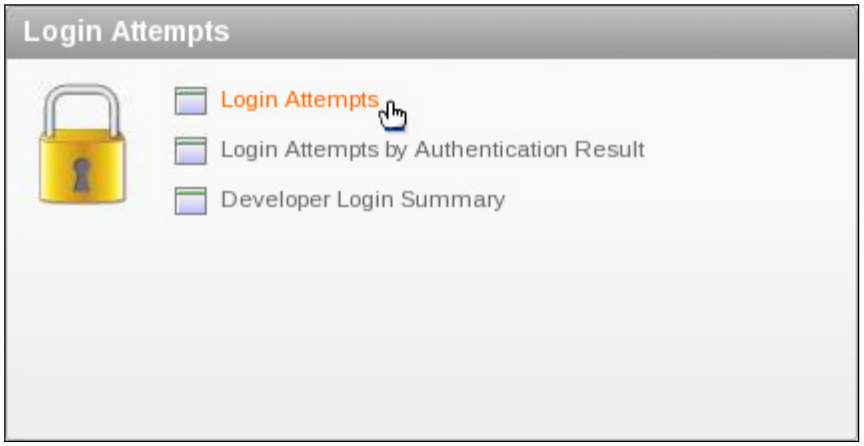


3) The Active Session report is displayed.

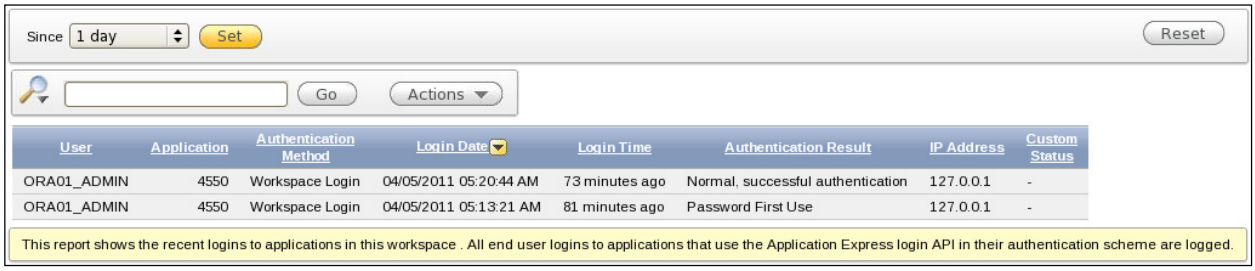
h. Display a report listing all the login attempts in to the workspace.

1) Click the **Monitor Activity** Breadcrumb.

2) Click **Login Attempts** under Login Attempts.

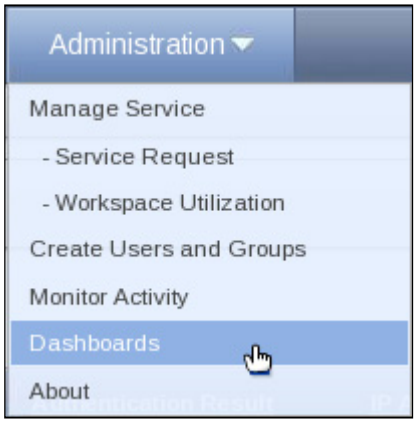


3) The **Login Attempts** report is displayed.

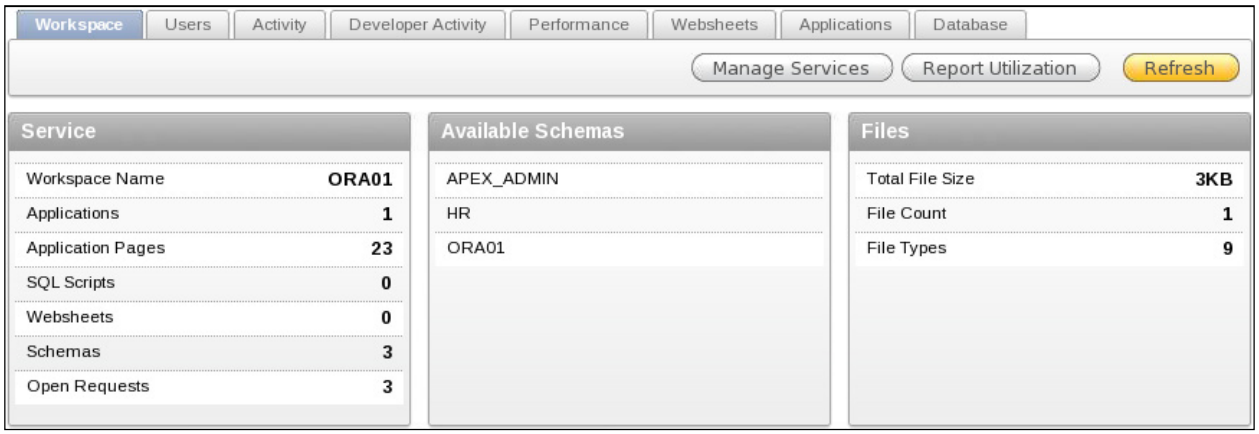


i. View the Workspace and Users dashboards.

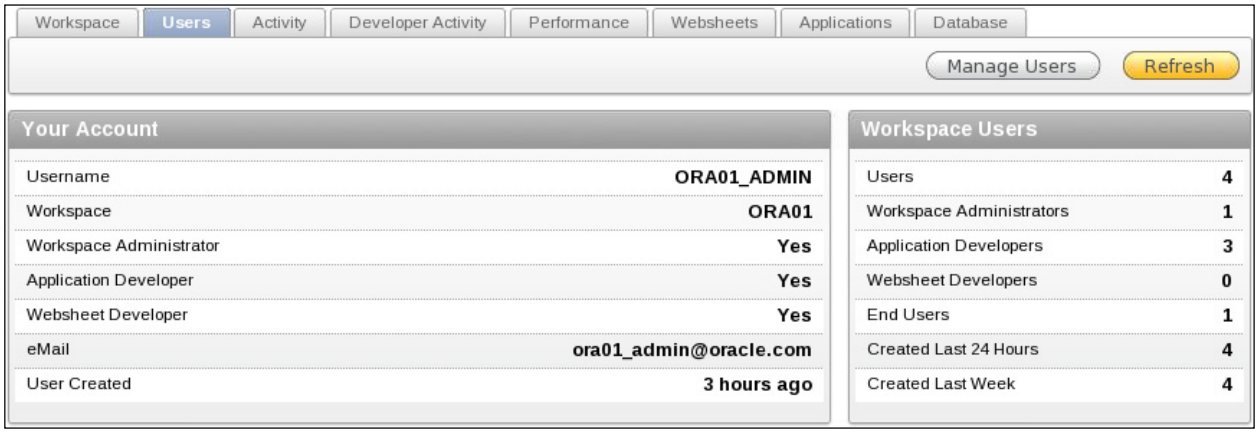
1) Click the down arrow in the Administration tab and select **Dashboards**.



2) The Workspace dashboard is displayed. Click the **Users** tab.



3) The Users Dashboard is displayed.

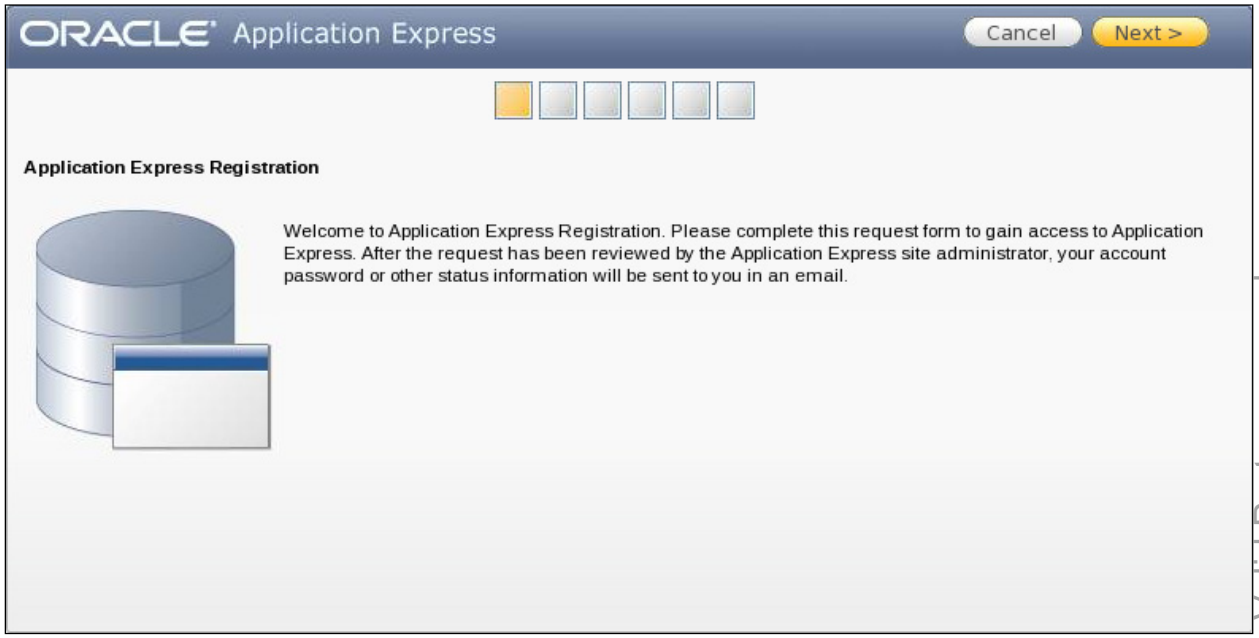


j. From the APEX developer interface login page, request for a new schema by using the following details:

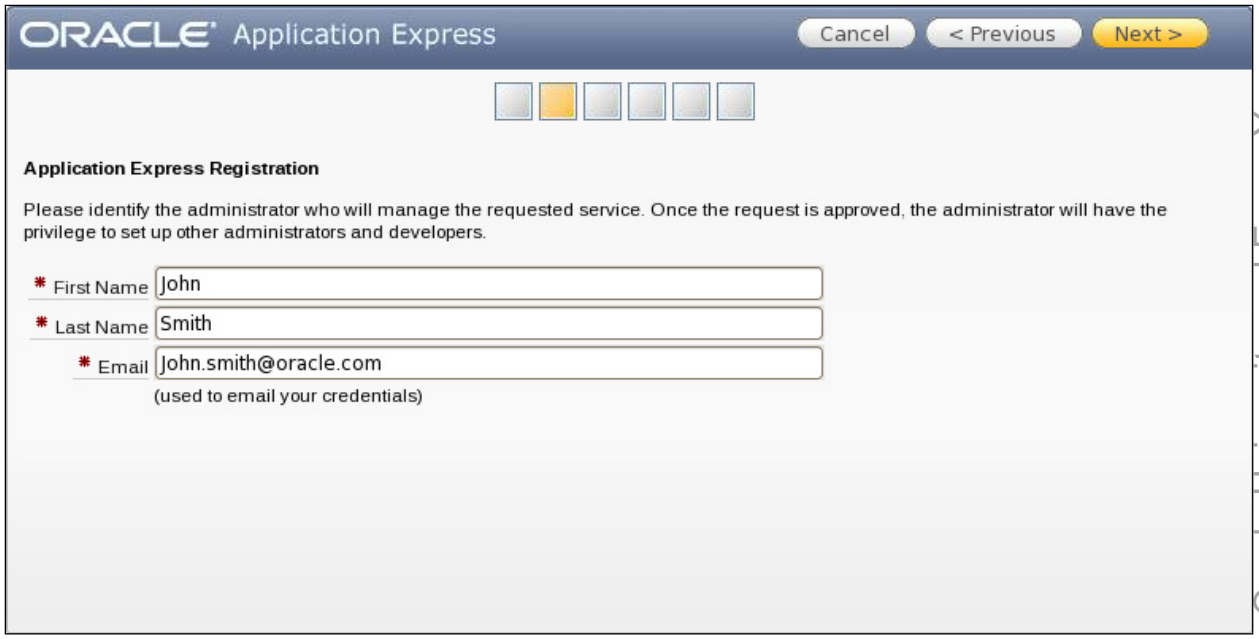
First Name	`john`
Last Name	`smith`
Email Address	`john.smith@oracle.com`
Workspace name	`my_workspace`
New schema name	`my_schema`
Justification	`Practicing requesting a workspace.`

1) Access the APEX development interface login page. Click the **Request a Workspace** link.

2) Click **Next**.

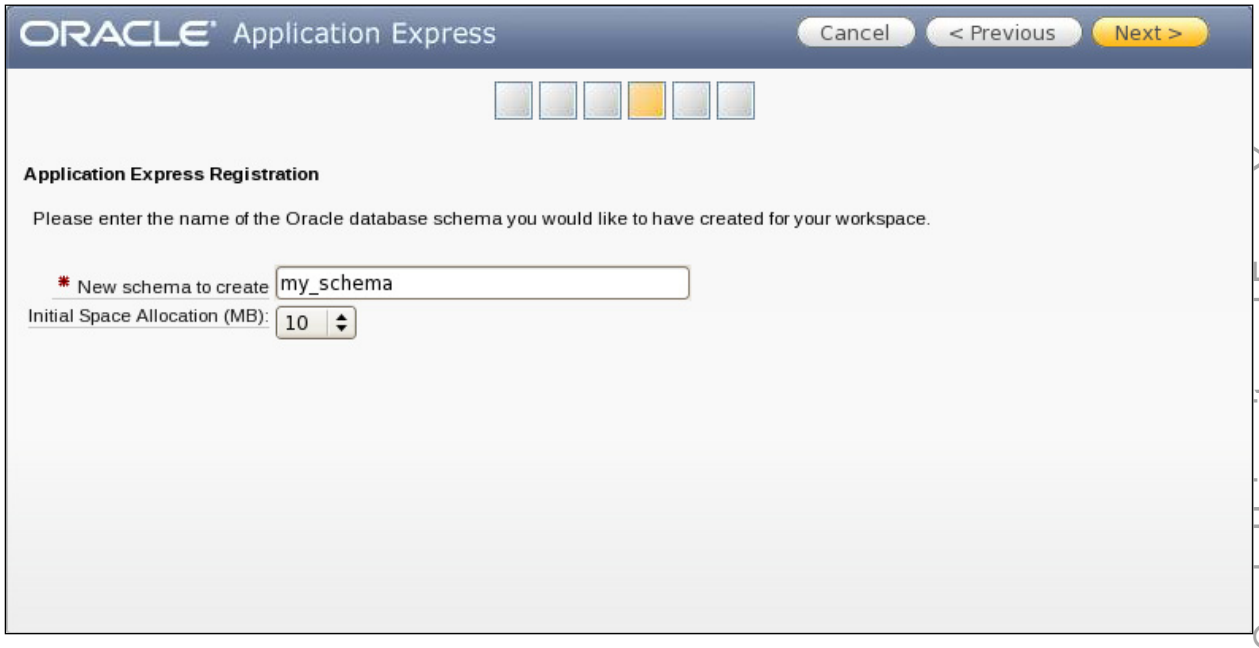


3) Enter **john** for First Name, **Smith** for Last Name, and **john.smith@oracle.com** for Email. Click **Next**.

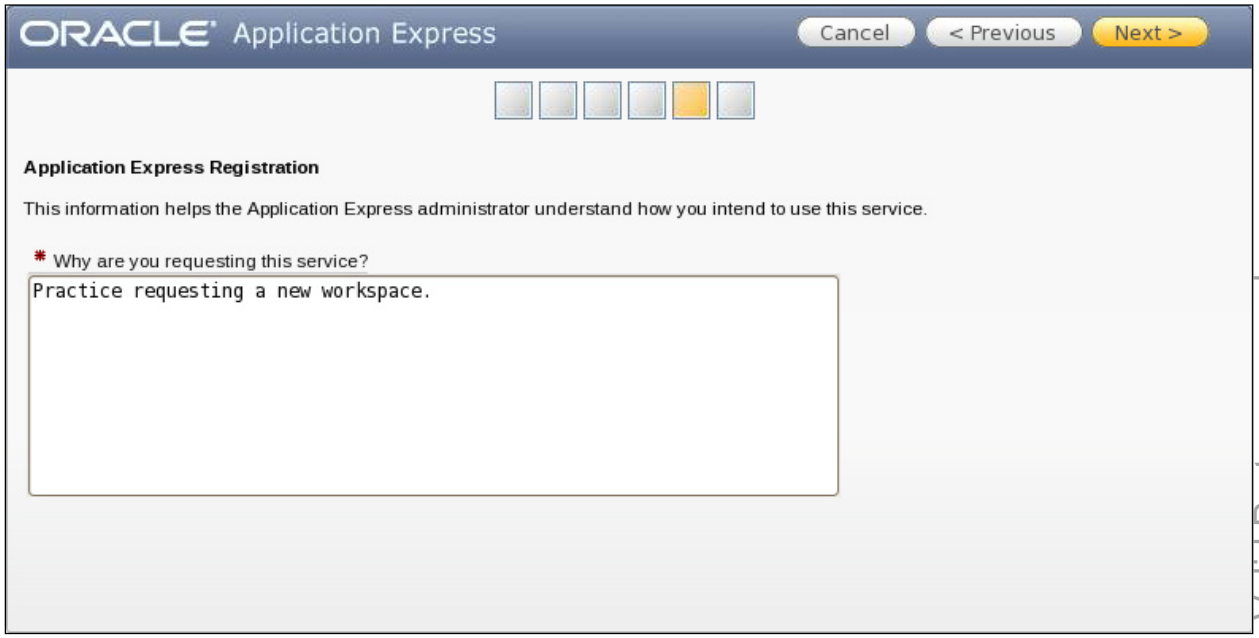


4) Enter **my_workspace** for Workspace and click **Next**.

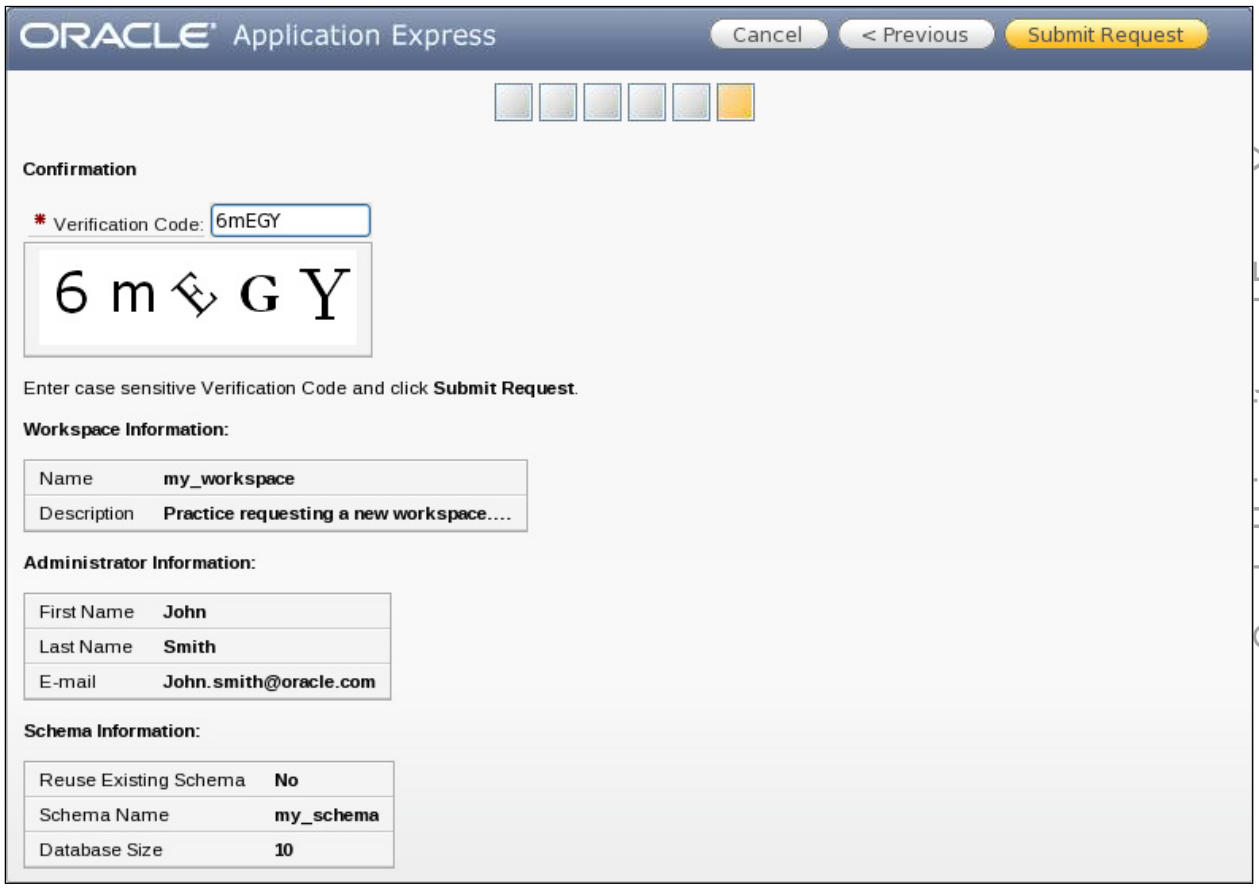
5) Enter **`my_schema`** as the new schema to create and click **Next**.



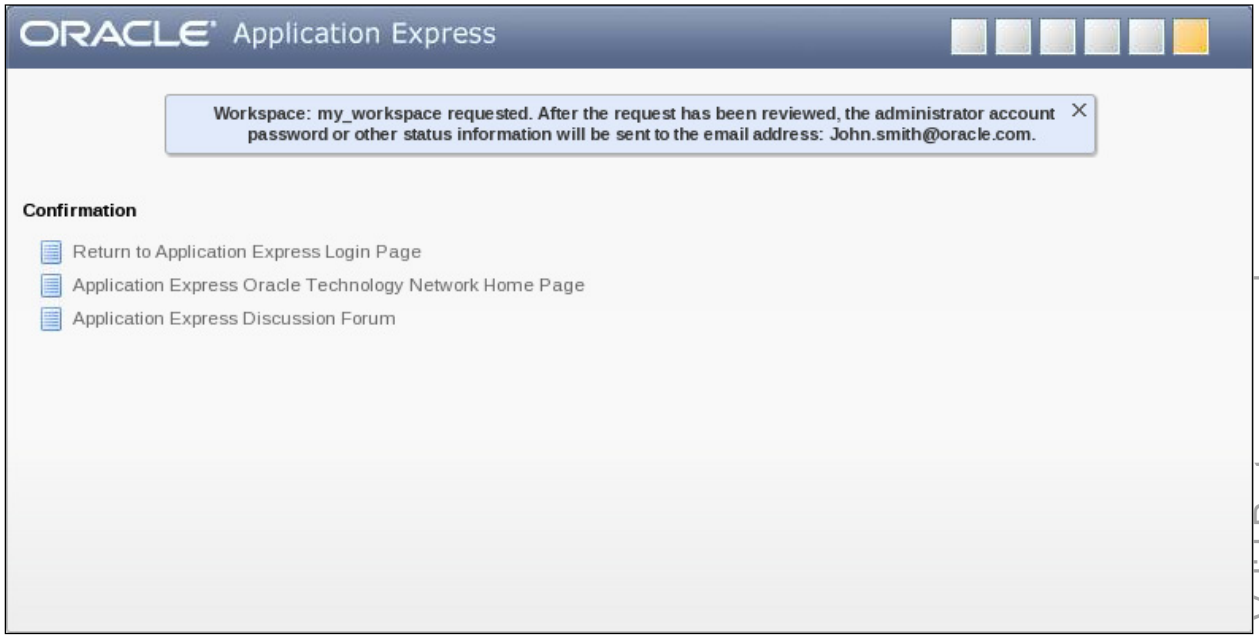
6) Enter the justification and click **Next**.



7) Enter the verification code as displayed in your browser and click **Submit Request**.



8) The request for a new workspace has been submitted.



Practices for Lesson 8: Administering an APEX instance

Chapter 8

Practice 8: Administering an APEX Instance

Overview

In this practice, you will log in to Administration Services and perform various tasks of an instance administrator.

Assumptions

You have completed all the previous labs.

Tasks

a. Log in to the Administration Services and view the various service requests you have received. Where all are these requests listed?

b. Approve the request for `Projects` schema for the `ora01` workspace.

c. Approve the request for additional 10-MB storage for the `ora01` workspace.

d. Decline the request to delete the `ora01` workspace. Include this message "This workspace is required to complete the rest of the practices."

e. Approve the new workspace request.

f. View the Email Log report. Are the notification and the Workspace Summary Report emails listed?

g. Display a report that lists all the active sessions in the entire APEX instance.

h. Display the following message on the APEX development interface login page: The Development interface will be unavailable from 8:00 AM till 13:00 PM IST on 28th April 2011.

i. Display the following message on the home page of all workspaces: A new theme called custom is available.

Practice Solutions 8: Administering an APEX instance

Overview

In this practice solution, the steps to log in to Administration Services and perform various tasks of an instance administrator are provided.

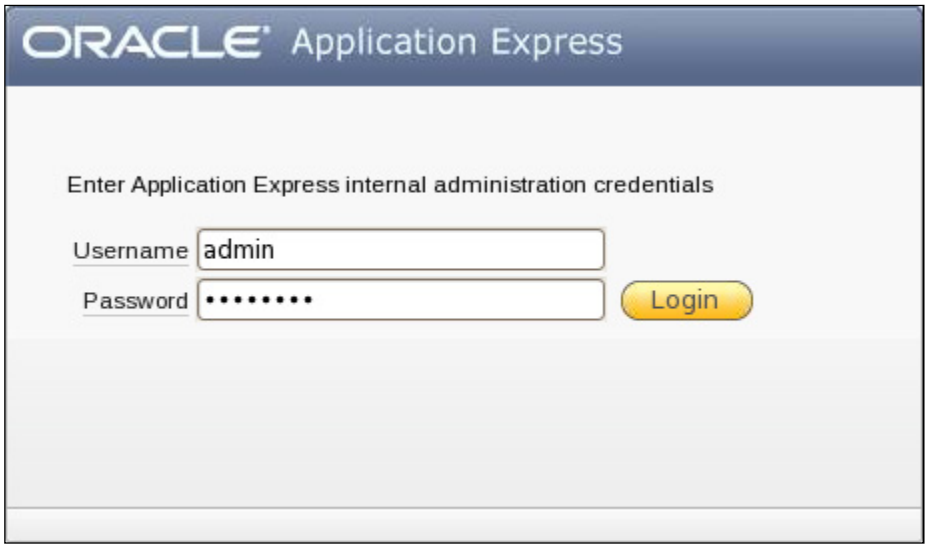
Assumptions

You have completed all the previous labs.

Solutions

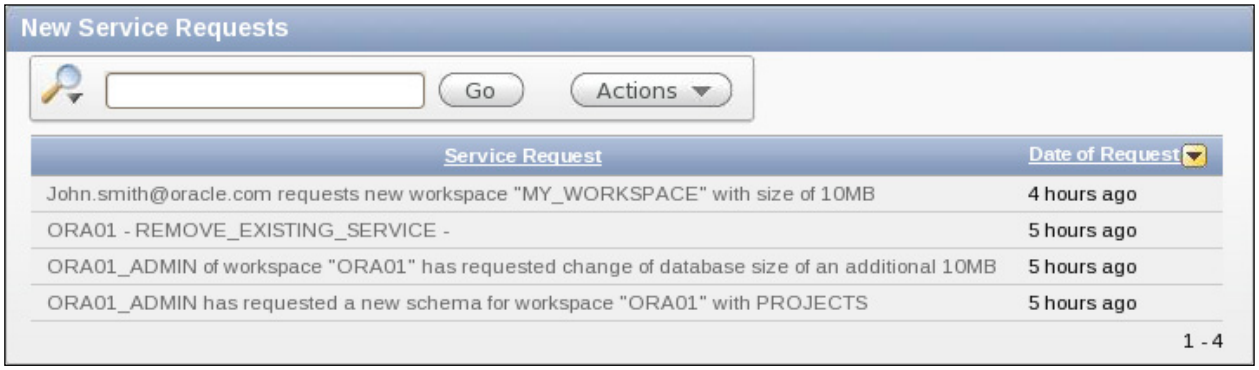
a. Log in to the Administration Services and view the various service requests you have received. Where all are these requests listed?

1) Access the Administration Services login page and enter the admin credentials.



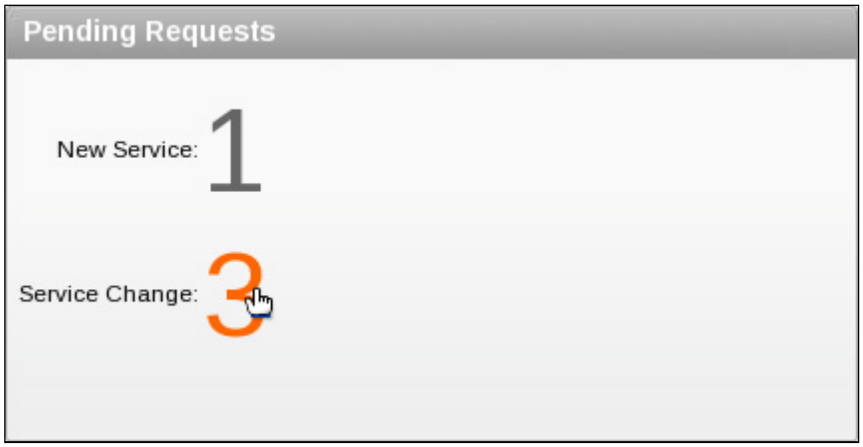
2) View the Service Requests numbers listed under Pending Requests in the home page. You can click the number links to view the requests in more detail.

3) You can also view the requests from the New Service Requests report region in the home page.

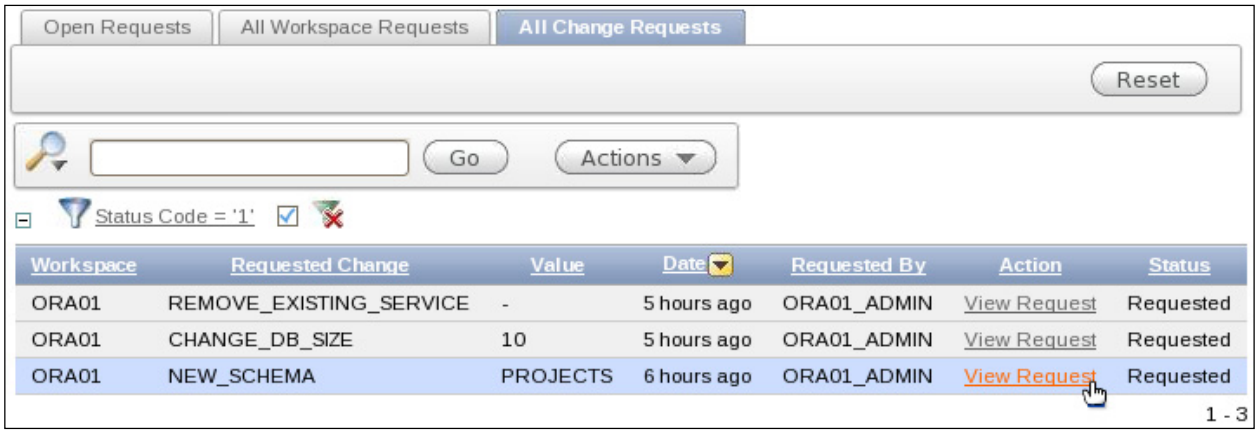


b. Approve the request for `Projects` schema for the `ora01` workspace.

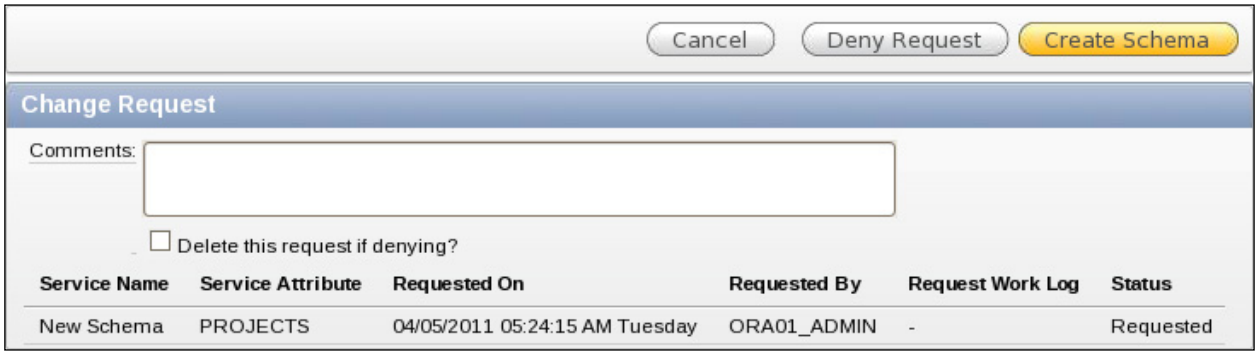
1) This is a change request. Hence, click the number link next to Service Change under Pending Requests from the home page.



2) Click the **View Request** link for the New Schema request.



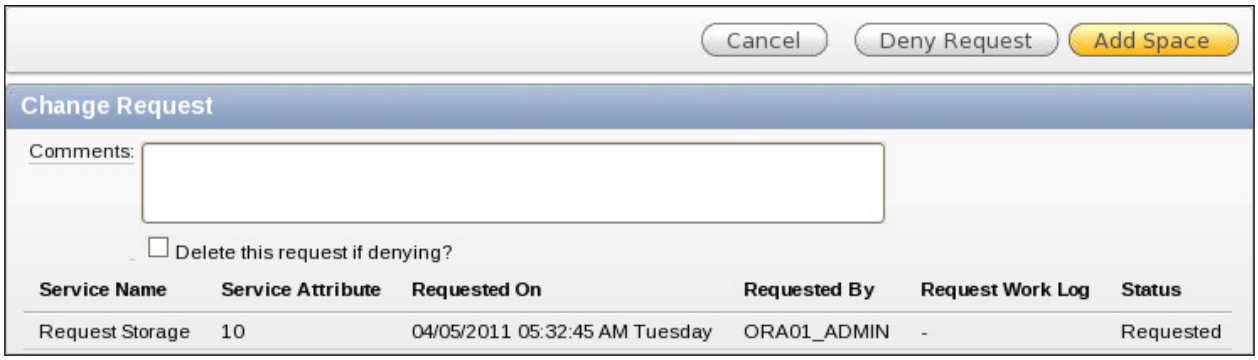
3) Click **Create Schema**.



c. Approve the request for additional 10-MB storage for the `ora01` workspace.

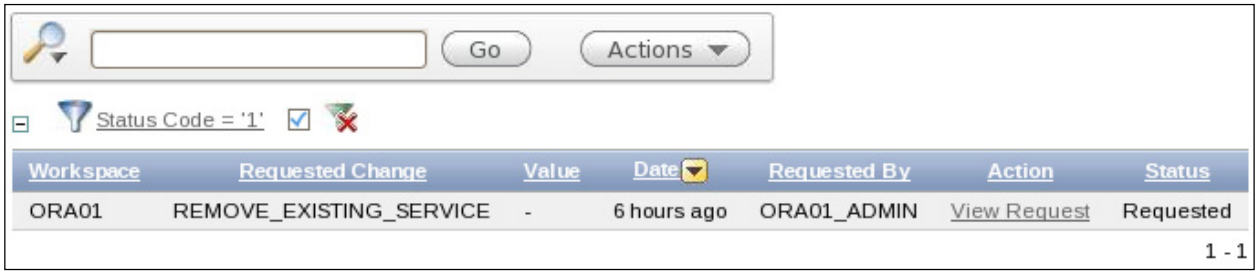
1) Click the **View Request** link for the change storage request.

2) Click the **Add Space** button.

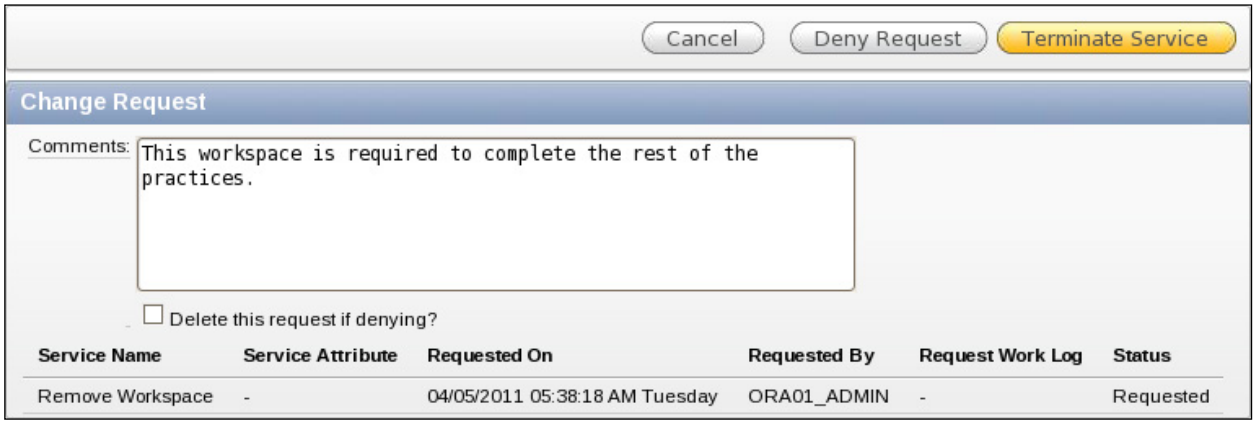


d. Decline the request to delete the `ora01` workspace. Include this message "This workspace is required to complete the rest of the practices."

1) Click the **View Request** link for the workspace termination request.



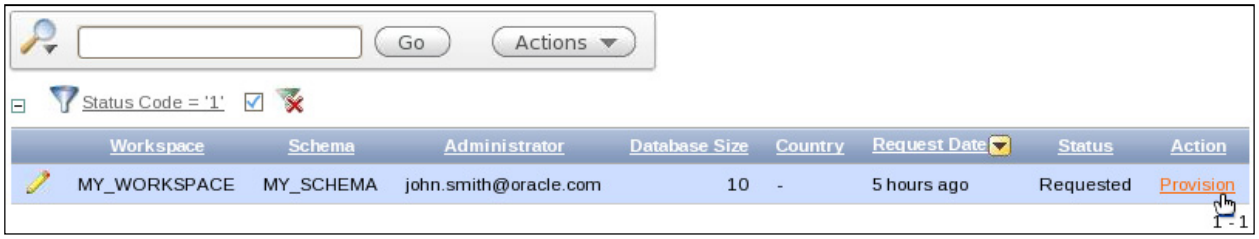
2) Enter your comments in the Comments field and click the **Deny Request** button.



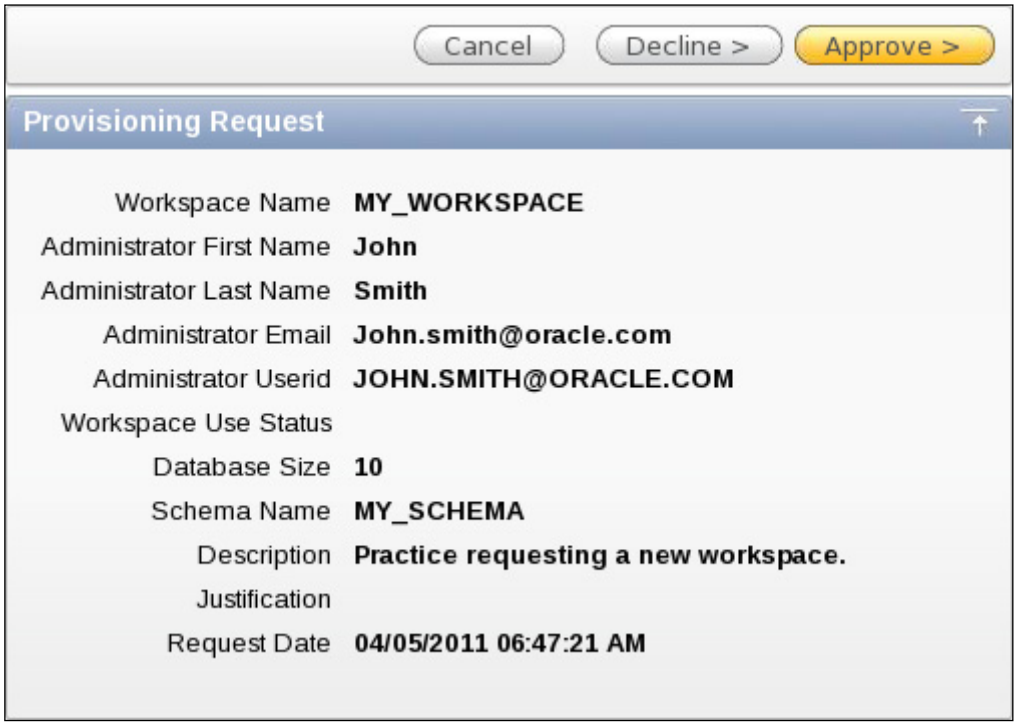
e. Approve the new workspace request.

1) Click the **All Workspace Requests** tab.

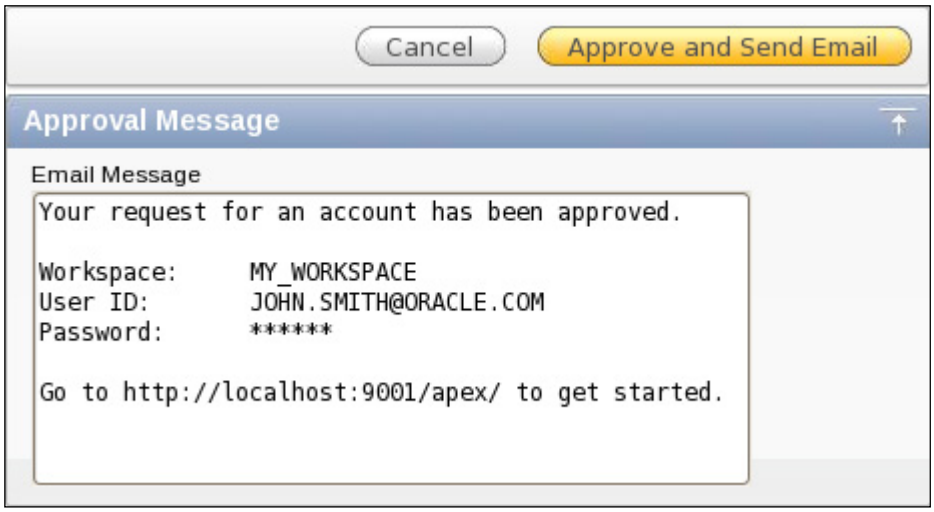
2) Click the **Provision** link under the Action column for the workspace request.



3) Click the **Approve** button.



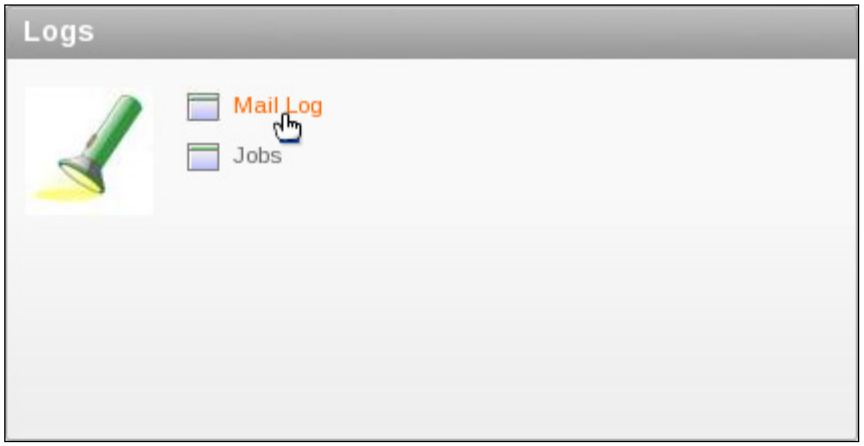
4) Review the email that will be sent out and click the **Approve and Send Email** button.



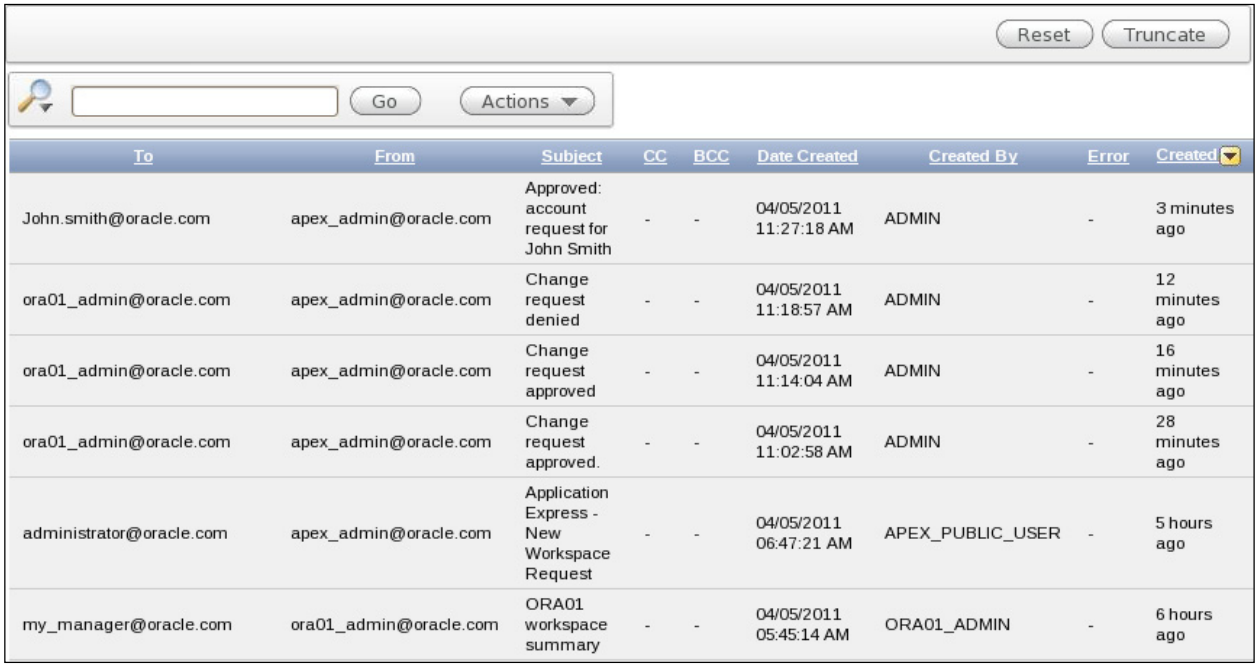
f. View the Email Log report. Are the notification and the Workspace Summary Report emails listed?

1) Click the **Monitor Activity** tab.

2) Click the **Mail Log** link under Logs.



3) All the mails sent from APEX are listed here.

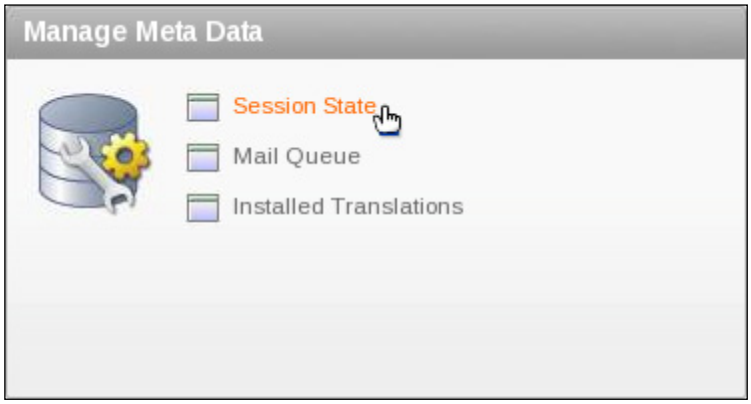


To	From	Subject	CC	BCC	Date Created	Created By	Error	Created
John.smith@oracle.com	apex_admin@oracle.com	Approved: account request for John Smith	-	-	04/05/2011 11:27:18 AM	ADMIN	-	3 minutes ago
ora01_admin@oracle.com	apex_admin@oracle.com	Change request denied	-	-	04/05/2011 11:18:57 AM	ADMIN	-	12 minutes ago
ora01_admin@oracle.com	apex_admin@oracle.com	Change request approved	-	-	04/05/2011 11:14:04 AM	ADMIN	-	16 minutes ago
ora01_admin@oracle.com	apex_admin@oracle.com	Change request approved.	-	-	04/05/2011 11:02:58 AM	ADMIN	-	28 minutes ago
administrator@oracle.com	apex_admin@oracle.com	Application Express - New Workspace Request	-	-	04/05/2011 06:47:21 AM	APEX_PUBLIC_USER	-	5 hours ago
my_manager@oracle.com	ora01_admin@oracle.com	ORA01 workspace summary	-	-	04/05/2011 05:45:14 AM	ORA01_ADMIN	-	6 hours ago

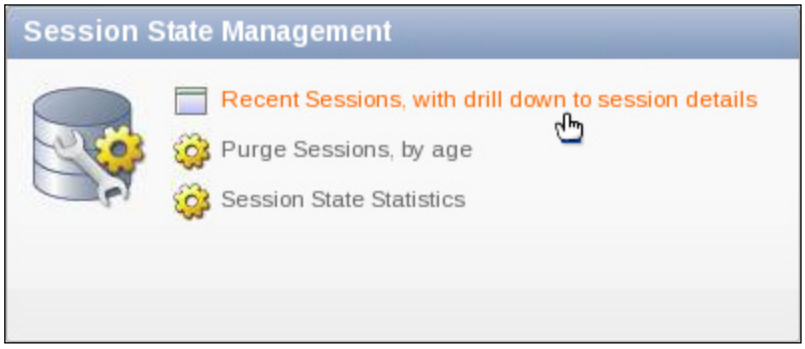
g. Display a report that lists all the active sessions in the entire APEX instance.

1) Click the **Manage Instance** tab.

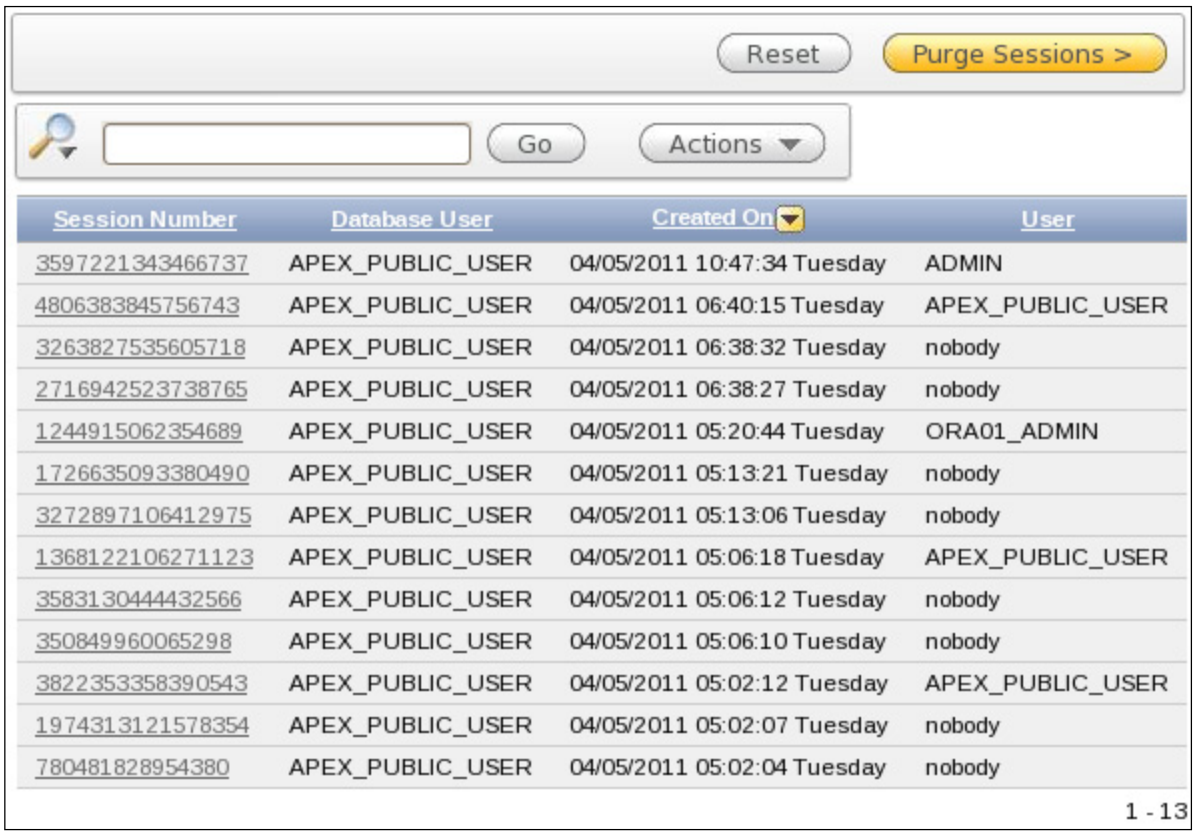
2) Click the **Session State** link under Manage Meta Data.



3) Click the **Recent Sessions, with drill down to session details** link.

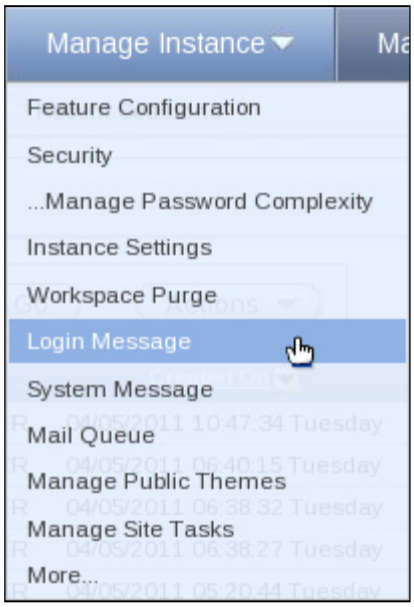


4) The sessions are listed.

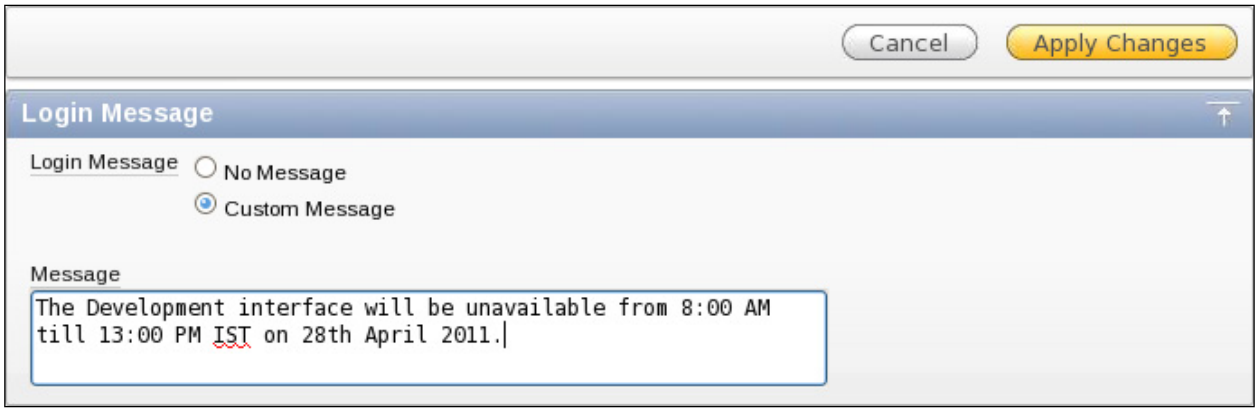


h. Display the following message on the APEX development interface login page: **The Development interface will be unavailable from 8:00 AM till 13:00 PM IST on 28th April 2011**.

1) Click the down arrow in the Manage Instance tab and select **Login Message**.

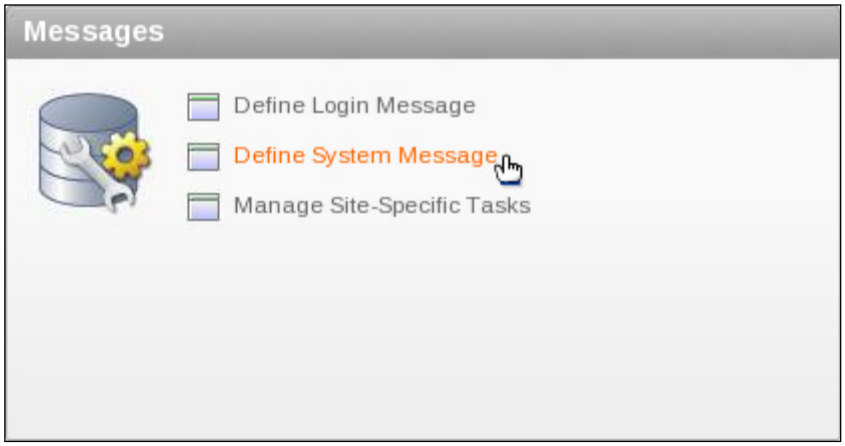


2) Select **Custom Message** and enter the message in the Message field. Click **Apply Changes**.



i. Display the following message on the home page of all workspaces: **A new theme called custom is available.**

1) From the Manage Instance page, click the **Define System Message** link under Messages.



2) Select **Custom Message** and enter the message in the Message field. Click **Apply Changes**.

Practices for Lesson 9: Using the APEX_INSTANCE_ADMIN API

Chapter 9

Practice 9-1: Using the APEX_INSTANCE_ADMIN API

Overview

In this practice, you will perform some of the APEX administration tasks by using the APEX_INSTANCE_ADMIN API.

Assumptions

You have completed the previous practices. You will use the APEX_INSTANCE_ADMIN API for these tasks.

Tasks

a. Create a workspace called “my_api_workspace” and assign the HR schema as the primary schema for this workspace. Also, add the ORA01 schema as an additional schema for this workspace.
b. View the schemas assigned to the ORA01 workspace.
c. Add the ORA21 schema to the ORA01 workspace.
d. Display the email configuration settings for the entire instance.
e. Log in to Administration Services and confirm that the my_api_workspace was created.

Practice Solutions 9: Using the APEX_INSTANCE_ADMIN API

Overview

In this practice solution, the steps to perform some of the APEX administration tasks by using the APEX_INSTANCE_ADMIN API are provided.

Assumptions

You have completed the previous practices.

Solutions

a. Create a workspace called “my_api_workspace” and assign the HR schema as the primary schema for this workspace. Also, add the ORA01 schema as an additional schema for this workspace.

1) Open a terminal window and log into SQL*Plus as sysdba.
2) Run the following code to create a workspace.

```
EXEC APEX_INSTANCE_ADMIN.ADD_WORKSPACE (null,'my_api_workspace',
                                        'HR', 'ORA01');
Commit;
```

b. View the schemas assigned to the ORA01 workspace.

1) Run the following PL/SQL block.

```
SET SERVEROUTPUT ON
DECLARE
my_schemas varchar2(4000);
BEGIN
my_schemas := APEX_INSTANCE_ADMIN.GET_SCHEMAS('ORA01');
DBMS_OUTPUT.PUT_LINE(my_schemas);
END;
/
```

c. Add the HR schema to the ORA01 workspace.

1) Run the following code.

```
EXEC APEX_INSTANCE_ADMIN.ADD_SCHEMA('ORA01','ORA21');
Commit;
```

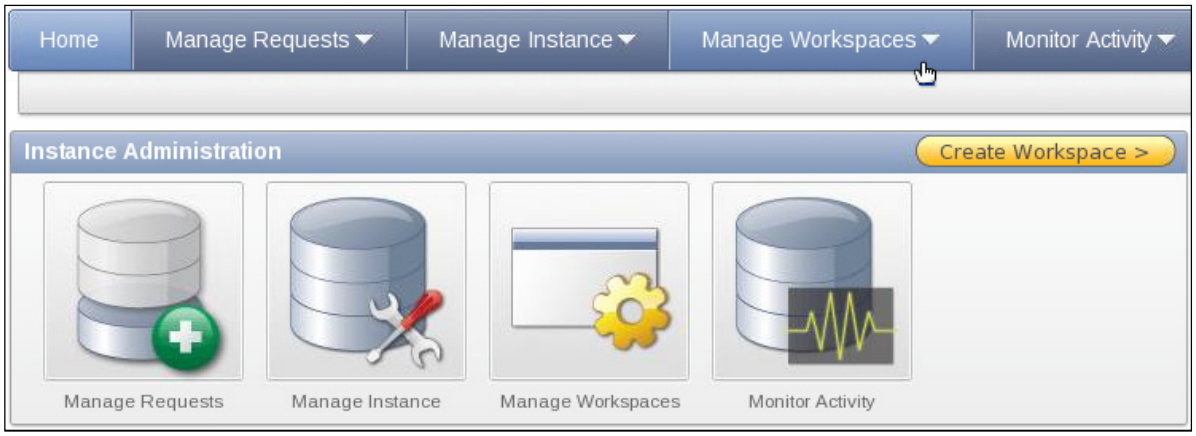
d. Display the email configuration settings for the entire instance.

1) Run the following code.

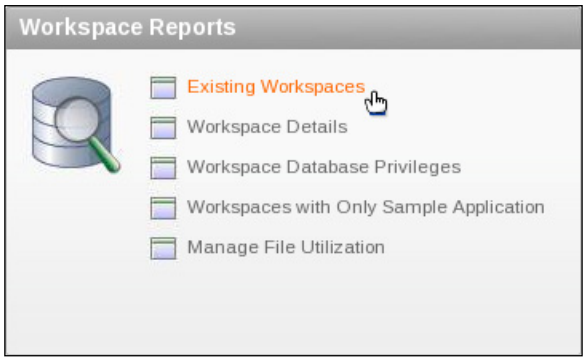
```
SELECT
  APEX_INSTANCE_ADMIN.GET_PARAMETER('SMTP_HOST_ADDRESS')
FROM DUAL;
SELECT
  APEX_INSTANCE_ADMIN.GET_PARAMETER('SMTP_HOST_PORT')
FROM DUAL;
SELECT
  APEX_INSTANCE_ADMIN.GET_PARAMETER('SMTP_FROM')
FROM DUAL;
```

e. Log in to Administration Services and confirm that the `my_api_workspace` workspace was created.

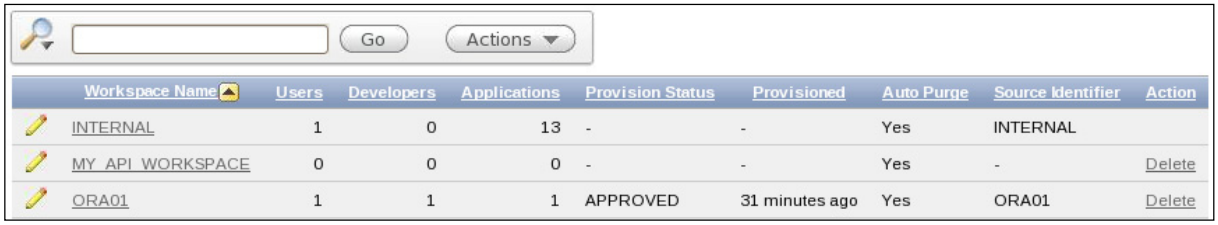
1) Log in to Administration Services and click the **Manage Workspaces** tab.



2) Click the Existing **Workspaces** link under the Workspaces region.



3) The newly created workspace will be listed.



Practices for Lesson 10: Key APEX Administration Tasks

Chapter 10

Practice 10: Key APEX Administration Tasks

Overview

In this practice, you will perform some of the key APEX administration tasks you learned in this lesson. Some of the Instance Administrator tasks were already covered in previous practices and will not be included in this practice.

Assumptions

You have completed the previous practices.

Task

a. Lock the ORA01 workspace. Next, unlock the ora01_admin user.
b. Reset the password for the ora01_admin user.
c. Log in to Enterprise Manager and view the database performance page.
d. Locate and view the database alert log.
e. Log in to WebLogic server administration console and view the server log messages.

Practice Solutions 10 : Key APEX Administration Tasks

Overview

In this practice solution, the steps to perform some of the key APEX administration tasks you learned in this lesson are provided.

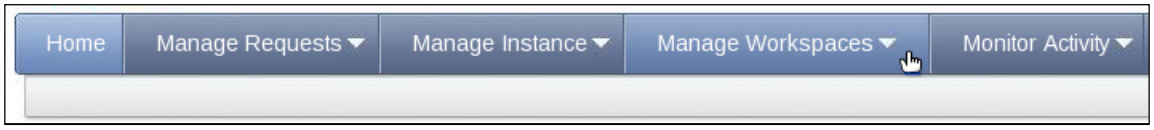
Assumptions

You have completed the previous practices.

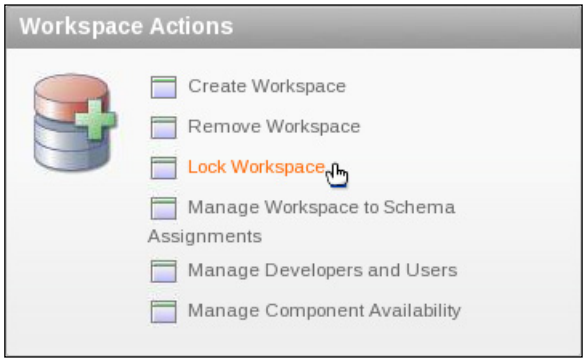
Solutions

a. Lock the `ora01` workspace. Next, unlock the `ora01_admin` user.

1) From the Administration Services home page, click the **Manage Workspaces** tab.

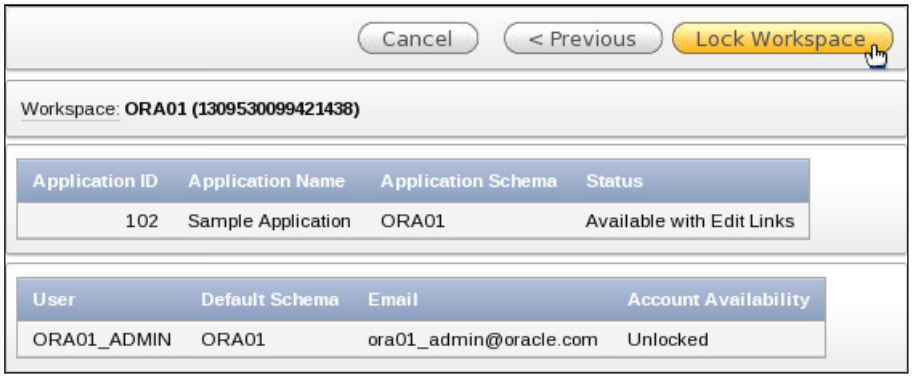


2) Under Workspace Actions, click the **Lock Workspace** link.

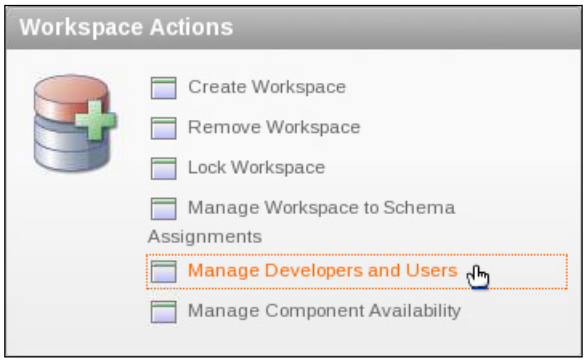


3) Select the `ORA01` workspace and click **Next**.

4) Click **Lock Workspace**.

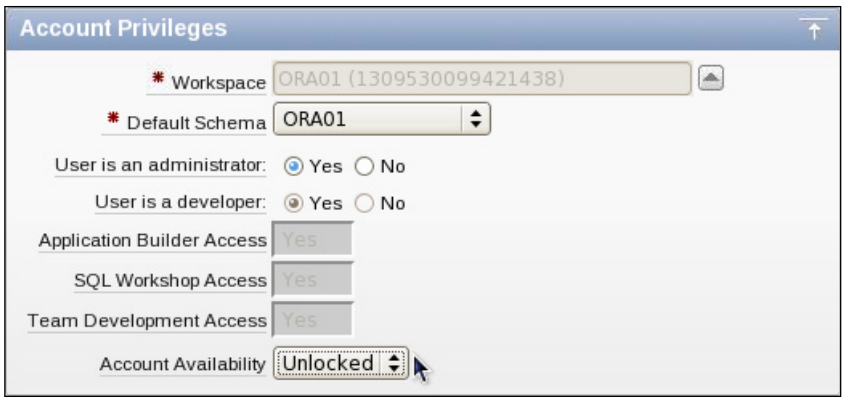


5) Now to unlock the `ora01_admin` user, click the **Manage Developers and Users** link under Workspace Actions.



6) Click the pencil icon next to the `ora01_admin` user.

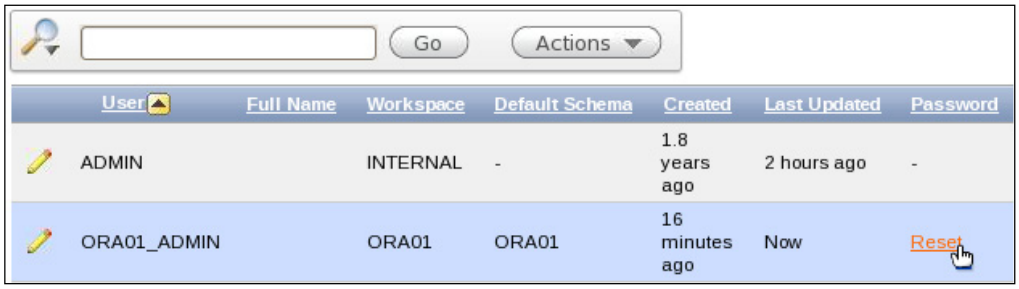
7) Under Account Privileges, set the Account Availability to **Unlocked**.



8) Click **Apply Changes**.

b. Reset the password for the `ora01_admin` user.

1) From the Manage Developers and Users page, click the **Reset** link under the Password column for the `ora01_admin` user.



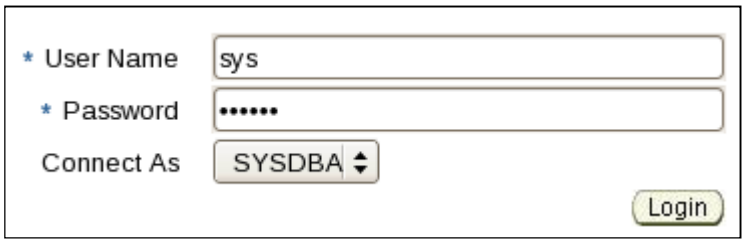
2) Accept the default selection and click **Change Password**.

c. Log in to Enterprise Manager and view the database performance page.

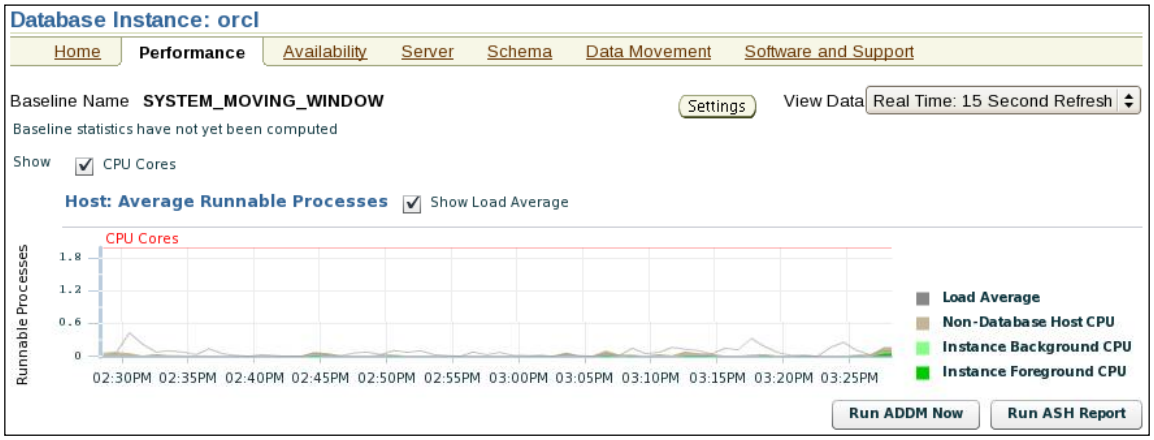
1) Open a web browser and enter the following URL:

```
https://localhost:1158/em
```

2) Enter **sys** for User Name, **oracle** for Password, and **SYSDBA** for Connect As. Click **Login**.

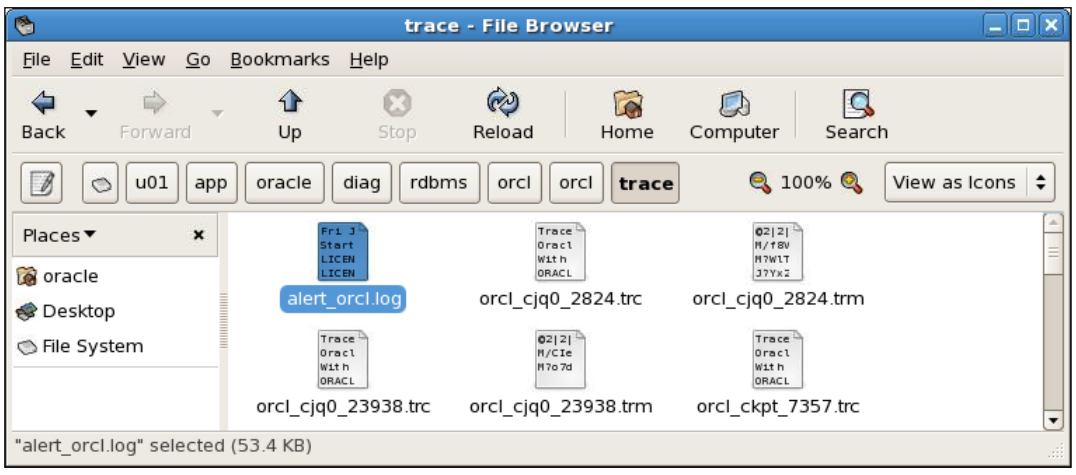


3) Click the **Performance** Link on top.



d. Locate and view the database alert log.

1) Open a file browser and navigate to `u01/app/oracle/diag/rdbms/orcl/orcl/trace`



2) Locate the `alert_orcl.log` file and view its contents.

e. Log in to WebLogic server administration console and view the server log messages.

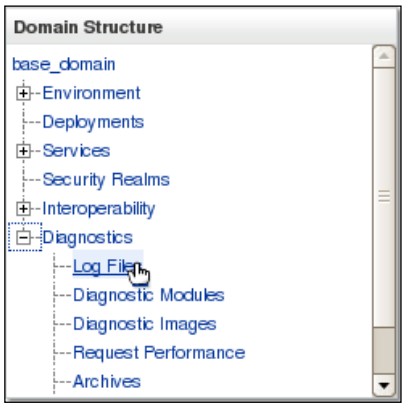
1) Ensure that WebLogic server is started.

2) Open a web browser and enter the following URL:

```
http://localhost:9001/console
```

3) Log in to WebLogic server administration by using the credentials weblogic/Welcome1.

4) In the left pane of the Console, expand **Diagnostics** and select **Log Files**.



5) In the **Log Files** table, select the radio button next to the server instance log file you want to view and click **View**.