

Application Installation Guide

# **Oracle Financial Services Lending and Leasing**

Release 14.6.0.0.0

**Part No. F12052-01**

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Application Installation Guide  
December 2018  
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<https://www.oracle.com/industries/financial-services/index.html>

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# 1. Preface

This document contains notes and installation steps needed to install and setup Oracle Financial Services Lending and Leasing. Oracle Financial Services Lending and Leasing relies on several pieces of Oracle software in order to run and this document is in no way meant to replace Oracle documentation supplied with these Oracle products or available via Oracle technical support. The purpose of this document is only meant to supplement the Oracle documentation and to provide Oracle Financial Services Lending and Leasing specific installation instructions.

*For recommendations on security configuration, refer Security Configuration Guide.*

It is assumed that anyone installing Oracle Financial Services Lending and Leasing will have a thorough knowledge and understanding of Oracle Weblogic Server 12c, Oracle BI Publisher 12c.

Application installation consists of following steps.

- [Installing Software](#)
- [Creating Domains, Repositories, Data Sources](#)
- [Configuring Policies](#)
- [Deploying Application](#)
- [Enabling SSL](#)
- [Mapping Enterprise Group with Application Role](#)
- [Configuring JNDI name for HTTP Listener](#)
- [Configure AQ-JMS Bridge](#)
- [Configuring Oracle BI Publisher for Application](#)
- [Launching Application](#)
- [Installing Upgrade](#)

## 1.1 Prerequisites

The following software are required to install Oracle Financial Services Lending and Leasing application and they are available from the following sources:

- Oracle Software Delivery Cloud (<http://edelivery.oracle.com/>)
  - Oracle Technology Network (OTN)
1. JDK Version 1.8.0\_192 or above (<https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>)
  2. Oracle WebLogic Server 12c Version 12.2.1.3.0 (<http://www.oracle.com/technetwork/middleware/weblogic/downloads/index.html>)  
Navigate to Fusion Middleware Infrastructure Installer.
  3. JVM/JDK are to be downloaded and installed prior to installing the Weblogic Server.
  4. The patches for Fusion Middleware 12.2.1.3.0 with the following patch numbers are to be applied - 23741897, 27438258 and 28561620.

---

### Note

Please use all 64-bit software's for machine hosted with 64-bit O/S.

---

## 1.2 Audience

This document is intended for system administrators or application developers who are installing Oracle Financial Services Lending and Leasing Application.

## 1.3 Conventions Used

Term	Refers to
Application	Oracle Financial Services Lending and Leasing

## 2. Installing Software

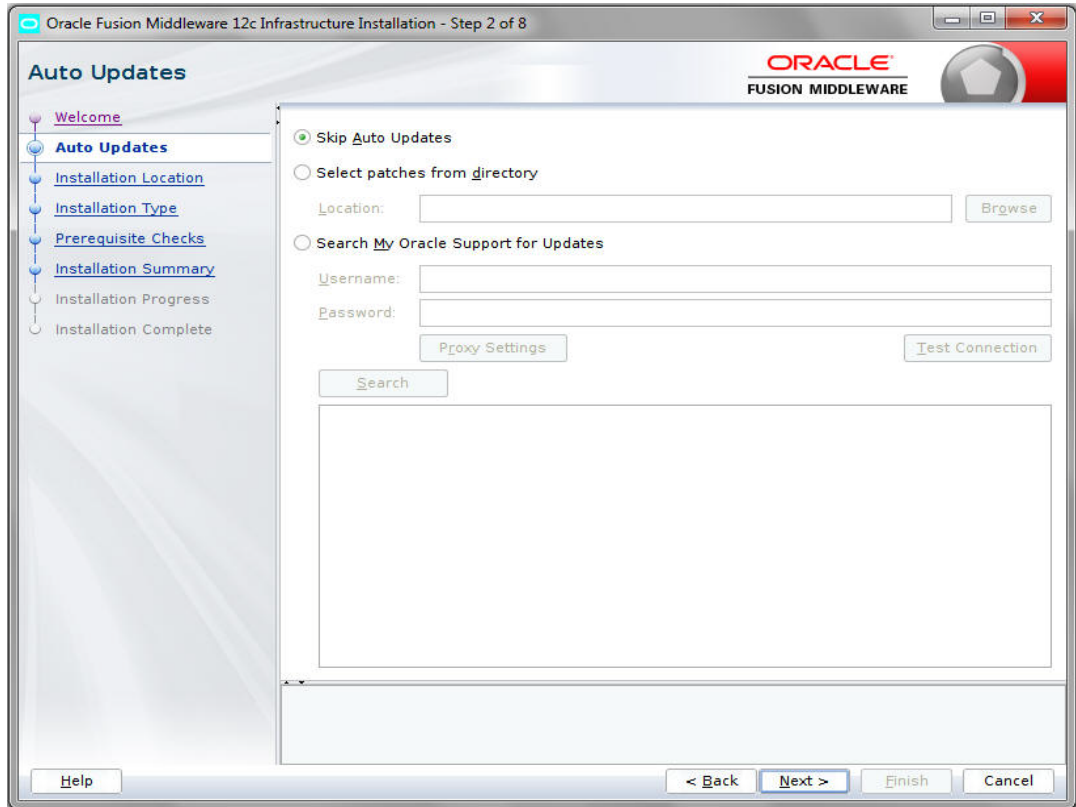
### 2.1 Installing Oracle WebLogic Server 12c

#### To install using generic Weblogic installer

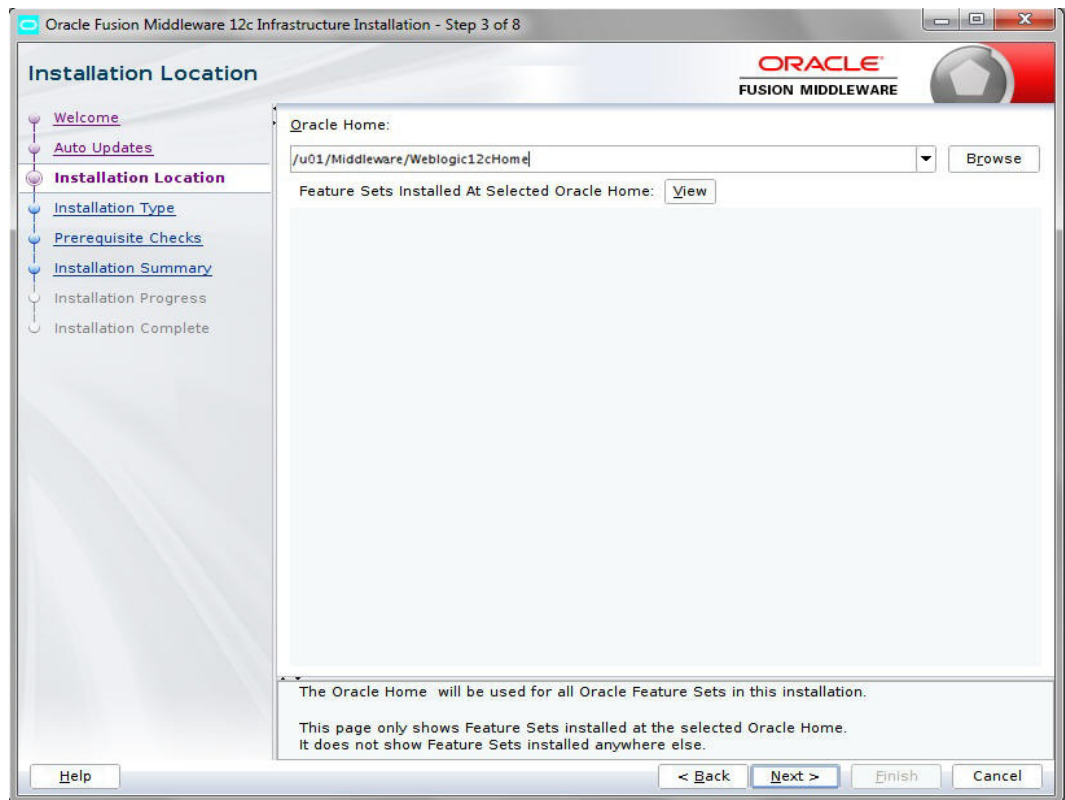
1. Run the command `> java -jar fmw_12.2.1.3.0_infrastructure.jar`
2. Welcome screen is displayed as shown below. Click Next.



3. The following window is displayed.

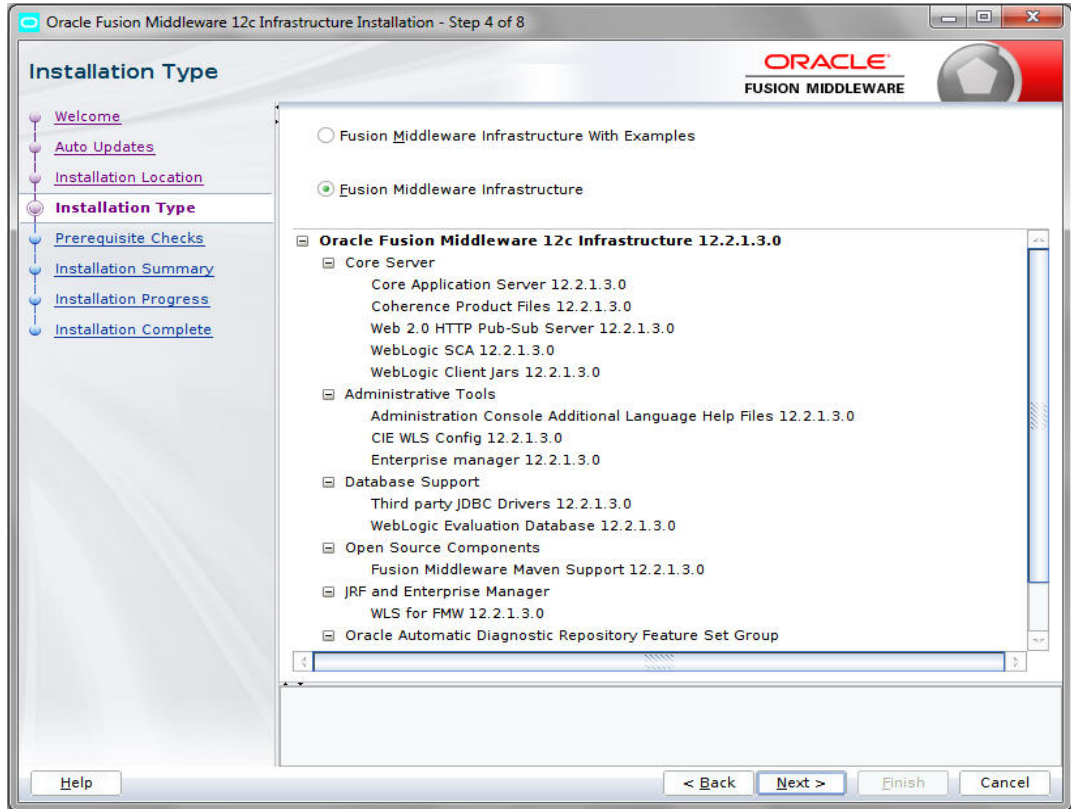


4. Select 'Skip Auto Updates' and Click 'Next'.

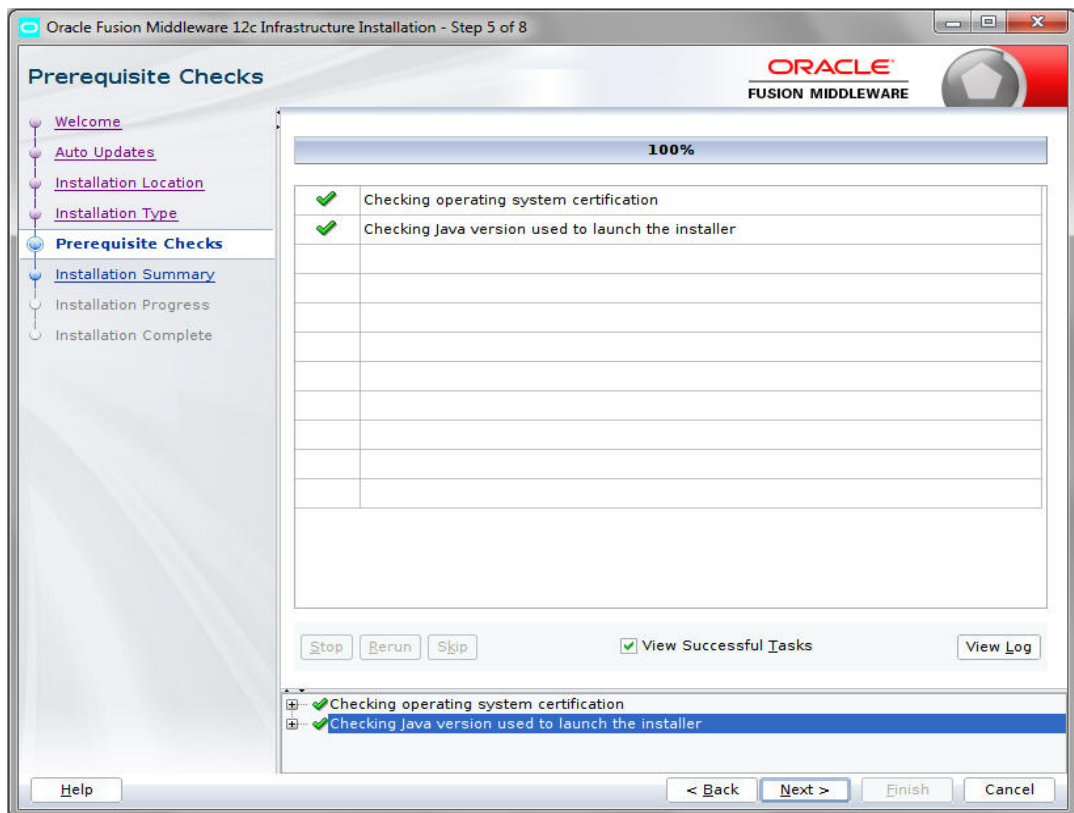


5. Specify the path for Middleware Home Directory.

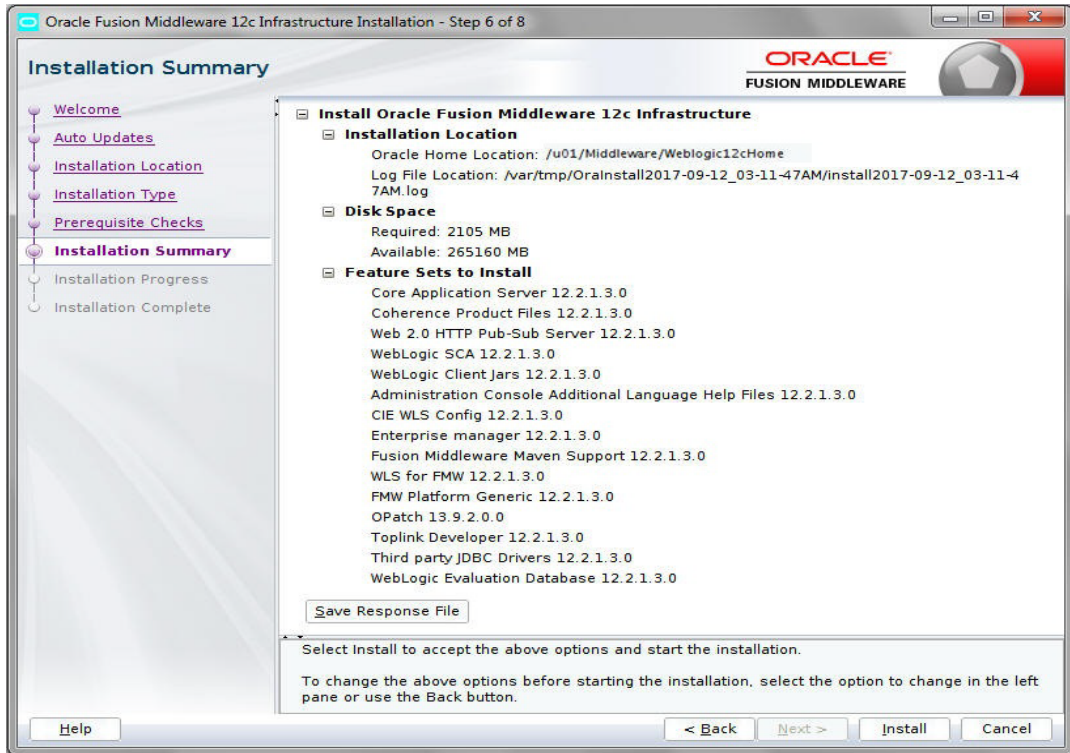
6. Click 'Next'. The following window is displayed.



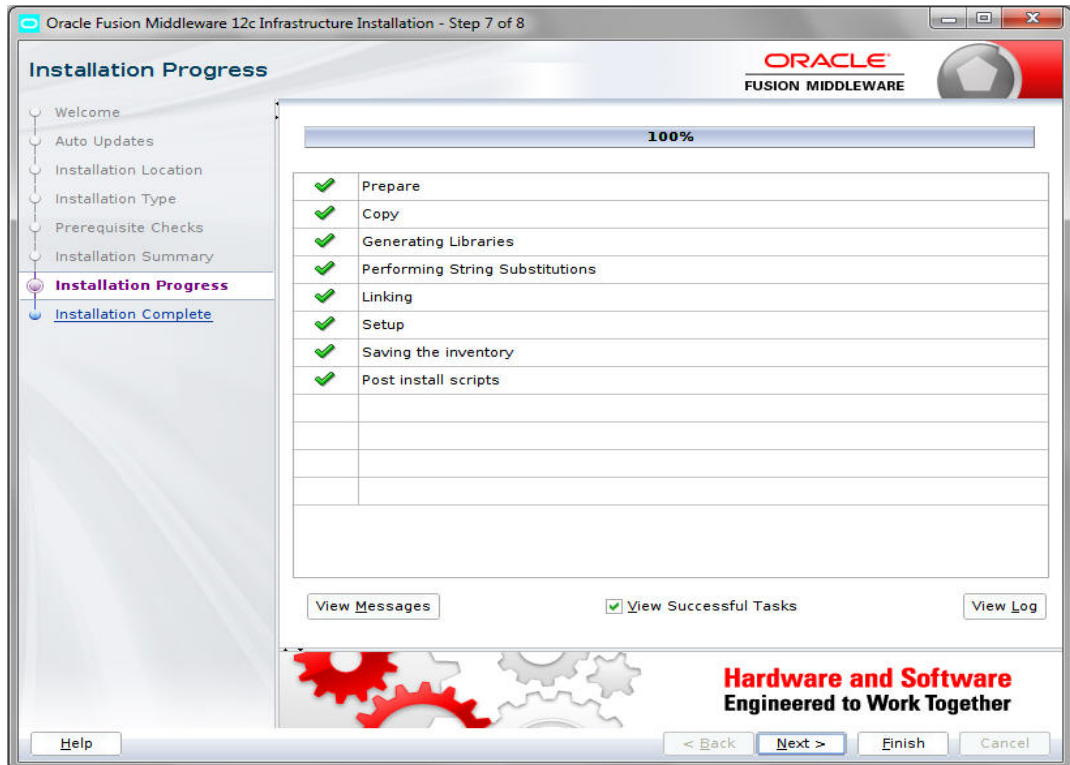
7. Select the option 'Fusion Middleware Infrastructure'. Click 'Next'.



8. Click 'Next'. The following window is displayed.

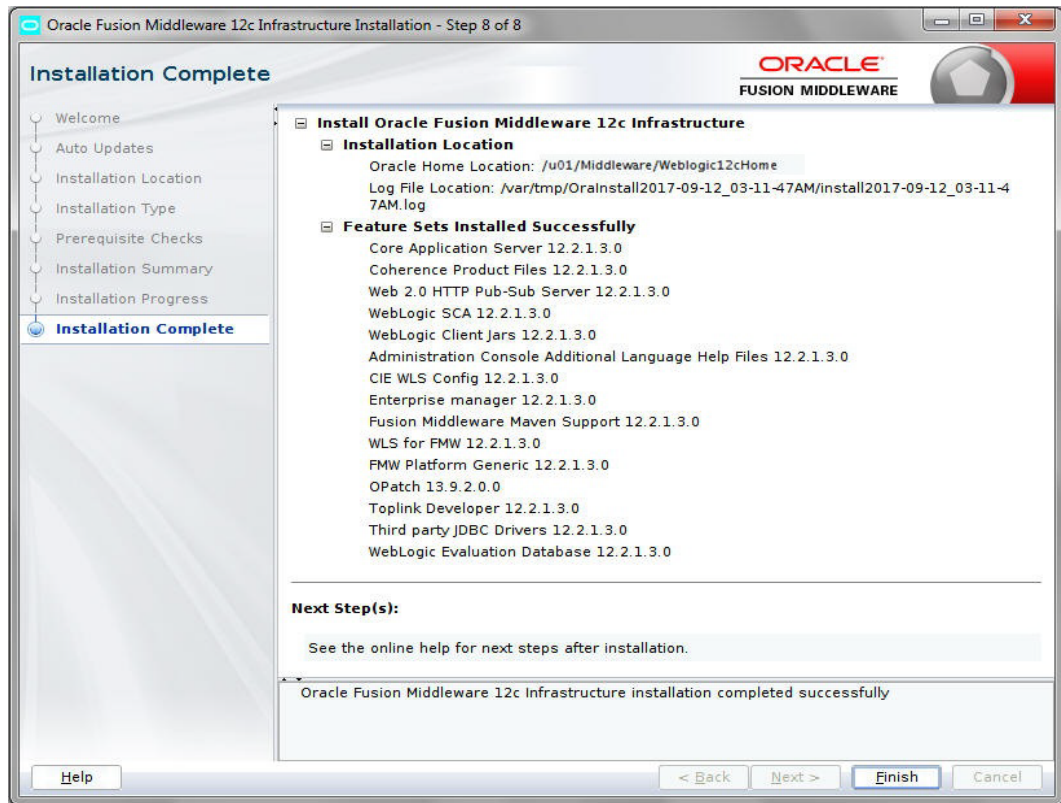


9. Click 'Next'. The following window is displayed.





10. Click 'Install'. The weblogic installation starts. Once done, the following window is displayed.



11. Click 'Finish' to close the window.

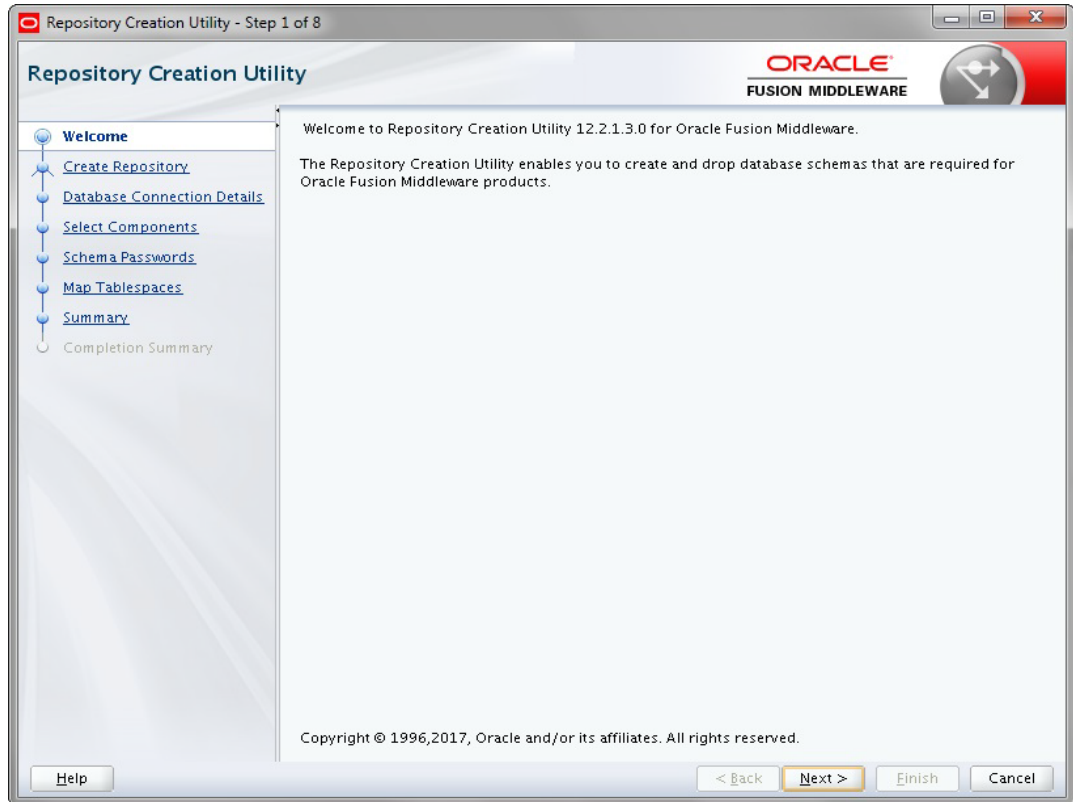


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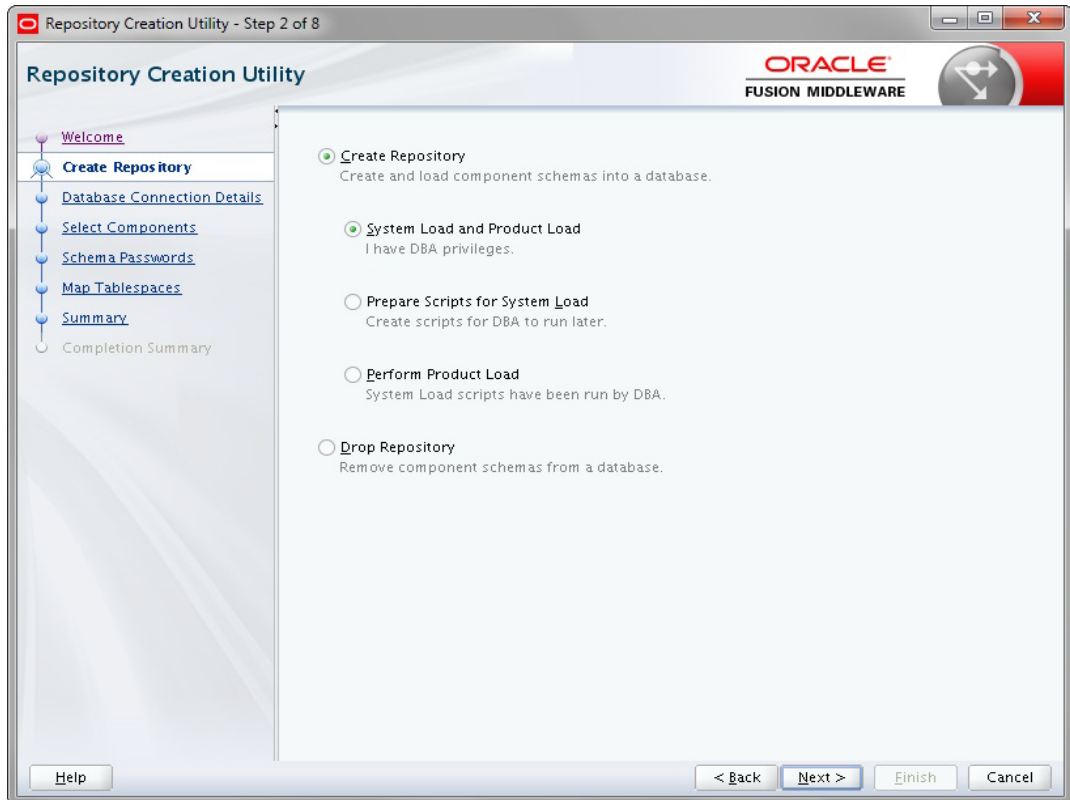
## 3. Creating Domains, Repositories, Data Sources

### 3.1 Creating Schemas using Repository Creation Utility

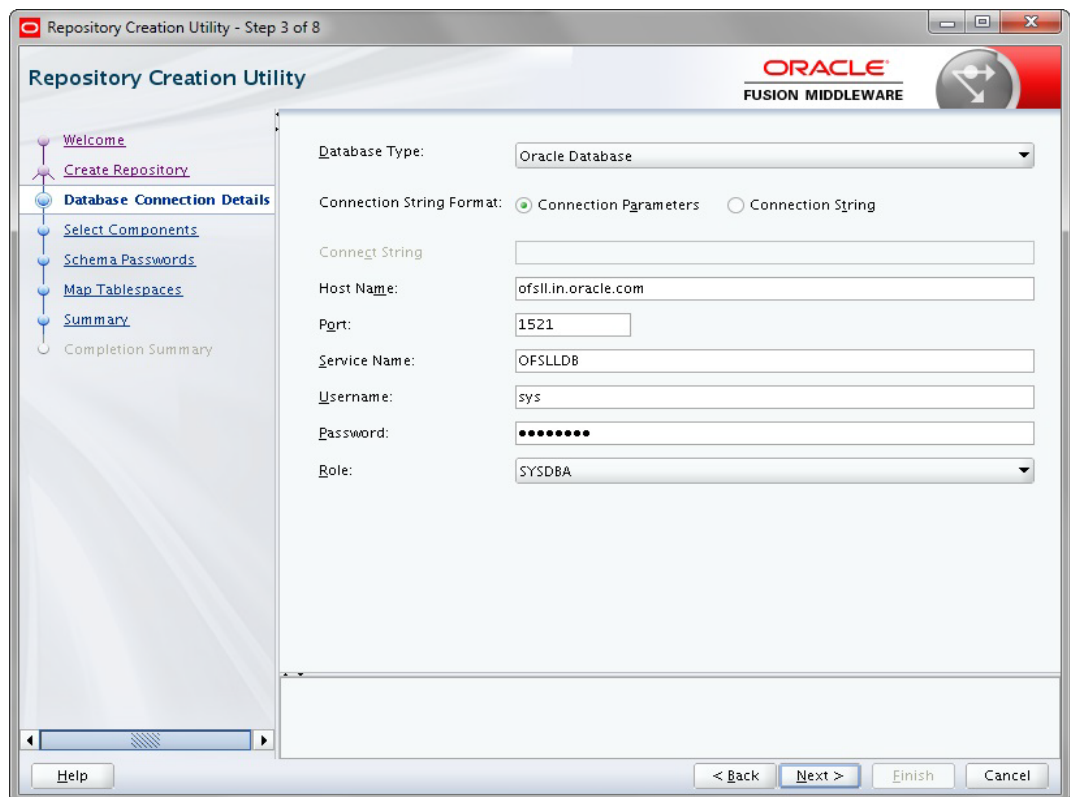
1. Open command prompt on Unix and browse to <WL\_HOME>/oracle\_common/bin and run ./rcu. The following window is displayed.



2. Click 'Next'. The following window is displayed.



3. Select 'Create Repository' and select 'System Load and Product Load'. Click 'Next'. The following window is displayed.



4. Provide database details where you want to create schemas, as shown in the above screen.

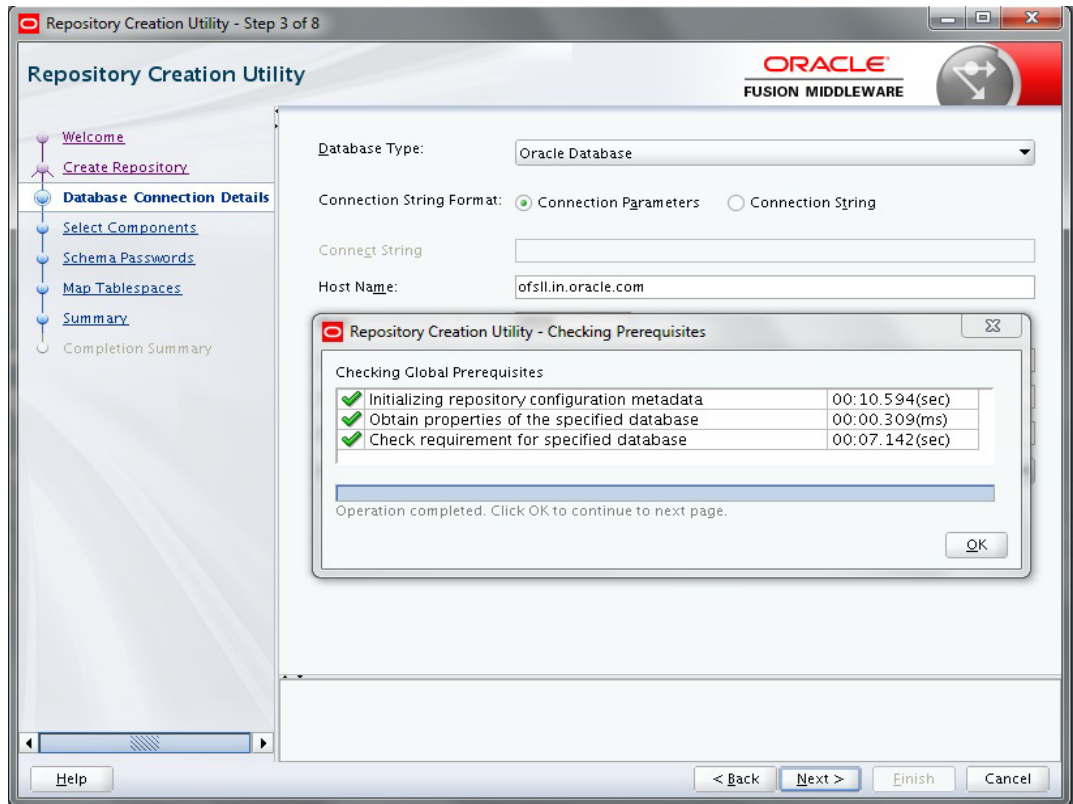
---

**Note**

You will require a user with SYSDBA role to create schemas.

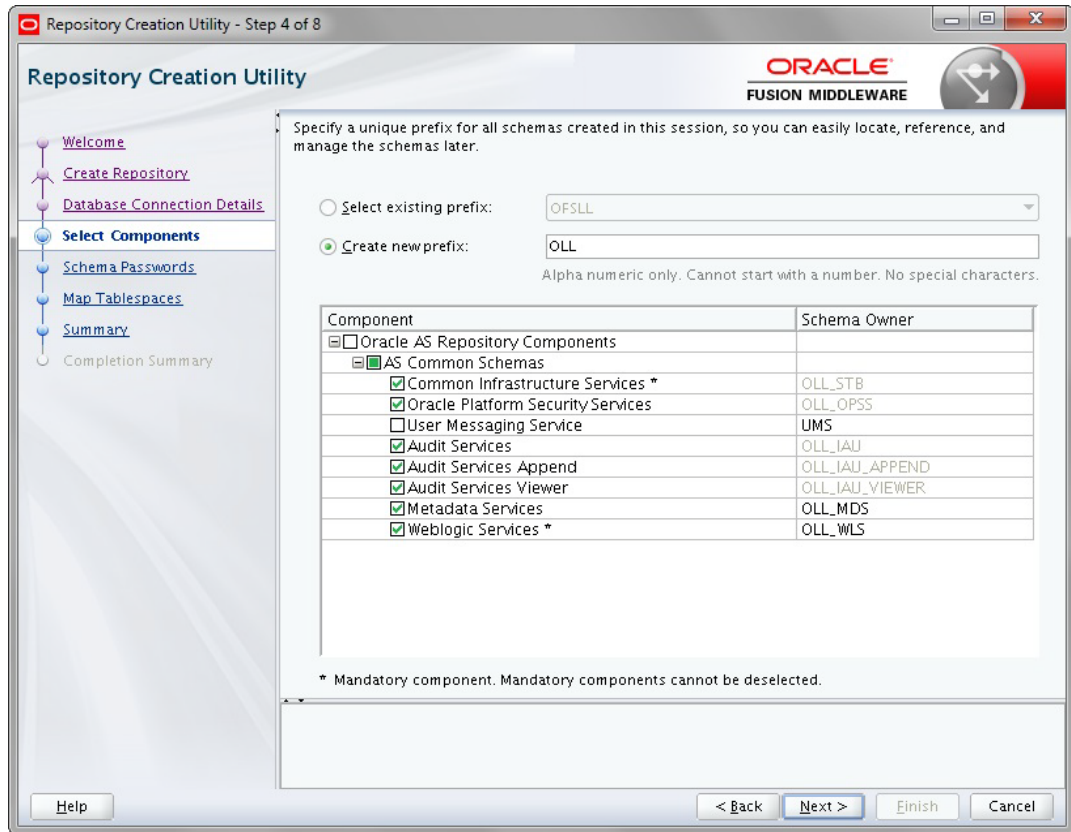
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5. Click 'Next'. The following window is displayed.



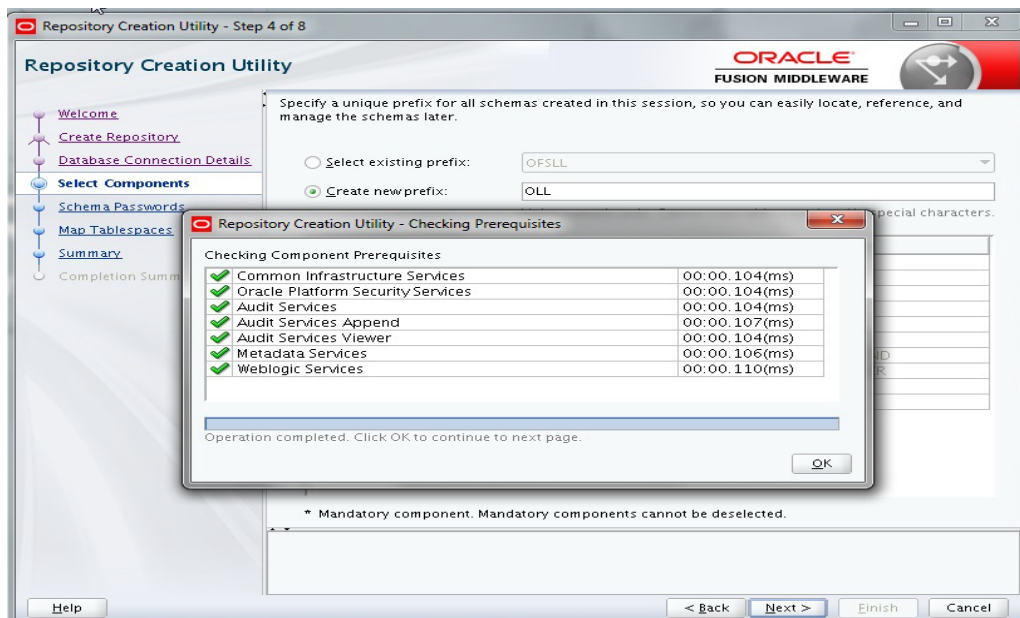
6. Click 'OK' in the confirmation dialog.

7. Click 'Next' the following window is displayed.

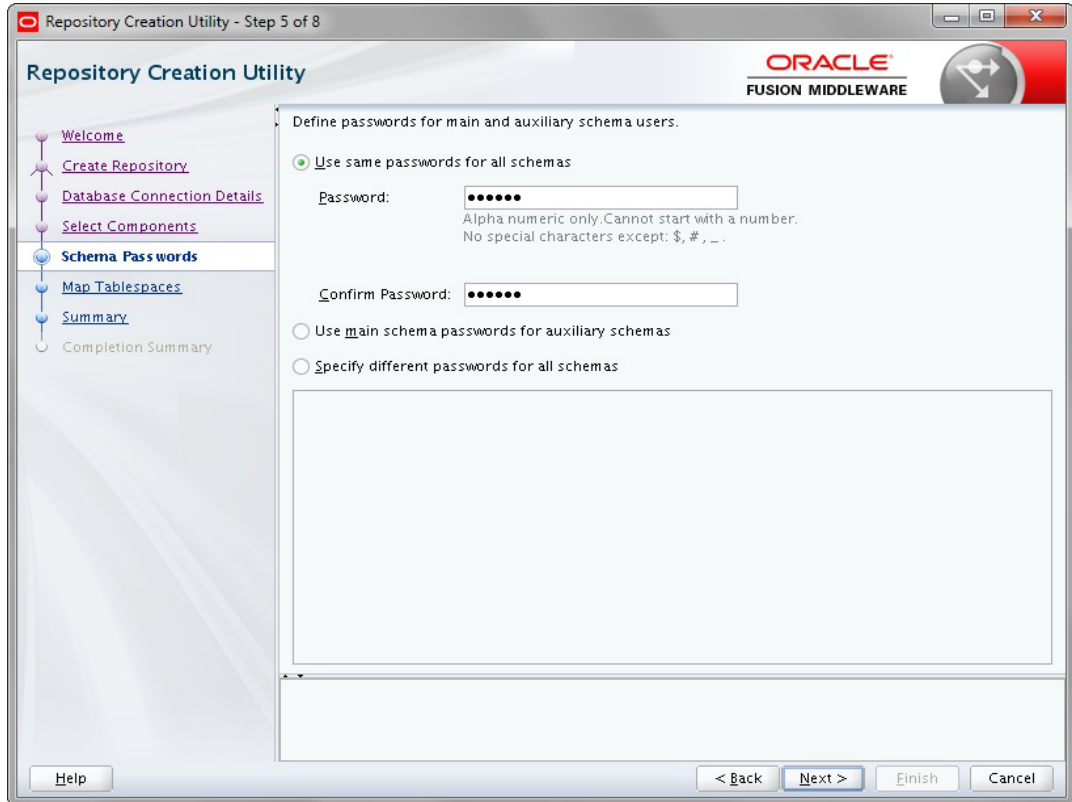


8. Select 'Create new Prefix' option and specify the value. For example, OLL.

9. Select the options 'Metadata Services' and 'Oracle Platform Security Services' as shown in the above screen. Click 'Next'. The following window is displayed.



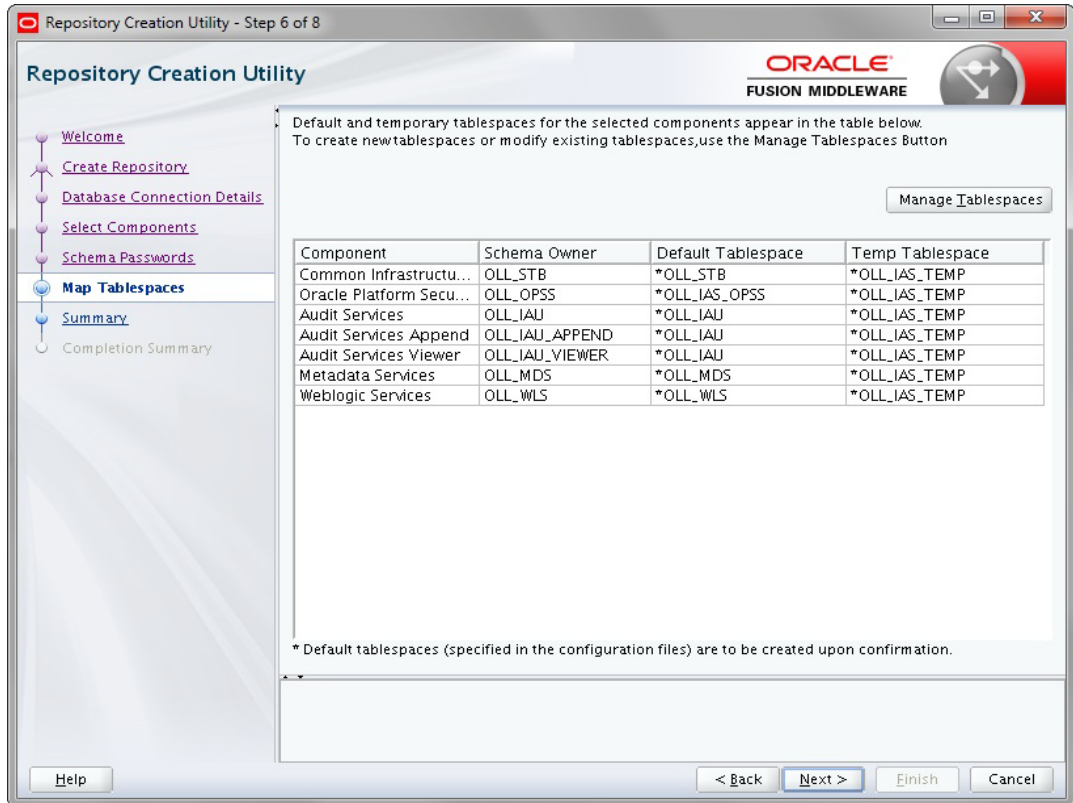
10. Click 'Next'. The following window is displayed.



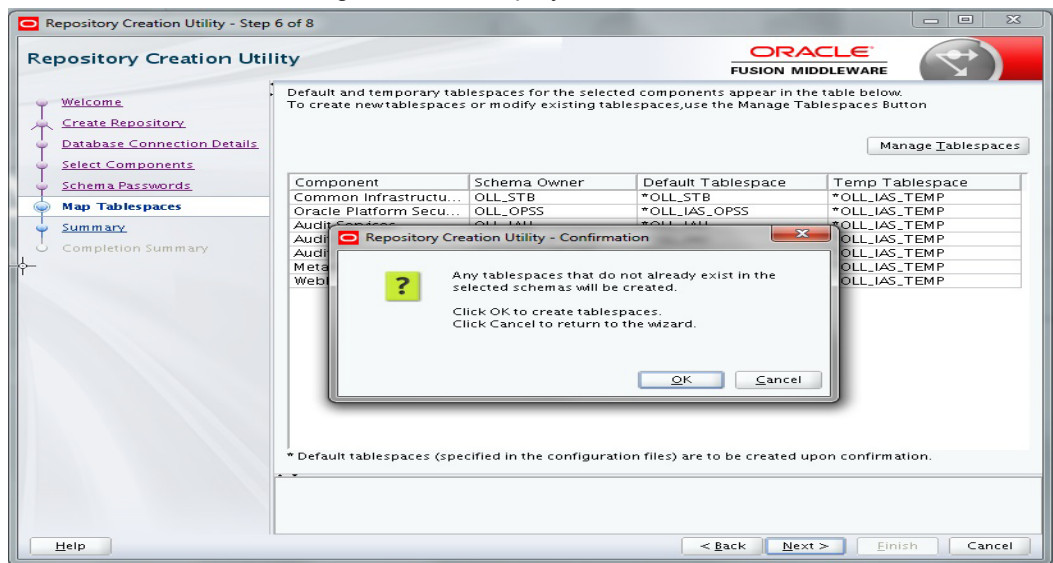
11. You can select one of the following:

- Select 'Use same password for all schemas' and specify the password.
- Select 'Specify different passwords for all schemas' and specify Schema Passwords for each schema.

12. Click 'Next'. The following window is displayed.



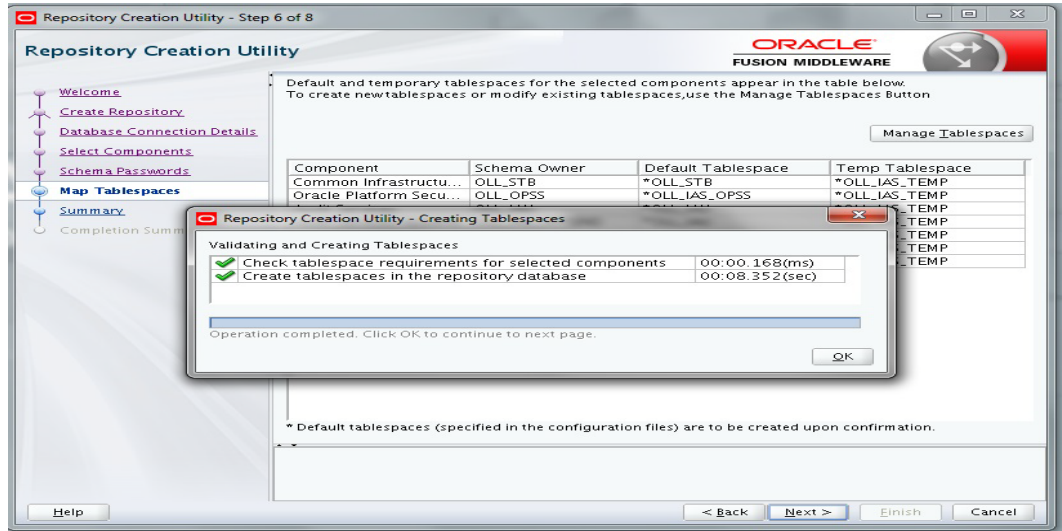
13. Click 'Next'. The following window is displayed.



14. Click 'OK' in the confirmation dialog.



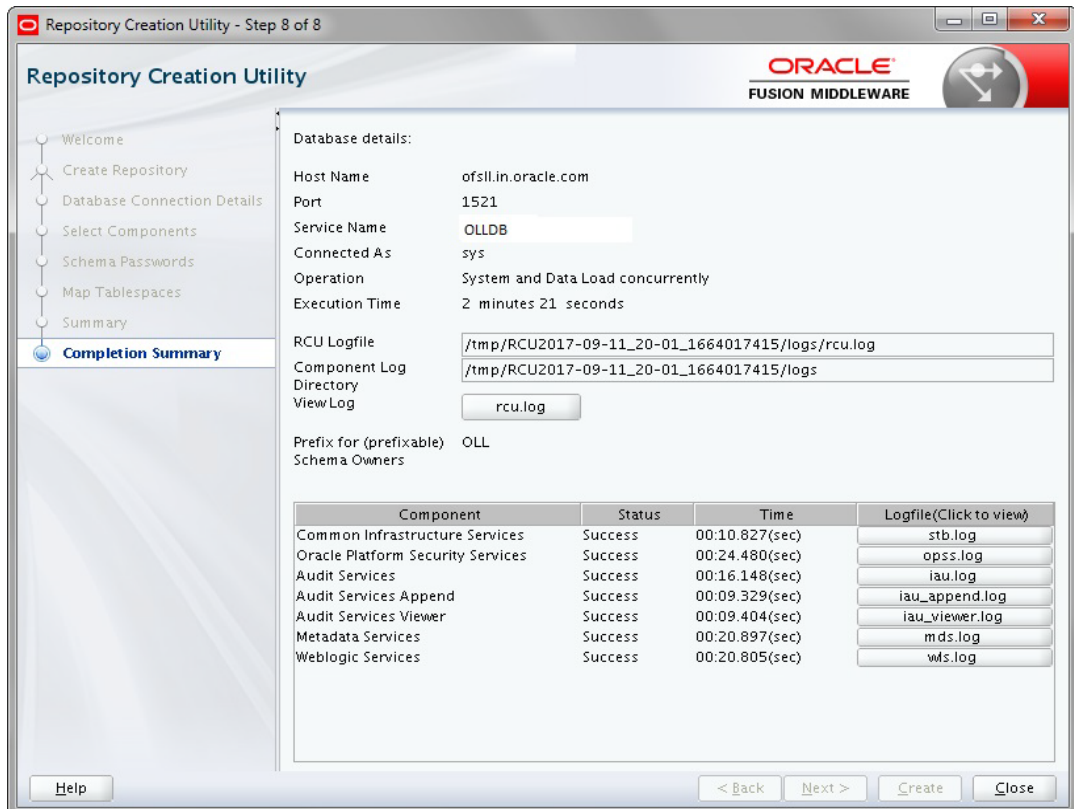
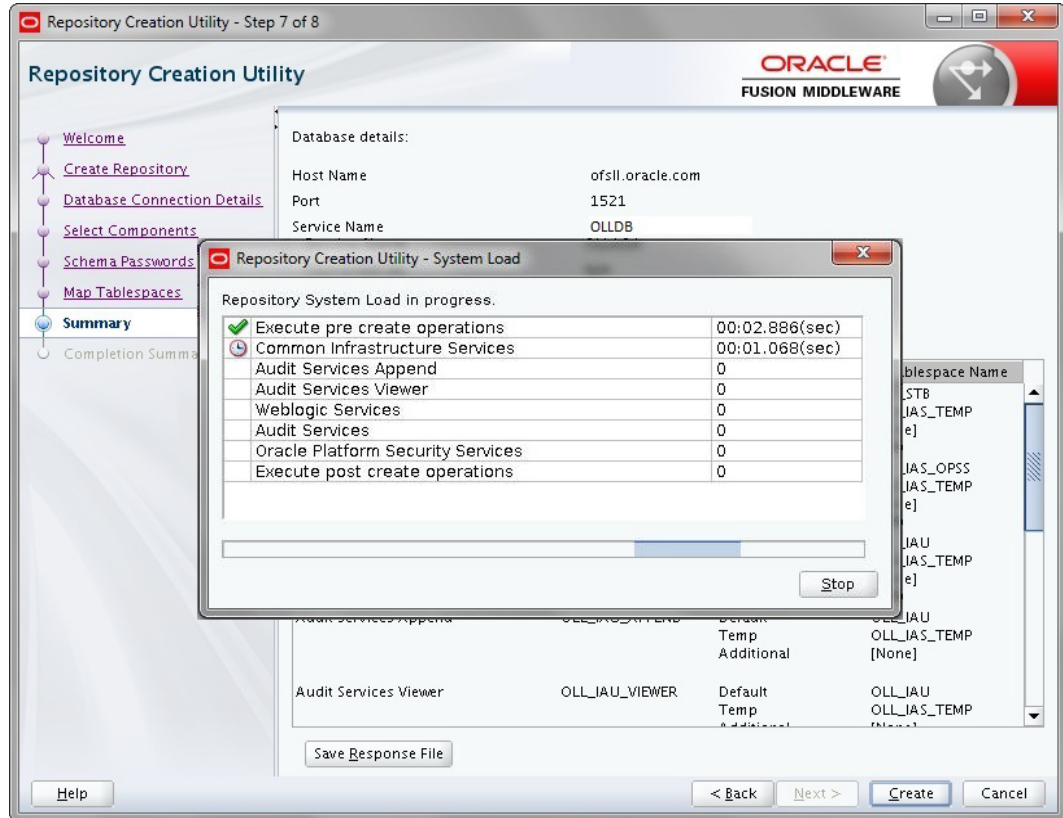
15. Click 'Next'. The following window is displayed.



16. Click 'OK' in the confirmation dialog. The following window is displayed.



17. Click 'Create'. The following windows are displayed.

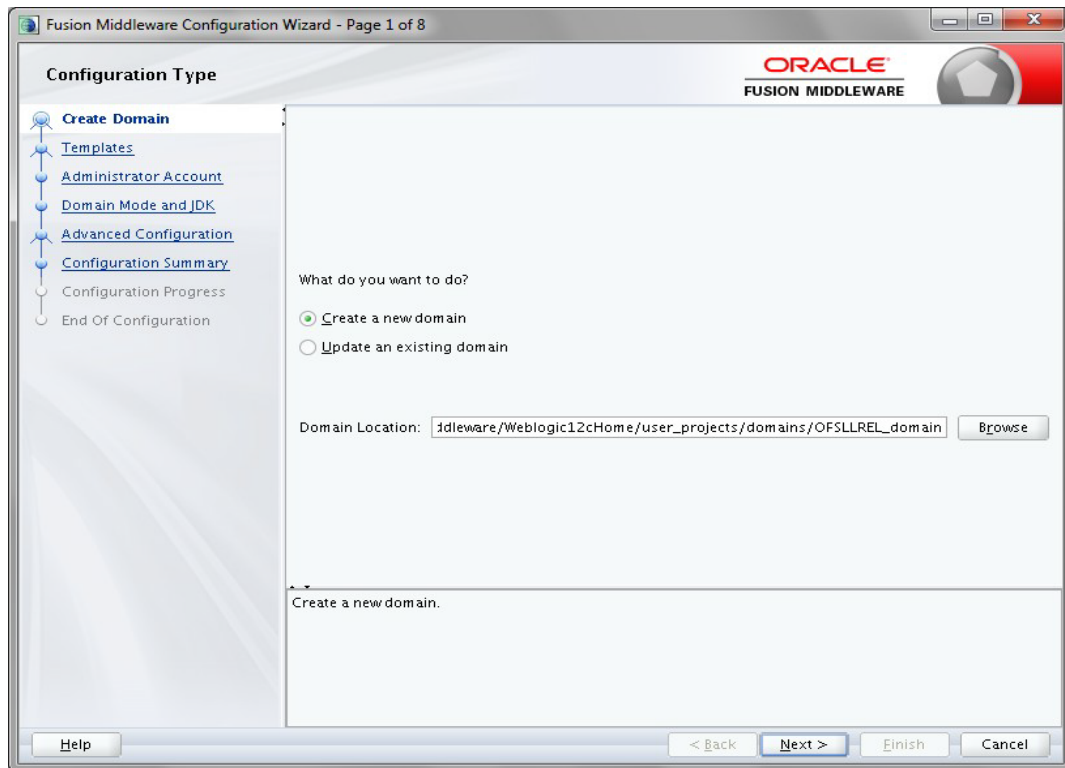


18. Click 'Close' to close the window.

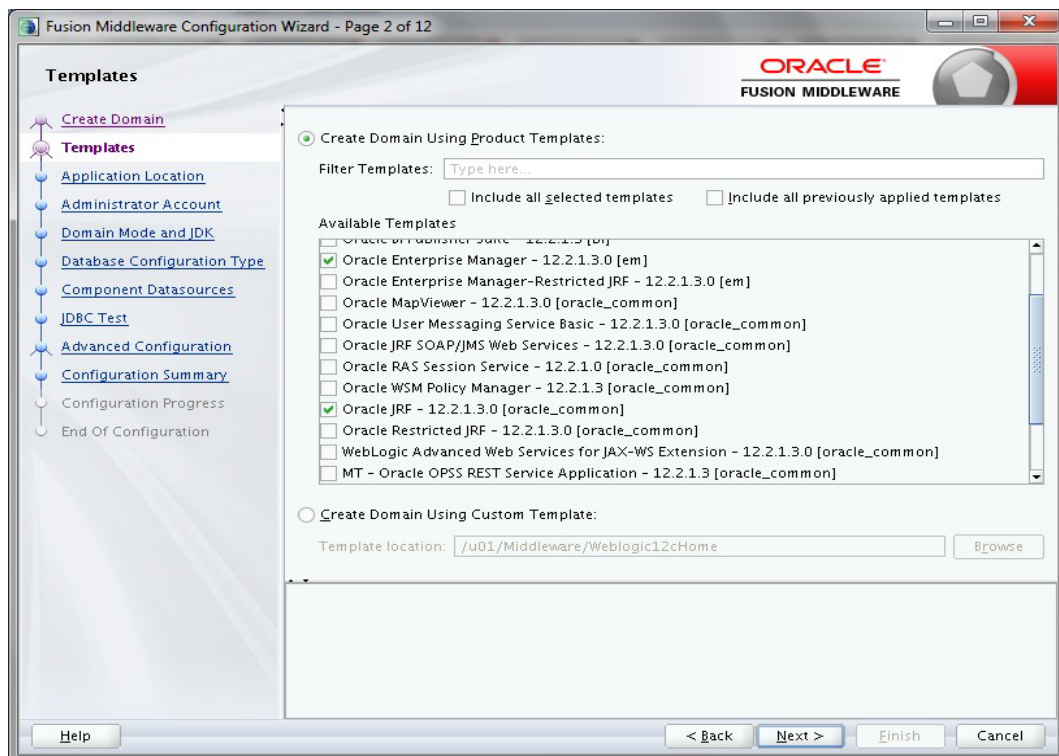


## 3.2 Creating Domain and Servers

1. In Unix/Linux machine, once the Oracle WebLogic Server is installed, navigate to the following path - <WL\_HOME>/oracle\_common/common/bin.
2. In Unix, run 'config.sh'



3. Select 'Create a new domain' and specify the Domain Location.
4. Click 'Next'. The following window is displayed.



5. Select the option 'Create Domain Using Product Templates' in the list of available templates and select 'Oracle Enterprise Manager - 12.2.1.3.0 [em]'. On selection, the following options are auto-selected:
  - Oracle JRF - 12.2.1.3.0 [oracle\_common]
  - Weblogic coherence cluster Extension-12.2.1.3.0 [wlserver]
6. Click 'Next'. The following window is displayed.



7. Specify the Domain Name in the 'Application location' field. You can click browse to directly select the path (if required). Click 'Next'. The following window is displayed.

Fusion Middleware Configuration Wizard - Page 4 of 12

**Administrator Account**

ORACLE  
FUSION MIDDLEWARE

Create Domain  
Templates  
Application Location  
**Administrator Account**  
Domain Mode and JDK  
Database Configuration Type  
Component Datasources  
JDBC Test  
Advanced Configuration  
Configuration Summary  
Configuration Progress  
End Of Configuration

Name: weblogic  
Password: \*\*\*\*\*  
Confirm Password: \*\*\*\*\*

Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least one number or special character.

Help < Back Next > Finish Cancel

8. Enter credentials for the following:
- Name
  - Password
  - Confirm Password
9. Click 'Next'. The following window is displayed.

Fusion Middleware Configuration Wizard - Page 5 of 12

**Domain Mode and JDK**

ORACLE  
FUSION MIDDLEWARE

Create Domain  
Templates  
Application Location  
Administrator Account  
**Domain Mode and JDK**  
Database Configuration Type  
Component Datasources  
JDBC Test  
Advanced Configuration  
Configuration Summary  
Configuration Progress  
End Of Configuration

**Domain Mode**

Development  
Utilize boot.properties for username and password, and poll for applications to deploy.

Production  
Require the entry of a username and password, and do not poll for applications to deploy.

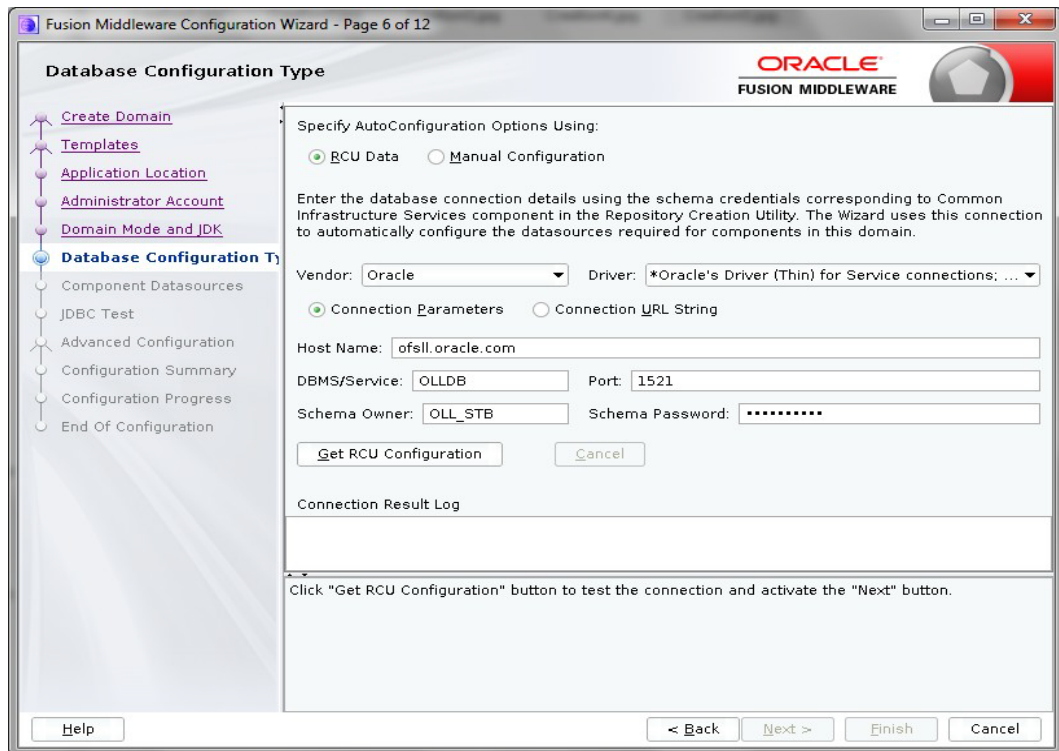
**JDK**

Oracle HotSpot 1.8.0\_144 /scratch/oracle/jdk/jdk1.8.0\_144

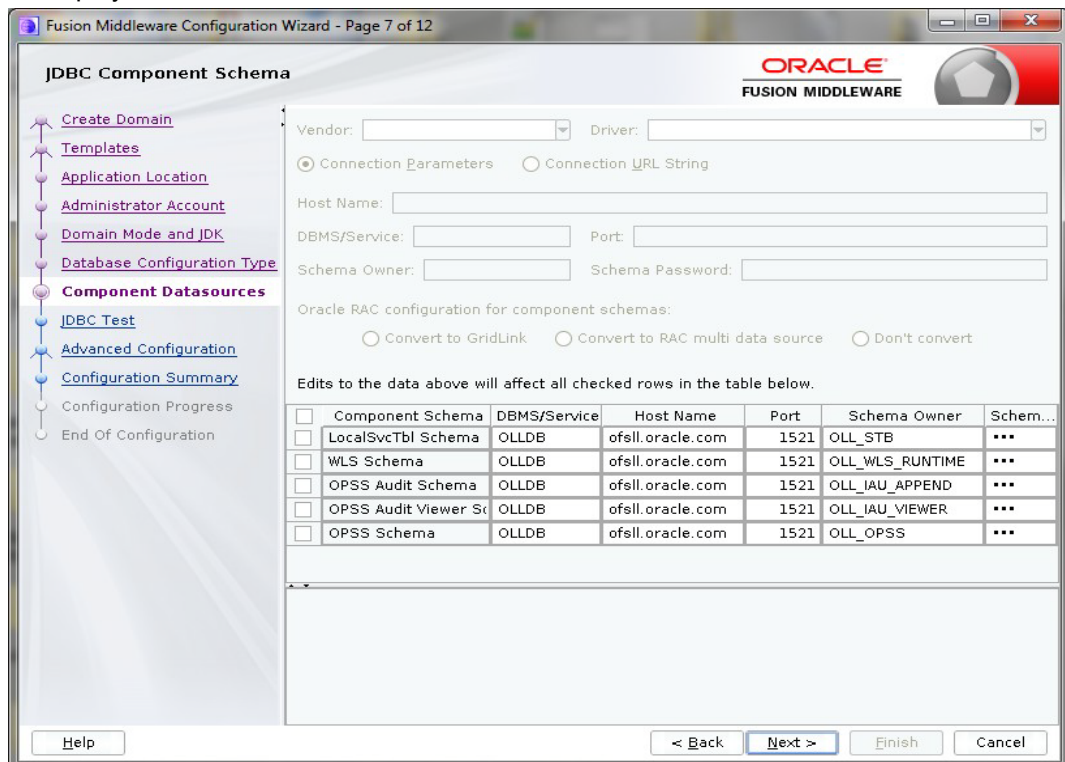
Other JDK Location:  Browse

Help < Back Next > Finish Cancel

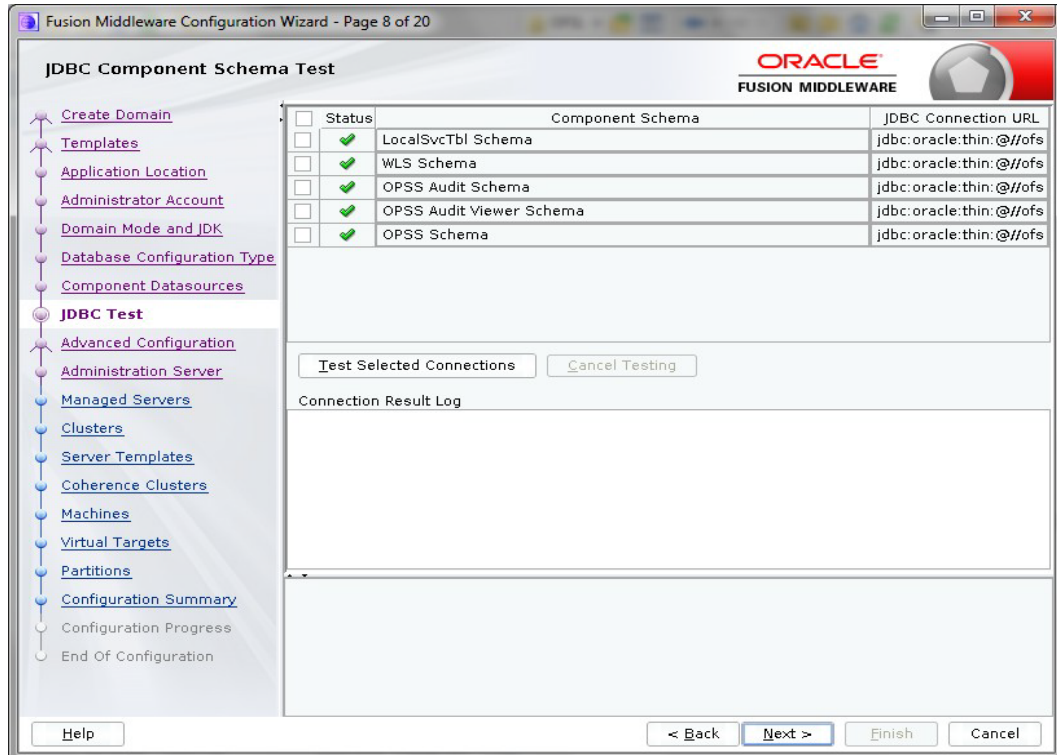
- Select the Domain Mode as 'Production' and 'JDK' from Available JDKs. You can also select any other JDK by selecting 'Other JDK Location' option. Click 'Next'. The following window is displayed.



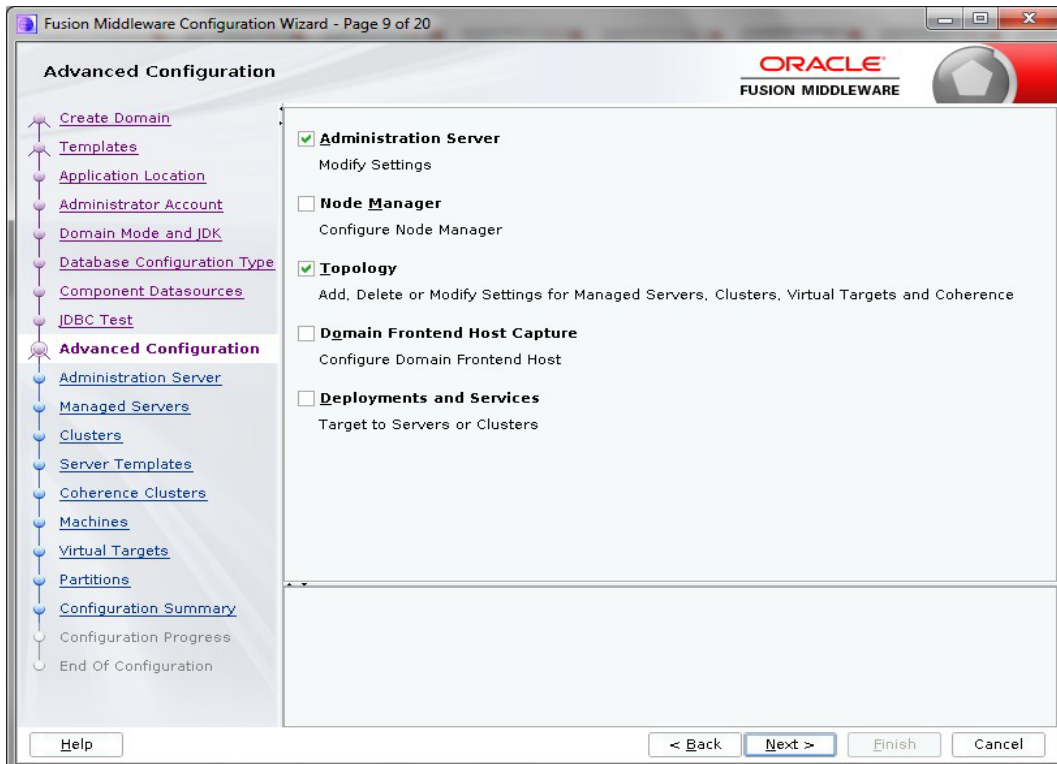
- Specify the RCU data and click on 'Get RCU Configuration'. The following window is displayed.



12. Click 'Next'. The following window is displayed.

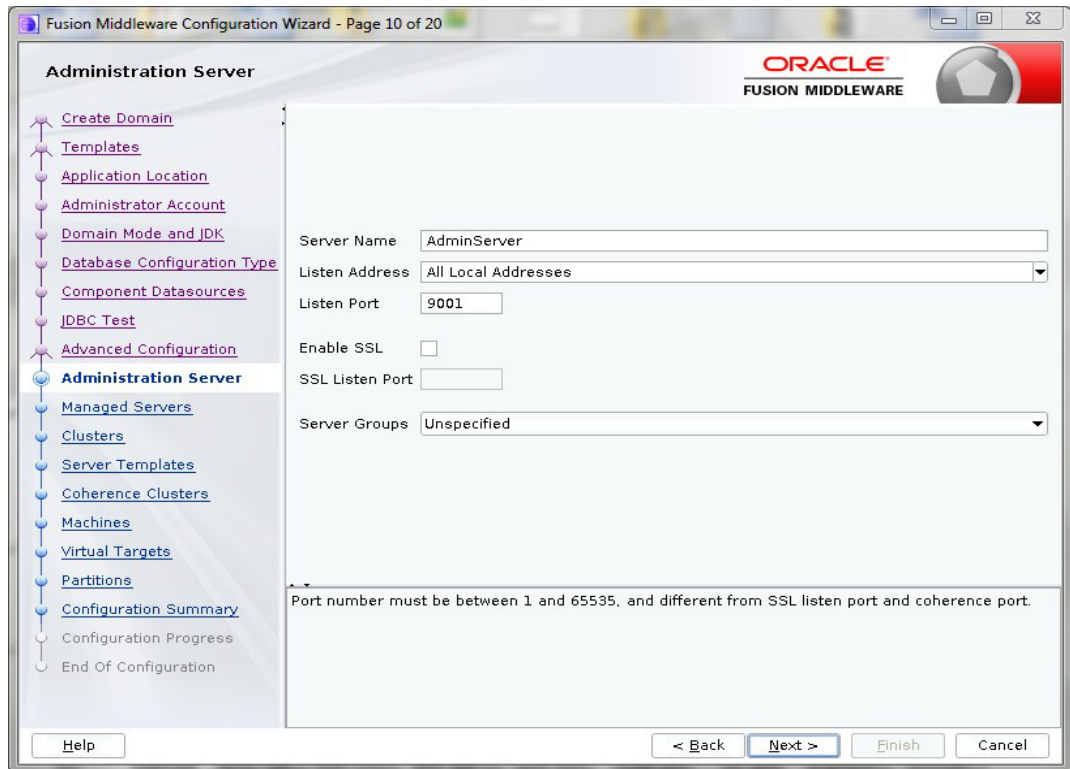


13. Click 'Next'. The following window is displayed.

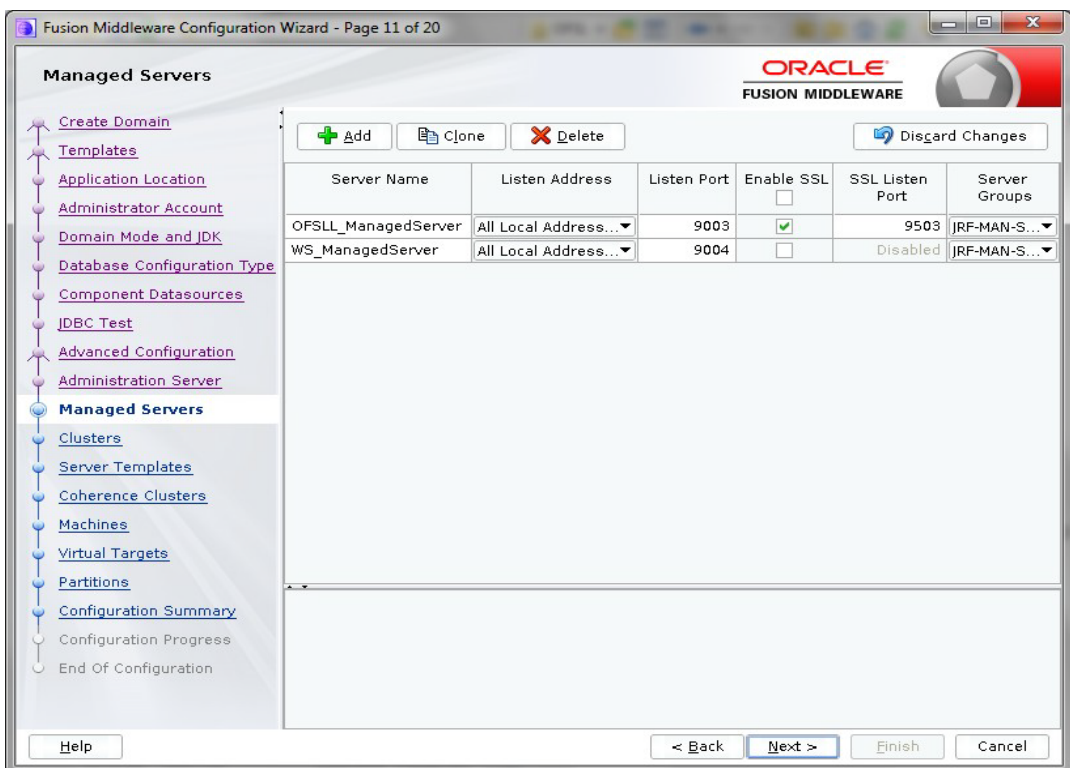




- Select 'Administration Server' and 'Topology' and click 'Next'. The following window is displayed.



- Enter Administration 'Server Name' and 'Listen Port' details. Click 'Next'. The following window is displayed.



- Click 'Add' button to create 'ManagedServer'.
- Select the Server Group as 'JRF-MAN-SVR'. *Selecting this server group ensures that the Oracle JRF services are targeted to the specific Managed Servers created.*

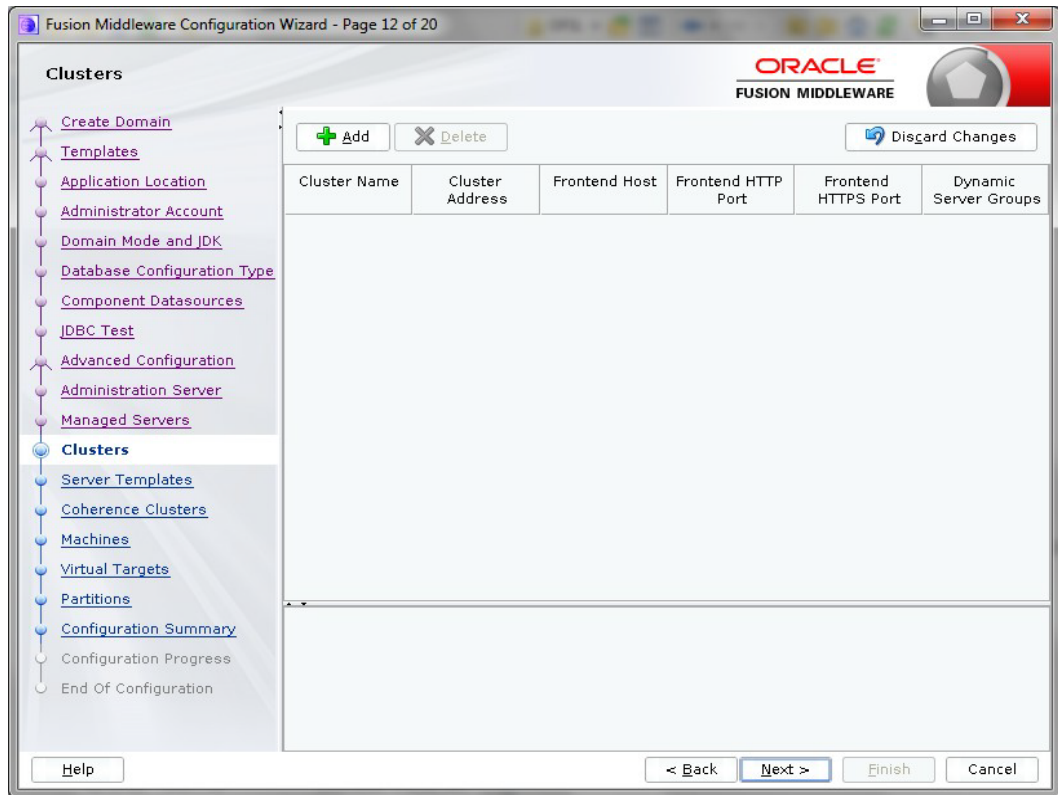
---

**Note**

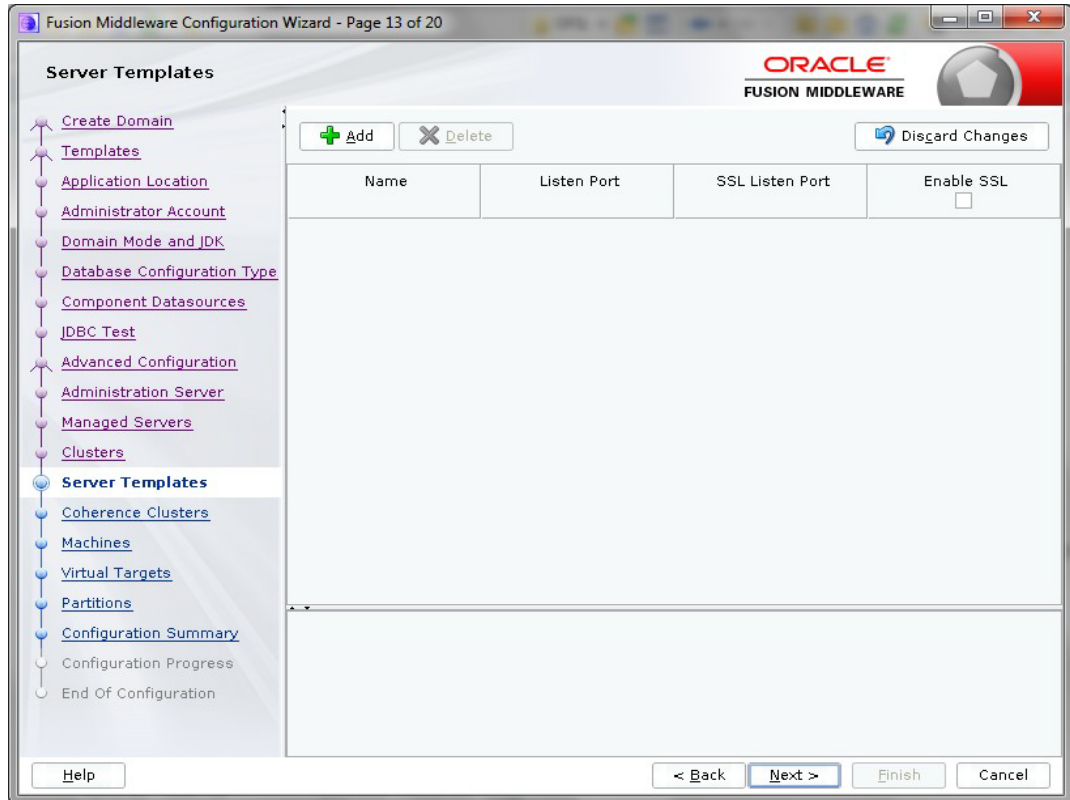
It is recommended to create two managed servers, one each for UI and Web Services.

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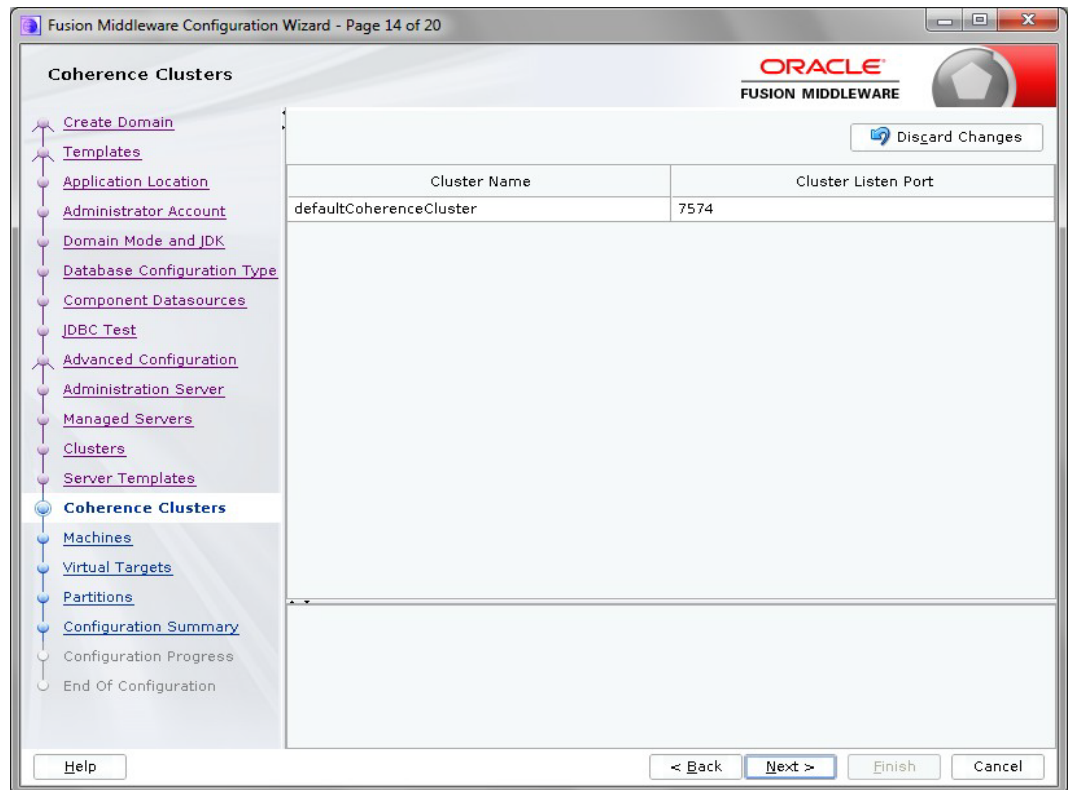
18. Click 'Next'. The following window is displayed.



19. Configure as required and click 'Next'. The following window is displayed.

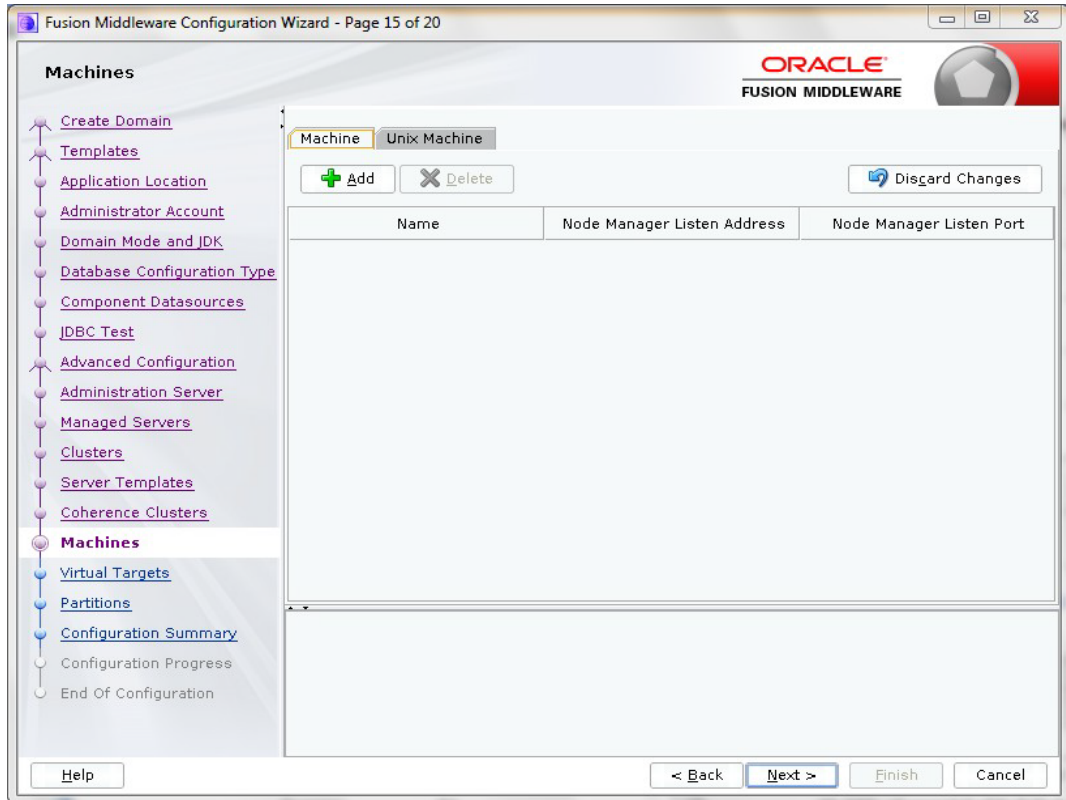


20. Configure as required and click 'Next'. The following window is displayed.

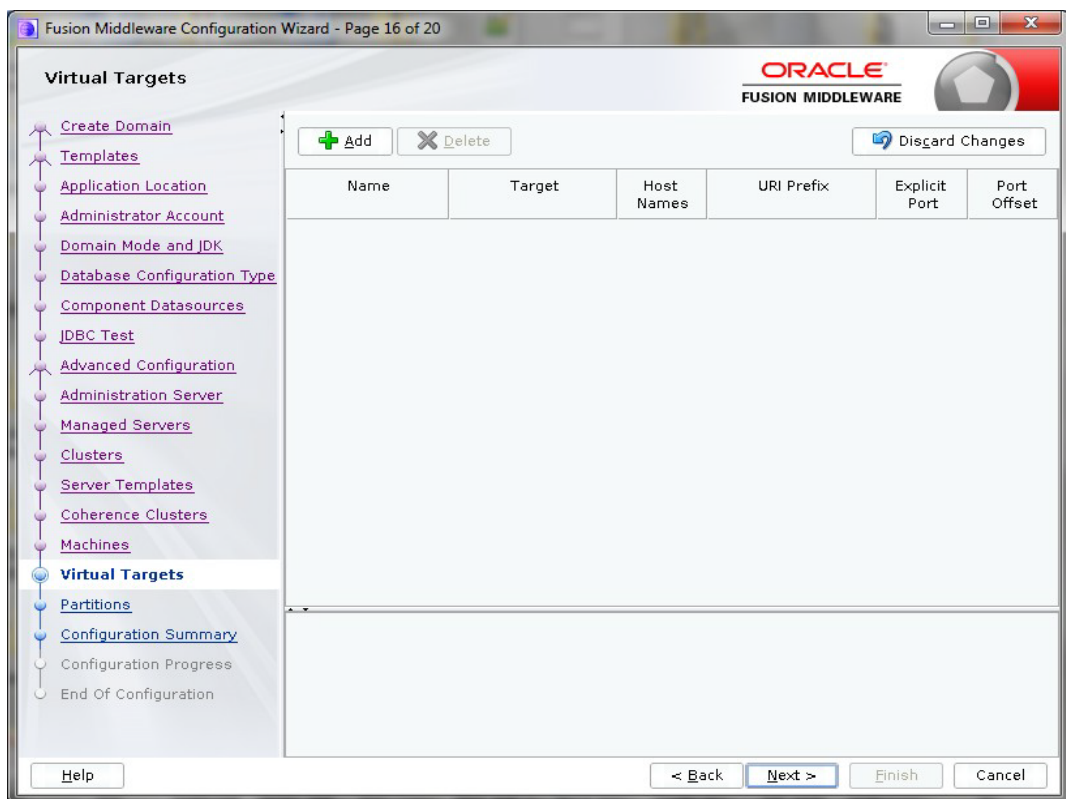




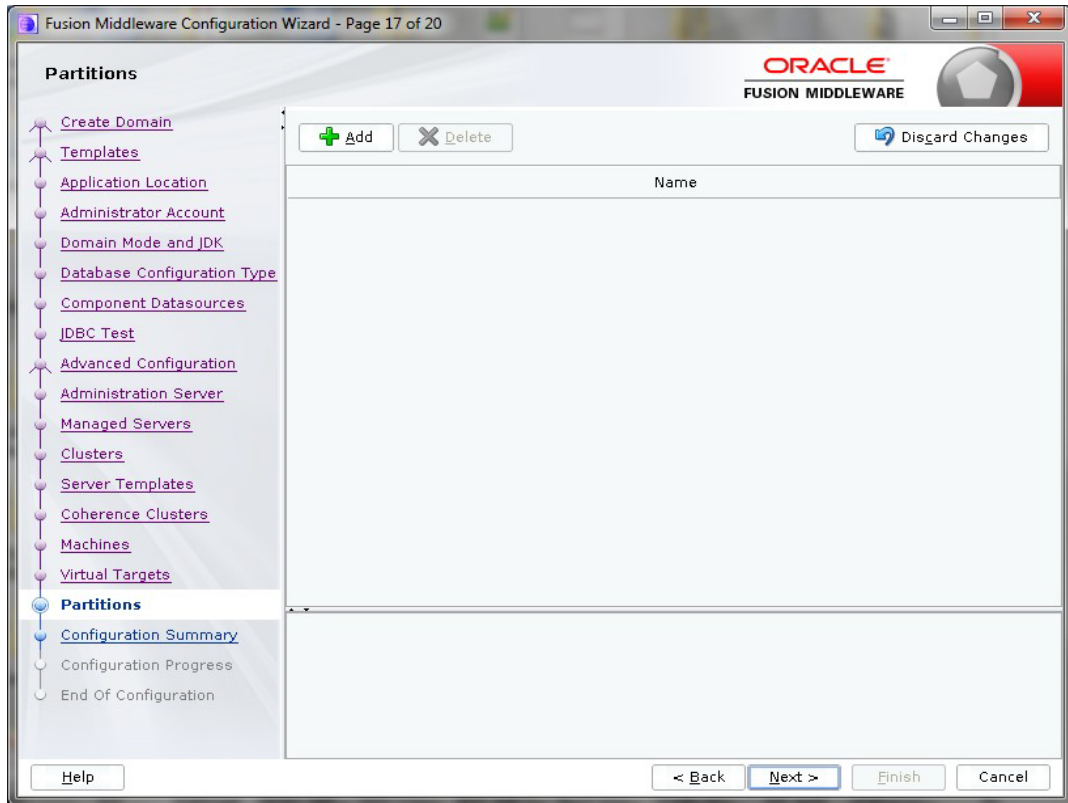
21. Configure as required and click 'Next'. The following window is displayed.



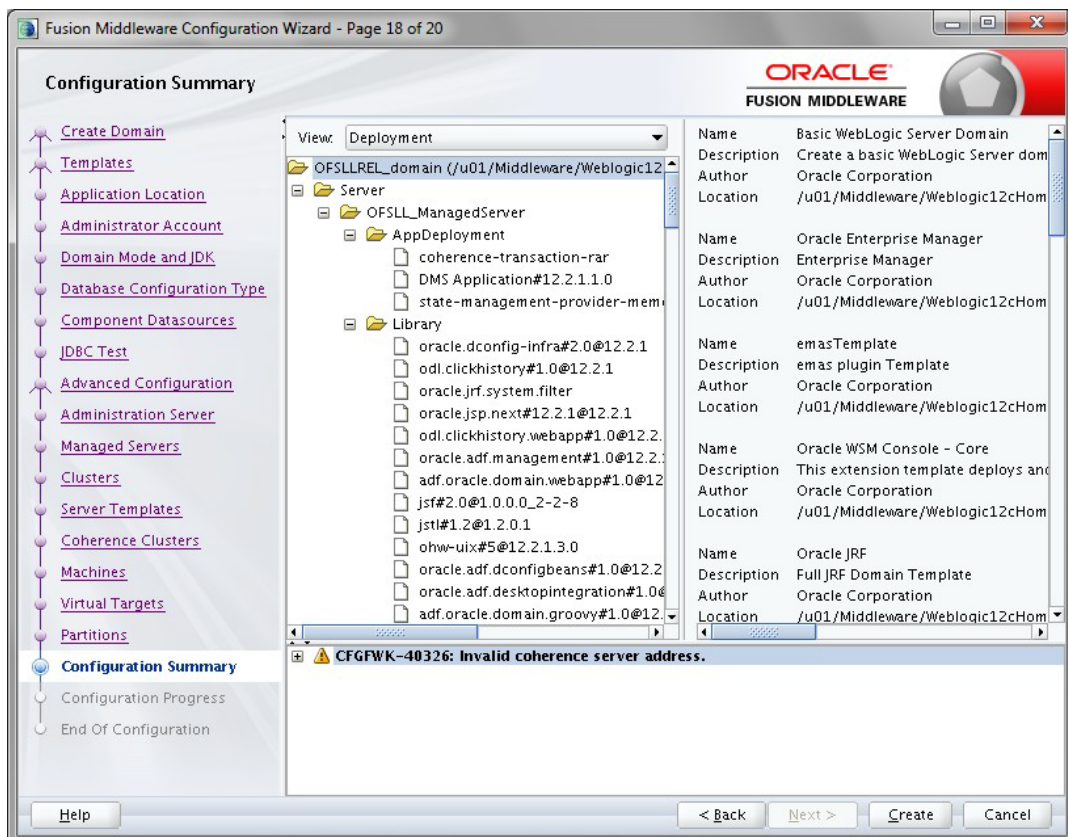
22. Click 'Create'. The following window is displayed.



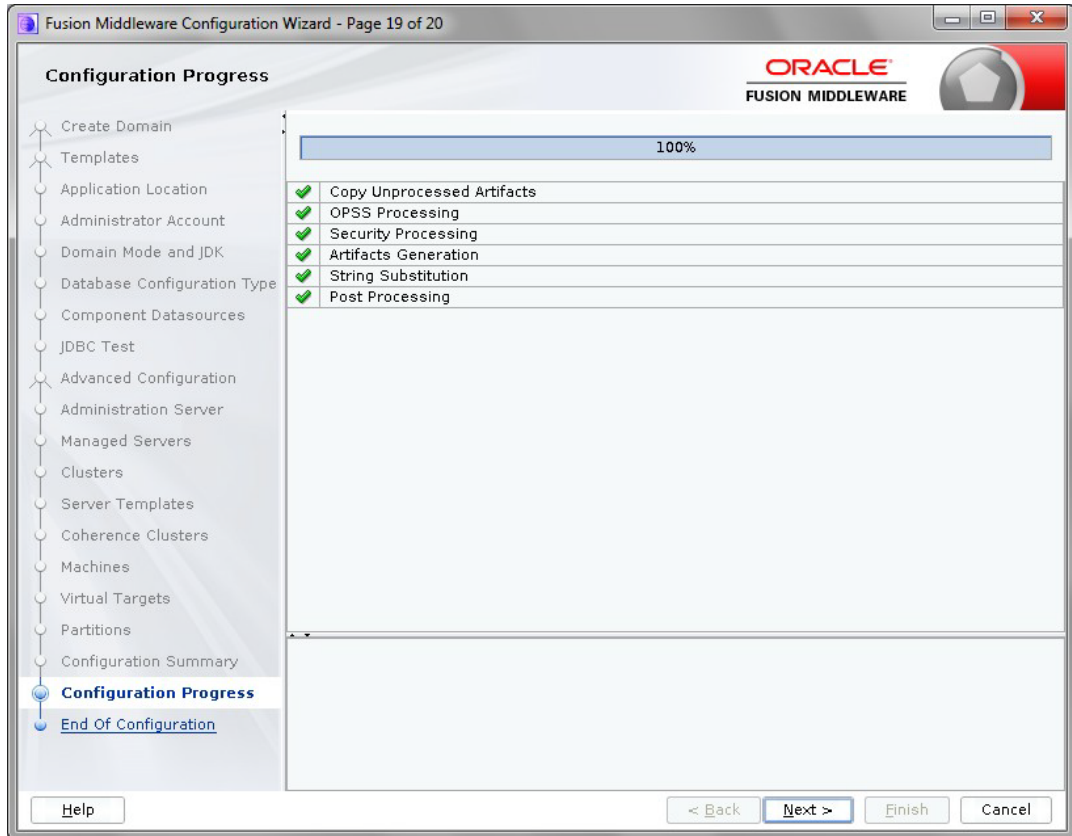
23. Click 'Next'. The following window is displayed.



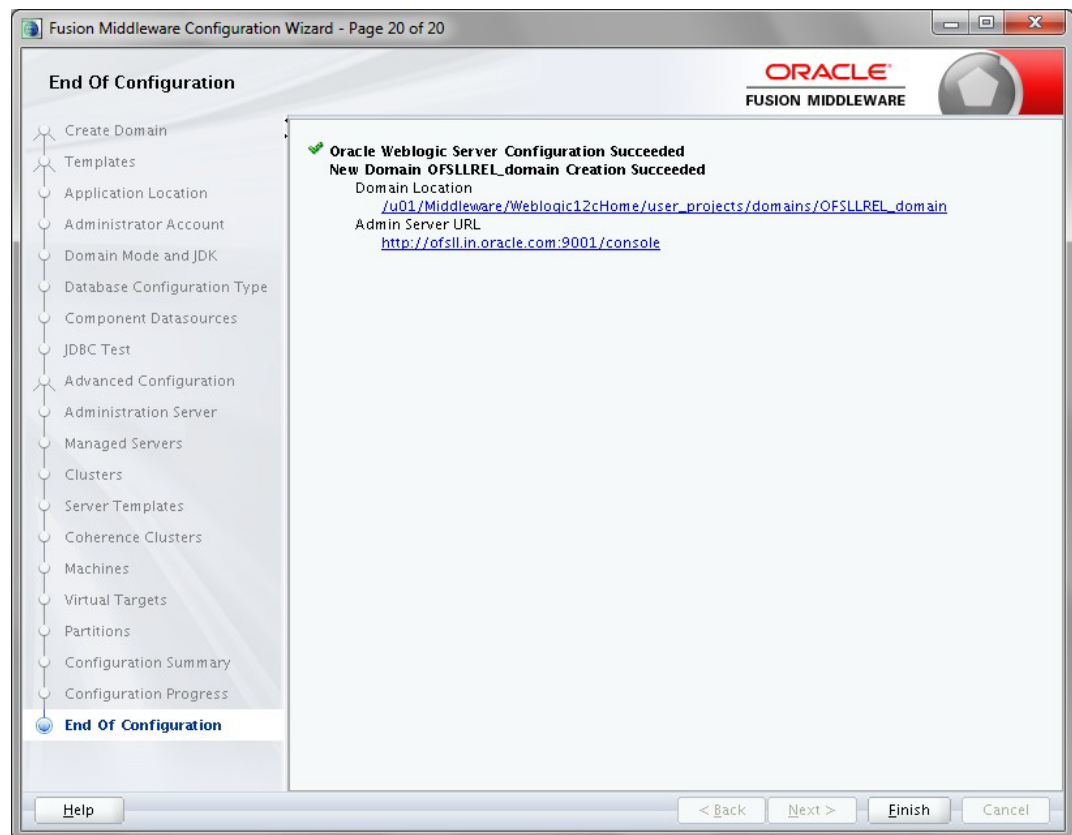
24. Click 'Next'. The following window is displayed.



25. Click 'Next'. The following window is displayed.



26. Click 'Next'. The following window is displayed.



27. Once the creation of the Domain is complete, click 'Finish' to close the window.

---

**Note**

The default Weblogic installation will be running JVM with 512MB, this has to be increased for the ADF managed server. Say, for a 2 CPU Quad Core with 16 GB it could have the JVM running at 8 GB as:

```
USER_MEM_ARGS="-Xms8192m -Xmx8192m -XX:PermSize=2048m -XX:Max-PermSize=2048m"
```

---

28. The "\$MW\_HOME/user\_projects/domains/<mydomain>" directory contains a script that can be used to start the Admin server.

```
- $ cd $MW_HOME/user_projects/domains/<mydomain>/bin
- $ ./startWebLogic.sh
```

If the server is required to be running and access to command line needs to be returned use "nohup" and "&"

```
$ nohup ./startWebLogic.sh &
```

29. To Start Managed Server

```
- $ cd $MW_HOME/user_projects/domains/<mydomain>/bin
- $ ./<MW_HOME>/user_projects/domains/<mydomain>/bin/
  startManagedWebLogic.sh {ManagedServer_name} {AdminServer URL}
```

If the server is required to be running and access to command line needs to be returned use "nohup" and "&".

```
$ nohup ./<MW_HOME>/user_projects/domains/<mydomain>/bin/
  startManagedWebLogic.sh {ManagedServer_name} {AdminServer URL} &
```

The recommended parameters for each Managed Server for application and web services are as follows:

- For managed server where application is deployed:  
-Xms8g -Xmx8g -XX:NewRatio=3 -XX:HeapDumpPath=/tmp -  
Dweblogic.threadpool.MinPoolSize=40 -Dweblogic.threadpool.MaxPoolSize=150 -  
XX:SoftRefLRUPolicyMSPerMB=10 -  
Dweblogic.diagnostics.debug.DebugLogger.DISABLED=true -  
Dweblogic.management.discover=false -Dweblogic.llr.table.specjds1=wl\_llr\_jent31\_1 -  
Dweblogic.llr.table.specjds2=wl\_llr\_jent31\_2 -Dsun.net.inetaddr.ttl=0 -  
Dnetworkaddress.cache.ttl=0 -XX:AllocatePrefetchDistance=256 -  
XX:AllocatePrefetchStyle=1 -XX:+AggressiveOpts -XX:+UseConcMarkSweepGC -  
XX:+UseParNewGC -XX:MaxTenuringThreshold=4 -XX:-  
UseCMSInitiatingOccupancyOnly -XX:CMSInitiatingOccupancyFraction=60 -  
XX:CMSTriggerRatio=60 -XX:+CMSParallelRemarkEnabled -  
XX:+UseCMSCompactAtFullCollection -XX:+CMSCompactWhenClearAllSoftRefs -  
XX:PrintCMSStatistics=1 -XX:+PrintClassHistogram -XX:-UseParallelGC -  
XX:ParallelGCThreads=10 -XX:-TraceClassUnloading -XX:-UseParallelOldGC -  
XX:+UseCompressedOops -XX:+UseBiasedLocking -XX:+AlwaysPreTouch -XX:-  
UseAdaptiveSizePolicy -Djbo.load.components.lazily=true -  
Djbo.ampool.initpoolsize=100 -Djbo.recyclethreshold=200 -  
Djbo.ampool.minavailablesize=200 -Djbo.ampool.maxavailablesize=200 -  
Djbo.ampool.timetolive=-1 -Djbo.locking.mode=optimistic -  
Djbo.doconnectionpooling=true -Djbo.txn.disconnect\_level=1 -  
Djbo.ampool.doampooling=true -Djbo.dofailover=false -  
Djbo.ampool.maxinactiveage=3600000 -Djbo.ampool.monitorsleepinterval=360000 -  
Doracle.multitenant.enabled=false -XX:StringTableSize=100003 -  
XX:ReservedCodeCacheSize=1g -XX:+UseStringCache -XX:+OptimizeStringConcat -  
XX:+UnlockCommercialFeatures -XX:+FlightRecorder -  
Doracle.adfm.useSharedTransactionForFrame=false

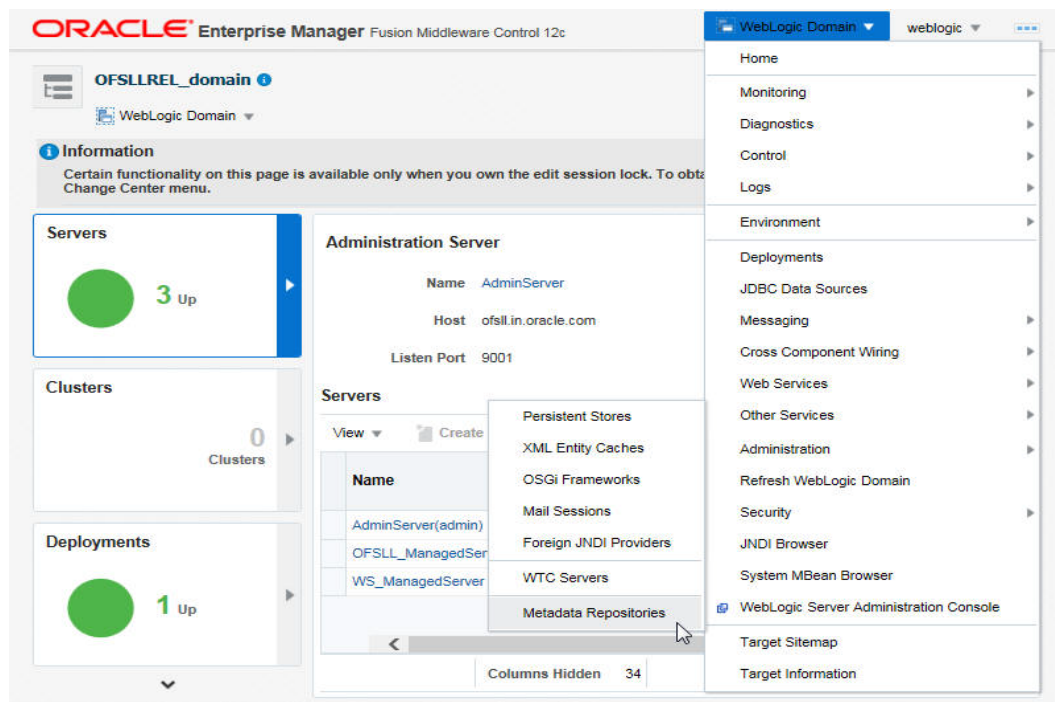


- For managed server where web services are deployed:  
 -Xms8g -Xmx8g -XX:NewRatio=3 -XX:HeapDumpPath=/tmp -  
 Dweblogic.threadpool.MinPoolSize=40 -Dweblogic.threadpool.MaxPoolSize=150 -  
 XX:SoftRefLRUPolicyMSPerMB=10 -  
 Dweblogic.diagnostics.debug.DebugLogger.DISABLED=true -  
 Dweblogic.management.discover=false -Dweblogic.llr.table.specjds1=wl\_llr\_jent31\_1 -  
 Dweblogic.llr.table.specjds2=wl\_llr\_jent31\_2 -Dsun.net.inetaddr.ttl=0 -  
 Dnetworkaddress.cache.ttl=0 -XX:AllocatePrefetchDistance=256 -  
 XX:AllocatePrefetchStyle=1 -XX:+AggressiveOpts -XX:+UseConcMarkSweepGC -  
 XX:+UseParNewGC -XX:MaxTenuringThreshold=4 -XX:-  
 UseCMSInitiatingOccupancyOnly -XX:CMSInitiatingOccupancyFraction=60 -  
 XX:CMSTriggerRatio=60 -XX:+CMSParallelRemarkEnabled -  
 XX:+UseCMSCompactAtFullCollection -XX:+CMSCompactWhenClearAllSoftRefs -  
 XX:-UseParallelGC -XX:ParallelGCThreads=10 -XX:-TraceClassUnloading -XX:-  
 UseParallelOldGC -XX:+UseCompressedOops -XX:+UseBiasedLocking -  
 XX:+AlwaysPreTouch -XX:-UseAdaptiveSizePolicy -  
 Doracle.multitenant.enabled=false -XX:StringTableSize=100003 -  
 XX:ReservedCodeCacheSize=1g -XX:+UseStringCache -XX:+OptimizeStringConcat -  
 XX:+UnlockCommercialFeatures -XX:+FlightRecorder

### 3.3 Creating Metadata Repository

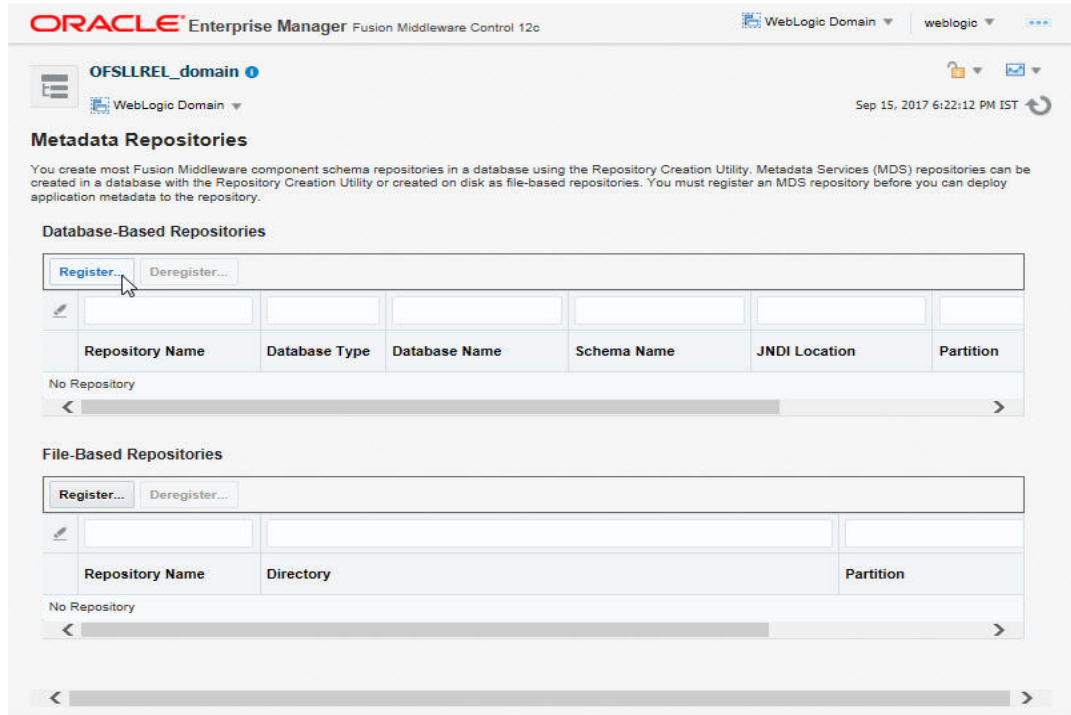
Assuming that **OLL\_MDS** schema is created using Oracle Repository Creation Utility (RCU) as mentioned in [Creating Schemas using Repository Creation Utility](#) section, follow the below steps to create the repository.

1. Login to Oracle Enterprise Manager 12c console (<http://hostname:port/em>).

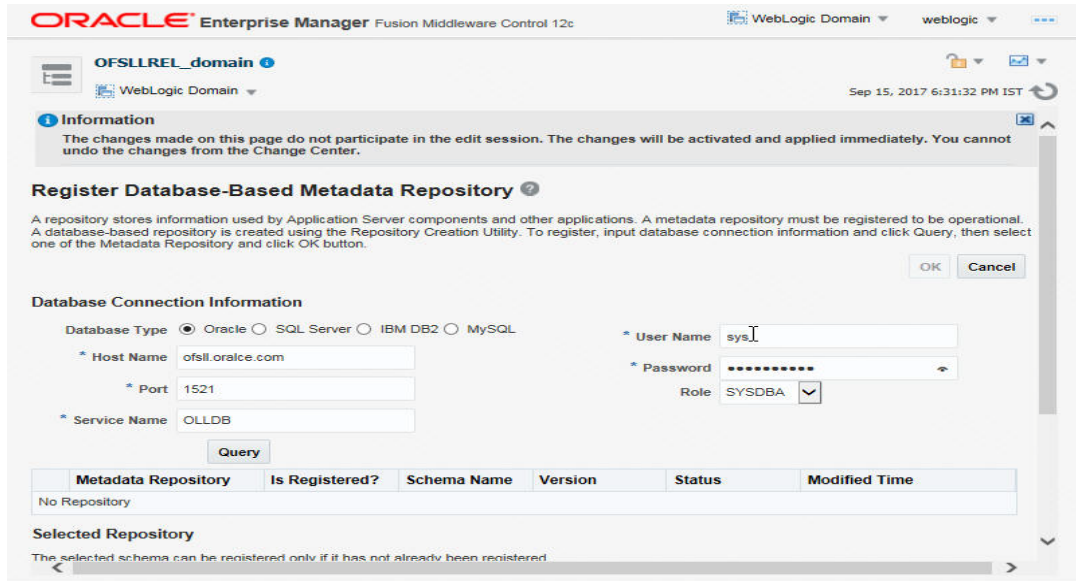


2. Click on domain name OFSSLREL\_domain on the left side panel.
3. Expand Weblogic domain OFSSLREL\_domain and click 'Metadata Repositories' option, as shown in the above screen.

4. The following window is displayed.



5. Click 'Register' button. The following window is displayed.



6. Enter database instance details under Database Connection Information section and click 'Query'. All available schemas in the given database instance are listed.

7. Select the schema you require and in the Selected Repository – Schema OLL\_MDS section, enter 'Repository Name' (adf) and the password.

8. Click 'OK'. The following window is displayed.

The screenshot shows the 'Register Database-Based Metadata Repository' dialog in Oracle Enterprise Manager. The 'Database Connection Information' section is filled with: Database Type: Oracle, Host Name: ofsl1.oracle.com, Port: 1521, Service Name: OLLDB, User Name: sys, Password: (masked), Role: SYSDBA. A table below shows the 'Metadata Repository' for 'MDS' with schema 'OLL\_MDS', version '12.2.1.3.0', and status 'VALID'. The 'Selected Repository - Schema: OLL\_MDS' section has 'Repository Name' set to 'adf' and 'Schema Password' (masked).

Metadata Repository	Is Registered?	Schema Name	Version	Status	Modified Time
MDS	false	OLL_MDS	12.2.1.3.0	VALID	25-Apr-2018 07:38:50 EDT

9. Click Repository name 'mds-adf' on left panel. You can even select it from right panel.

The screenshot shows the 'Deploy Java EE Application: Application Attributes' dialog. The 'Application Name' is 'ofsl1145' and 'Archive Version' is 'V14.5.0.0.0-b-150'. Under 'Context Root of Web Modules', 'Web Module' is 'ofsl1145.war' and 'Context Root' is 'ofsl1145'. The 'Target Metadata Repository' section is partially visible at the bottom.

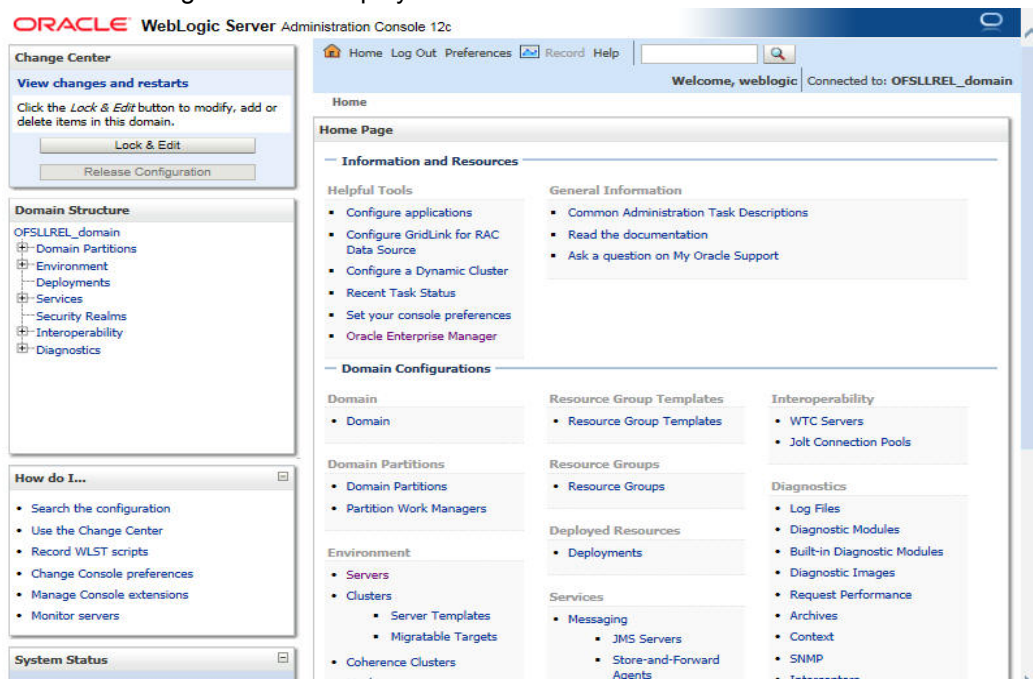
10. Click 'Add' and target to AdminSever and OFSLL\_ManagedServer as on right panel.

## 3.4 Creating Data Source

1. Login to WebLogic Server 12c console (<http://hostname:port/console>).



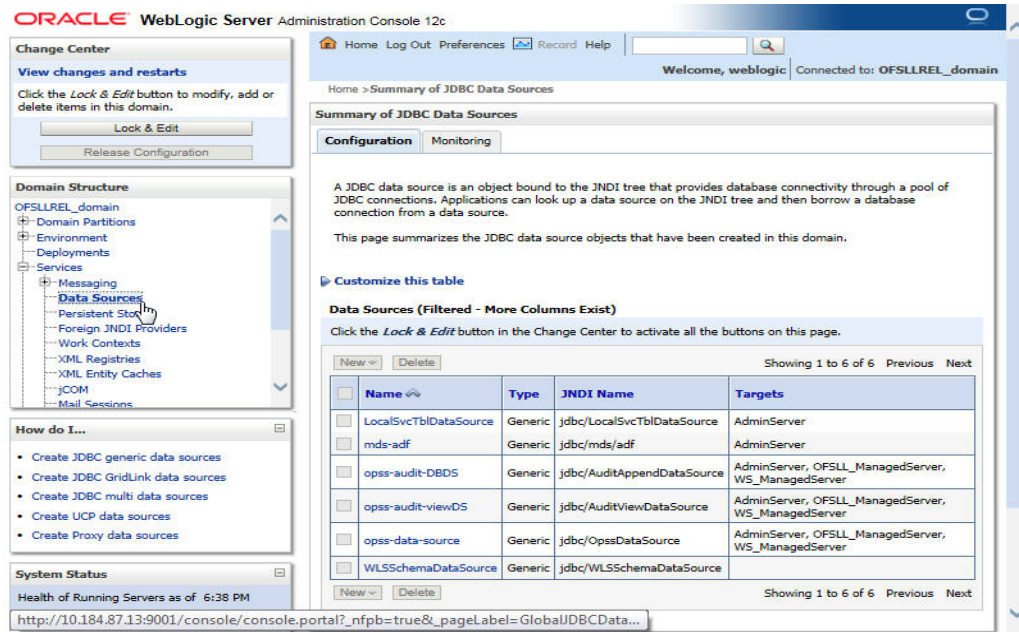
2. The following window is displayed.



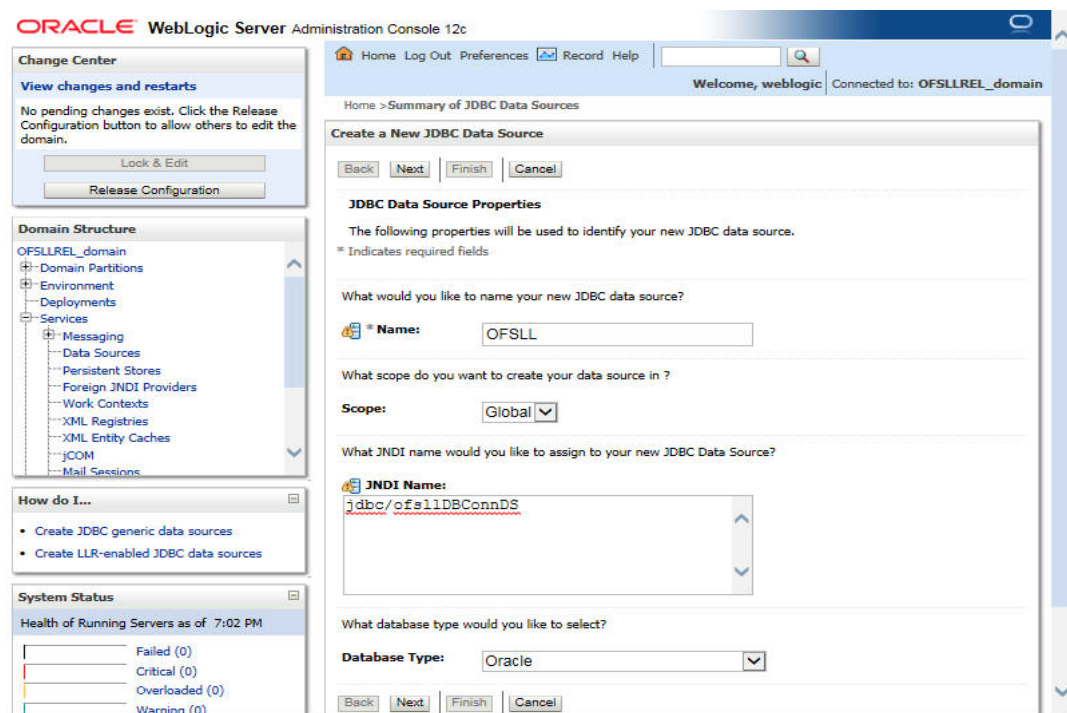
3. Click Domain Name > Services > Data Sources.



4. The following window is displayed.

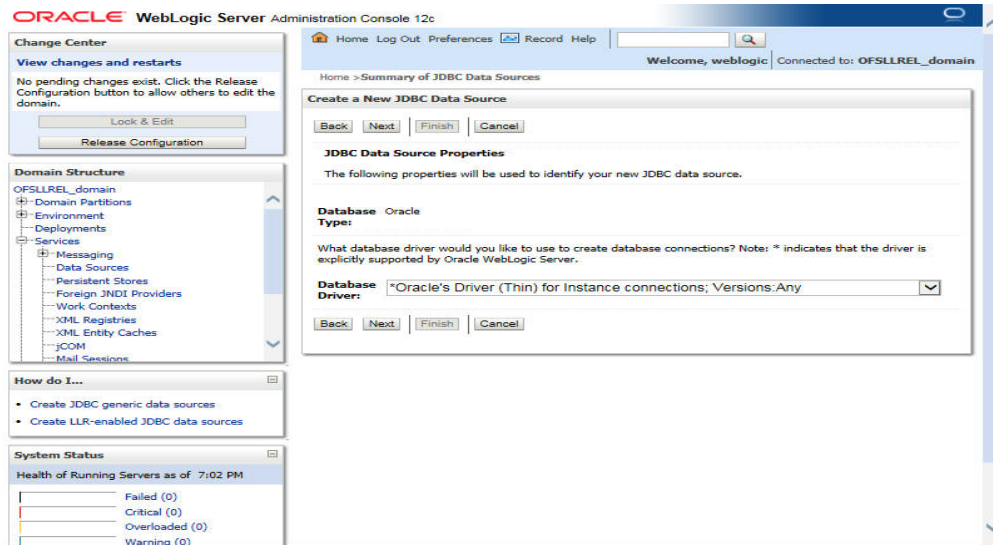


5. Click 'Lock & Edit' button on the left panel. Click 'New' on right panel and select Generic Data Source.



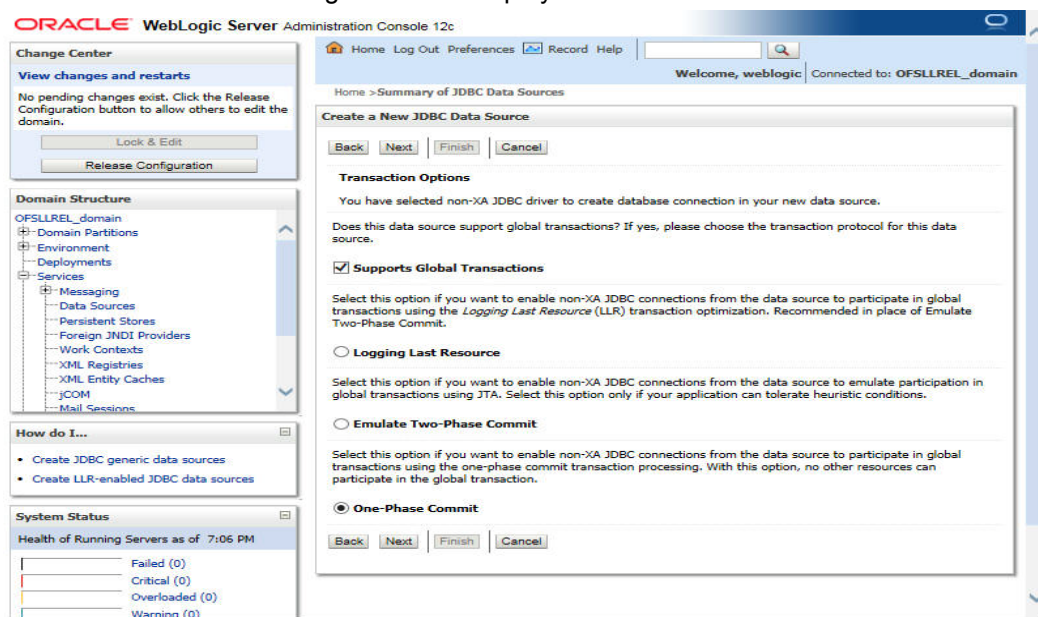
6. Enter Data source 'Name', JNDI Name as 'jdbc/ofslIDBConnDS' and select 'Oracle' as Database Type.

7. Click 'Next'. The following window is displayed.



8. Select the Database Driver 'Oracle's Driver(Thin) for Instance connections; Versions:Any' as shown above.

9. Click 'Next'. The following window is displayed.



10. Click 'Next'. The following window is displayed.

**ORACLE WebLogic Server Administration Console 12c**

Home > Summary of JDBC Data Sources

Welcome, weblogic | Connected to: OFSSLREL\_domain

### Create a New JDBC Data Source

Back | **Next** | Finish | Cancel

**Connection Properties**

Define Connection Properties.

What is the name of the database you would like to connect to?

**Database Name:**

What is the name or IP address of the database server?

**Host Name:**

What is the port on the database server used to connect to the database?

**Port:**

What database account user name do you want to use to create database connections?

**Database User Name:**

What is the database account password to use to create database connections?

**Password:**

**Confirm Password:**

Additional Connection Properties:

11. Enter Database details click 'Next'. The following window is displayed.

**ORACLE WebLogic Server Administration Console 12c**

Home > Summary of JDBC Data Sources

Welcome, weblogic | Connected to: OFSSLREL\_domain

### Create a New JDBC Data Source

**Test Configuration** | Back | Next | Finish | Cancel

**Test Database Connection**

Test the database availability and the connection properties you provided.

What is the full package name of JDBC driver class used to create database connections in the connection pool?  
(Note that this driver class must be in the classpath of any server to which it is deployed.)

**Driver Class Name:**

What is the URL of the database to connect to? The format of the URL varies by JDBC driver.

**URL:**

What database account user name do you want to use to create database connections?

**Database User Name:**

What is the database account password to use to create database connections?  
(Note: for secure password management, enter the password in the Password field instead of the Properties field below)

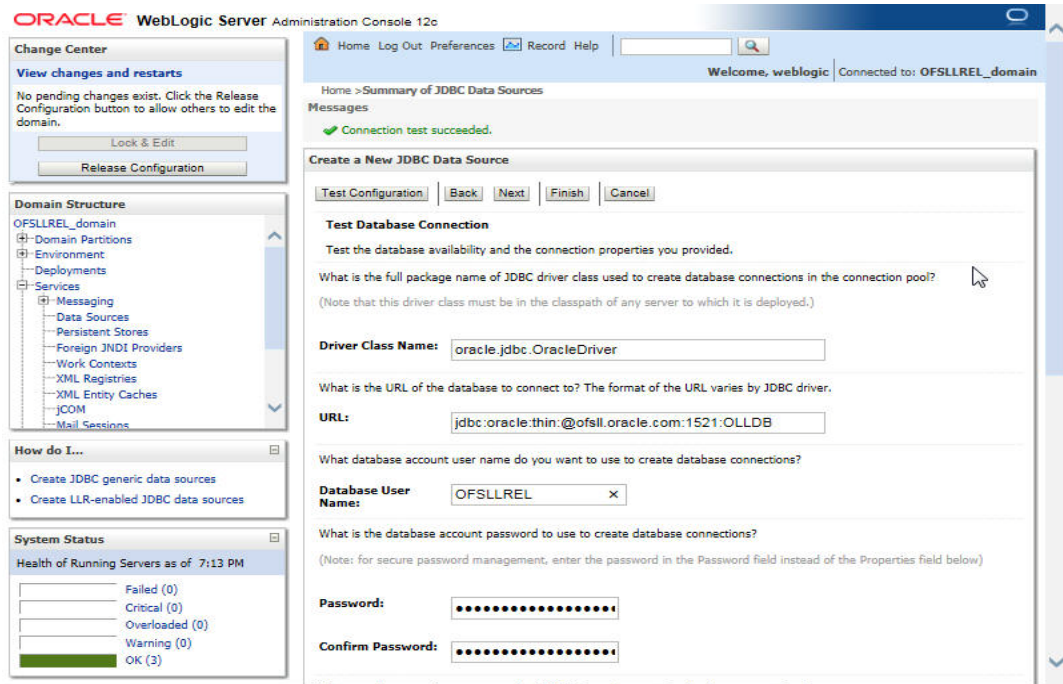
**Password:**

**Confirm Password:**

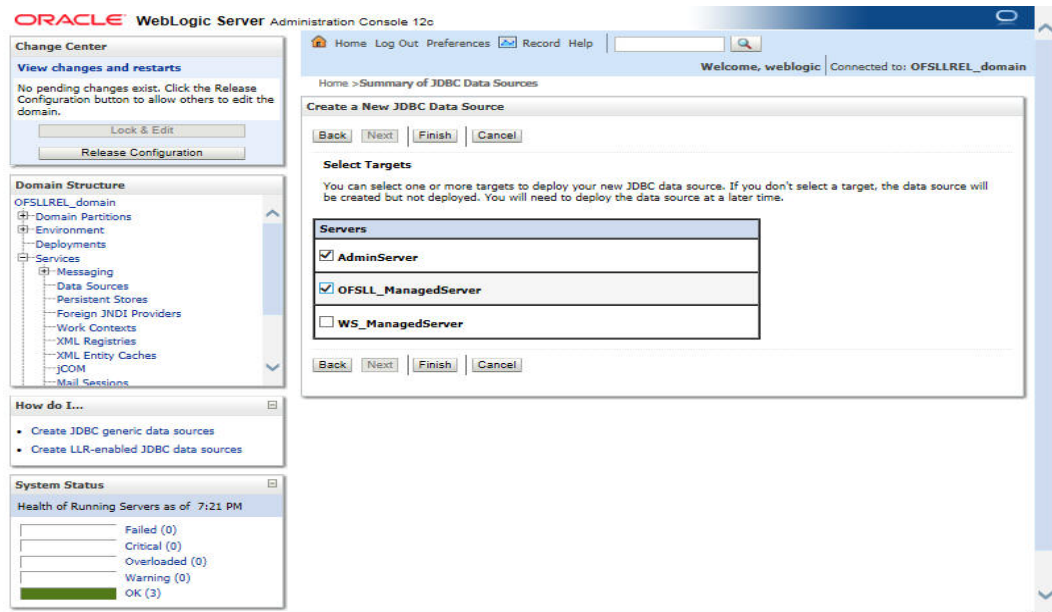
What are the properties to pass to the JDBC driver when creating database connections?

**Properties:**

12. Click 'Test Configuration'. The following window is displayed.

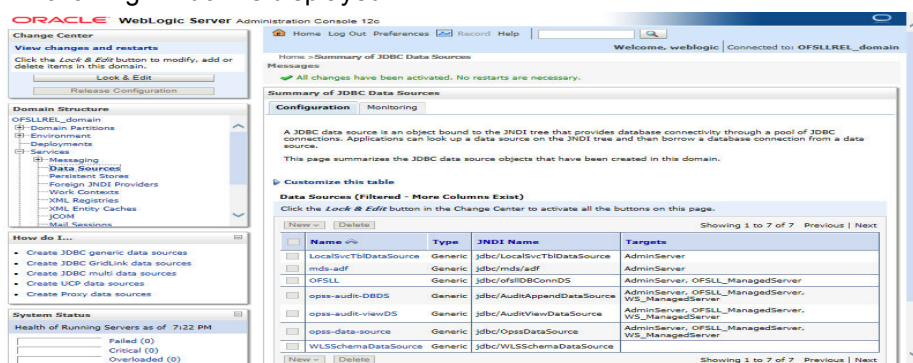


13. Displays confirmation message as 'Connection test succeeded'. Click 'Next'. The following window is displayed.





14. Select target Servers 'AdminServer' and 'OFSLL\_ManagedServer' and click 'Finish'. The following window is displayed.



15. Click 'Activate Changes' on the left panel.

### Update the following parameters in JDBC data source connection pool:

1. Select Services > Data Sources > select the OFSLL data source > Connection Pool.
2. Initial capacity and Maximum capacity is defaulted to 15, if the number of concurrent users are more this needs to be increased.
3. Click Advanced button and update the following:
  - Inactive Connection Timeout=900
  - Uncheck the 'Wrap Data Types' parameter for better performance.
4. Click 'Save'.

---

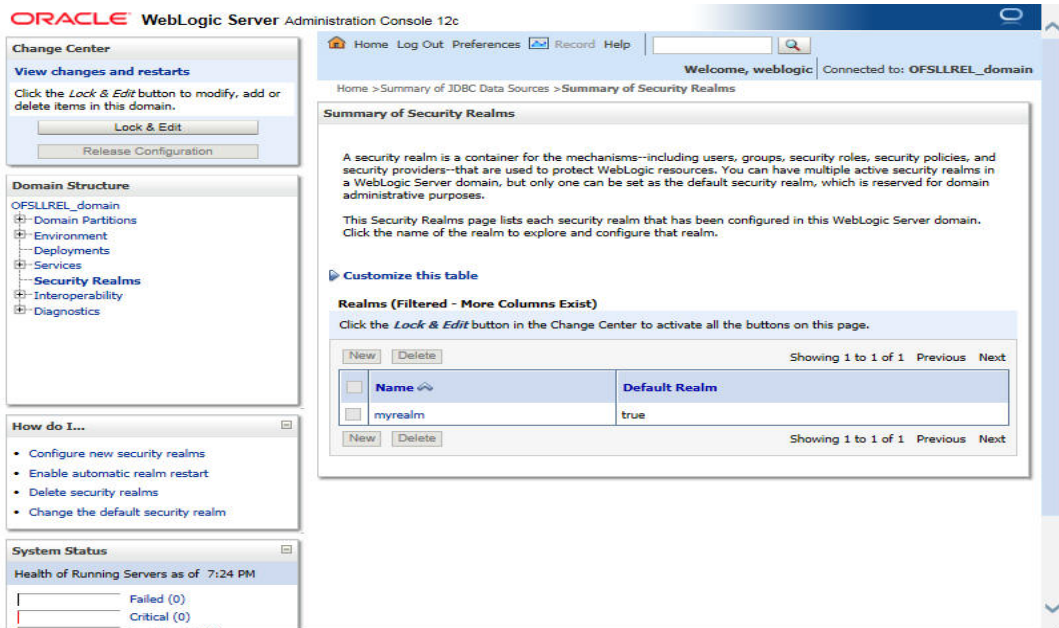
### Note

User Authentication and Management is outside of Oracle Financial Services Lending and Leasing application. Organizations can use an LDAP implementation for authentication. For Development and Testing purpose, the following sections can be configured for authentication:

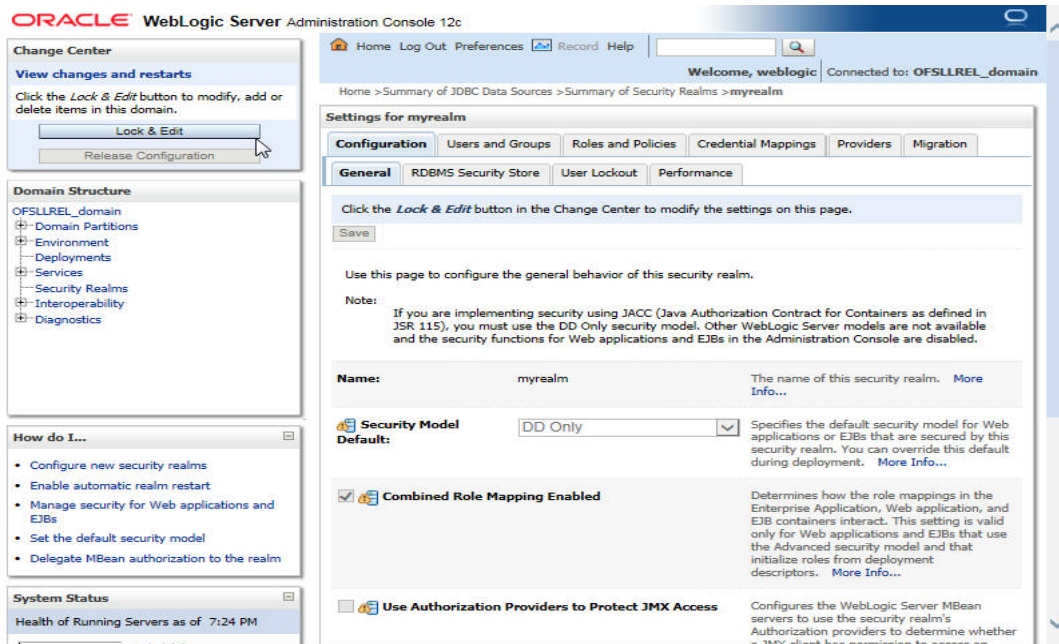
- 3.5 Creating SQL Authentication Provider
  - 3.6 Creating User Groups and Users
  - 3.7 Implementing JMX Policy for Change Password
  - 4.1 Configuring Password Policy for SQL Authenticator
  - 4.2 Configuring User Lockout Policy
-

## 3.5 Creating SQL Authentication Provider

1. Login to WebLogic server administration console and click 'Security Realms' in left panel. The following window is displayed.

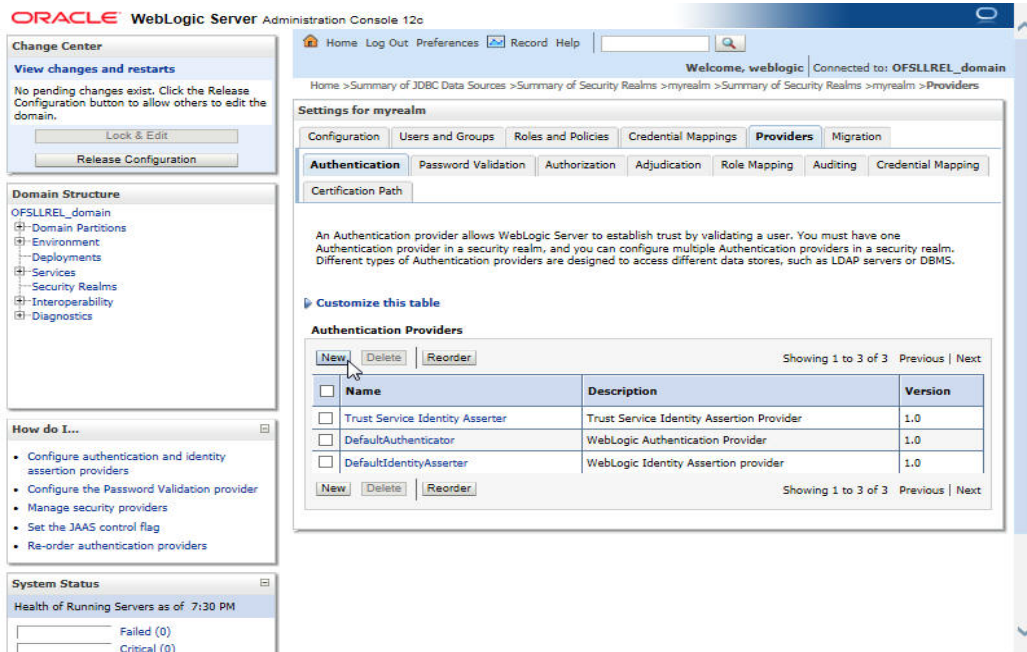


2. Click 'myrealm' on right panel. The following window is displayed.

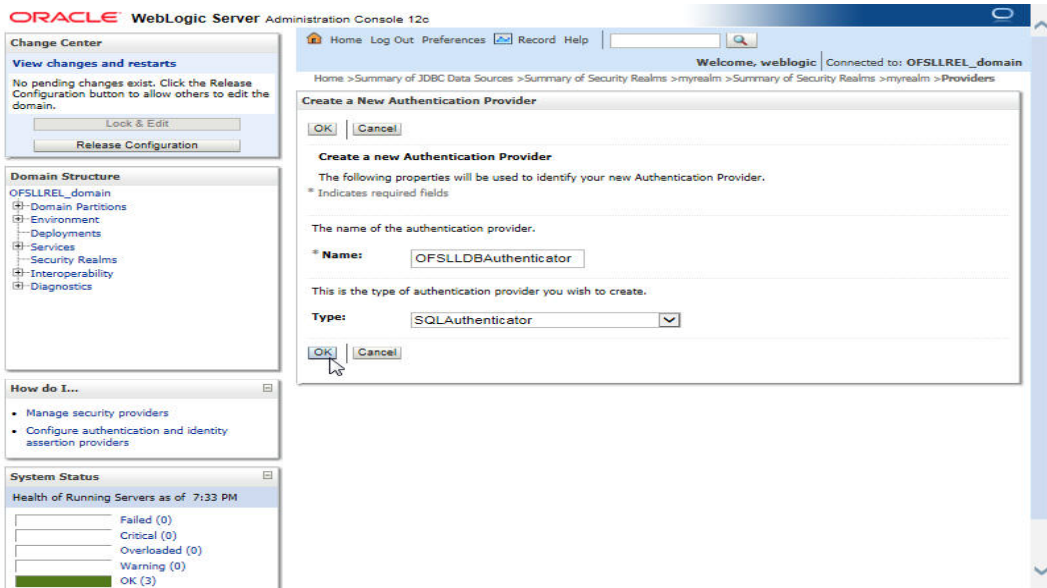




3. Click on Providers tab. The following window is displayed.



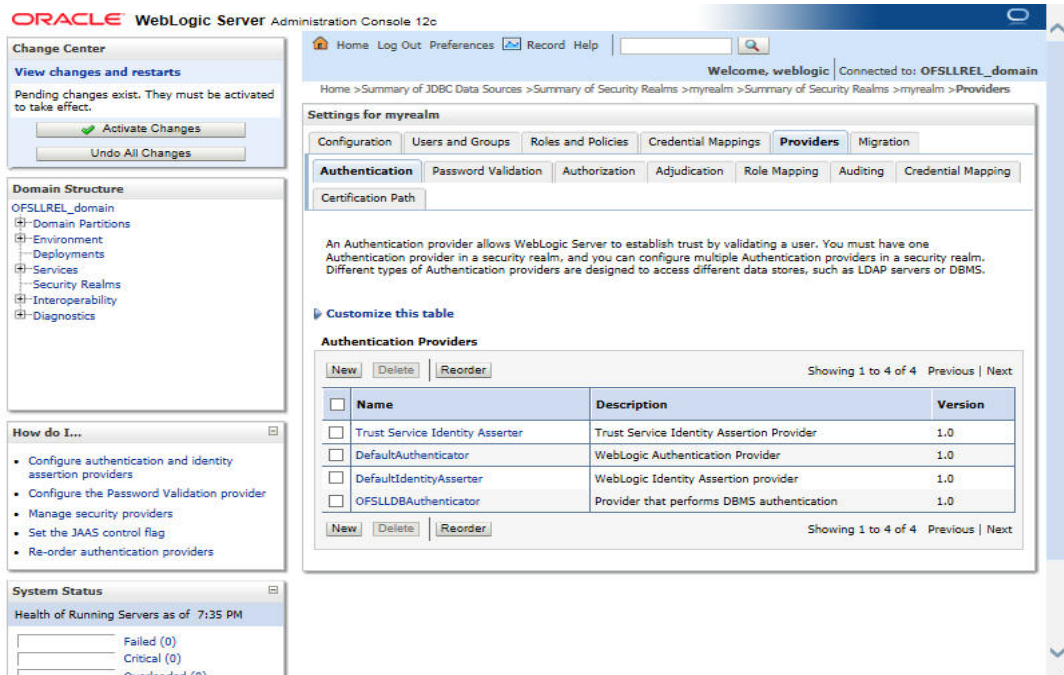
4. Click 'Lock & Edit' to unlock the screen and click 'New' button in Authentication Providers sub tab. The following window is displayed.



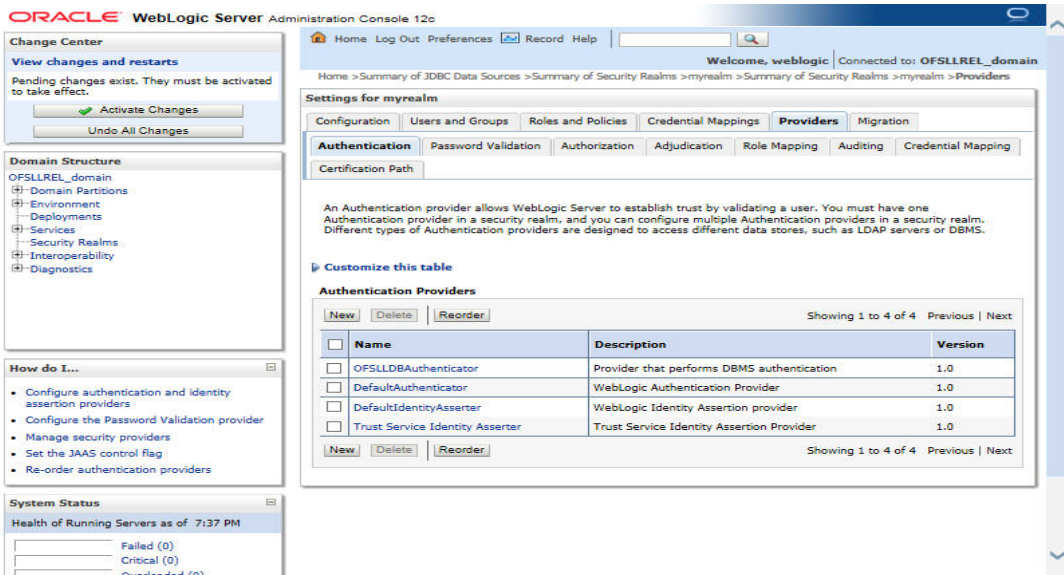
5. Create Authentication provider with following values:

- Name: OFSLLDAuthenticator
- Type: SQLAuthenticator

6. Click 'OK'. The following window is displayed.

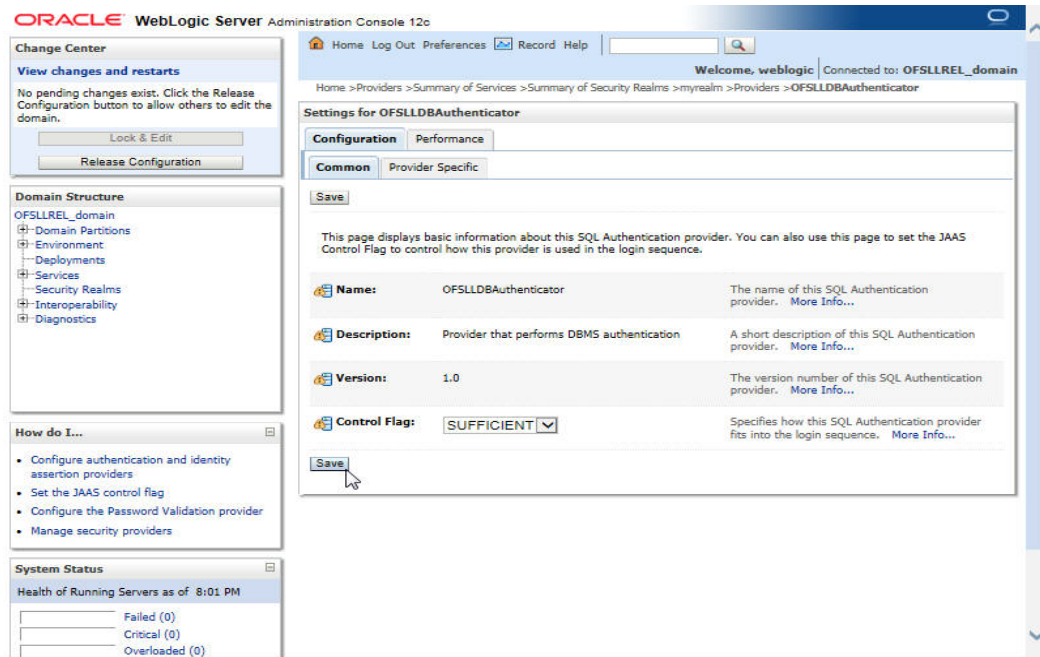


7. Click on 'Activate Changes'. The following window is displayed.



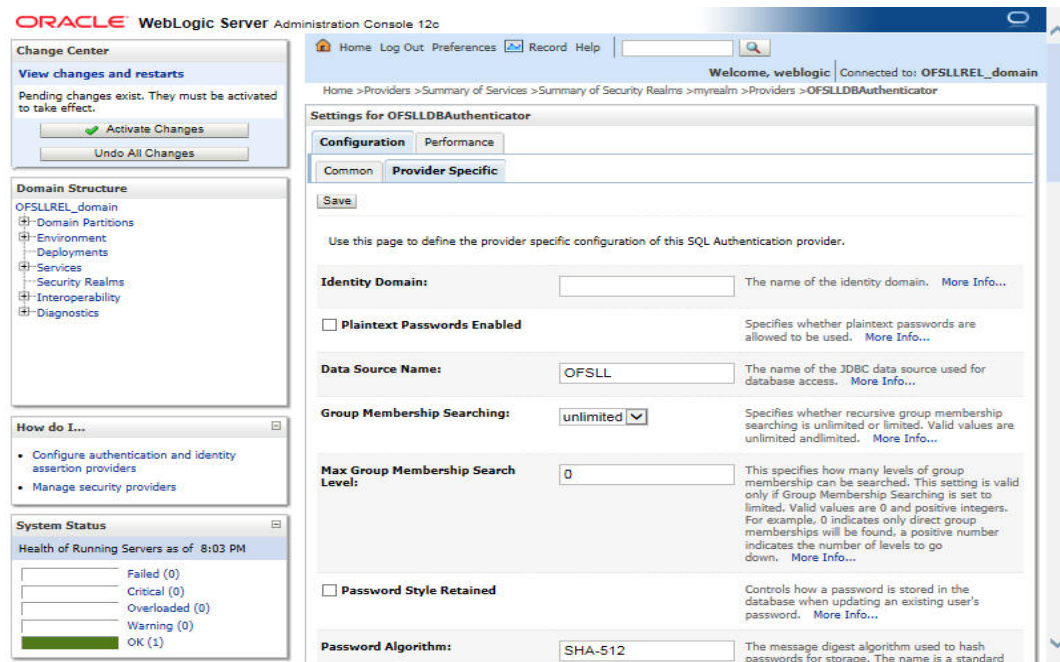
Authentication order should be maintained as mentioned in the above screen. 'OFSLDBAuthenticator' will be displayed as above.

8. Click on 'OFSLDBAuthenticator'. The following window is displayed.



9. Select 'SUFFICIENT' as the Control Flag and click 'Save'.

10. Click Provider Specific sub tab under Configuration tab. The following window is displayed.



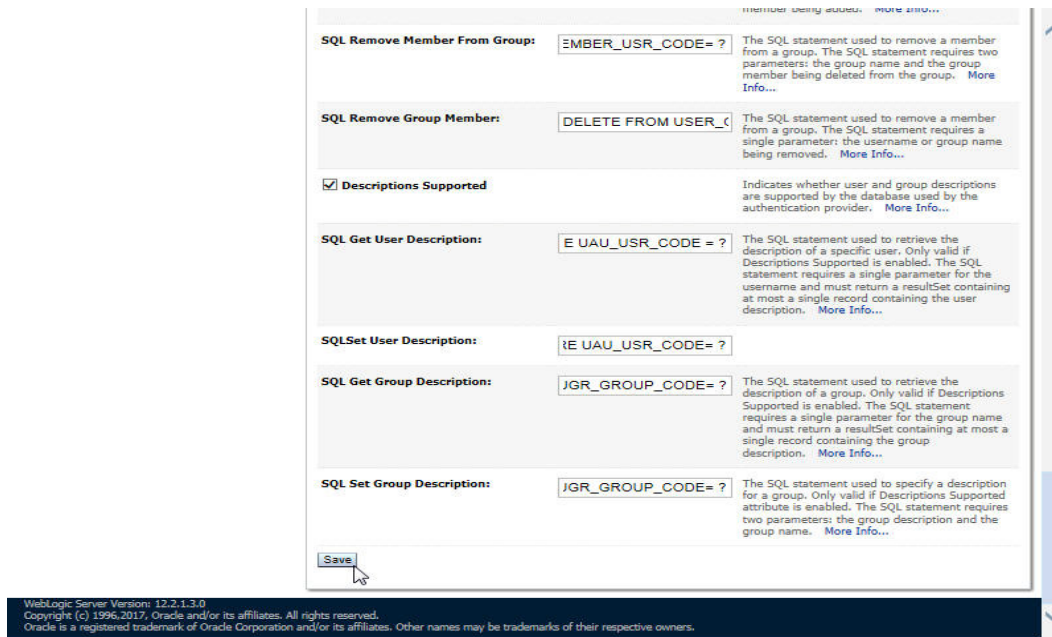
11. Specify the following values in corresponding fields:

- Data Source Name: OFSSL
- Password Style Retained: Uncheck
- Password Algorithm: SHA-512
- Password Style: SALTEDHASHED

- Provide the SQL Queries from the column Corresponding SQL Queries as per OFSLL Tables as given below.

Operation	Default SQL Query from Webllogic	Corresponding SQL Queries as per our Tables
SQL Get Users Password:	SELECT U_PASSWORD FROM USERS WHERE U_NAME = ?	SELECT UAU_USR_PASSWORD FROM USER_AUTHORISATIONS WHERE UAU_USR_CODE = ?
SQL Set User Password:	UPDATE USERS SET U_PASSWORD = ? WHERE U_NAME = ?	UPDATE USER_AUTHORISATIONS SET UAU_USR_PASSWORD = ? WHERE UAU_USR_CODE = ?
SQL User Exists:	SELECT U_NAME FROM USERS WHERE U_NAME = ?	SELECT UAU_USR_CODE FROM USER_AUTHORISATIONS WHERE UAU_USR_CODE = ?
SQL List Users:	SELECT U_NAME FROM USERS WHERE U_NAME LIKE ?	SELECT UAU_USR_CODE FROM USER_AUTHORISATIONS WHERE UAU_USR_CODE LIKE ?
SQL Create User:	INSERT INTO USERS VALUES ( ?, ?, ? )	INSERT INTO USER_AUTHORISATIONS(UAU_USR_CODE, UAU_USR_PASSWORD,UAU_DESC) VALUES(?,?,?)
SQL Remove User:	DELETE FROM USERS WHERE U_NAME = ?	DELETE FROM USER_AUTHORISATIONS WHERE UAU_USR_CODE= ?
SQL List Groups:	SELECT G_NAME FROM GROUPS WHERE G_NAME LIKE ?	SELECT UGR_GROUP_CODE FROM USER_GROUPS WHERE UGR_GROUP_CODE LIKE ?
SQL Group Exists:	SELECT G_NAME FROM GROUPS WHERE G_NAME = ?	SELECT UGR_GROUP_CODE FROM USER_GROUPS WHERE UGR_GROUP_CODE = ?
SQL Create Group:	INSERT INTO GROUPS VALUES ( ?, ? )	INSERT INTO USER_GROUPS(UGR_GROUP_CODE,U GR_GROUP_DESC) VALUES(?,?)
SQL Remove Group:	DELETE FROM GROUPS WHERE G_NAME = ?	DELETE FROM USER_GROUPS WHERE UGR_GROUP_CODE = ?
SQL Is Member:	SELECT G_MEMBER FROM GROUPMEMBERS WHERE G_NAME = ? AND G_MEMBER = ?	SELECT UGM_MEMBER_USR_CODE FROM USER_GROUP_MEMBERS WHERE UGM_MEMBER_GROUP_CODE=? AND UGM_MEMBER_USR_CODE = ?
SQL List Member Groups:	SELECT G_NAME FROM GROUPMEMBERS WHERE G_MEMBER = ?	SELECT UGM_MEMBER_GROUP_CODE FROM USER_GROUP_MEMBERS WHERE UGM_MEMBER_USR_CODE=?

Operation	Default SQL Query from Webllogic	Corresponding SQL Queries as per our Tables
SQL List Group Members:	SELECT G_MEMBER FROM GROUPMEMBERS WHERE G_NAME = ? AND G_MEMBER LIKE ?	SELECT UGM_MEMBER_USR_CODE FROM USER_GROUP_MEMBERS WHERE UGM_MEMBER_GROUP_CODE= ? AND UGM_MEMBER_USR_CODE LIKE ?
SQL Remove Group Memberships:	DELETE FROM GROUPMEMBERS WHERE G_MEMBER = ? OR G_NAME = ?	DELETE FROM USER_GROUP_MEMBERS WHERE UGM_MEMBER_USR_CODE= ? OR UGM_MEMBER_GROUP_CODE= ?
SQL Add Member To Group:	INSERT INTO GROUPMEMBERS VALUES( ?, ?)	INSERT INTO USER_GROUP_MEMBERS (UGM_MEMBER_GROUP_CODE,UGM_MEMBER_USR_CODE) VALUES(?,?)
SQL Remove Member From Group:	DELETE FROM GROUPMEMBERS WHERE G_NAME = ? AND G_MEMBER = ?	DELETE FROM USER_GROUP_MEMBERS WHERE UGM_MEMBER_GROUP_CODE= ? AND UGM_MEMBER_USR_CODE= ?
SQL Remove Group Member:	DELETE FROM GROUPMEMBERS WHERE G_NAME = ?	DELETE FROM USER_GROUP_MEMBERS WHERE UGM_MEMBER_GROUP_CODE= ?
SQL Get User Description:	SELECT U_DESCRIPTION FROM USERS WHERE U_NAME = ?	SELECT UAU_DESC FROM USER_AUTHORISATIONS WHERE UAU_USR_CODE = ?
SQL Set User Description:	UPDATE USERS SET U_DESCRIPTION = ? WHERE U_NAME = ?	UPDATE USER_AUTHORISATIONS SET UAU_DESC= ? WHERE UAU_USR_CODE= ?
SQL Get Group Description:	SELECT G_DESCRIPTION FROM GROUPS WHERE G_NAME = ?	SELECT UGR_GROUP_DESC FROM USER_GROUPS WHERE UGR_GROUP_CODE= ?
SQL Set Group Description:	UPDATE GROUPS SET G_DESCRIPTION = ? WHERE G_NAME = ?	UPDATE USER_GROUPS SET UGR_GROUP_DESC= ? WHERE UGR_GROUP_CODE= ?
Provider Name	OFSLLDBAuthenticator	



12. Click 'Save'.

---

**Note**

Application server needs to be restarted for these changes to take effect.

---

## 3.6 Creating User Groups and Users

### 3.6.1 Creating Users

Create an OFSLL application super user to login to the application.

A script is provided in the distribution media in the dba\_utils folder to create an user.

---

**Note**

By default there are no users created to login to OFSLL application.

---



Login as application schema owner and run the script 'crt\_app\_user.sql script' to create OFSSL application user.

```

SQL*Plus: Release 12.1.0.2.0 Production on Sat Sep 16 10:35:29 2017
Copyright (c) 1982, 2014, Oracle. All rights reserved.

Enter user-name: OFSSLREL
Enter password:
Last Successful login time: Sat Sep 16 2017 10:38:03 +05:30
Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> @crt_app_user.sql
Enter the name of the OFSSL App user Id you
Want to create user: DEMOSUPR
Enter the First Name for this user: DEMO
Enter the Last Name for this user: SUPR
Enter the Phone Number for this user: 9997778886
Enter the Fax Number for this user: 6655544422

1 row created.

1 row created.

1 row created.

SQL> commit;

Commit complete.

SQL> █

```

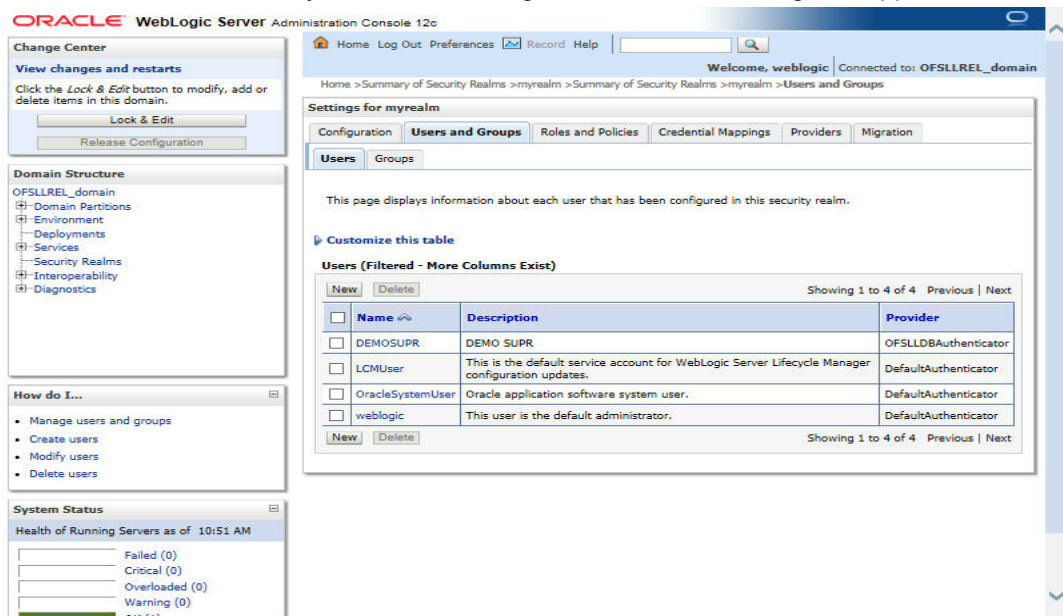
1. Login into WebLogic server console.
2. Click 'Security Realms' on the left panel.
3. Click 'myrealm' on the right panel..

The screenshot shows the Oracle WebLogic Server Administration Console. On the left, the 'Domain Structure' tree is expanded to 'Security Realms'. The main window displays the 'Summary of Security Realms' page. Below the introductory text, there is a table titled 'Realms (Filtered - More Columns Exist)'. The table contains one entry: 'myrealm' with a 'Default Realm' status of 'true'. Navigation buttons like 'New' and 'Delete' are visible above and below the table.

Name	Default Realm
myrealm	true

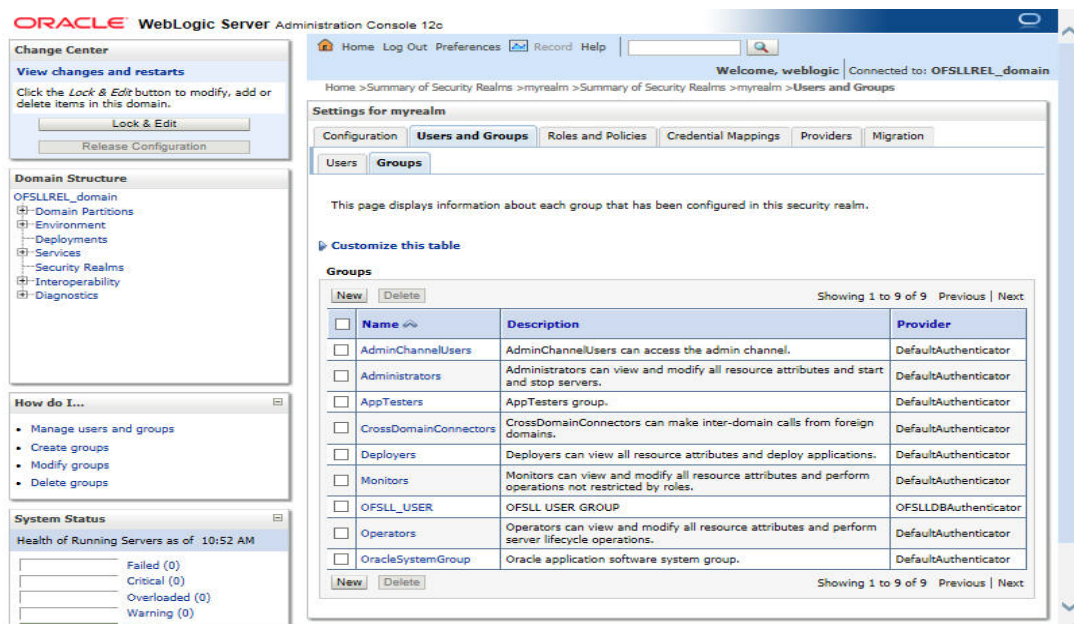
4. Select 'Users' tab under Users and Groups.

- If SQLAuthenticator is configured as a Security Provider for the OFSLL application, the Users are automatically created in weblogic when created through an application.



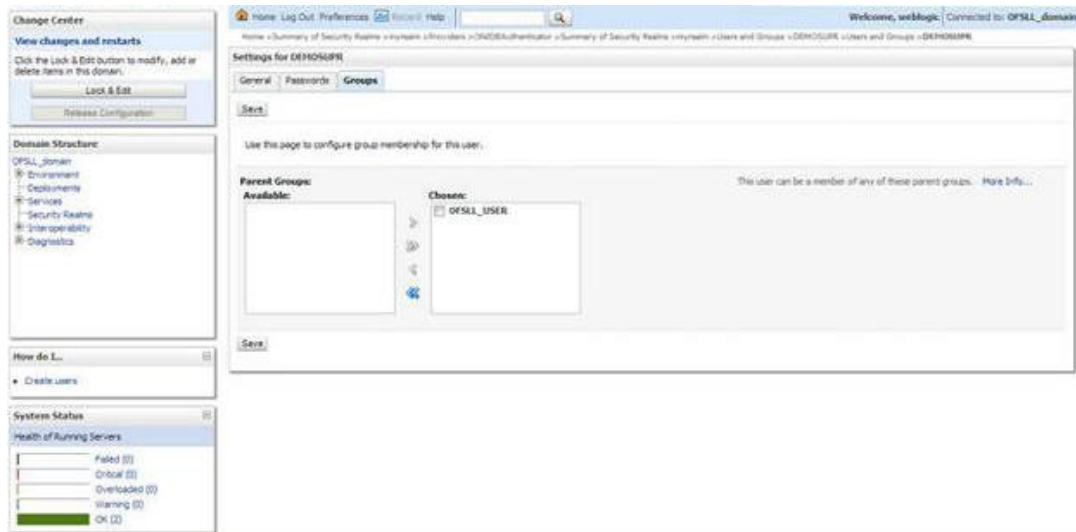
### 3.6.2 Creating User Groups

- Select 'Groups' tab under Users and Groups.
- If SQLAuthenticator is configured as a Security Provider for the OFSLL application, the Groups are automatically created in weblogic when created through an application.



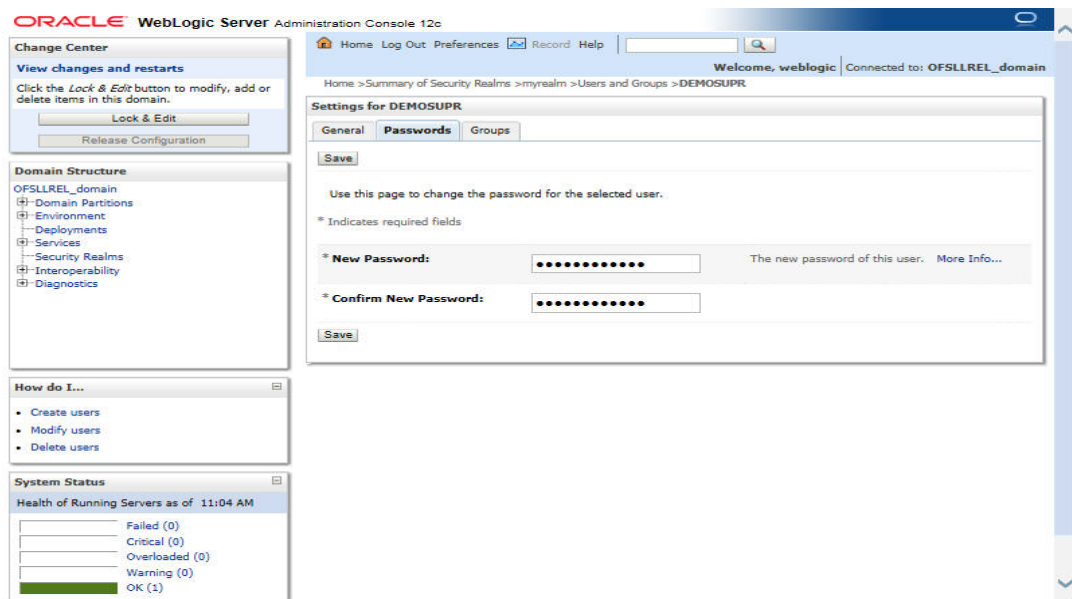
### 3.6.3 Assigning Users to Groups

The USERS are automatically mapped to default application group - OFSLL\_USER.

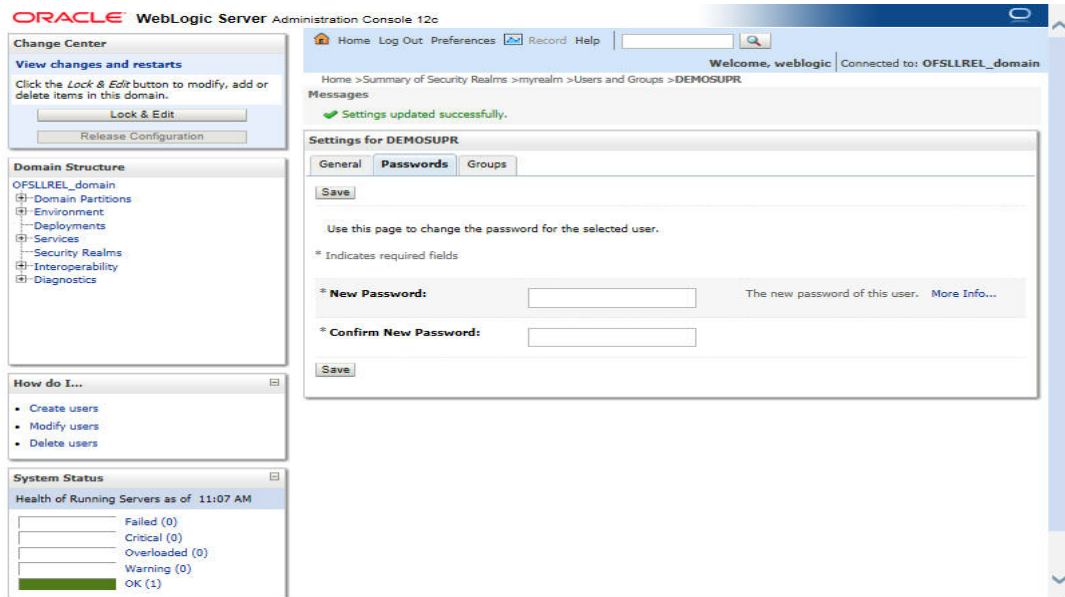


### 3.6.4 Resetting password via weblogic console

1. Click on 'User'. Select Passwords tab and enter new password and confirm password.



2. Click 'Save'. The following window displayed.



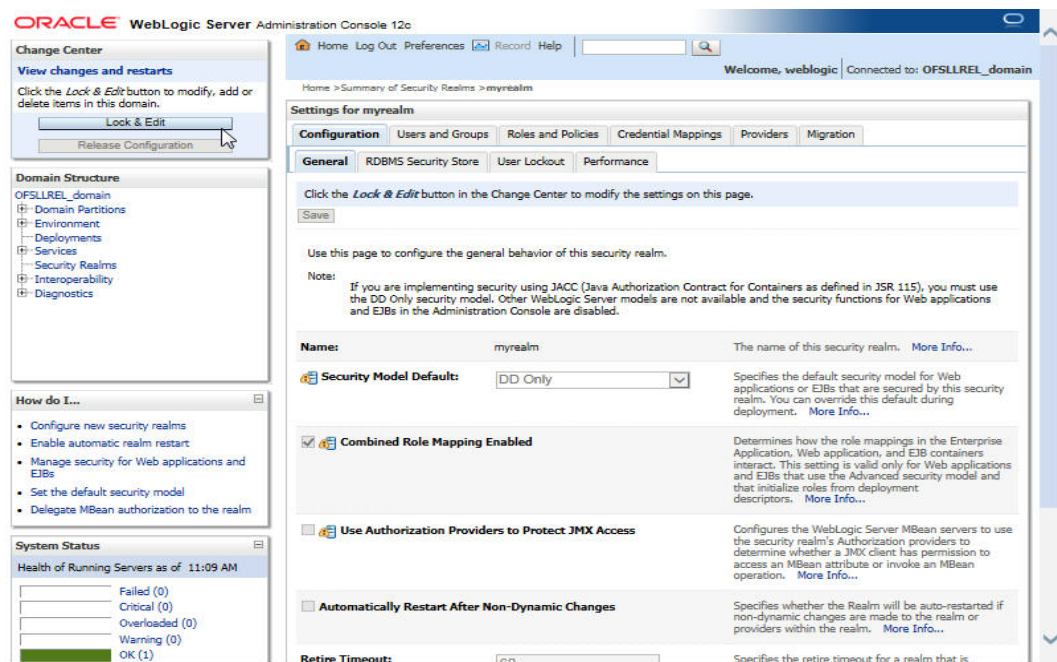
## 3.7 Implementing JMX Policy for Change Password

1. Login to Oracle WebLogic Server 12c console (<http://hostname:port/console>)

### Note

The Change Password feature uses the JMX Policy configured on the domain. Hence, the AdminServer is required to be up and running to enable this.

2. Click **Domain > Security > myrealm > Configuration**





- To enable JMX policy select the 'Use Authorization Providers to Protect JMX Access' check box on the right panel

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area is titled 'Settings for myrealm' and includes a 'Configuration' tab. Under the 'Configuration' tab, the 'General' sub-tab is active. A 'Save' button is visible at the top left of the configuration area. Below it, a note states: 'If you are implementing security using JACC (Java Authorization Contract for Containers as defined in JSR 115), you must use the DD Only security model. Other WebLogic Server models are not available and the security functions for Web applications and EJBs in the Administration Console are disabled.' The 'Security Model Default' is set to 'DD Only'. The 'Combined Role Mapping Enabled' checkbox is checked. The 'Use Authorization Providers to Protect JMX Access' checkbox is also checked. The 'Automatically Restart After Non-Dynamic Changes' checkbox is unchecked. The 'Retire Timeout' is set to 60. The left sidebar shows the 'Change Center' and 'Domain Structure' panels.

- Click 'Save' and restart the server.
- Re-login to console.
- Click Domain > Security > myrealm > Roles and Policies > Realm Policies

## Note

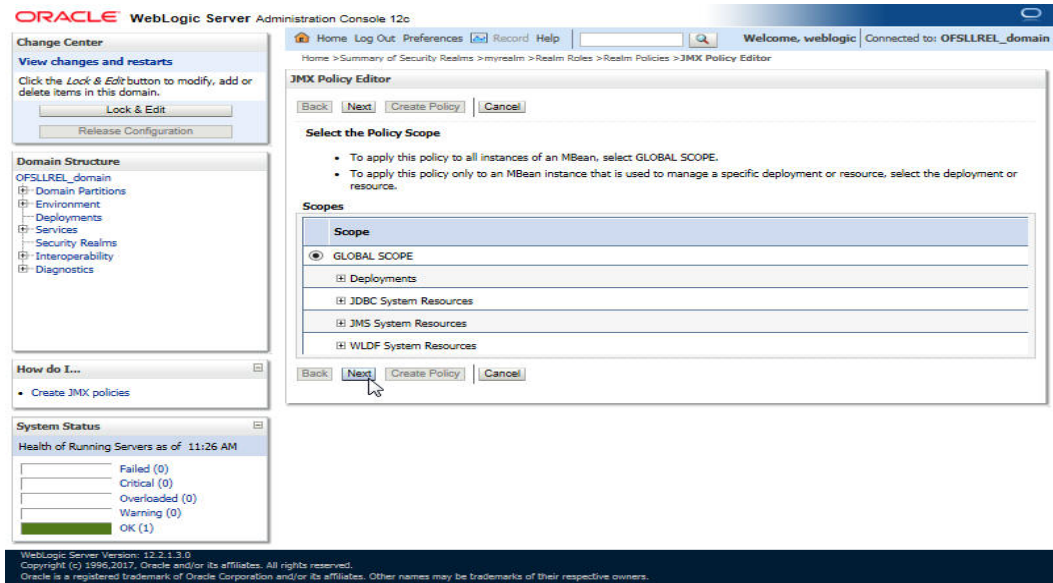
If server is not restarted, JMX Policy Editor option will not appear

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area is titled 'Settings for myrealm' and includes a 'Roles and Policies' tab. Under the 'Roles and Policies' tab, the 'Realm Policies' sub-tab is active. A note states: 'Use this table to access or create security policies for this security realm. The Root Level Policies node in the Name column provides access to root level policies (which apply to all resources of a given type). All other nodes provide access to policies that apply to resource instances.' Below the note, a 'Customize this table' section is visible. The 'Policies' table is shown with the following data:

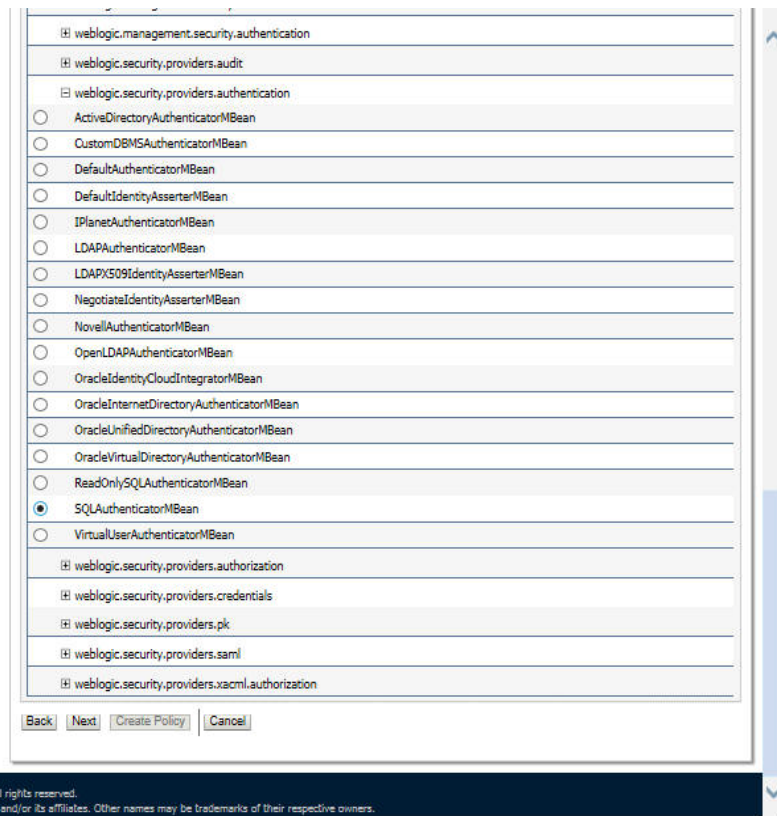
Name	Resource Type	Policy
Coherence Clusters		
Deployments		
Domain		
JCOM		
JDBC		
JMS		
JMX Policy Editor		
Root Level Policies		

The left sidebar shows the 'Change Center' and 'Domain Structure' panels. The 'System Status' panel shows the health of running servers as of 11:24 AM.

## 7. Click on JMX Policy Editor to configure



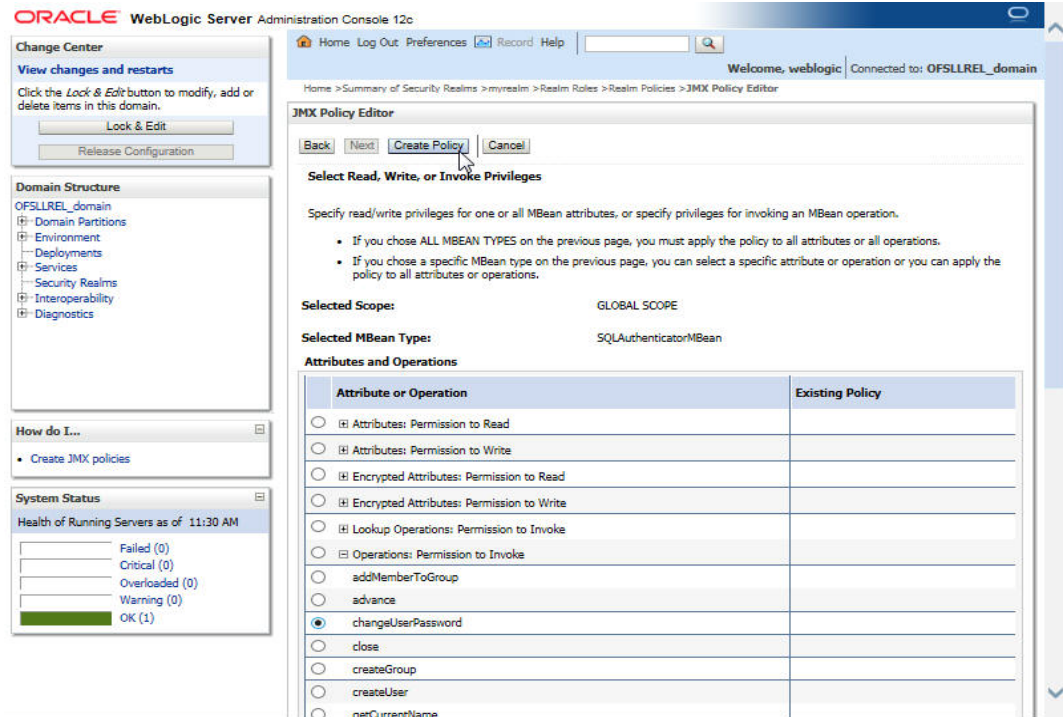
## 8. Select 'GLOBAL SCOPE' and click 'Next'.



## 9. Select weblogic.security.providers.authentication.



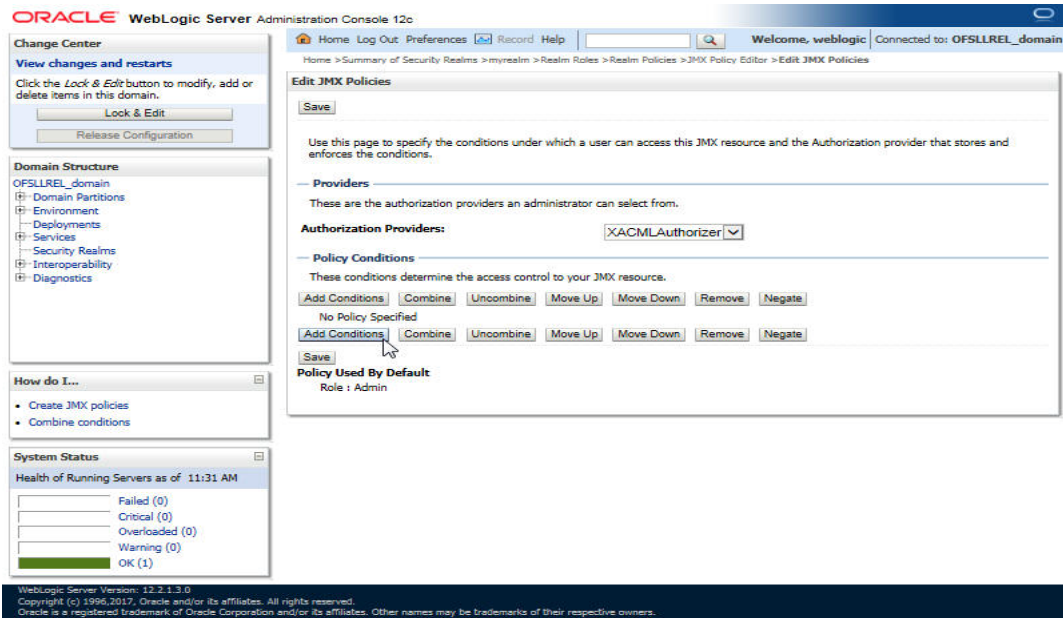
10. Select 'SQLAuthenticatorMBean'. Click 'Next'.



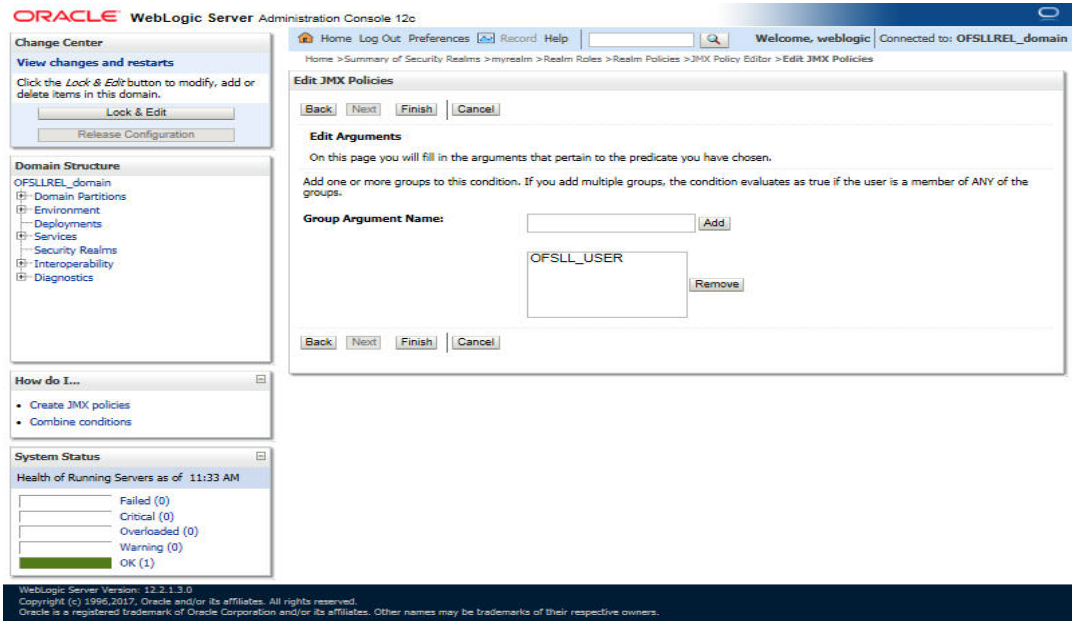
11. Expand 'Operations: Permissions to Invoke' and select 'ChangeUserPassword'.

12. Click 'Create Policy'. The following window is displayed for Authorization providers where you can add conditions to setup the policy.

13. Click 'Add Condition'. The below screen will be displayed.

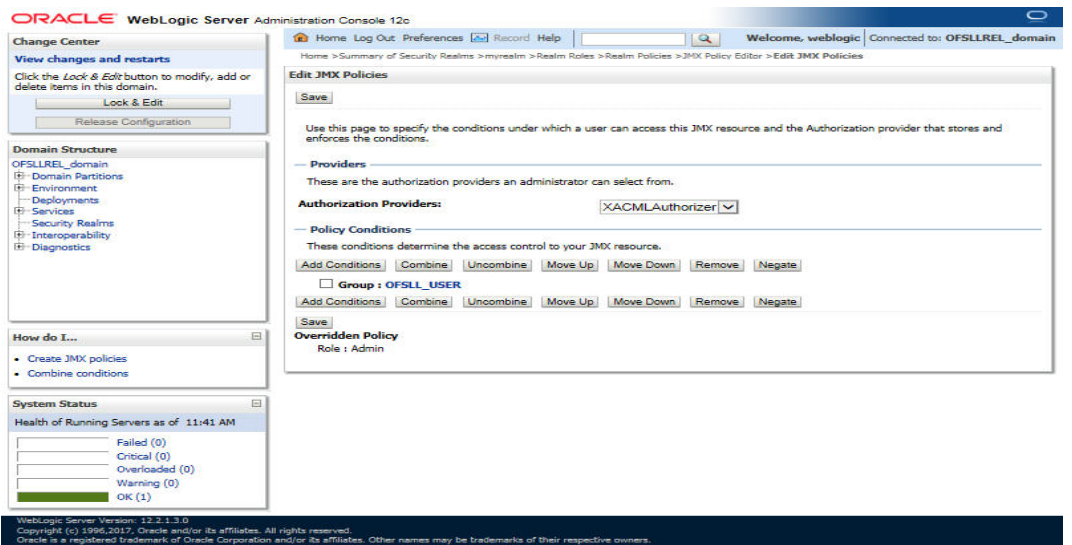


14. For Predicate List, select Group for configuration. Click 'Next'.



15. Select user roles for application.

16. Click 'Finish'. Click 'Save' to complete the configuration. The following window will be displayed.



## 4. Configuring Policies

### 4.1 Configuring Password Policy for SQL Authenticator

1. Login to the WebLogic server administration console with user login credentials.
2. Browse to Security Realms > myrealm > Providers > Password Validation as shown below. The following window is displayed

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area is titled "Settings for myrealm" and has tabs for "Authentication", "Password Validation", "Authorization", "Adjudication", "Role Mapping", "Auditing", and "Credential Mapping". The "Password Validation" tab is active, showing a table of providers. The table has columns for "Name", "Description", and "Version". One provider is listed: "SystemPasswordValidator" with a description of "Password composition checks" and a version of "1.0".

Name	Description	Version
SystemPasswordValidator	Password composition checks	1.0

3. Click 'SystemPasswordValidator' link. The following window is displayed.

The screenshot shows the Oracle WebLogic Server Administration Console with the "Settings for SystemPasswordValidator" page. The "Configuration" tab is active, showing a table with basic information about the provider.

Name	Description	Version
SystemPasswordValidator	Password composition checks	1.0

4. Click Provider Specific Tab.

- Configure the password policy as per the requirement. An example is provided in the following window.

The screenshot shows the 'Password Length Policies' and 'Character Policies' configuration in the WebLogic Server Administration Console. The 'Password Length Policies' section includes:

- Reject if Password Contains the User Name Reversed: To determine whether the password can contain or be equal to the reverse username. This check will be case insensitive. If the value is 'true', the password must not contain or be equal to the reverse username. [More Info...](#)
- Minimum Password Length: 8. Specifies the minimum number of characters that the password may contain. Note: If the Default Authentication provider is configured in the realm, make sure that this number is consistent with the one configured for that provider. [More Info...](#)
- Maximum Password Length: 0. Specifies the maximum number of characters that the password may contain. To be accepted, the password may not contain a greater number of characters than the value specified. Specifying 0 results in no restriction on password length. [More Info...](#)

The 'Character Policies' section includes:

- Maximum Instances of Any Character: 2. Specifies the maximum number of times that a character may appear in the password. [More Info...](#)
- Maximum Consecutive Characters: 2. Specifies the maximum number of times that a character may appear consecutively in the password. [More Info...](#)
- Minimum Number of Alphabetic Characters: 2. Specifies the minimum number of alphabetic characters that a password must contain. [More Info...](#)
- Minimum Number of Numeric Characters: 0. Specifies the minimum number of numeric characters that must appear in the password. [More Info...](#)
- Minimum Number of Lower Case Characters: 0. Specifies the minimum number of lowercase characters that a password must contain. [More Info...](#)
- Minimum Number of Upper Case Characters: 1. Specifies the minimum number of uppercase characters that a password must contain. [More Info...](#)
- Minimum Number of Non-Alphanumeric Characters: 0. Specifies the minimum number of non-alphanumeric characters (also known as special characters, such as %, #, or ;) that must appear in the password. [More Info...](#)
- Minimum Number of Non-Alphabetic Characters: 1. Specifies the minimum number of numeric or special characters (such as %, #, or ;) that a password must contain. [More Info...](#)

A 'Save' button is located at the bottom of the configuration area.

- Click 'Save'.

## 4.2 Configuring User Lockout Policy

- To Change User lockout policy, browse to **Security Realms > myrealm > Configuration Tab > User Lockout Tab**. The following window is displayed

The screenshot shows the 'User Lockout' configuration page in the WebLogic Server Administration Console. The page title is 'Settings for myrealm' and the sub-tab is 'User Lockout'. The configuration includes:

- Lockout Enabled: Specifies whether the server locks users out when there are invalid login attempts on their account. [More Info...](#)
- Lockout Threshold: 5. The maximum number of consecutive invalid login attempts that can occur before a user's account is locked out. [More Info...](#)
- Lockout Duration: 30. The number of minutes that a user's account is locked out. [More Info...](#)
- Lockout Reset Duration: 5. The number of minutes within which consecutive invalid login attempts cause a user's account to be locked out. [More Info...](#)
- Lockout Cache Size: 5. The maximum number of invalid login records that the server can place in a cache. [More Info...](#)
- Lockout GC Threshold: 400. The maximum number of invalid login records that the server keeps in memory. [More Info...](#)

A 'Save' button is located at the bottom of the configuration area.

- Configure the User Lockout details as per the requirement. An example is provided above.

# 5. Deploying Application

## 5.1 Deploying Application

1. Login to the Oracle Enterprise Manager 12c console . (i.e. <http://hostname:port/em>)



Domain Domain\_OFSLREL\_domain

\* User Name

\* Password

Login to Partition

ORACLE®

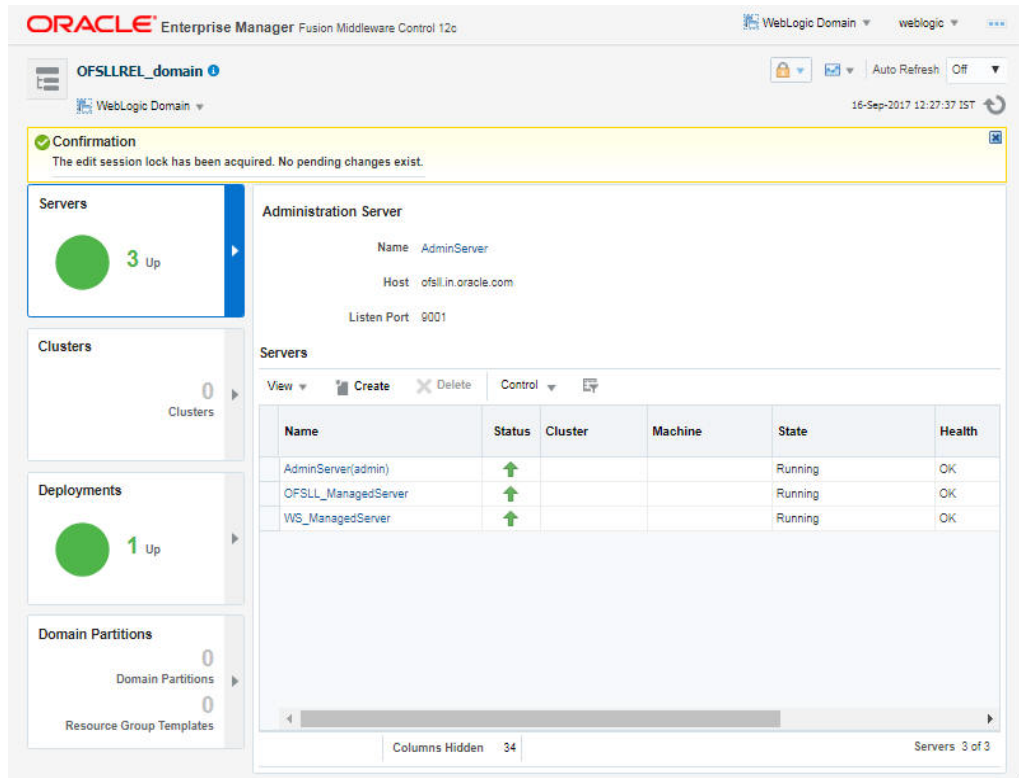
Copyright © 1996, 2017, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

2. Click on 'Lock and Edit' as shown below.

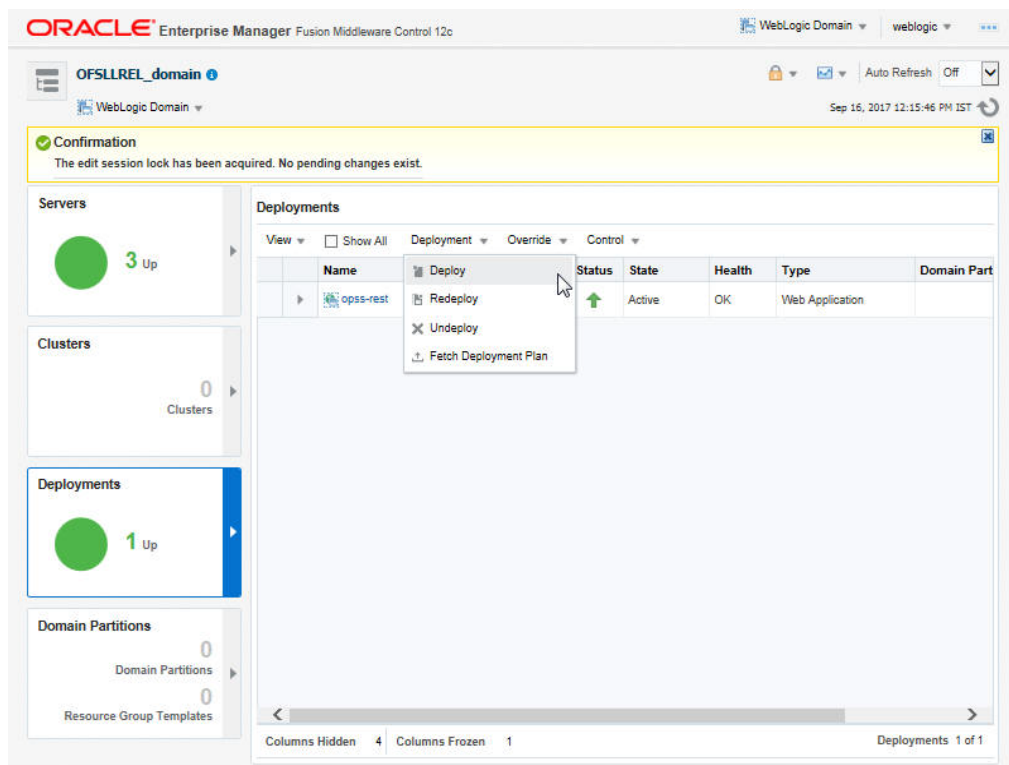
Name	Status	Cluster	Machine	State	Health
AdminServer(admin)	↑			Running	OK
OFSLL_ManagedServer	↑			Running	OK
WS_ManagedServer	↑			Running	OK



3. The following window is displayed.



4. Click on Deployments in the left panel. To deploy go to Deployments option in the menu as shown below.





- Click 'Choose File' button and select OFSLL application archive file i.e. ofsl\_146.ear. Choose the 'Deployment Plan' (if any).

**ORACLE** Enterprise Manager Fusion Middleware Control 12c

OFSLLREL\_domain

Select Archive | Select Target | Application Attributes | Deployment Settings

**Deploy Java EE Application: Select Archive** [Back] Step 1 of 4 [Next] [Cancel]

**Scope**  
Select a scope that you want to deploy this application to: Global

**Archive or Exploded Directory**  
Java EE archives, Web Modules (WAR files), EJB Modules (EJB JAR files), Resource Adapter Modules (RAR files), Coherence Archives (GAR files), JDBC Modules, JMS Modules, and library files (Jar files) can be deployed. You can also deploy an exploded archive that is present on the server where Enterprise Manager is running.

- Archive is on the machine where this Web browser is running.  
[Choose File] ofsl\_146.ear
- Archive or exploded directory is on the server where Enterprise Manager is running.  
[Browse...]

**Deployment Plan**  
The deployment plan is a file that contains the deployment settings for an application. You can use a previously saved deployment plan for this application. Later in the deployment process, you can optionally edit the deployment plan and save it for a future deployment of this application. If you do not have a deployment plan, one will be created automatically during the deployment process when deployment configuration is done. The deployment plan is not applicable when you deploy a library.

- Create a new deployment plan when deployment configuration is done.
- Deployment plan is on the machine where this Web browser is running.  
[Choose File] No file chosen
- Deployment plan is on the server where Enterprise Manager is running.

**Information**  
Use this page to deploy Java applications that require Oracle Metadata Services (MDS) or take advantage of the Oracle Application Development Framework (Oracle ADF).  
If your application is a SOA composite, use the SOA Composite deployment wizard.  
If your application is not a SOA composite or it does not require MDS repository or ADF connections, then you can deploy your application using this wizard or the Oracle WebLogic Server Administration Console.

---

### Note

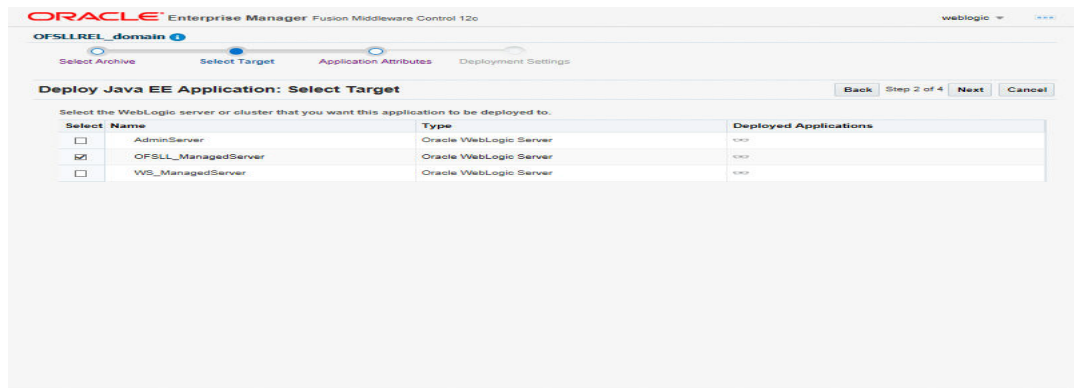
A deployment plan can be used to easily change an application's WebLogic Server configuration for a specific environment without modifying existing deployment descriptors.

---

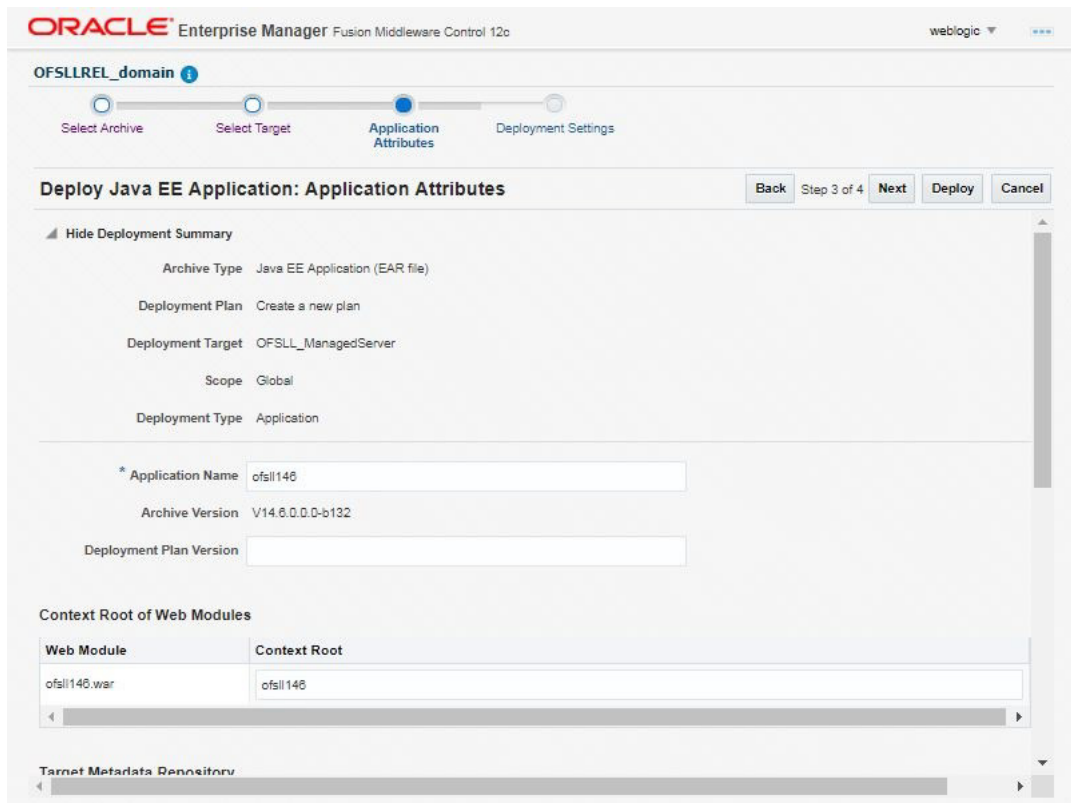
## Sample plan.xml

```
<?xml version='1.0' encoding='UTF-8' ?>
<deployment-plan xmlns="http://xmlns.oracle.com/weblogic/deployment-plan" xmlns:xsi="http://www.w3.org/2001/XMLSchema"
xsi:schemaLocation="http://xmlns.oracle.com/weblogic/deployment-plan http://xmlns.oracle.com/weblogic/deployment-
<application-name>ofall145</application-name>
<variable-definition>
<variable>
<name>Web_ofall145_contextRoot</name>
<value>ofall145</value>
</variable>
</variable-definition>
<module-override>
<module-name>ofall_145.ear</module-name>
<module-type>ear</module-type>
<module-descriptor external="false">
<root-element>weblogic-application</root-element>
<uri>META-INF/weblogic-application.xml</uri>
</module-descriptor>
<module-descriptor external="false">
<root-element>application</root-element>
<uri>META-INF/application.xml</uri>
<variable-assignment>
<name>Web_ofall145_contextRoot</name>
<xpath>/application/module/web/[context-root="ofall145"]/context-root</xpath>
<operation>replace</operation>
</variable-assignment>
</module-descriptor>
<module-descriptor external="true">
<root-element>wldf-resource</root-element>
<uri>META-INF/weblogic-diagnostics.xml</uri>
</module-descriptor>
</module-override>
<module-override>
<module-name>ofall145.war</module-name>
<module-type>war</module-type>
<module-descriptor external="false">
<root-element>weblogic-web-app</root-element>
<uri>WEB-INF/weblogic.xml</uri>
</module-descriptor>
<module-descriptor external="false">
<root-element>web-app</root-element>
<uri>WEB-INF/web.xml</uri>
</module-descriptor>
</module-override>
```

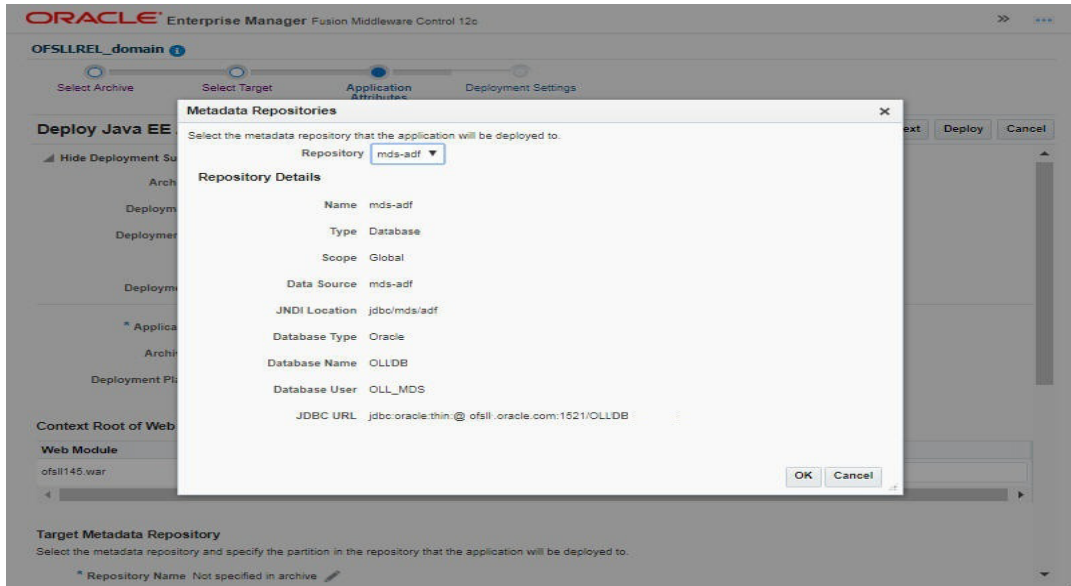
6. Click 'Next'. The following window is displayed.



7. Check target server as per the requirement 'OFSLL\_ManagedServer' and click 'Next'. The following window is displayed.



8. Click  button to select Repository Name. The following window is displayed.



9. Select Repository as per requirement and click 'OK'.

**ORACLE** Enterprise Manager Fusion Middleware Control 12c

OFSSLREL\_domain

Select Archive    Select Target    **Application Attributes**    Deployment Settings

**Deploy Java EE Application: Application Attributes**    Back    Step 3 of 4    Next    Deploy    Cancel

**Target Metadata Repository**  
 Select the metadata repository and specify the partition in the repository that the application will be deployed to.

\* Repository Name

Repository Type Database

\* Partition

**Distribution**

Install and start application (servicing all requests)  
 Install and start application in administration mode (servicing only administration requests)  
 Install only. Do not start.

**Other Options**

Application Source Accessibility  Use the defaults defined by the deployment's targets. Recommended selection.  
 Copy this application onto every target. During deployment, the files will be copied automatically to the managed servers to which the application is targeted.  
 Make the application accessible from the source location that it will be deployed on. You must ensure that each target can reach the location.

Deployment Plan Source Accessibility  Use the same accessibility as the application.  
 Copy the deployment plan onto every target. During deployment, the files will be copied automatically to the managed servers to which the application is targeted.  
 Make the deployment plan accessible from the source location that it will be deployed on. You must ensure that each target can reach the location.

10. Enter Partition name as per the requirement and click 'Next'.

**ORACLE** Enterprise Manager Fusion Middleware Control 12c

weblogic

OFSSLREL\_domain

Select Archive    Select Target    Application Attributes    **Deployment Settings**

**Deploy Java EE Application: Deployment Settings**    Back    Step 4 of 4    Next    Deploy    Cancel

**Hide Deployment Summary**

Archive Type Java EE Application (EAR file)

Deployment Plan Create a new plan

Deployment Target OFSLL\_ManagedServer

Scope Global

Deployment Type Application

Application Name ofsl146

Version V14.6.0.0-b132

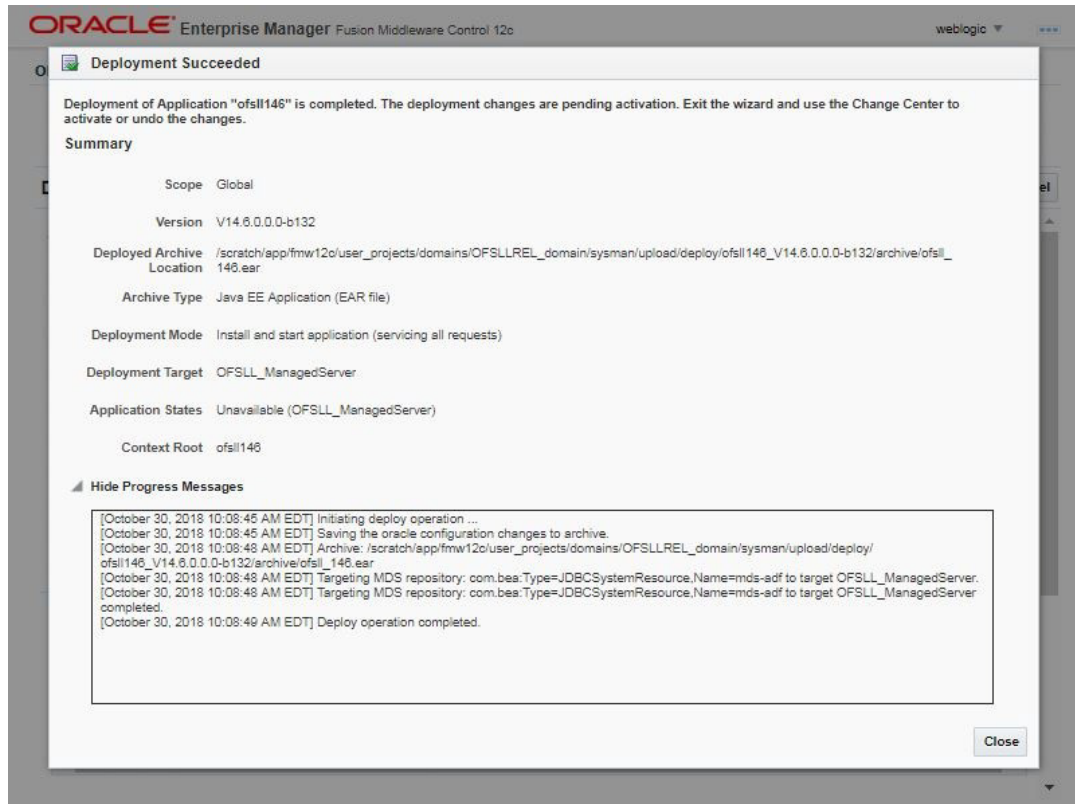
Context Root ofsl146

Deployment Mode Install and start application (servicing all requests)

**Deployment Tasks**  
 The table below lists common tasks that you may wish to do before deploying the application.

Name	Go To Task	Description
Configure Web Modules		Configure the Web modules in your application.
Configure Application Security		Configure application policy migration, credential migration and other security behavior.

11. Click 'Deploy'. The following window is displayed



12. Click Close once the message 'Deploy operation completed' is displayed.

---

## 6. Enabling SSL

The application is accessible only via https protocol; hence, after the deployment of the application, you need to enable SSL.

### To enable SSL

1. Login to console.
2. \$Domain\_Home > Servers > Manage Servers > Configuration > General. The below screen is displayed.

The screenshot displays the 'Settings for OFSSL\_ManagedServer' configuration page. The 'General' tab is selected, and the 'SSL' sub-tab is active. The 'Listen Port Enabled' checkbox is checked, and the 'SSL Listen Port' is set to 9503. The 'Listen Port' is set to 9003. The 'Machine' is set to (None) and the 'Cluster' is set to (Stand-Alone). The 'Listen Address' field is empty. The 'Client Cert Proxy Enabled' checkbox is unchecked.

Property	Value	Description
Name	OFSSL_ManagedServer	An alphanumeric name for this server instance. <a href="#">More Info...</a>
Template	(No value specified) <a href="#">Change</a>	The template used to configure this server. <a href="#">More Info...</a>
Machine	(None)	The WebLogic Server host computer (machine) on which this server is meant to run. <a href="#">More Info...</a>
Cluster	(Stand-Alone)	The cluster, or group of WebLogic Server instances, to which this server belongs. <a href="#">More Info...</a>
Listen Address		The IP address or DNS name this server uses to listen for incoming connections. For example, enter 12.34.5.67 or mymachine, respectively. <a href="#">More Info...</a>
<input checked="" type="checkbox"/> Listen Port Enabled		Specifies whether this server can be reached through the default plain-text (non-SSL) listen port. <a href="#">More Info...</a>
Listen Port	9003	The default TCP port that this server uses to listen for regular (non-SSL) incoming connections. <a href="#">More Info...</a>
<input checked="" type="checkbox"/> SSL Listen Port Enabled		Indicates whether the server can be reached through the default SSL listen port. <a href="#">More Info...</a>
SSL Listen Port	9503	The TCP/IP port at which this server listens for SSL connection requests. <a href="#">More Info...</a>
<input type="checkbox"/> Client Cert Proxy Enabled		Specifies whether the HttpClusterServlet proxies the client certificate in a special header. <a href="#">More Info...</a>

3. Check the 'SSL Listen Port Enabled' check box.
4. Specify the port for 'SSL Listen Port'.

---

### Note

It is recommended to disable http protocol.

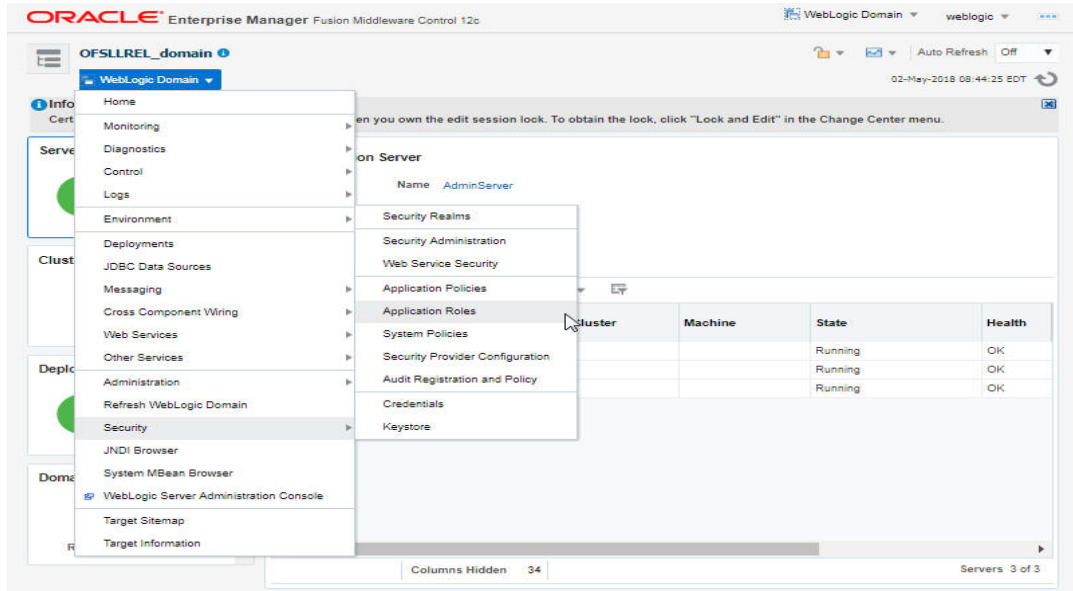
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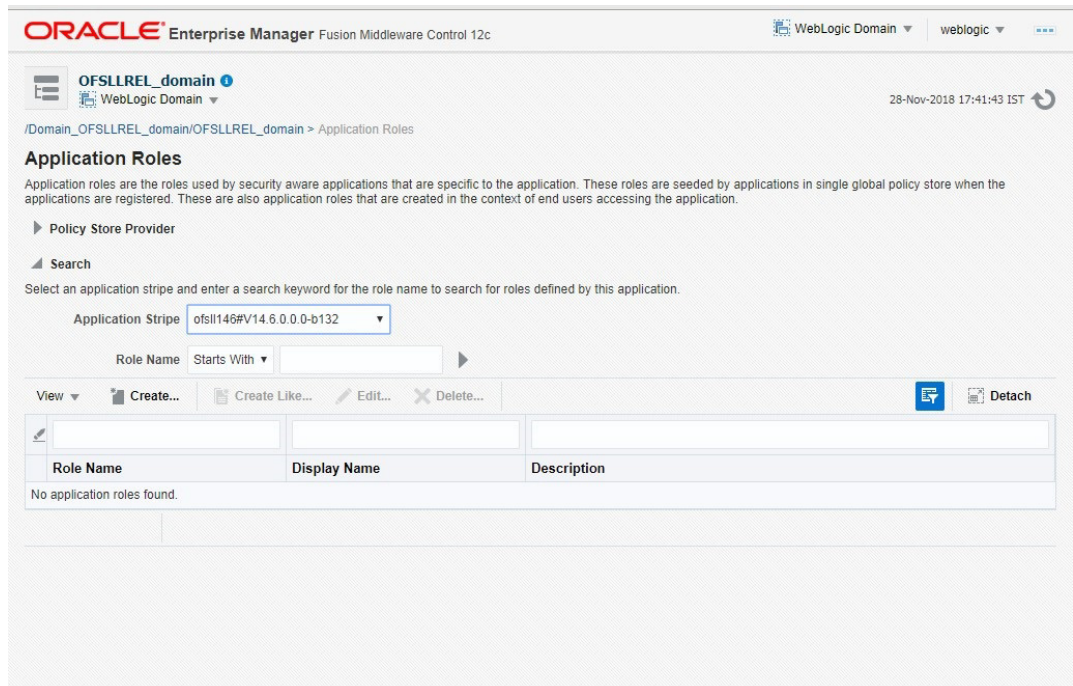
# 7. Mapping Enterprise Group with Application Role

**Follow the below steps to add a user to the group**

1. Login to Oracle Enterprise Manager 12c console (<http://hostname:port/em>).
2. Click WebLogic Domain > Security > Application Roles on the right panel.



3. Select Application Stripe from the drop-down menu.
4. Click the arrow head button. Details of the existing Roles are displayed below:



- Select the 'Role Name'. Membership details of the selected Role Name are displayed under Membership for "role\_name"..

The screenshot shows the Oracle Enterprise Manager interface for the 'OFSSLREL\_domain'. The breadcrumb path is '/Domain\_OFSSLREL\_domain/OFSSLREL\_domain > Application Roles'. The page title is 'Application Roles'. Below the title, there is a search section with 'Application Stripe' set to 'ofsl146#V14.6.0.0.0-b132' and 'Role Name' set to 'Starts With'. A table lists application roles, with 'OFSSL\_USER' selected. Below this, the 'Membership for OFSSL\_USER' section shows a table with one entry: 'DEMO SUPR' as the Principal, 'User' as the Type, and an empty Description field.

Role Name	Display Name	Description
OFSSL_USER	OFSSL USER	

Principal	Display Name	Type	Description
DEMO SUPR		User	

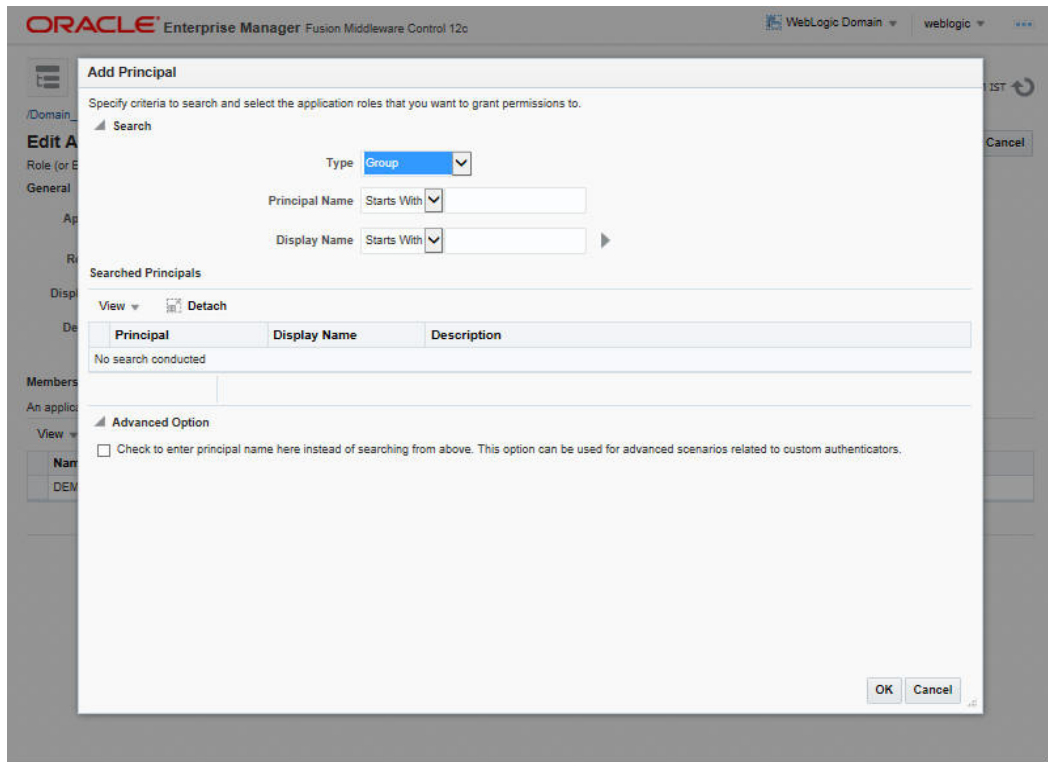
- Click 'Edit'. The following window is displayed.

The screenshot shows the 'Edit Application Role : OFSSL\_USER' dialog box. It has 'OK' and 'Cancel' buttons. The 'General' section contains fields for 'Application Stripe' (ofsl146#V14.6.0.0.0-b132), 'Role Name' (OFSSL\_USER), 'Display Name' (OFSSL USER), and 'Description'. The 'Members' section has a description and buttons for '+ Add', 'Delete...', and 'Detach'. A table below shows the current membership: 'DEMO SUPR' as Name, 'User' as Type, and an empty Display Name field.

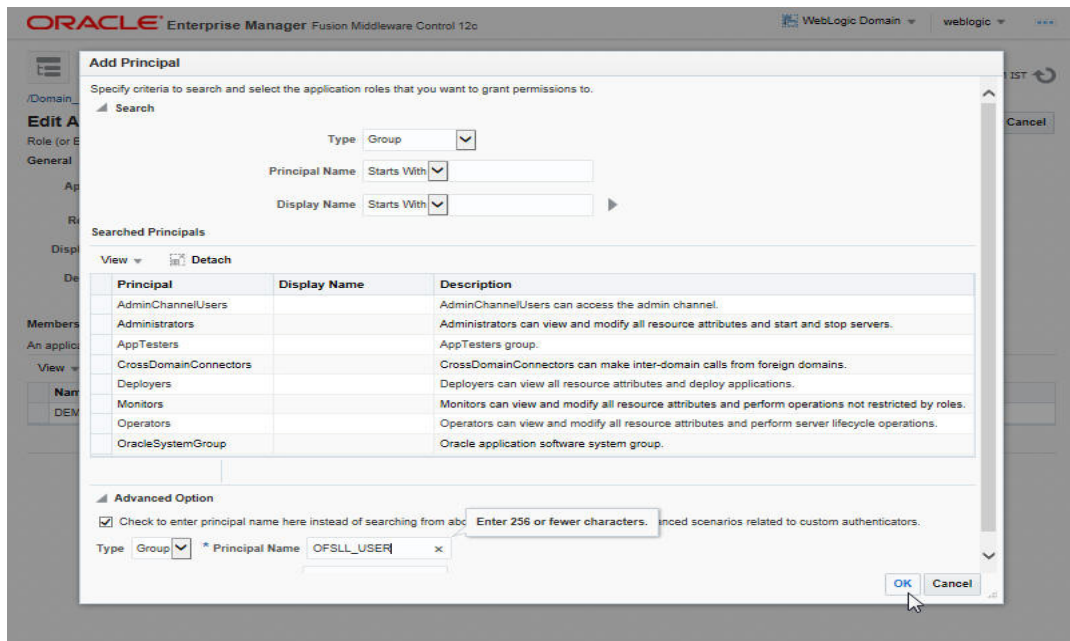
Name	Display Name	Type
DEMO SUPR		User

- Click 'Add'. Select type as Group. Click on the arrow head button.

- Follow the given steps to select the Principal 'OFSLL\_USER' to add and click OK. The following window is displayed.



- Check the check box in Advanced options. Enter the name of Group manually.





10. Click 'OK'.

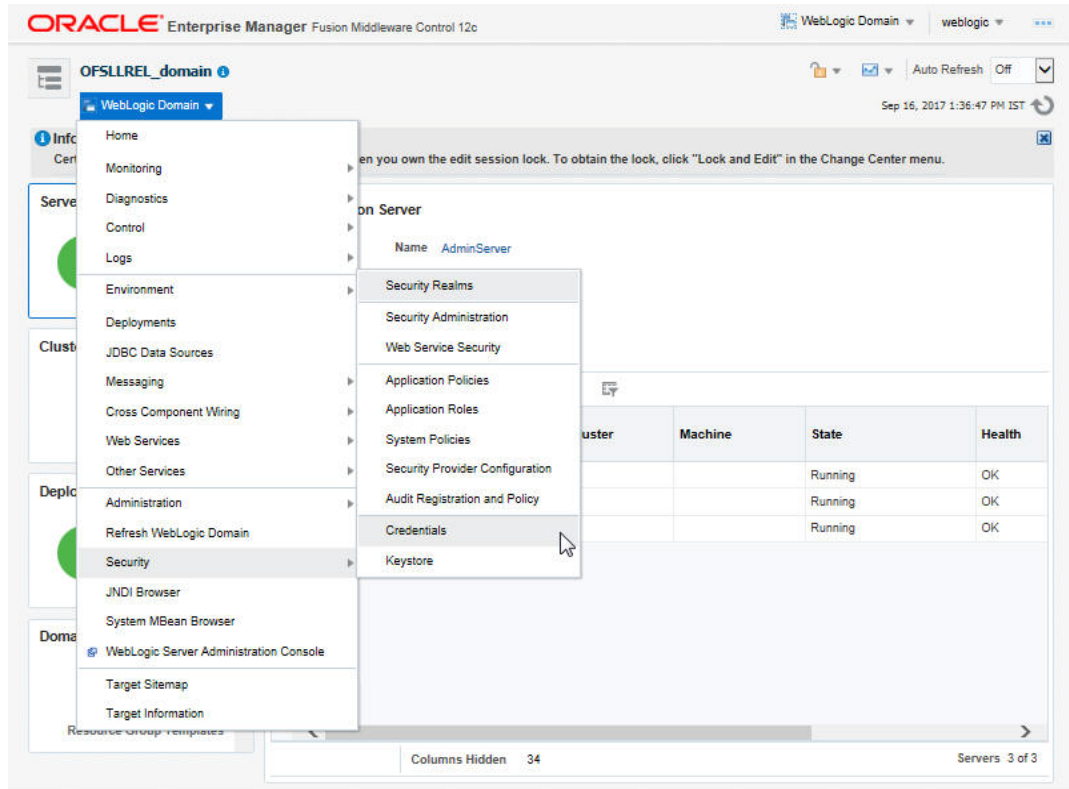
The screenshot shows the Oracle Enterprise Manager interface for editing an application role. The breadcrumb path is: /Domain\_OFSSLREL\_domain/OFSSLREL\_domain > Application Roles > Edit Application Role. The title is 'Edit Application Role : OFSLL\_USER'. There are 'OK' and 'Cancel' buttons. Below the title is a descriptive paragraph: 'Role (or Enterprise Role) is the group of users designed at the enterprise level and typically used to assign a privilege or permission. A role can also contain other roles as members.' The 'General' section contains the following fields: Application Stripe (ofssl146#V14.6.0.0-b132), Role Name (OFSLL\_USER), Display Name (OFSLL USER), and Description (empty). The 'Members' section includes a table with columns 'Name', 'Display Name', and 'Type'. The table contains two rows: 'DEMOSUPR' (User) and 'OFSLL\_USER' (Group). Below the table are buttons for '+ Add', 'X Delete...', and 'Detach'.

11. The following window is displayed with the confirmation message as 'The Application role of 'group\_name' has been updated'.

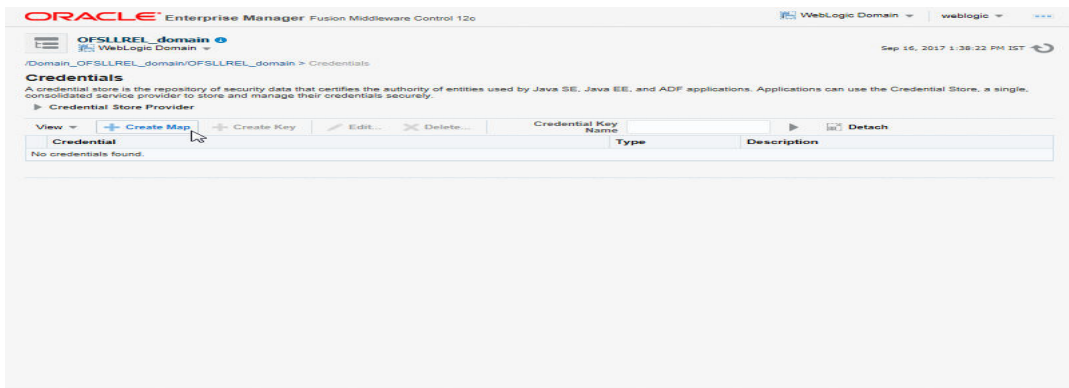
The screenshot shows the Oracle Enterprise Manager interface after the update. A yellow information banner at the top states: 'An application role OFSLL\_USER has been updated.' Below this is the 'Application Roles' page. The breadcrumb path is: /Domain\_OFSSLREL\_domain/OFSSLREL\_domain > Application Roles. The page title is 'Application Roles'. A descriptive paragraph follows: 'Application roles are the roles used by security aware applications that are specific to the application. These roles are seeded by applications in single global policy store when the applications are registered. These are also application roles that are created in the context of end users accessing the application.' There is a 'Policy Store Provider' section and a 'Search' section with a search box and a dropdown for 'Application Stripe' (ofssl146#V14.6.0.0-b132). Below the search section is a table with columns 'Role Name', 'Display Name', and 'Description'. The table contains one row: 'OFSLL\_USER' (OFSLL USER). Below the table are buttons for 'Create...', 'Create Like...', 'Edit...', and 'Delete...'. At the bottom, there is a 'Membership for OFSLL\_USER' section with a table with columns 'Principal', 'Display Name', 'Type', and 'Description'. The table contains two rows: 'OFSLL\_USER' (Group) and 'DEMOSUPR' (User).

## 8. Configuring JNDI name for HTTP Listener

1. Click 'WebLogic Domain' on the right panel. Select Security > Credentials.

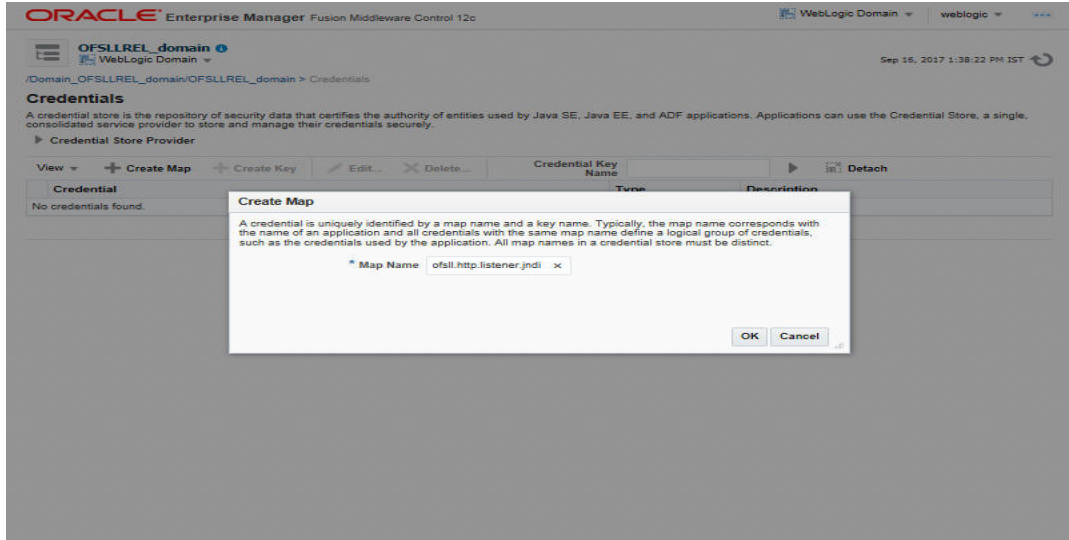


2. Click 'Credentials'. The following window is displayed.



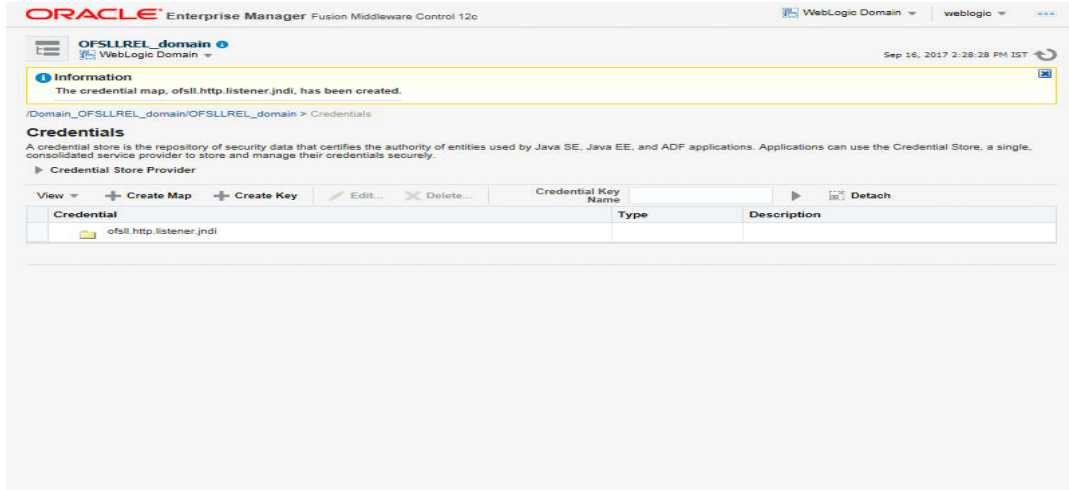


3. Click 'Create Map'. The following window is displayed.

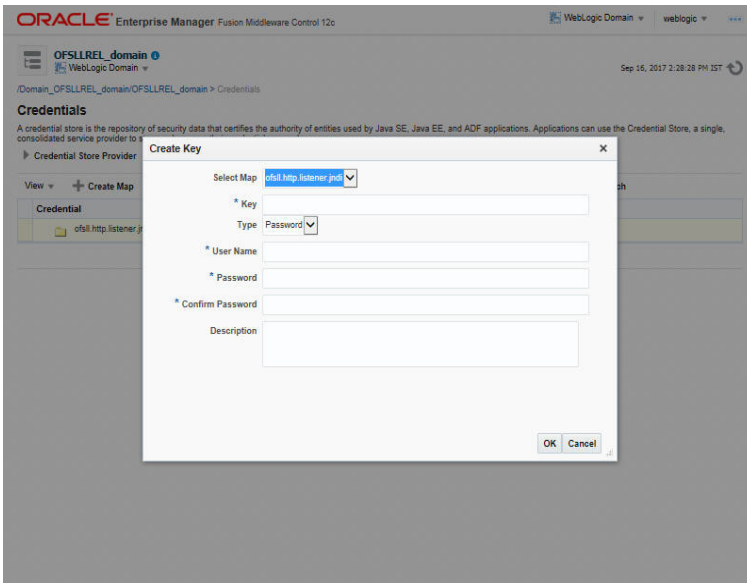


4. Enter Map name as 'ofssl.http.listener.jndi'.

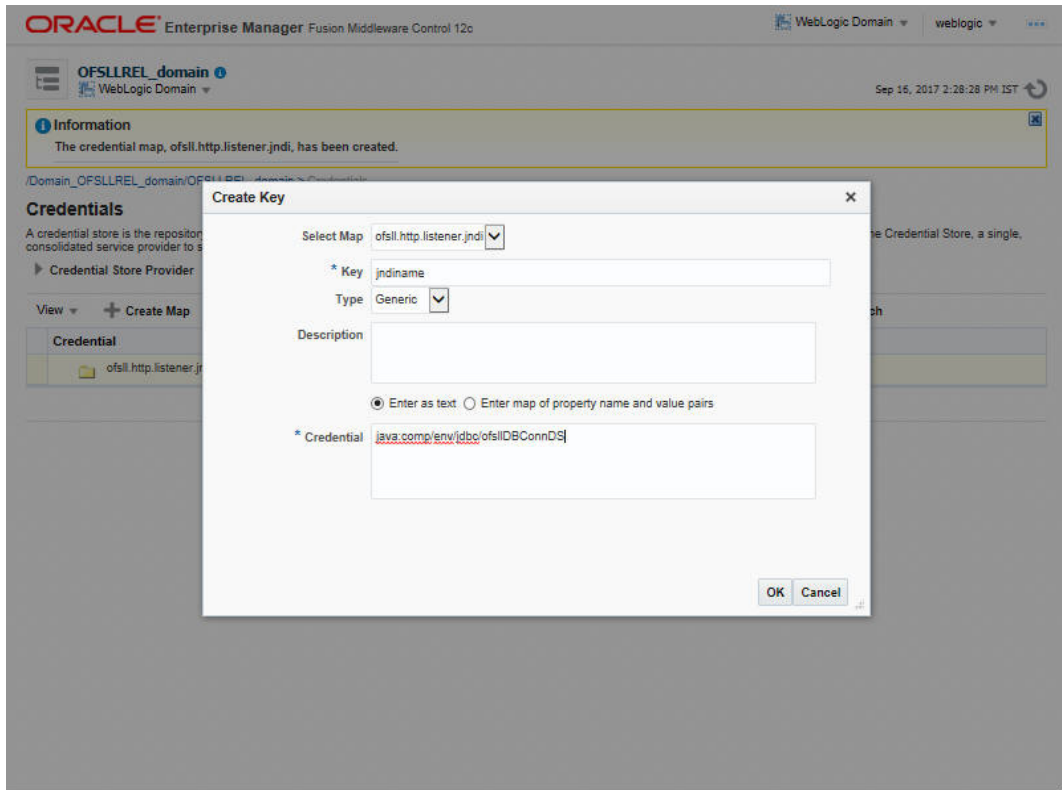
5. Click 'OK'. The following window is displayed.



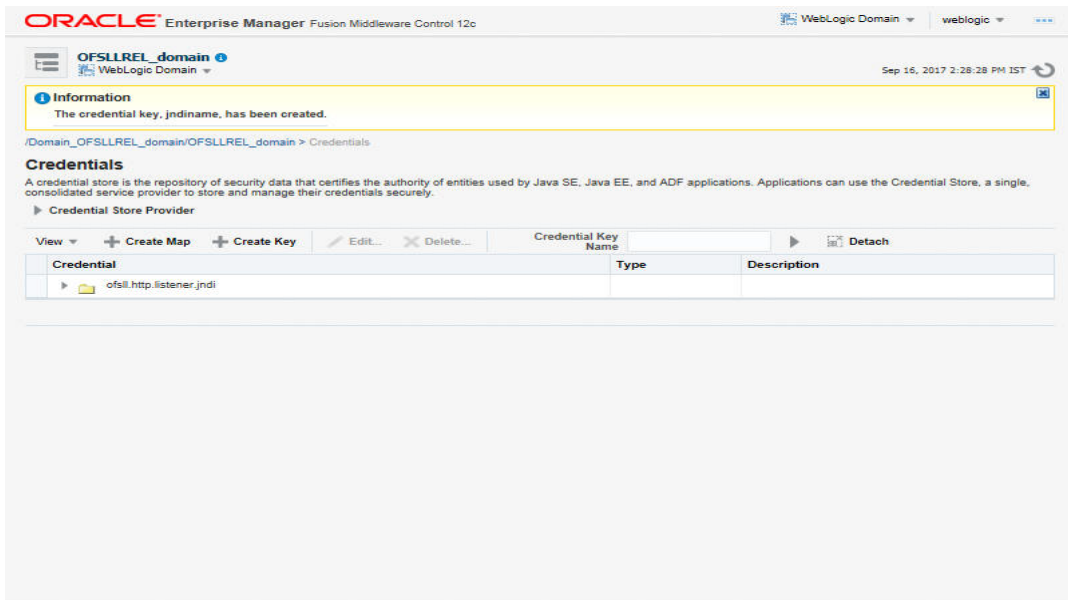
6. Click 'Create Key' Button. The following window is displayed.



7. Enter the following details as per your requirement.
  - Key: jndiname
  - Credential: java:comp/env/jdbc/ofslIDBConnDS
  - Type:Generic



8. Click 'OK'. The following window is displayed.



---

## 9. Configure AQ-JMS Bridge

The following steps are to be performed to configure the AQ-JMS Bridge through the Weblogic Console:

- Create Data Sources for AQ-JMS Bridge
- Configure MDB Flow
- AQ-JMS Topic Setup
- Create Credentials and System Policies
- Deploy MDB EJB

---

### Note

Ensure that MDB EJB is not configured and deployed (i.e. OfsslAppQueue.ear deployment) on the same server on which the other WebServices are deployed.

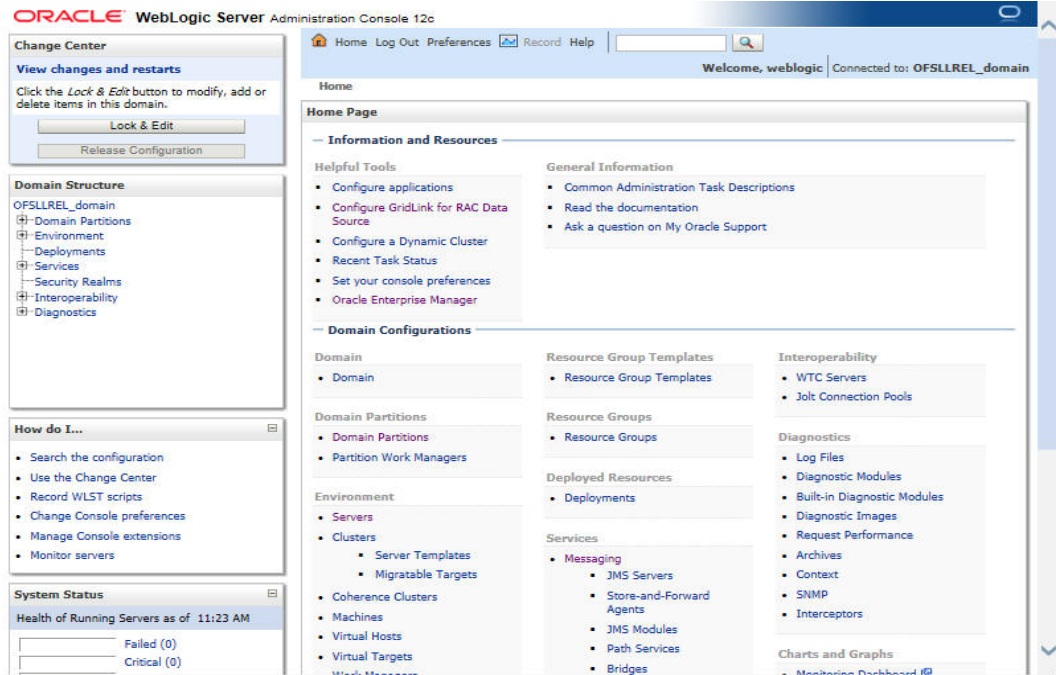
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### 9.1 Create Data Sources for AQ-JMS Bridge

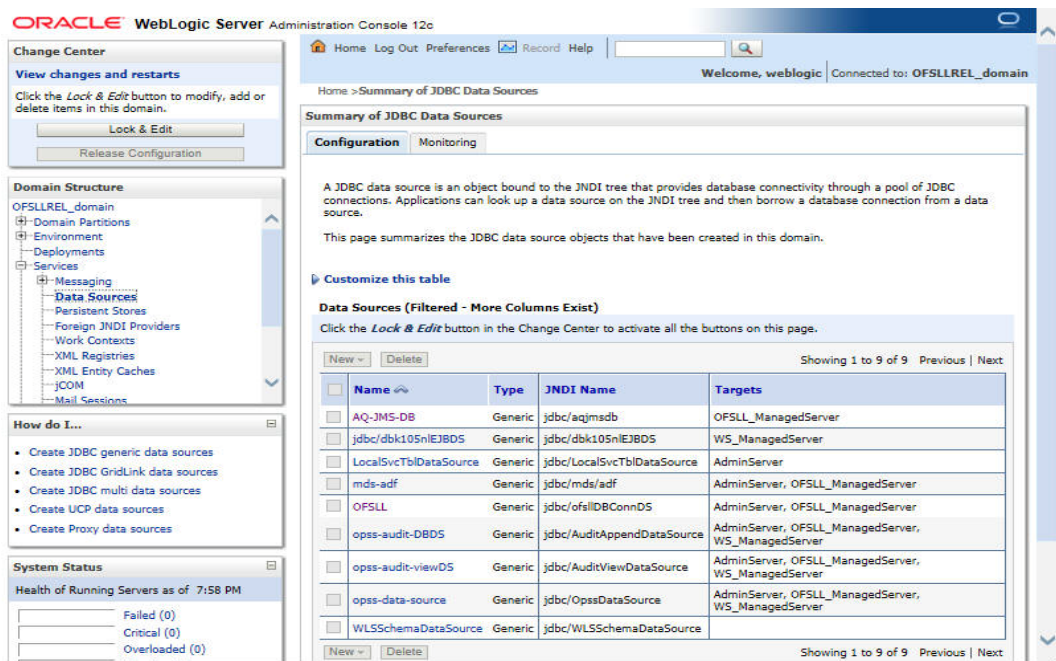
1. Login to Oracle Weblogic 12c console (<http://hostname:port/console>).



2. On successful login, the following window is displayed.



3. Click Domain Name > Services > Data Sources. The following window is displayed.



- Click 'Lock & Edit' button on the left panel. Click 'New' on right panel and select 'Generic Data Source'.

ORACLE WebLogic Server Administration Console 12c

Home > Summary of JDBC Data Sources

Summary of JDBC Data Sources

Configuration | Monitoring

A JDBC data source is an object bound to the JNDI tree that provides database connectivity through a pool of JDBC connections. Applications can look up a data source on the JNDI tree and then borrow a database connection from a data source.

This page summarizes the JDBC data source objects that have been created in this domain.

Customize this table

Data Sources (Filtered - More Columns Exist)

Generic Data Source	Type	JNDI Name	Targets
<input type="checkbox"/> GridLink Data Source	Generic	jdbc/aqjmsdb	OFSLL_ManagedServer
<input type="checkbox"/> Multi Data Source	Generic	jdbc/dbk105n1EJBDS	WS_ManagedServer
<input type="checkbox"/> Proxy Data Source	Generic	jdbc/LocalSvcTblDataSource	AdminServer
<input type="checkbox"/> UCP Data Source	Generic	jdbc/mds/adf	AdminServer, OFSLL_ManagedServer
<input type="checkbox"/> OFSLL	Generic	jdbc/ofslDBConnDS	AdminServer, OFSLL_ManagedServer
<input type="checkbox"/> opss-audit-DBDS	Generic	jdbc/AuditAppendDataSource	AdminServer, OFSLL_ManagedServer, WS_ManagedServer
<input type="checkbox"/> opss-audit-viewDS	Generic	jdbc/AuditViewDataSource	AdminServer, OFSLL_ManagedServer, WS_ManagedServer
<input type="checkbox"/> opss-data-source	Generic	jdbc/OpssDataSource	AdminServer, OFSLL_ManagedServer, WS_ManagedServer
<input type="checkbox"/> WLSSchemaDataSource	Generic	jdbc/WLSSchemaDataSource	

- The following window is displayed.

ORACLE WebLogic Server Administration Console 12c

Home > Summary of Services > Summary of JDBC Data Sources

Create a New JDBC Data Source

Back | Next | Finish | Cancel

JDBC Data Source Properties

The following properties will be used to identify your new JDBC data source.

\* Indicates required fields

What would you like to name your new JDBC data source?

Name: AQ-JMS-DB

What scope do you want to create your data source in?

Scope: Global

What JNDI name would you like to assign to your new JDBC Data Source?

JNDI Name: jdbc/aqjmsdb

What database type would you like to select?

Database Type: Oracle

Back | Next | Finish | Cancel

WebLogic Server Version: 12.2.1.3.0  
Copyright (c) 1996-2017, Oracle and/or its affiliates. All rights reserved.  
Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

- Specify the following details:
  - Enter Data source Name
  - Enter the JNDI Name as 'jdbc/aqjmsdb'.



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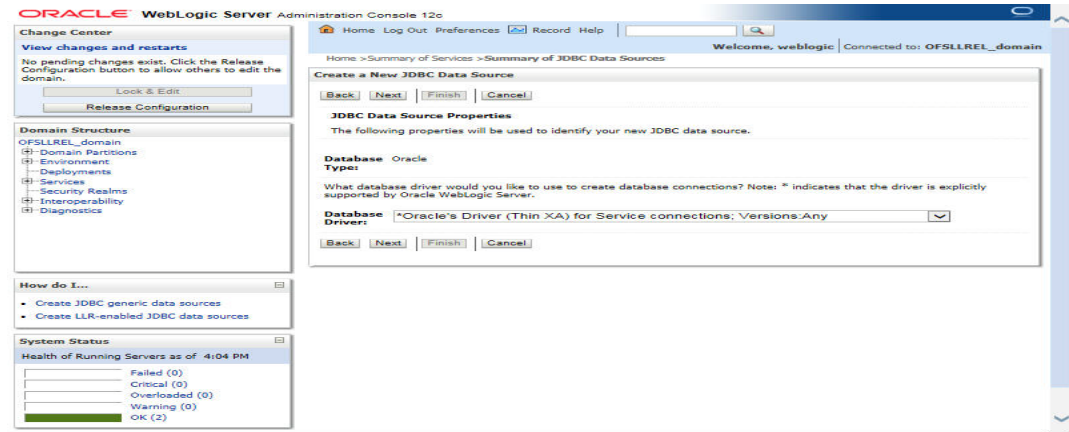
## Note

If required, you may specify any other JNDI name, but ensure to use the same JNDI name during other configuration steps.

---

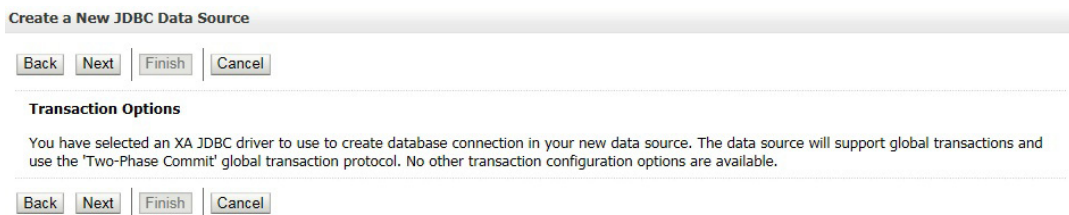
- Select 'Oracle' as Database Type.

7. Click 'Next'. The following window is displayed.



8. Select the Database Driver 'Oracle's Driver(Thin XA) for Services connections;Versions:Any'.

9. Click 'Next'. The following window is displayed.



10. Click 'Next'. The following window is displayed.

The screenshot displays the Oracle WebLogic Server Administration Console interface. The main window is titled "Create a New JDBC Data Source" and is part of the "Summary of JDBC Data Sources" page. The interface includes a navigation bar at the top with "Home", "Log Out", "Preferences", "Record", and "Help" options. A "Change Center" panel on the left shows "View changes and restarts" with "Lock & Edit" and "Release Configuration" buttons. Below it is the "Domain Structure" tree, showing the hierarchy from "OFSSLREL\_domain" down to "Services" and "Data Sources". The "How do I..." panel lists "Create JDBC generic data sources" and "Create LLR-enabled JDBC data sources". The "System Status" panel shows "Health of Running Servers as of 8:07 PM" with a bar chart indicating 0 Failed, 0 Critical, 0 Overloaded, 0 Warning, and 3 OK servers. The main content area is a wizard with "Back", "Next", "Finish", and "Cancel" buttons. The "Connection Properties" section is active, with the following fields: "Database Name" (OLLDB), "Host Name" (ofssl.oracle.com), "Port" (1521), "Database User Name" (OFSSLREL), and "Password" (masked with dots). The "Additional Connection Properties" section shows "oracle.jdbc.DRCPConnectionClass" in a text box.

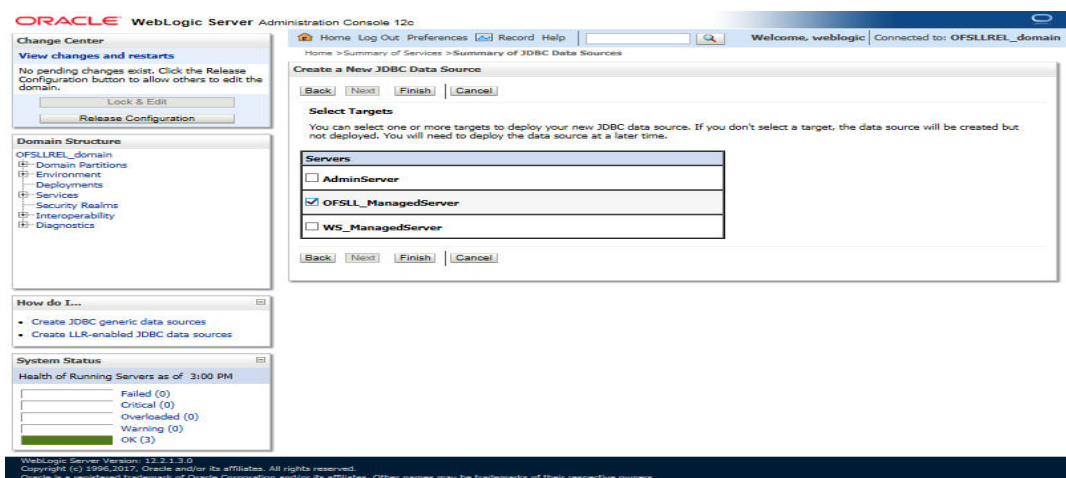
11. Enter the Database details.

12. Click 'Next'. The following window is displayed.



13. Click 'Test Configuration'. On completion, displays a confirmation message as 'Connection test succeeded'.

14. Click 'Next'. The following window is displayed.



15. Select target Server as 'OFSSL\_ManagedServer'.

16. Click 'Finish' to activate the changes.

### Update the following parameters in JDBC data source connection pool:

1. Select Services > Data Sources > select the AQ\_JMS\_DB data source > Connection Pool.
2. Initial capacity and Maximum capacity is defaulted to 30, if the number of concurrent users are more this needs to be increased.
3. Click Advanced button and update the 'Inactive Connection Timeout' to 300 seconds.
4. Click 'Save' and restart the Data source.

Similarly create 'QueueAppDS' data sources which is used by MDB for all database related operations by following the steps mentioned in above section (Create Data Sources for AQ-JMS Bridge).

- Create data source name as QueueAppDS
- Update the JNDI as jdbc/QueueAppDS

Do not perform the JDBC data source update and instead follow the below steps to configure the created 'QueueAppDS' data source:

- To Enable GRI (Generic Recovery Interface) CLOB logging from MDB to DB, click Advanced button and deselect the 'Wrap Data Types' check box.
- Set the 'Inactive Connection Timeout' to 300 seconds.

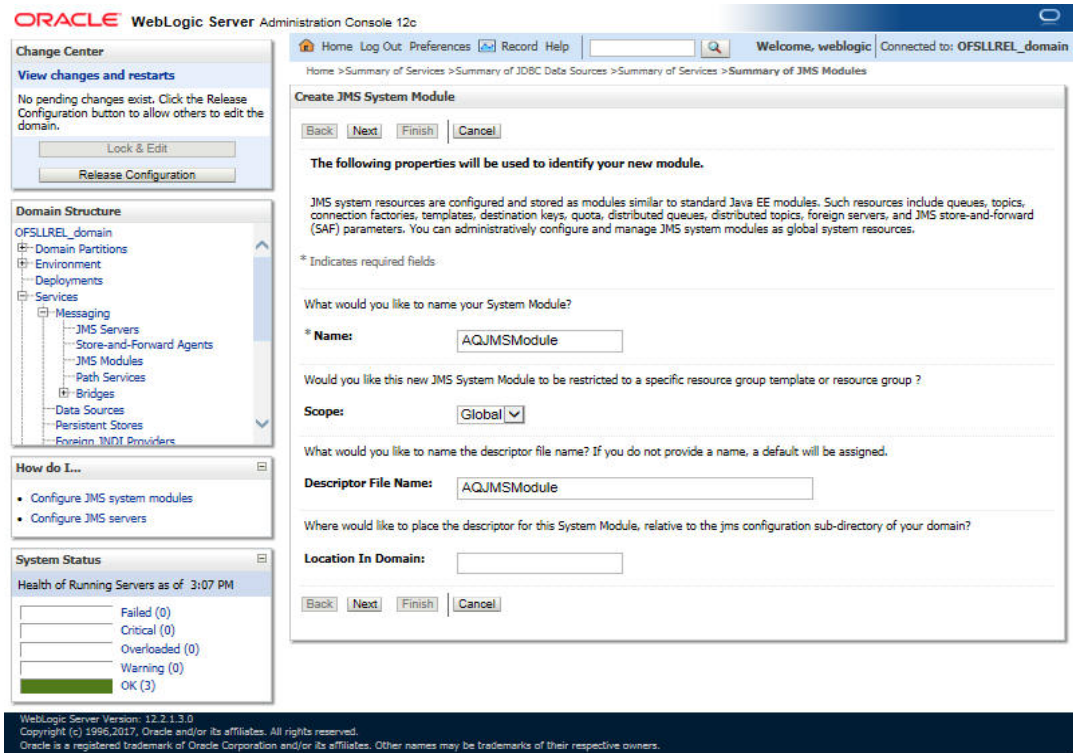
## 9.2 Configure MDB Flow

To configure the MDB Flow from Weblogic Console, do the following:

1. Login to Oracle Weblogic 12c console (<http://hostname:port/console>).
2. On the left pane, click 'Services'.
3. In Messaging tree click 'JMS Modules'. The following window is displayed.

The screenshot displays the Oracle WebLogic Server Administration Console 12c interface. The main content area shows the 'Summary of JMS Modules' page. The breadcrumb navigation is: Home > Summary of Services > Summary of JDBC Data Sources > Summary of Services > Summary of JMS Modules. The page title is 'Summary of JMS Modules'. Below the title, there is a descriptive paragraph about JMS system resources. A 'Customize this table' section is visible, followed by a table titled 'JMS Modules (Filtered - More Columns Exist)'. The table has columns for 'Name' and 'Type', but it is currently empty, displaying 'There are no items to display'. On the left side of the console, there is a 'Domain Structure' tree with 'JMS Modules' selected. Other panels include 'Change Center', 'How do I...', and 'System Status'.

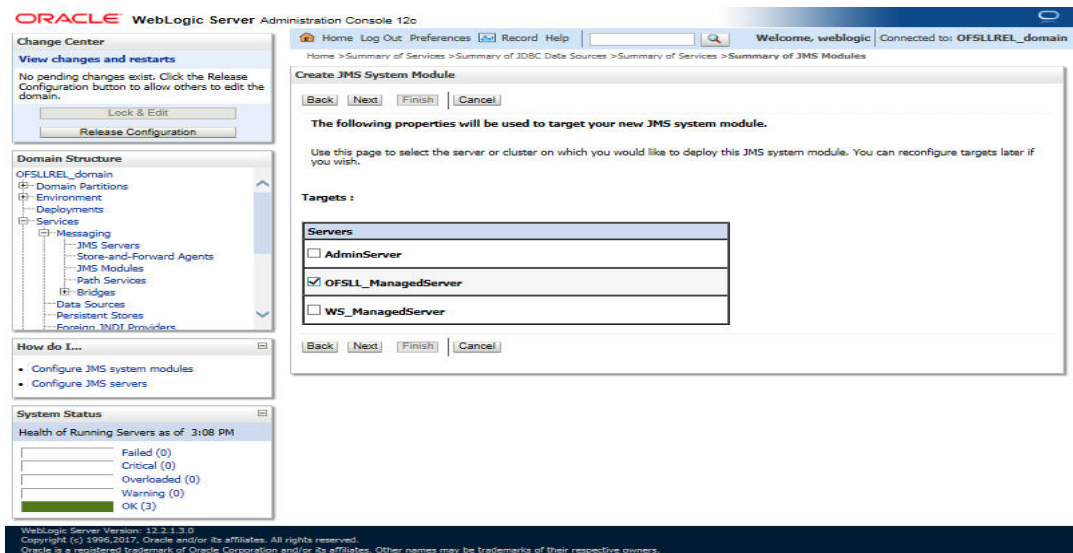
4. Click 'New'. The following screen is displayed.



5. Specify the following details:

- Name: AQJMSModule
- Descriptor File Name: AQJMSModule

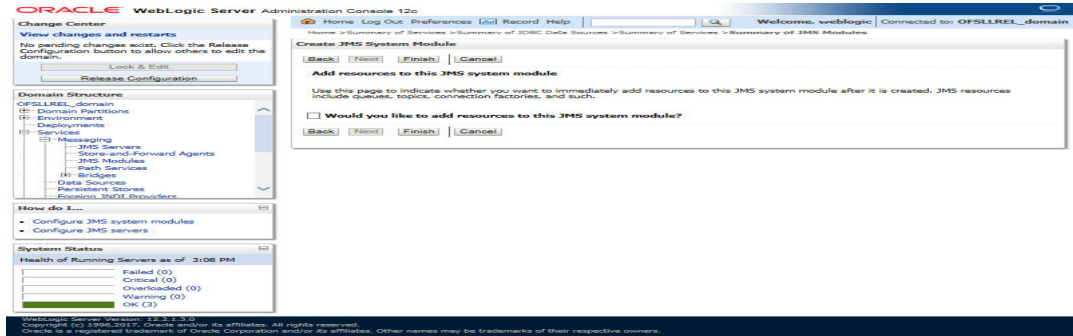
6. Click 'Next'. The following window is displayed.



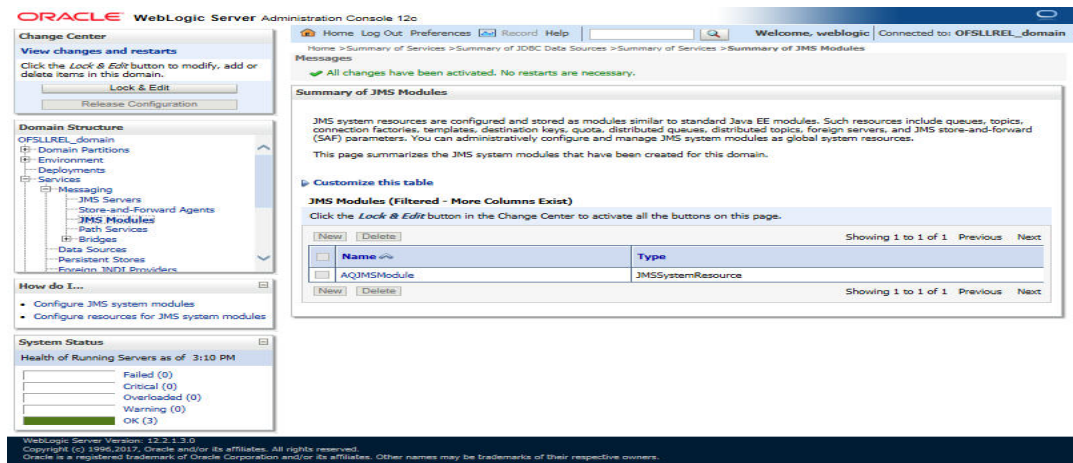
7. Select target servers as 'OFSLL\_ManagedServer'.



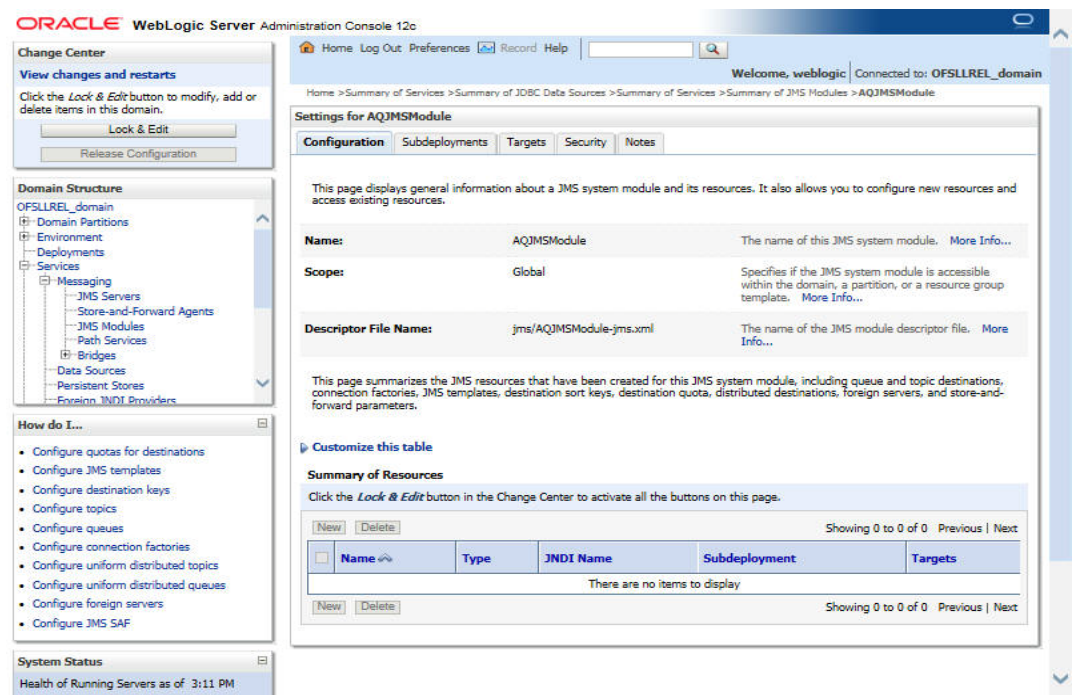
8. Click 'Next'. The following window is displayed.



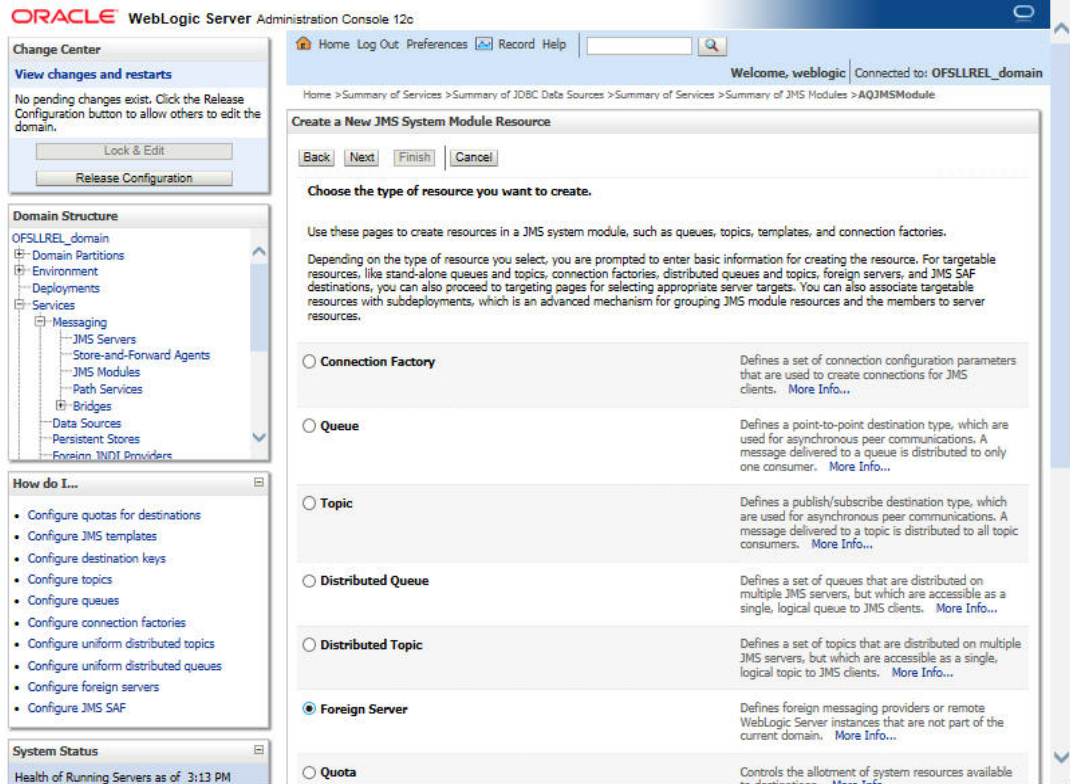
9. Click 'Finish' to activate the changes. The following window is displayed.



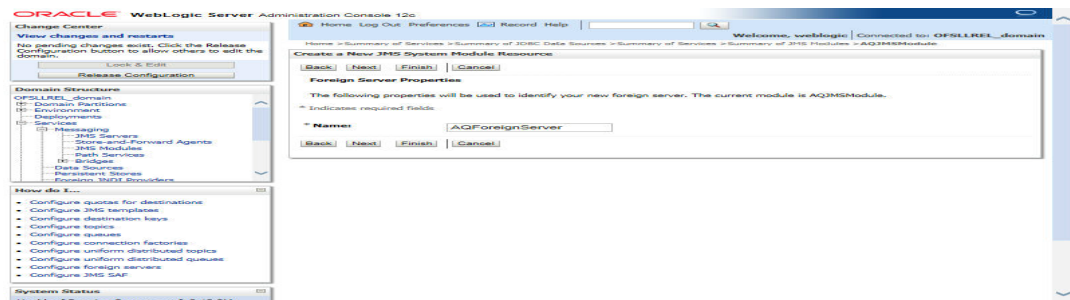
10. Click on the JMS Module that you created. The following window is displayed.



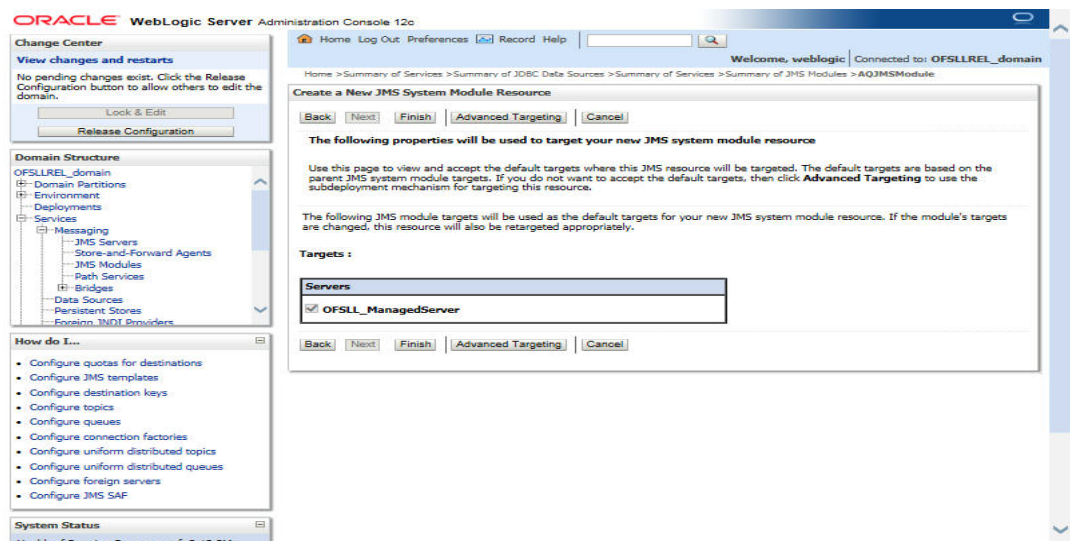
11. Click 'New' in 'Summary of Resources' section. The following window is displayed.



12. Select 'Foreign Server' as the option for type of resource to be created and click 'Next'. The following window is displayed.



13. Specify the name of the Foreign Server as 'AQForeignServer' and click 'Next'. The following window is displayed.



14. Click 'Finish' and activate the changes. The following window is displayed.

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area displays the configuration for the AQJMSModule. A message at the top indicates that the foreign server was created successfully. The configuration page includes a 'Summary of Resources' table with the following data:

Name	Type	JNDI Name	Subdeployment	Targets
AQForeignServer	Foreign Server	N/A	Default Targeting	OFSLM_ManagedServer

15. Click on the Foreign Server that you created. The following window is displayed.

The screenshot shows the Oracle JMS Foreign Server Configuration window. The window is divided into several sections:

- Domain Structure:** A tree view on the left showing the hierarchy of the domain, with 'Foreign JNDI Providers' selected.
- How do I...:** A section with two bullet points: 'Create foreign connection factories' and 'Create foreign destinations'.
- System Status:** A section showing the health of running servers as of 3:19 PM, with a green bar indicating 'OK (3)'.
- Configuration:** The main configuration area with tabs for 'General', 'Destinations', and 'Connection Factories'. The 'General' tab is active.

The 'General' tab contains the following fields and descriptions:

- Name:** AQForeignServer. The name of this foreign server. [More Info...](#)
- JNDI Initial Context Factory:** oracle.jms.AQjmsInitialContextFactory. The name of the class that must be instantiated to access the JNDI provider. This class name depends on the JNDI provider and the vendor that are being used. [More Info...](#)
- JNDI Connection URL:** (Empty field). The URL that WebLogic Server will use to contact the JNDI provider. The syntax of this URL depends on which JNDI provider is being used. For WebLogic JMS, leave this field blank if you are referencing WebLogic JMS objects within the same cluster. [More Info...](#)
- JNDI Properties Credential:** (Empty field). Any Credentials that must be set for the JNDI provider. These Credentials will be part of the properties will be passed directly to the constructor for the JNDI provider's InitialContext class. Note: For secure credential management, use the Credential field. Using the Properties field results in the credential being stored and displayed as originally entered. [More Info...](#)
- Confirm JNDI Properties Credential:** (Empty field).
- JNDI Properties:** datasource=jdbc/aqjmsdb. Any additional properties that must be set for the JNDI provider. These properties will be passed directly to the constructor for the JNDI provider's InitialContext class. [More Info...](#)
- Default Targeting Enabled:** . Specifies whether this JMS resource defaults to the...

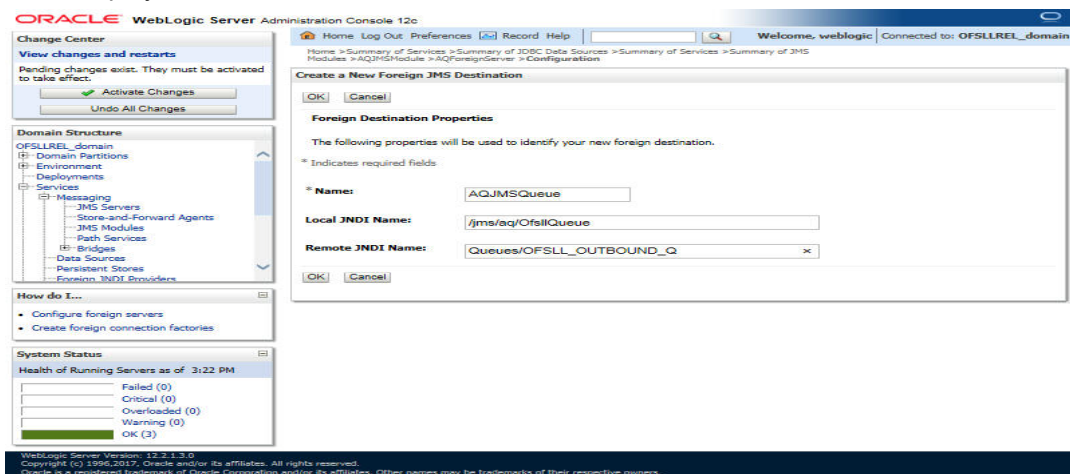
16. Specify the following details:

- Enter JNDI Initial Context Factory as 'oracle.jms.AQjmsInitialContextFactory'.
- JNDI Properties as 'datasource=jdbc/aqjmsdb'.
- Ensure 'Default Targeting Enabled' option is selected.

17. Click 'Save'.



18. Select 'Destinations' Tab and click 'New' to create new destination. The following window is displayed.

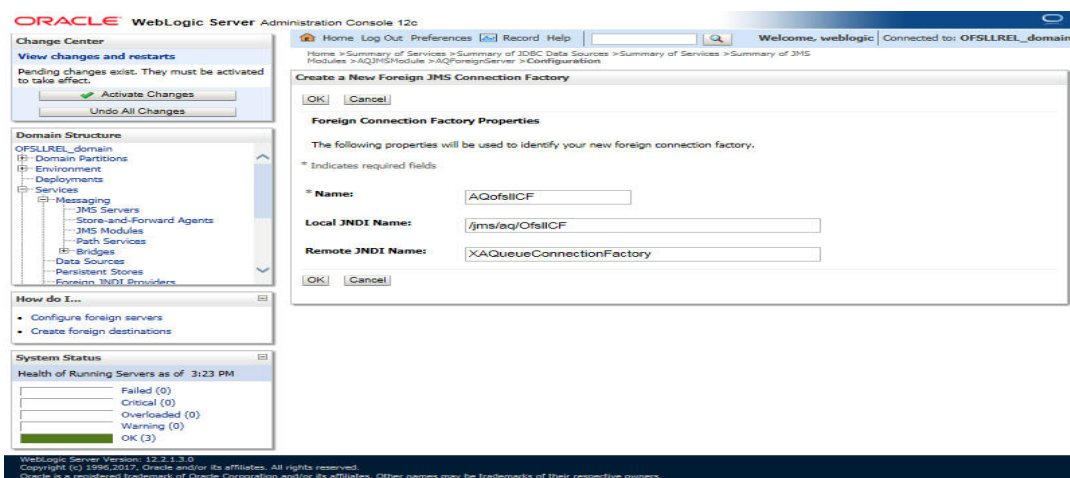


19. Specify the following details:

- Name: AQJMSQueue
- LocalJNDI Name: /jms/aq/OfsllQueue
- Remote JNDI Name: Queues/OFSLL\_OUTBOUND\_Q

20. Click 'OK' and save the changes.

21. Select 'Connection Factories' Tab and click 'New' to add new connection factory. The following window is displayed.



22. Specify the following details:

- Name: AQOfsllCF
- Local JNDI Name: /jms/aq/OfsllCF
- Remote JNDI Name: XAQueueConnectionFactory

23. Click 'OK' and save the changes.

## 9.3 AQ-JMS Topic Setup

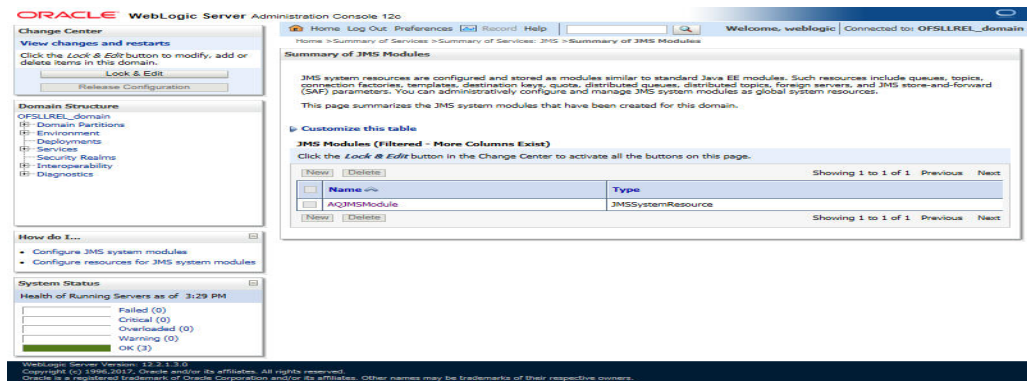
AQ-JMS Topic Bridge facilitates for group publishing to set of subscribed users. In a configured setup, a published message is sent to all the interested subscribers. Accordingly zero to many subscribers will receive a copy of the same message.



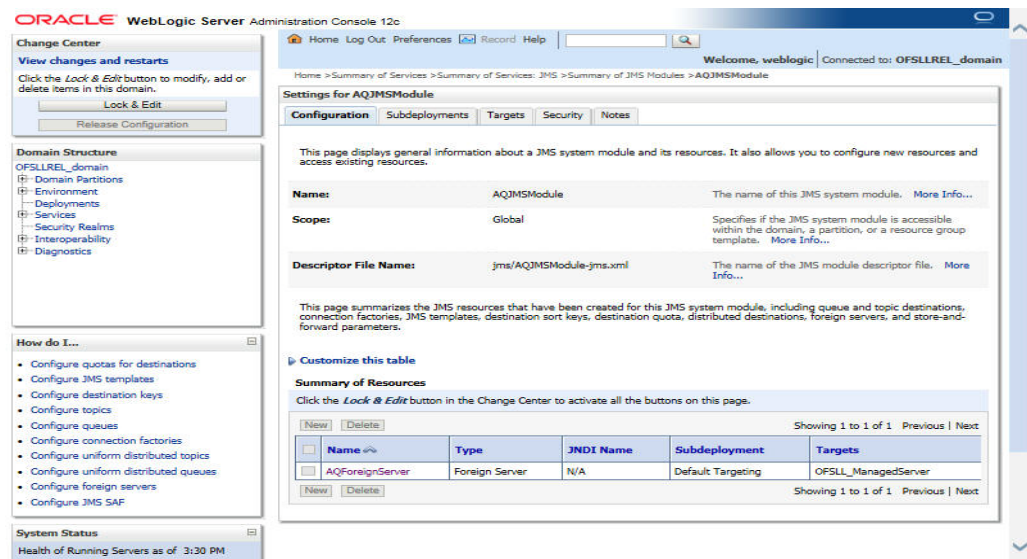
### 9.3.1 Create AQ-JMS Topic Bridge

To configure the AQ JMS Topic from Weblogic console, do the following:

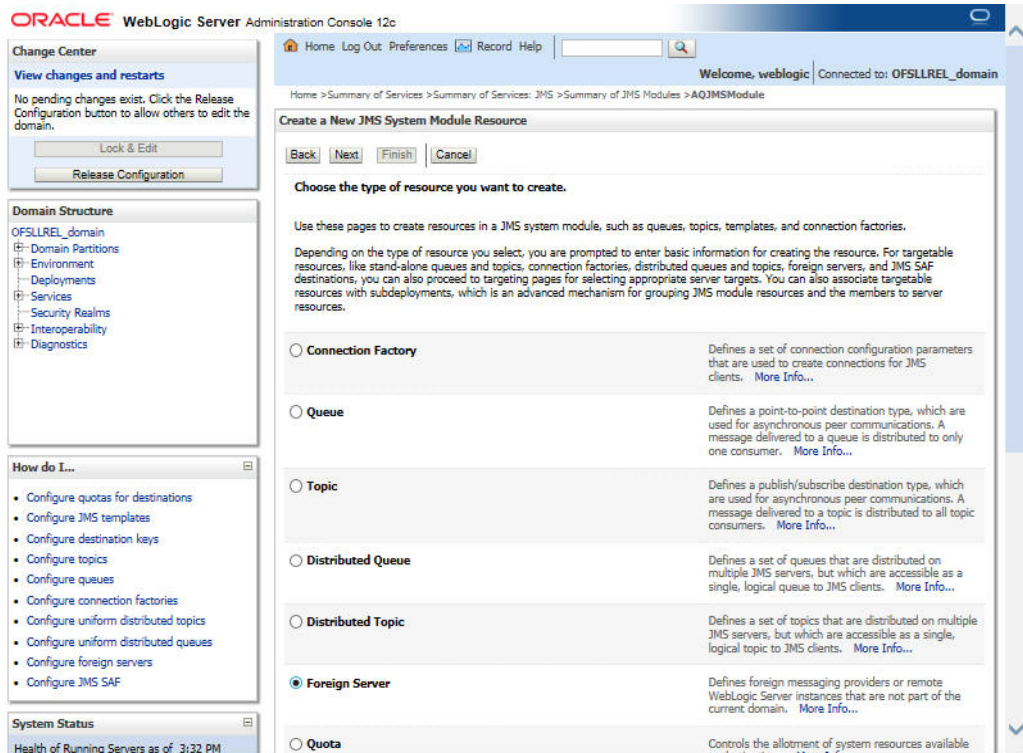
1. Login to Oracle Weblogic 12c console (<http://hostname:port/console>).
2. On the left pane, select Services > Messaging > JMS Modules. The following window is displayed.



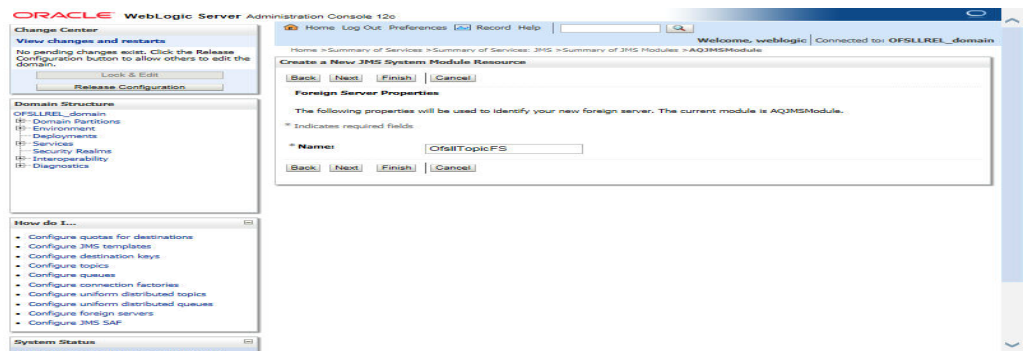
3. Click 'AQJMSModule'. The following window is displayed.



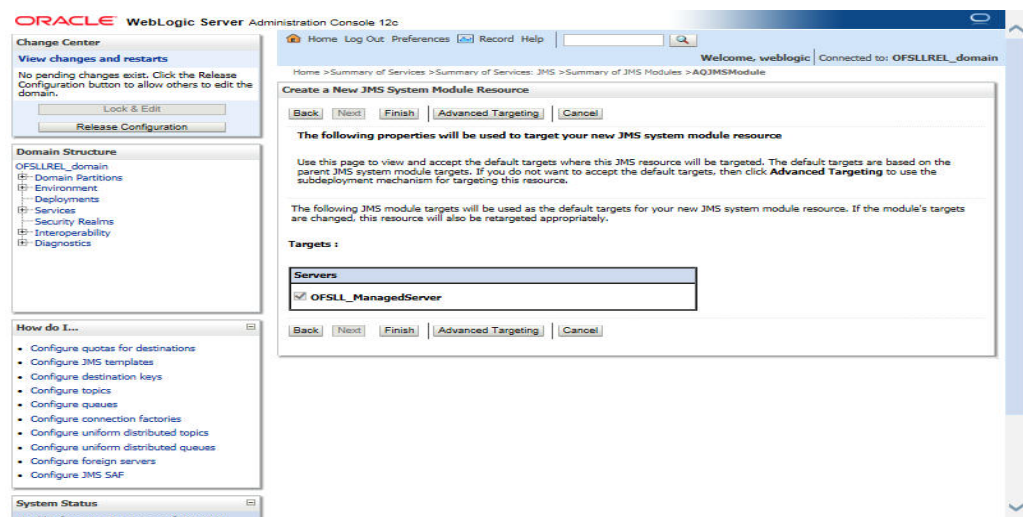
- In the Summary of Resources section, click 'New'. The following window is displayed.



- Select 'Foreign Server' as the option for type of resource to be created and click 'Next'. The following window is displayed.



- Specify the name of the Foreign Server as 'OfsllManagedServer' and click 'Next'. The following window is displayed.



7. Click 'Finish' and activate the changes.
8. Click on the Foreign Server that you created. The following window is displayed.

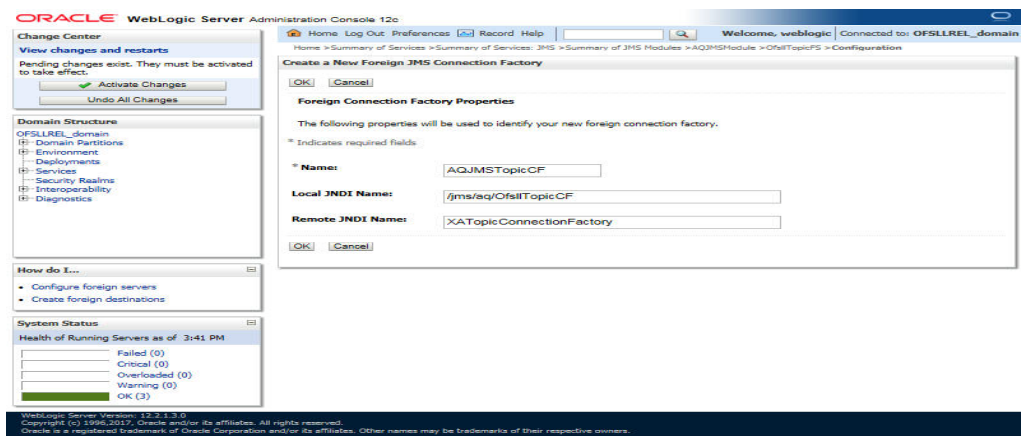
The screenshot shows the 'General' tab of the 'OfsllTopicF5' configuration window. The 'Name' is 'OfsllTopicF5'. The 'JNDI Initial Context Factory' is 'oracle.jms.AQjmsInitialContextFactory'. The 'JNDI Connection URL' is empty. The 'JNDI Properties Credential' is empty. The 'Confirm JNDI Properties Credential' is empty. The 'JNDI Properties' field contains 'datasource=jdbc/aqjmsdb'. The 'Default Targeting Enabled' checkbox is checked.

9. Specify the following details and click 'Save'.
  - Enter JNDI Initial Context Factory as 'oracle.jms.AQjmsInitialContextFactory'.
  - JNDI Properties as 'datasource=jdbc/aqjmsdb'.
  - Ensure 'Default Targeting Enabled' checkbox is selected.
10. Select 'Destinations' tab and click 'New' to create new destination. The following window is displayed.

The screenshot shows the 'Create a New Foreign JMS Destination' dialog box. The 'Name' is 'AQJMSTopic'. The 'Local JNDI Name' is '/jms/aq/OfsllTopic'. The 'Remote JNDI Name' is 'Topics/OFSLL\_OUTBOUND\_TOPIC'. The 'OK' button is highlighted.

11. Specify the following details and click 'OK' to save the changes.
  - Name: AQJMSTopic
  - LocalJNDI Name: /jms/aq/OfsllTopic
  - Remote JNDI Name: Topics/OFSLL\_OUTBOUND\_TOPIC

- Select 'Connection Factories' tab and click 'New' to add new connection factory. The following window is displayed.



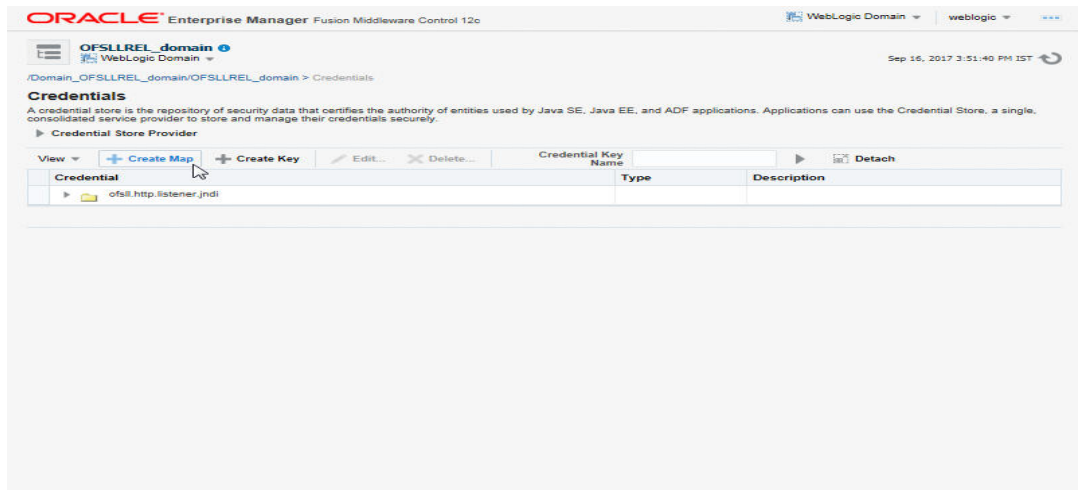
- Specify the following details and Click 'OK' to save the changes.

- Name: AQJMSTopicCF
- Local JNDI Name: /jms/eq/OfsllTopicCF
- Remote JNDI Name: XATopicConnectionFactory

## 9.4 Create Credentials and System Policies

In order to Configure MDB flow, you need to create credentials and system policies. The credentials are accessed through CSF framework which is managed by Oracle WebLogic Server. The keys are managed by Maps and Maps need to be given with Permissions.

- Login to Oracle Enterprise Manager (<http://hostname:port/em>).
- On the left panel, right click on OFSLLREL\_domain and select Security > System Policies > Credentials. The following window is displayed.

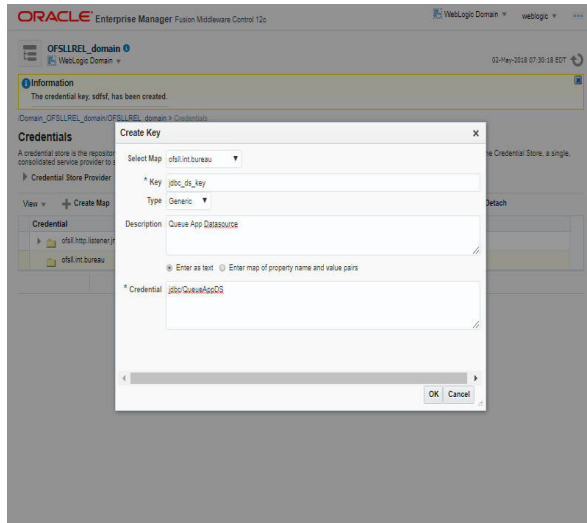


- Click 'Create Map'. The following window is displayed.



- Enter Map Name as 'ofssl.int.bureau' and click 'OK'.

5. Click 'Create Key'. The following window is displayed.



6. Specify the following details:

- Select Map as 'ofsl.int.bureau' from the drop down list.
- Specify Key as 'jdbc\_ds\_key'
- Select Type as 'Generic' from the drop down list.
- Specify the Credential as 'jdbc/QueueAppDS'.

7. Click 'OK'.

8. Similarly you need to create the following Maps and corresponding keys as indicated in following table.

Maps	Keys	Description
ofsl.int.bureau		This map is used to setup keys for all credit bureau interfaces
	ProxyServer	Name of the proxyServer to be configured
	ProxyPort	Port to which ProxyServer is running.
	ExpEcalsURL	The Experian Connection URL to be configured.
	ExpDirectExperianEnabled	If you set value as true, then you would be setting ecals response URL. Else, the Ecals request URL
	ExpCertPath	The location of .jks file which contains the valid certificate for Experian Credit Bureau.
	ExpBusUserNamePassword	Login Credentials to be configured for Experian Business reports.
	ExpConUserNamePassword	Login Credentials to be configured for Experian Consumer reports.
	EfxURL	The Equifax Connection URL to be configured.
	EfxCertPath	The location of .jks file which contains the valid certificate for Equifax Credit Bureau.



Maps	Keys	Description
	EfxUserNamePassword	Login credentials to be configured for accessing Equifax Reports.
	TucCertPath	The location of .p12 file which contains valid certificate for Transunion Bureau.
	TucCertPassword	The password that requires to read the valid .p12 certificate for the Transunion Bureau.
	TucUserNamePassword	Login credentials to be configured for accessing Transunion reports
	TucConnectionURL	The Transunion URL to be configured.
	jdbc_ds_key	Datasource configured to retrieve data for bureau.
	source	Configured as EXTERNAL for actual call.
ofssl.int.out bound		This map is used to setup keys for the Route-One and Dealer track call back from OFSLL.
	roUserNamePassword	Login Credentials used at the time of call back from OFSLL to RouteOne Interface.
	dtUsernamePassword	Login Credentials used at the time of Call back from OFSLL to Dealer Track Interface.
	jdbc_ds_key	Datasource configured to retrieve data for out-bound Resources.
	roPostDealerUsername- Passwd	Credentials required to upload the dealer details to Route One Portal
	roPostDealerWbsURL	Route One Post Dealer Web Service url
	roDealerUploadURL	Route One URL to upload the Dealer details
	dtPostDealerUsername- Passwd	Credentials required to upload the dealer details to Dealer Track Portal
	dtPostDealerWbsURL	Dealer Track Post Dealer Web Service url
	dtDealerUploadURL	Dealer Track URL to upload the Dealer details
	VertexUserNamePd	Credentials required to connect to VERTEX web service
	VertexTrustedId	ID required to connect to VERTEX web service
	TorqueltsUserName- Password	Credentials required to connect to Torquelts web service
	TorqueltsURL	Torquelts Decision service URL
	ProxyHost	Name of the proxyServer to be configured.
	ProxyPort	Port to which ProxyServer is running.

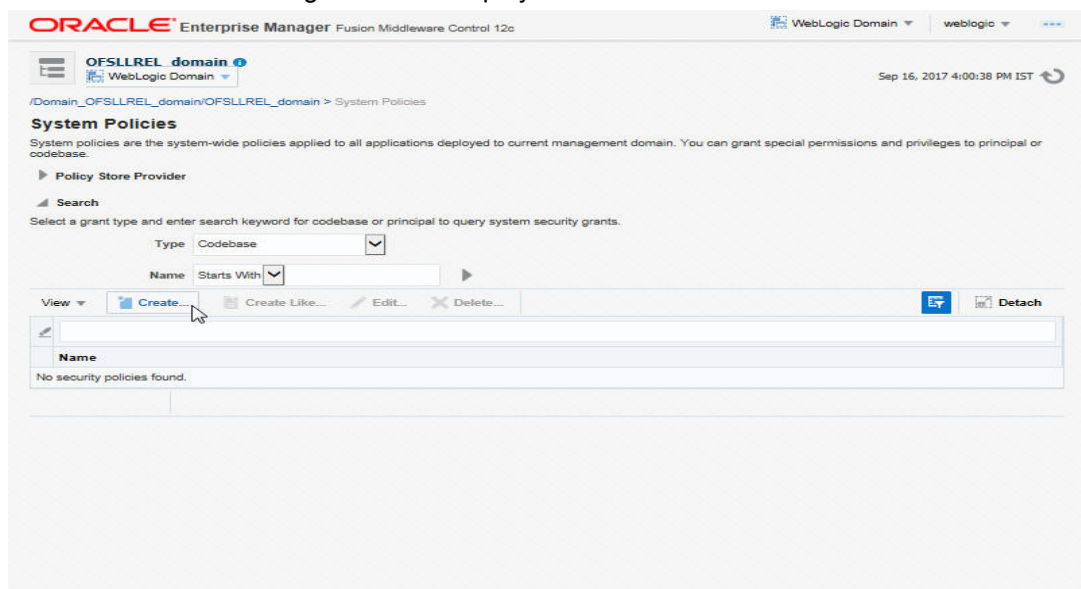
Maps	Keys	Description
ofssl.int.bip		This Map is used to setup all the Keys required to setup interface with BIP to generate reports.
	local_top_dir	Define the path of the local BIP server where you would like place the generated BIP reports.
	email_from_addr	Define the From Email address to be used while sending email for the generated BIP reports.
	emailBodyContentPath	The path for 'file.properties' file that contains the content of the subject and body required while sending letter, report or correspondence as mail to the applicant or producer.  For example; /tmp/file.properties  *Refer to note below for details on 'file.properties' file creation for email configuration.
	fax_server	Configure the name of Fax server to be used to fax the generated BIP reports.
	jdbc_ds_key	Datasource configured to retrieve data for BIP.
ofssl.int.file transfer		This map is used to setup keys for all credit bureau interfaces
	sftp_key	Credentials to login to SFTP server(Username/ Password)
	sftp_top_dir	Top root directory for SFTP server
	sftp_servers	SFTP server names
ofssl.int.se curity	bip_key	This is BIP login credentials
ofssl.int.gri	GriURL	GRI web service URL to be configured.
	GriAPIKey	GRI API key to be configured
	ProxySet	System Level Proxy Enabled/Disabled. Value can be either true or false.  True= proxy required False = proxy not required
	ProxyHost	Name of the proxyServer to be configured. Set only if ProxySet =true.
	ProxyPort	Port on which ProxyServer is running. Set only if ProxySet =true.
	jdbc_ds_key	Datasource configured to retrieve the request XML for GRI.

Maps	Keys	Description
	GriCertPath	The location of .jks file which contains the valid certificate for GRI.  Configure only when a valid certificate is available.
ofssl.int.common		This map is used to setup keys for common JMS Queue
	OfsslJMSQueueJNDI	The JMS queue JNDI name to be configured
	OfsslJMSQueueCF	The JMS queue connection factory to be configured
	OfsslJMSServerURL	The JMS server url to be configured.  Ex: t3://<JMS server host>:<JMS server port>

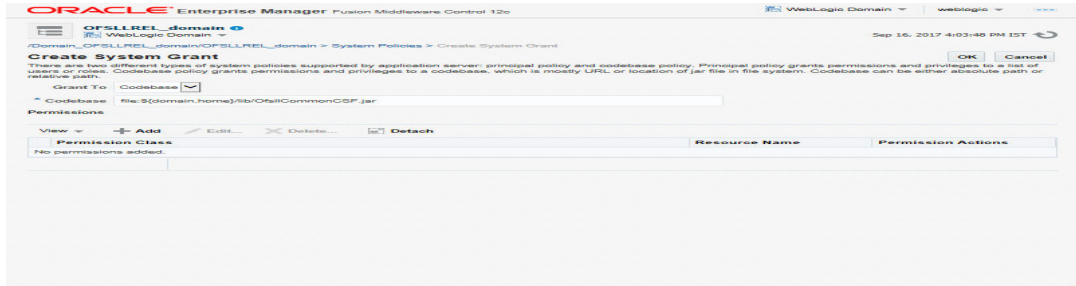
\* A new file(file.properties) needs to be created and copied to the application server in the same path as mentioned in the value corresponding to the key 'emailBodyContentPath' under the map 'ofssl.int.bip'. The file should have the following contents:

- letter\_subject='Text that is configurable and would be the subject of the mail'
- letter\_body='Text that is configurable and would be the body of the mail'
- correspondence\_subject='Text that is configurable and would be the subject of the mail'
- correspondence\_body='Text that is configurable and would be the body of the mail'
- report\_subject='Text that is configurable and would be the subject of the mail'
- report\_body='Text that is configurable and would be the body of the mail'

9. On the left panel, right click on OFSLLREL\_domain and select Security > System Policies. The following window is displayed.

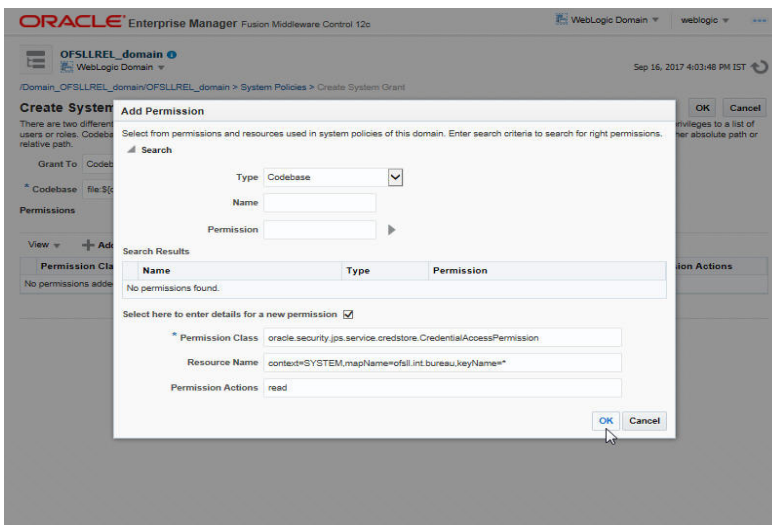


10. Click 'Create'. The following window is displayed.



11. Enter the codebase as 'file:\${domain.home}/lib/OfsllCommonCSF.jar'

12. Click 'Add'. The following window is displayed.



13. Select the check box 'Select here to enter details for a new permission'.

14. Specify the following details as the first permission class.

Permission Class	Resource Name	Permission Actions
oracle.security.jps.service.credstore.CredentialAccessPermission	context=SYSTEM,mapName=ofsll.int.bureau,keyName=*	read
oracle.security.jps.service.credstore.CredentialAccessPermission	context=SYSTEM,mapName=ofsll.int.filetransfer,keyName=*	read
oracle.security.jps.service.credstore.CredentialAccessPermission	context=SYSTEM,mapName=ofsll.int.outbound,keyName=*	read
oracle.security.jps.service.credstore.CredentialAccessPermission	context=SYSTEM,mapName=ofsll.int.bip,keyName=*	read
oracle.security.jps.service.credstore.CredentialAccessPermission	context=SYSTEM,mapName=ofsll.int.gri,keyName=*	read
oracle.security.jps.service.credstore.CredentialAccessPermission	context=SYSTEM,mapName=ofsll.int.common,keyName=*	read

Permission Class	Resource Name	Permission Actions
oracle.security.jps.service.cred-store.CredentialAccessPermission	context=SYSTEM,mapName=ofssl.http.listener.jndi,key-Name=*	read

15. Click 'OK'.

## 9.5 JMS Queue Configuration

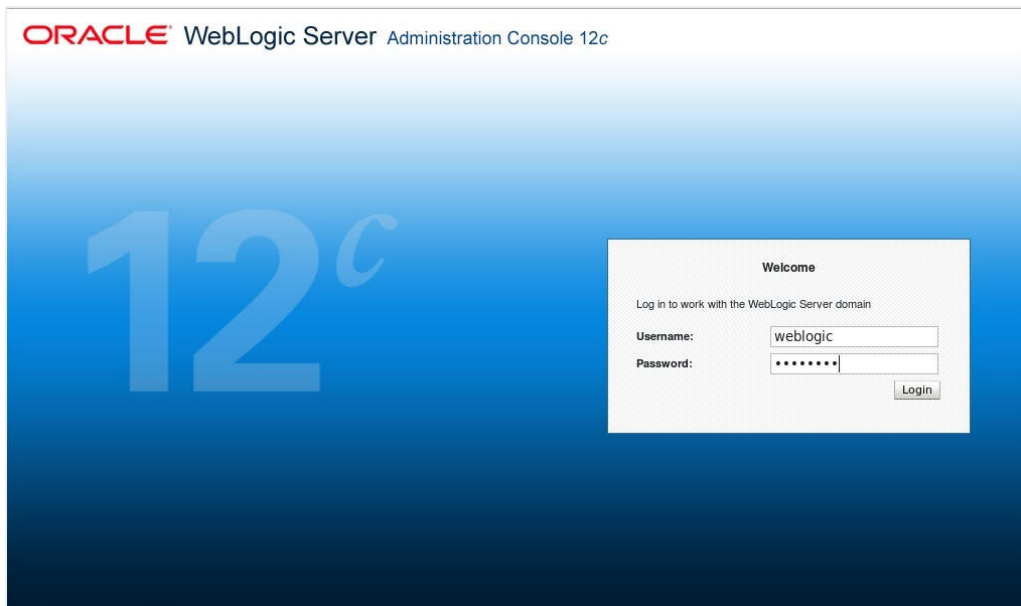
JMS queue is used to hold webservice invocation exception messages. It provides a mechanism for third parties to handle communication related failures.

Perform the following steps to configure JMS queue in application server.

- [Create JMS Server](#)
- [Create JMS Module](#)
- [Subdeployment](#)
- [Create JMS Connection Factory](#)
- [Create JMS Queue](#)

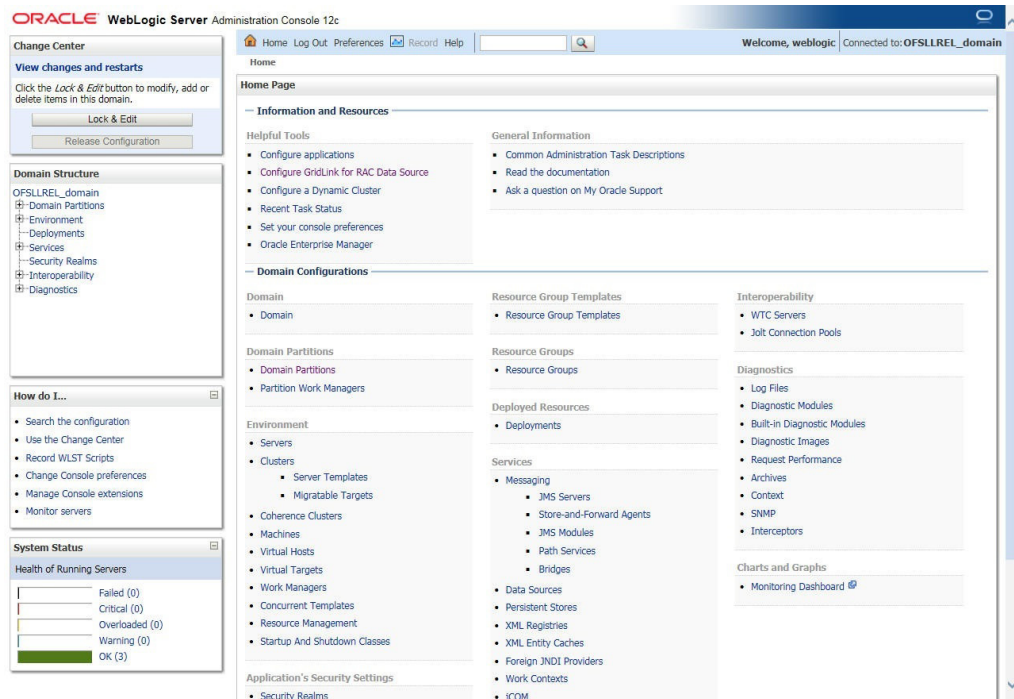
### 9.5.1 Create JMS Server

1. Login to WebLogic Server 12c console (<http://hostname:port/console>). The following screen is displayed.

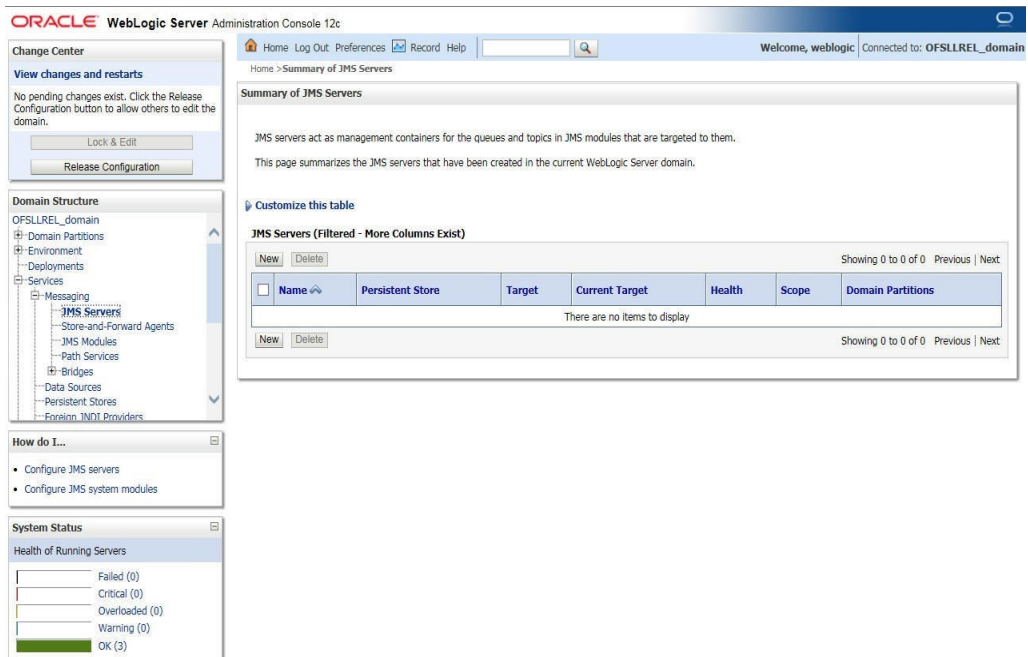




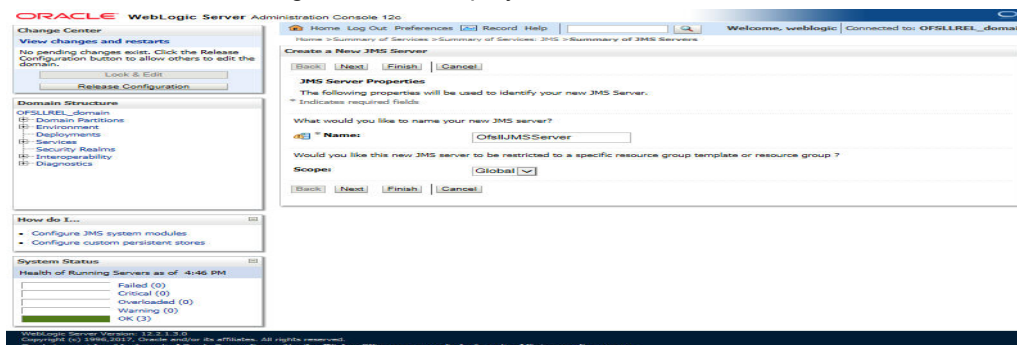
- Specify the Weblogic administrator user name and password and click 'Log In'. The Oracle Weblogic home page is displayed.



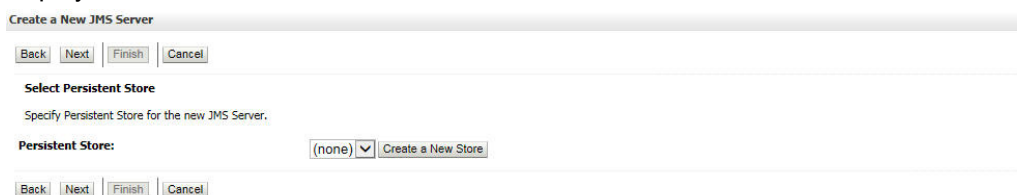
- Click Domain Name > Services > Messaging > JMS Server.
- In the main window, click 'Lock & Edit'. The following window is displayed.



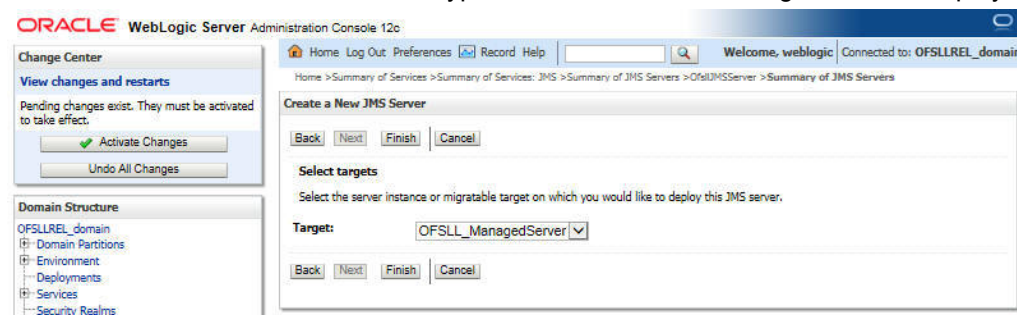
- Click 'New'. The following window is displayed.



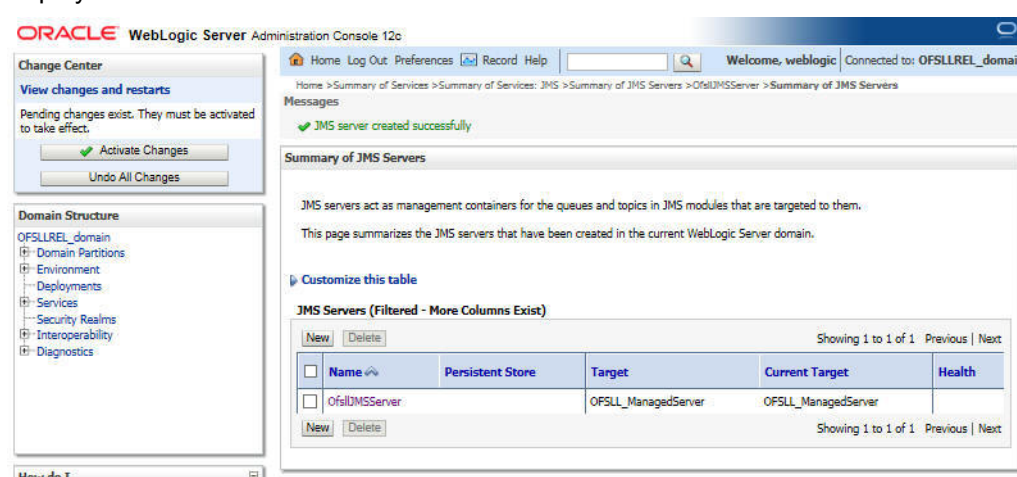
- Specify the JMS Server Name as 'OfsllJMSserver'. Click 'Next', the following window is displayed.



- Select 'None' as the Persistent Store type. Click 'Next', the following window is displayed.



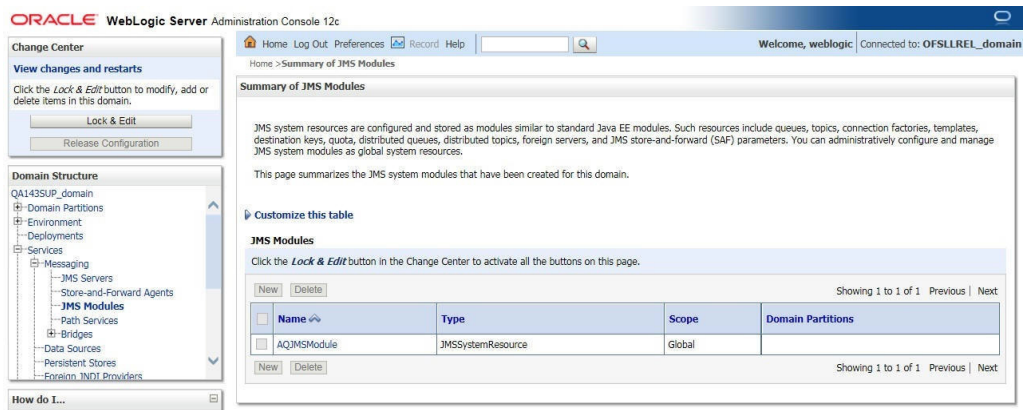
- Select the target managed server and click 'Finish'.
- Click 'Activate Changes' under Change Center. Once done, the following window is displayed:



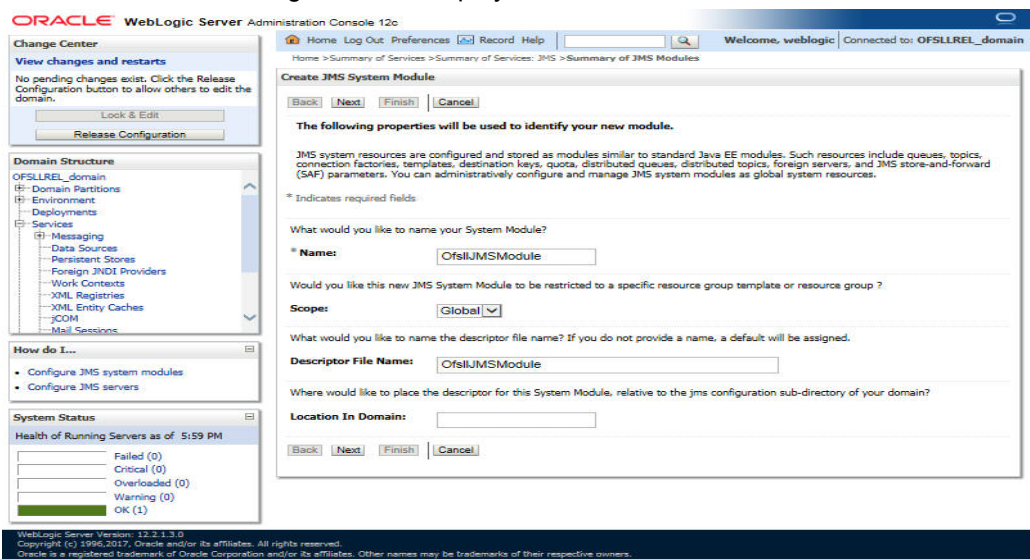
## 9.5.2 Create JMS Module

- Login to WebLogic Server 12c console (<http://hostname:port/console>) by specifying the Weblogic administrator user name and password.

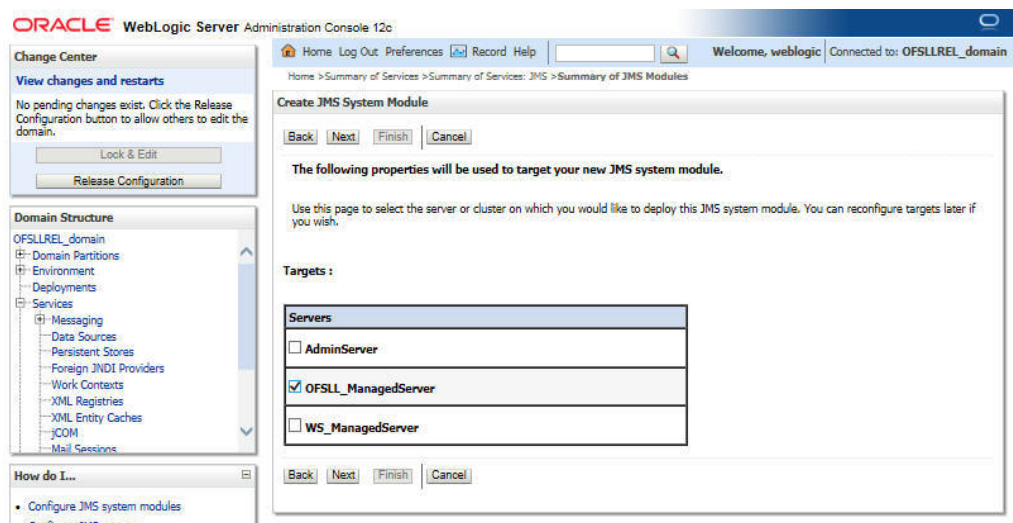
- Click Domain Name > Services > Messaging > JMS Modules. The following window is displayed.



- Click 'New'. The following screen is displayed.



- Specify the following details:
  - Enter the System Module Name as 'OfsllJMSModule'
  - Enter the Description File Name as 'OfsllJMSModule'
- Click 'Next'. The following screen is displayed.



- Select the target server and click 'Next'. The following window is displayed.

**Create JMS System Module**

Back Next Finish Cancel

**Add resources to this JMS system module**

Use this page to indicate whether you want to immediately add resources to this JMS system module after it is created. JMS resources include queues, topics, connection factories, and such.

Would you like to add resources to this JMS system module?

Back Next Finish Cancel

- Click 'Finish' to save and activate the changes. Once done, the following window is displayed.

**ORACLE WebLogic Server Administration Console 12c**

Home Log Out Preferences Record Help Welcome, weblogic Connected to: OFSLREL\_domain

Messages  
All changes have been activated. No restarts are necessary.

**Summary of JMS Modules**

JMS system resources are configured and stored as modules similar to standard Java EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quotas, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS system modules as global system resources.

This page summarizes the JMS system modules that have been created for this domain.

**Customize this table**

JMS Modules (Filtered - More Columns Exist)

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

Name	Type
AQJMSModule	JMSSystemResource
OfslJMSModule	JMSSystemResource

Showing 1 to 2 of 2 Previous Next

### 9.5.3 Subdeployment

- Login to WebLogic Server 12c console (<http://hostname:port/console>) by specifying the Weblogic administrator user name and password.
- Click Domain Name > Services > Messaging > JMS Modules. The main window displays the list of JMS modules available.
- Select the created JMS module 'OfslJMSModule' and click 'Subdeployments' tab. The following window is displayed.

**Settings for OfslJMSModule**

Configuration **Subdeployments** Targets Security Notes

This page displays subdeployments created for a JMS system module. A subdeployment is a mechanism by which JMS module resources (such as queues, topics, and connection factories) are grouped and targeted to a server resource (such as JMS servers, server instances, or cluster).

**Customize this table**

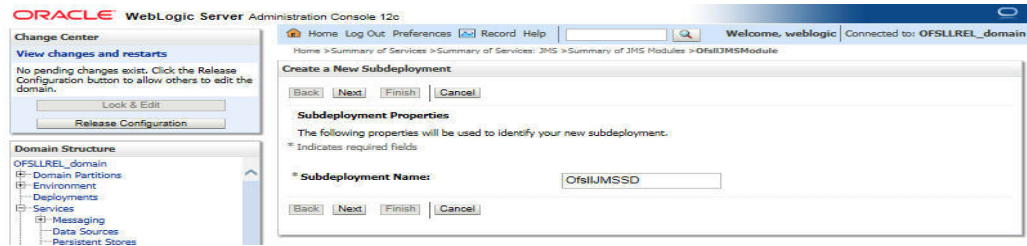
**Subdeployments**

Name	Resources	Targets
There are no items to display		

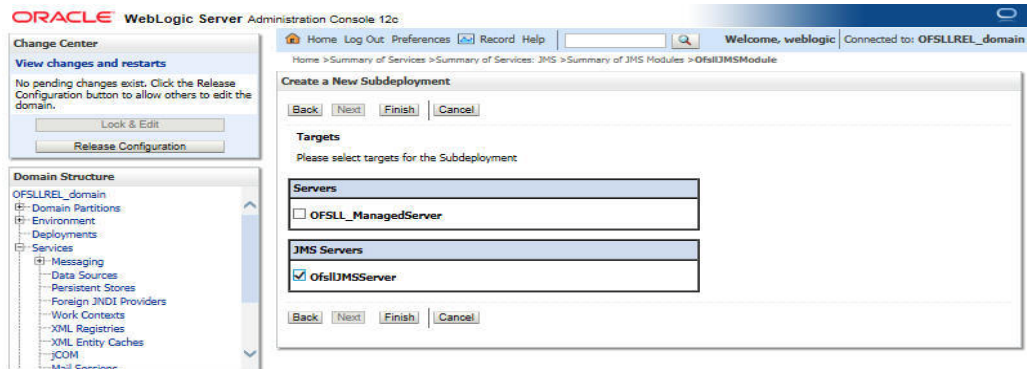
Showing 0 to 0 of 0 Previous Next



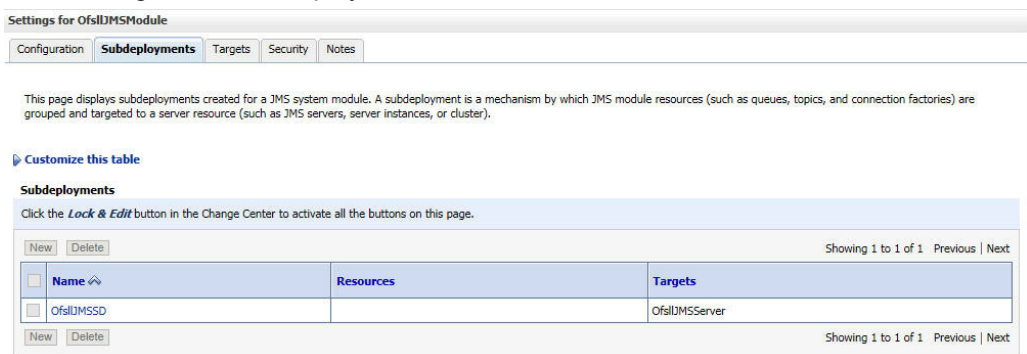
- Click 'New'. The following screen is displayed.



- Specify the Subdeployment Name as 'OfsllJMSSD'. Click 'Next', the following window is displayed.



- Select the check box against the newly created JMS Server and click 'Finish'. Once done, the following window is displayed.



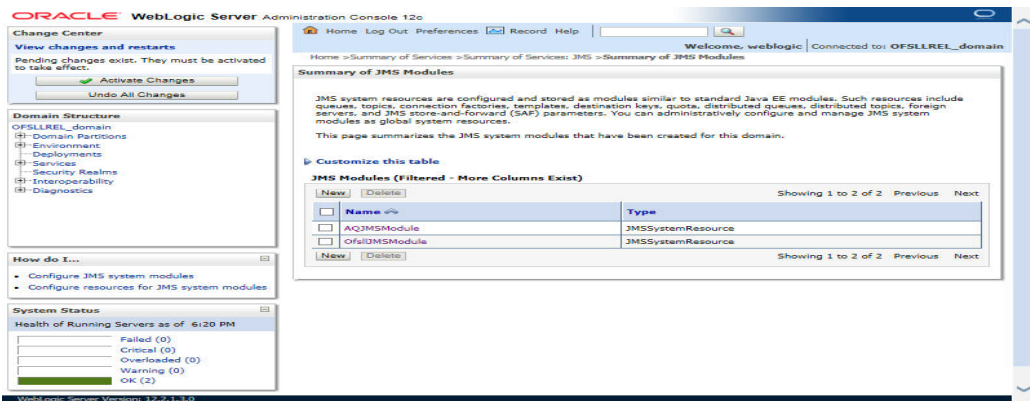
You can further click 'New' to create more Queues and repeat the steps explained above.

## 9.5.4 Create JMS Connection Factory

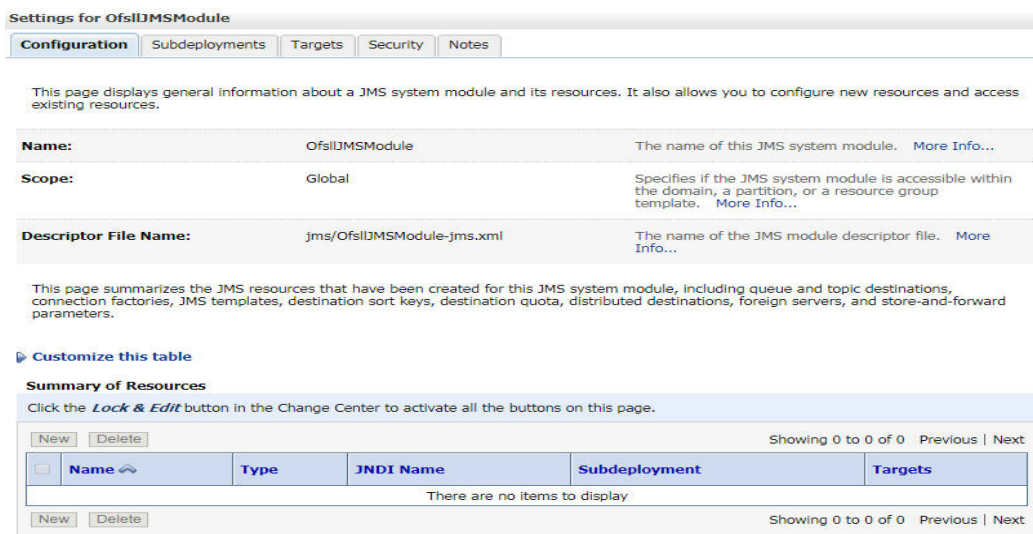
- Login to WebLogic Server 12c console (<http://hostname:port/console>) by specifying the Weblogic administrator user name and password.
- Click Domain Name > Services > Messaging > JMS Modules. The main window displays the list of JMS modules available.



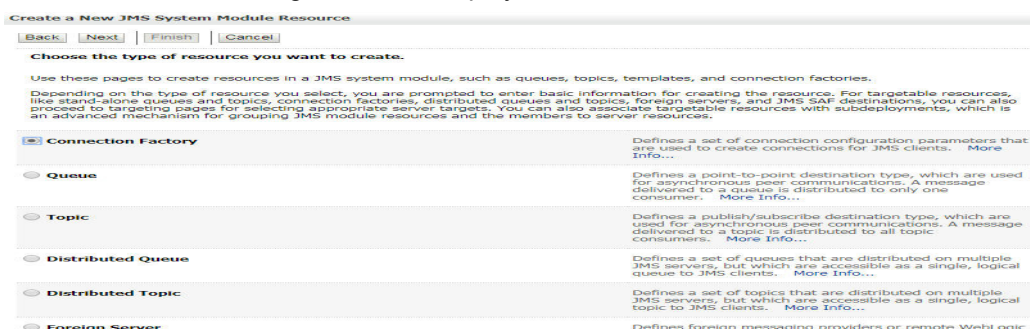
- Select the newly created JMS module 'OfsllJMSModule'. The following window is displayed.



- Click 'New'. The following window is displayed.



- Click 'Next'. The following window is displayed.



6. Select 'Connection Factory' option and click 'Next'. The following window is displayed.

The screenshot shows the 'Create a New JMS System Module Resource' window. On the left, there is a 'Domain Structure' tree with 'OFSSLREL\_domain' expanded to show 'Domain Partitions', 'Environment', 'Deployments', 'Services', 'Security Realms', 'Interoperability', and 'Diagnostics'. Below this is a 'How do I...' section with a list of configuration tasks, including 'Configure connection factories'. At the bottom left is a 'System Status' section showing 'Health of Running Servers as of 6:22 PM' with counts for Failed (0), Critical (0), and Overloaded (0) servers.

The main content area is titled 'Create a New JMS System Module Resource' and has buttons for 'Back', 'Next', 'Finish', and 'Cancel'. The 'Next' button is highlighted. Below the title is the 'Connection Factory Properties' section. It states: 'The following properties will be used to identify your new connection factory. The current module is OfslIJMSModule. \* Indicates required fields.' It asks 'What would you like to name your new connection factory?' with a text box containing 'OfslIJMSCF'. It then asks 'What JNDI Name would you like to use to look up your new connection factory?' with a text box containing 'jms/OfslIJMSCF'. There are two questions about policies: 'The Connection Factory Subscription Sharing Policy. Should subscriptions created using this factory be sharable?' with a dropdown set to 'Exclusive', and 'The Client ID Policy indicates whether more than one JMS connection can use the same Client ID. Oracle recommends setting the Client ID policy to Unrestricted if sharing durable subscribers. Subscriptions created with different Client ID policies are always treated as independent subscriptions. What Client ID Policy would you like to use?' with a dropdown set to 'Restricted'. There is a question 'A connection factory can limit the number of messages that can be queued for an asynchronous session. Should this connection factory impose a limit?' with a text box containing '10'. There is a question 'Should this connection factory create sessions that are JTA aware, and create XA queues and XA topics?' with a checked checkbox for 'XA Connection Factory Enabled'. At the bottom, there is a question 'Should the authenticated user name be attached to sent messages if the JMS destination is configured to support this behavior?'.

7. Specify the following details:

- Enter the Name of the Connection Factory as 'OfslIJMSCF'
- Enter the JNDI Name as 'jms/OfslIJMSCF'
- Select the check box 'XA Connection Factory Enabled'

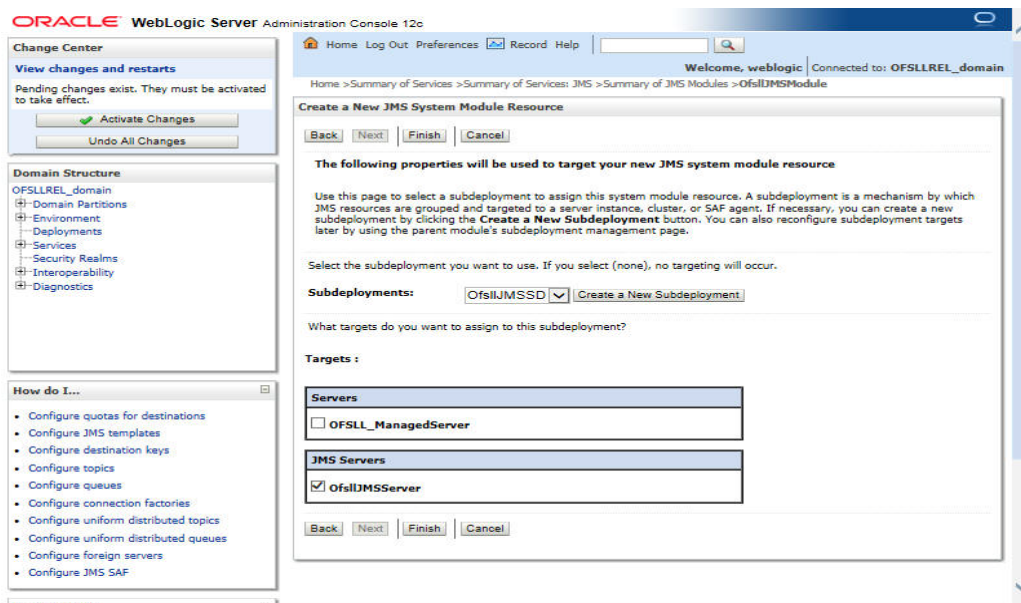
8. Click 'Next'. The following window is displayed.

The screenshot shows the 'Create a New JMS System Module Resource' window with the 'Advanced Targeting' tab selected. The title bar says 'Create a New JMS System Module Resource' and the buttons are 'Back', 'Next', 'Finish', 'Advanced Targeting', and 'Cancel'. The 'Advanced Targeting' button is highlighted. The main content area is titled 'The following properties will be used to target your new JMS system module resource'. It contains two paragraphs of text explaining that the default targets are based on the parent JMS system module targets and that clicking 'Advanced Targeting' allows for subdeployment mechanisms. Below this is a section titled 'Targets :'. It contains a table with the following content:

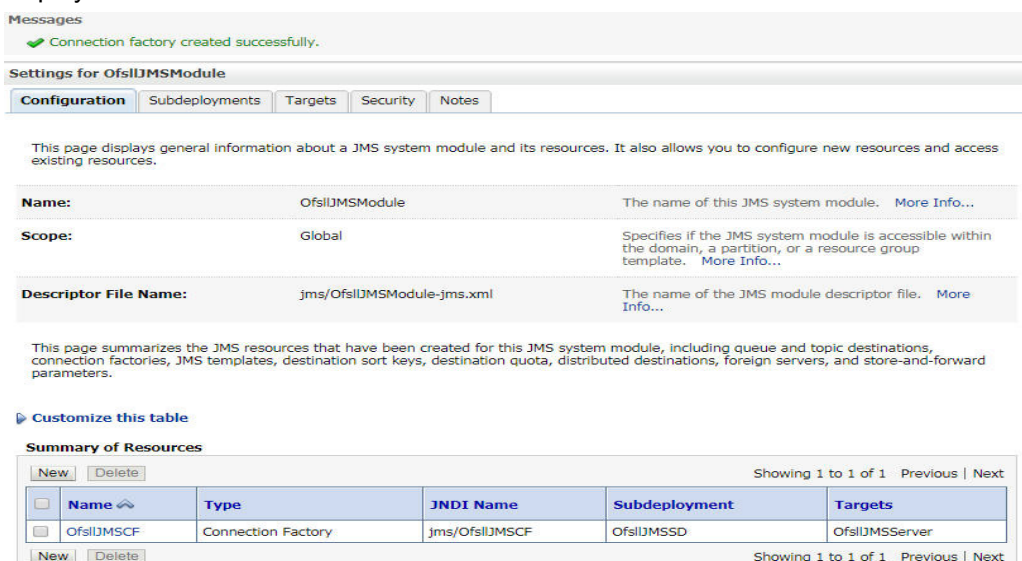
Servers
<input checked="" type="checkbox"/> OFSSLREL_ManagedServer

At the bottom, there are buttons for 'Back', 'Next', 'Finish', 'Advanced Targeting', and 'Cancel'.

- Click 'Advanced Targeting'. The following window is displayed.



- Select the Subdeployments as 'OfsllJMSSD' from the drop down list.
- Under JMS Servers, select the check box against 'OfsllJMSServer'.
- Click 'Finish' to save and activate the changes. Once done, the following window is displayed.



## 9.5.5 Create JMS Queue

- Login to WebLogic Server 12c console (<http://hostname:port/console>) by specifying the Weblogic administrator user name and password.
- Click Domain Name > Services > Messaging > JMS Modules. The main window displays the list of JMS modules available.

- Select the newly created JMS module 'OfsllJMSModule'. The following window is displayed.

The screenshot shows the Oracle WebLogic Server Administration Console. The main content area is titled 'Settings for OfsslJMSModule'. It has several tabs: Configuration, Subdeployments, Targets, Security, and Notes. The 'Configuration' tab is active. Below the tabs, there is a text block: 'This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.' Below this is a table with the following data:

<b>Name:</b>	OfsslJMSModule	The name of this JMS system module. <a href="#">More Info...</a>
<b>Scope:</b>	Global	Specifies if the JMS system module is accessible within the domain, a partition, or a resource group template. <a href="#">More Info...</a>
<b>Descriptor File Name:</b>	jms/OfsslJMSModule-jms.xml	The name of the JMS module descriptor file. <a href="#">More Info...</a>

Below the table, there is a section titled 'Summary of Resources' with a table:

Name	Type	JNDI Name	Subdeployment	Targets
OfsslJMSSCF	Connection Factory	jms/OfsslJMSSCF	OfsslJMSSD	OfsslJMSServer

- Click 'New'. The following window is displayed.

The screenshot shows the 'Create a New JMS System Module Resource' dialog. It has a title bar and a 'Back' button. Below the title bar, there is a section titled 'Choose the type of resource you want to create.' Below this is a list of resource types with radio buttons:

- Connection Factory
- Queue
- Topic
- Distributed Queue
- Distributed Topic
- Foreign Server
- Quota
- Destination Sort Key
- JMS Template

- Select the 'Queue' option and click 'Next'. The following window is displayed.

The screenshot shows the 'JMS Destination Properties' dialog. It has a title bar and buttons for 'Back', 'Next', 'Finish', and 'Cancel'. Below the title bar, there is a section titled 'JMS Destination Properties' with the following text: 'The following properties will be used to identify your new Queue. The current module is OfsslJMSModule.' Below this is a form with the following fields:

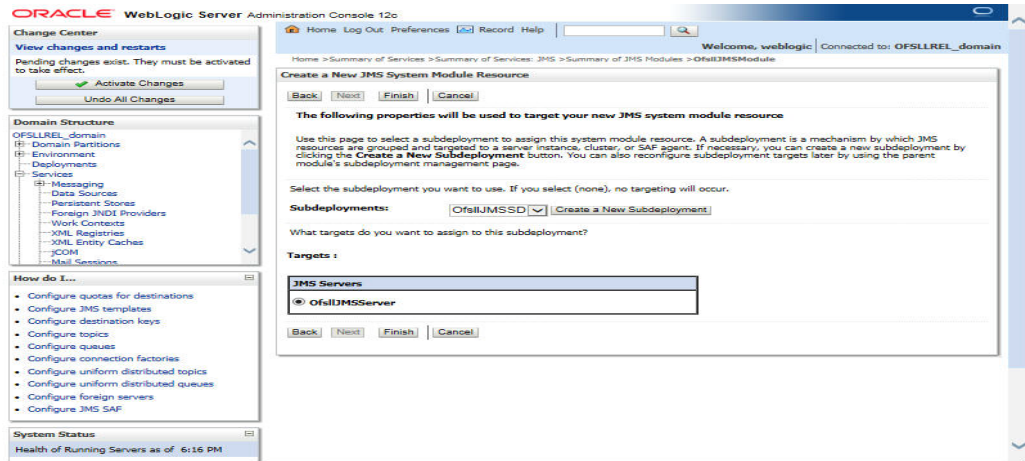
**Name:** OfsslJMSQueue

**JNDI Name:** /jms/OfsslJMSQueue

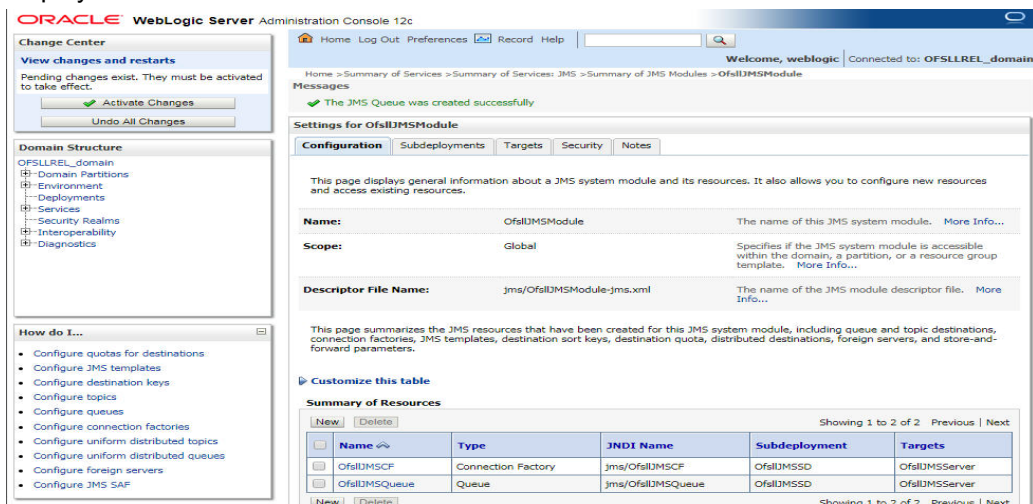
**Template:** None



6. Specify the following details while creating new JMS System Module Resources:
  - Enter the Name of the Queue as 'OfsllJMSQueue'
  - Enter the JNDI Name as 'jms/OfsllJMSQueue'
  - Select the Template as 'None'
7. Click 'Next'. The following window is displayed.



8. Select the Subdeployments as 'OfsllJMSSD' from the drop-down list.
9. Click 'Finish' to save and activate the changes. Once done, the following window is displayed.

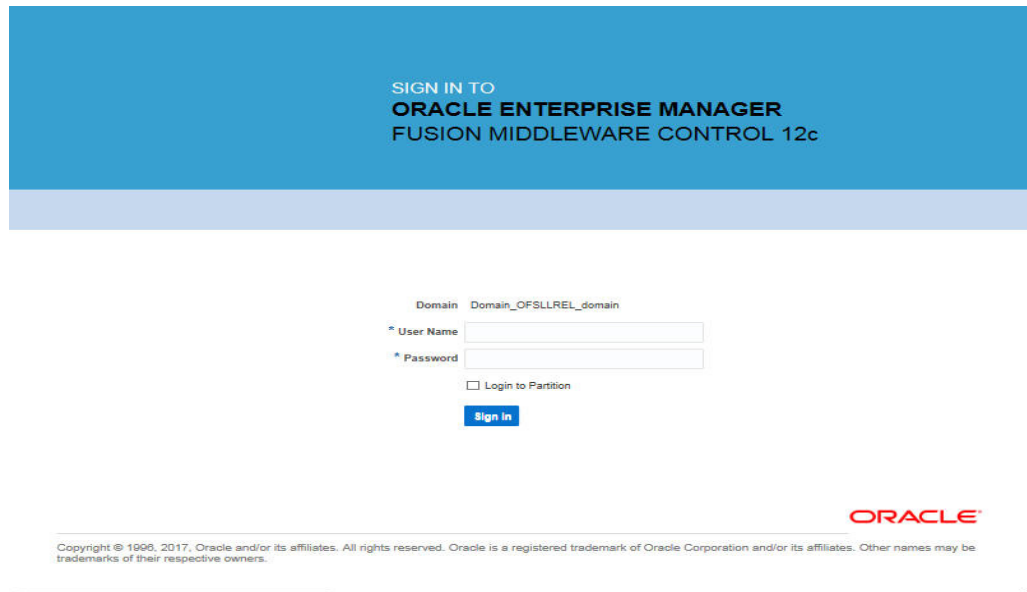


You can further click 'New 'to create more Queues and repeat the steps explained above.

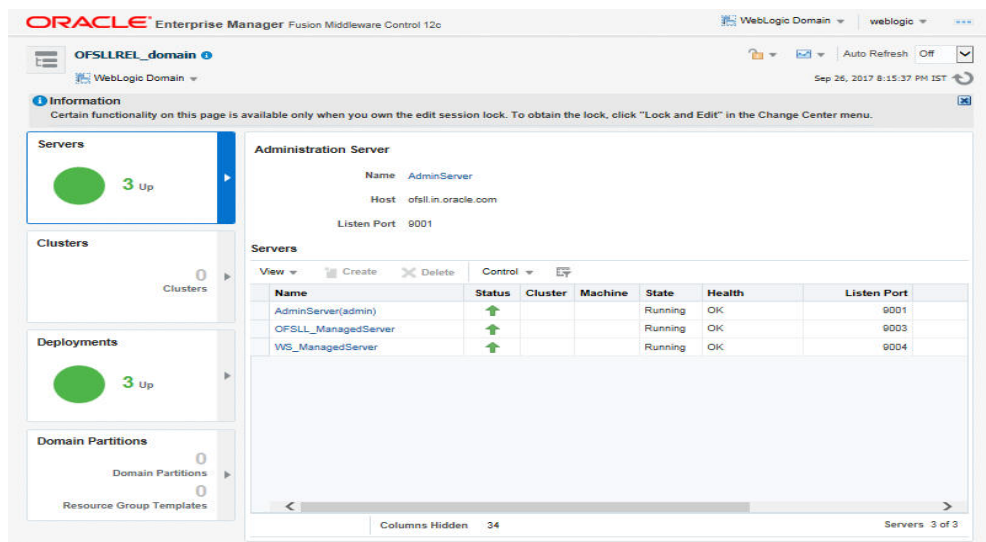


## 9.6 Deploy MDB EJB

1. Login to Web Logic application server enterprise manager (e.g.:<http://hostname:port/em>)



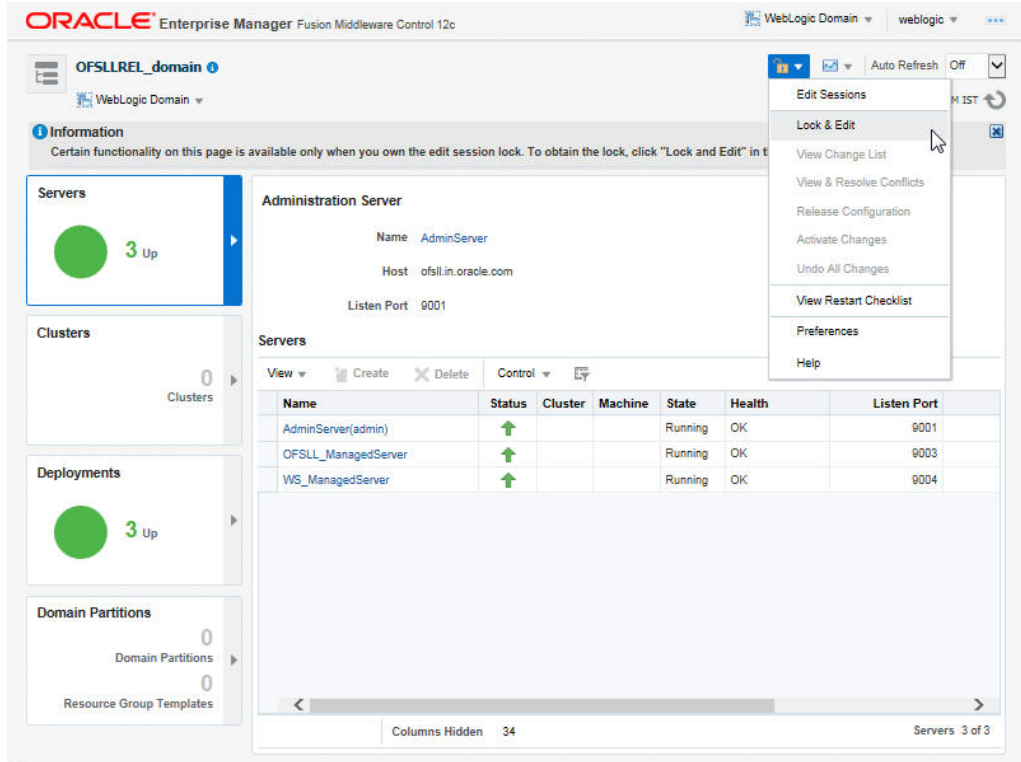
2. Enter valid login credentials. The following window is displayed.



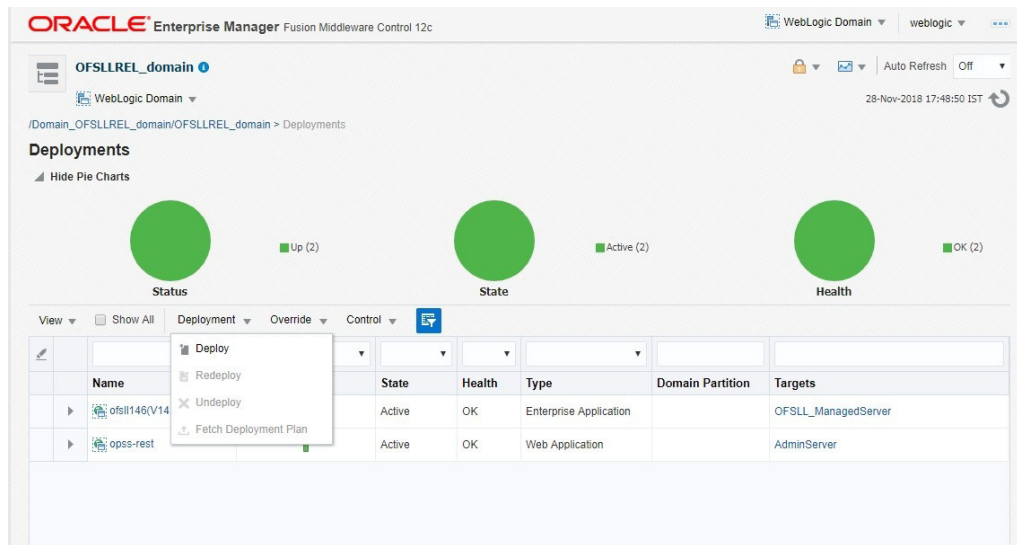
Name	Status	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)	Running			Running	OK	9001
OFSSL_ManagedServer	Running			Running	OK	9003
WS_ManagedServer	Running			Running	OK	9004

3. Select 'Lock & Edit' option in the lock drop-down list available in the header.

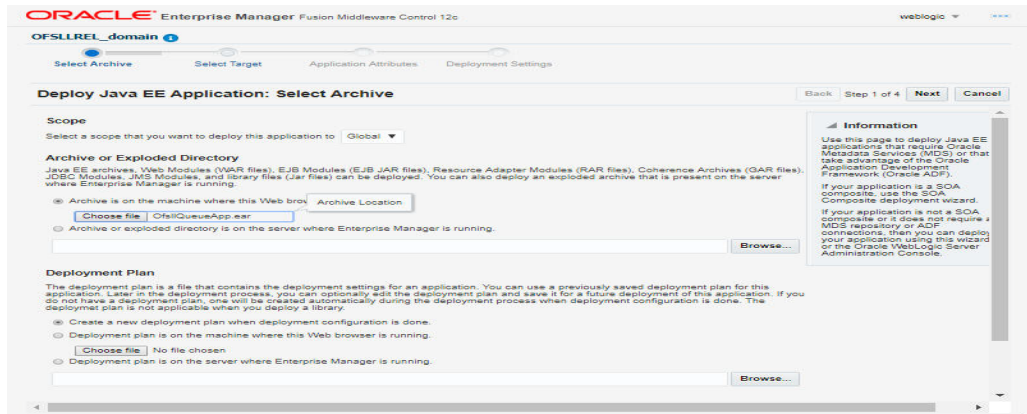
- Click 'Deployment' in the left panel. The following window is displayed.



- Select 'Deploy' from the Deployment drop-down list. The following window is displayed.

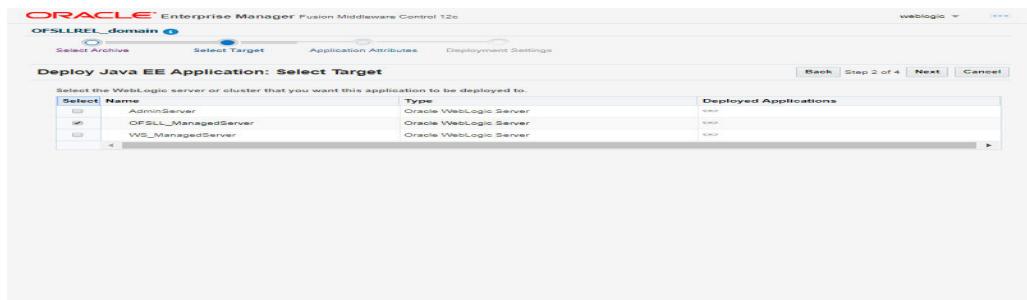


6. The following window is displayed.



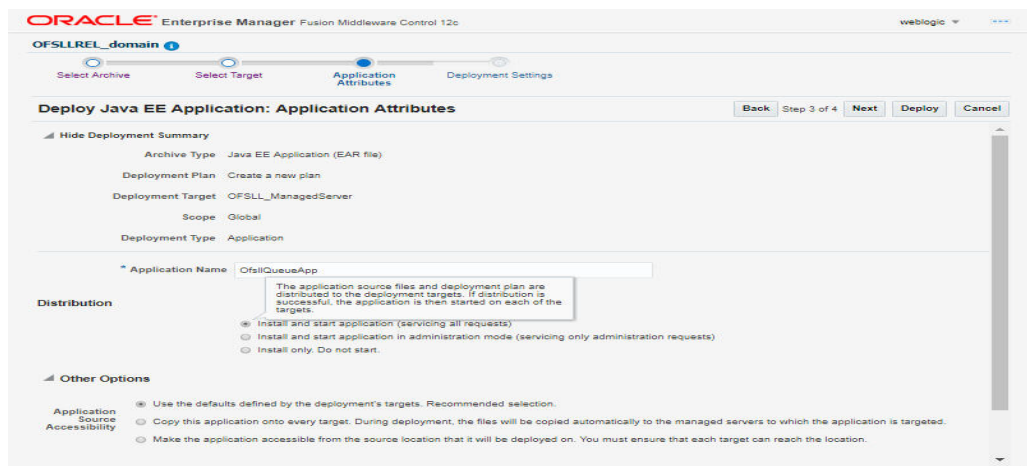
7. Browse to the folder containing the MDB EJB. Eg: C:/OfsllQueueApp.ear

8. Click 'Next'. The following window is displayed.



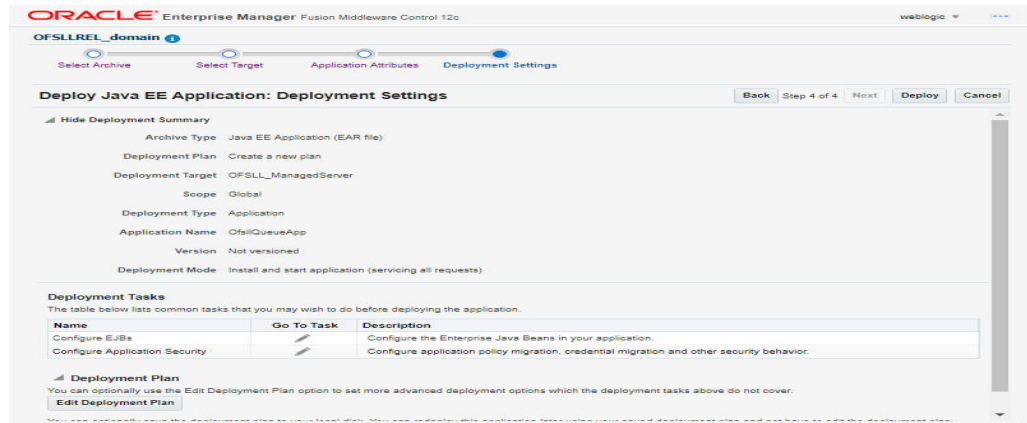
9. Select the server on which the MDB EJB needs to be deployed.

10. Click 'Next'. The following window is displayed.

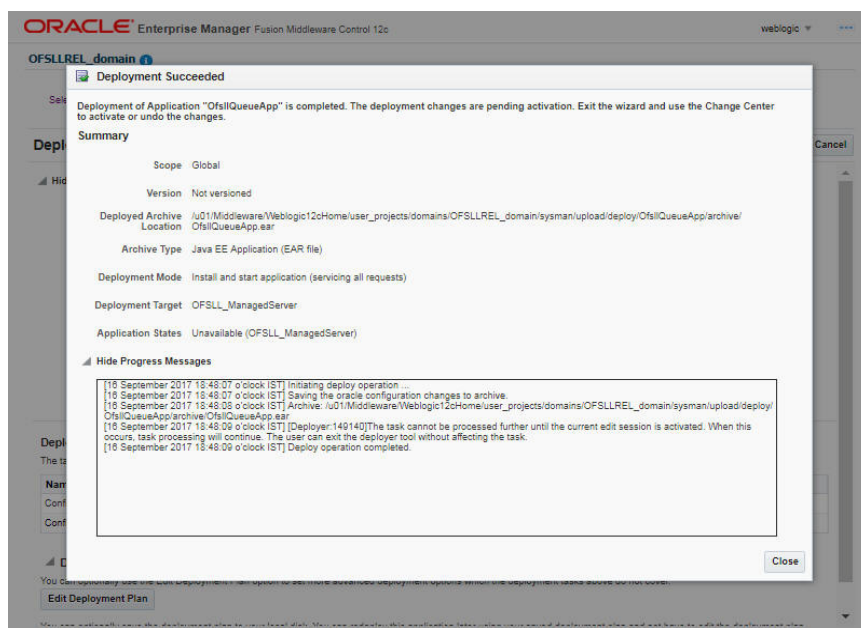


11. Select the option 'Install and start application (servicing all requests)'.

12. Check the context root and click 'Next'. The following window is displayed.



13. Click 'Deploy'. On successful deployment, the following window is displayed.



14. Click 'Close'. Post deployment, you need to activate the changes by selecting 'Active Changes' option from 'Edit Session' drop-down list as indicated in step 4 above.

---

### Note

While starting the 'OFSLLREL\_ManagedServer', always start with option '-DUseSun-HttpHandler=true' to enforce the weblogic server to uses SUN SSL implementation.

---

## 10. Configuring Oracle BI Publisher for Application

1. Copy the OfsslCommonCSF.jar from /WEB-INF/lib available in the staging area to \$DOMAIN\_HOME/lib
2. Update the setDomainEnv.sh file (\$MW\_HOME/user\_projects/domains/mydomain/bin directory) by appending the above jar file path – EXTRA\_JAVA\_PROPERTIES="..... \${EXTRA\_JAVA\_PROPERTIES} -Dofssl.csf.path=\${DOMAIN\_HOME}"
3. Configure Security via EMconsole

### Note

It is assumed that BI Publisher is installed and configured. Refer BI Publisher Guide for further details.

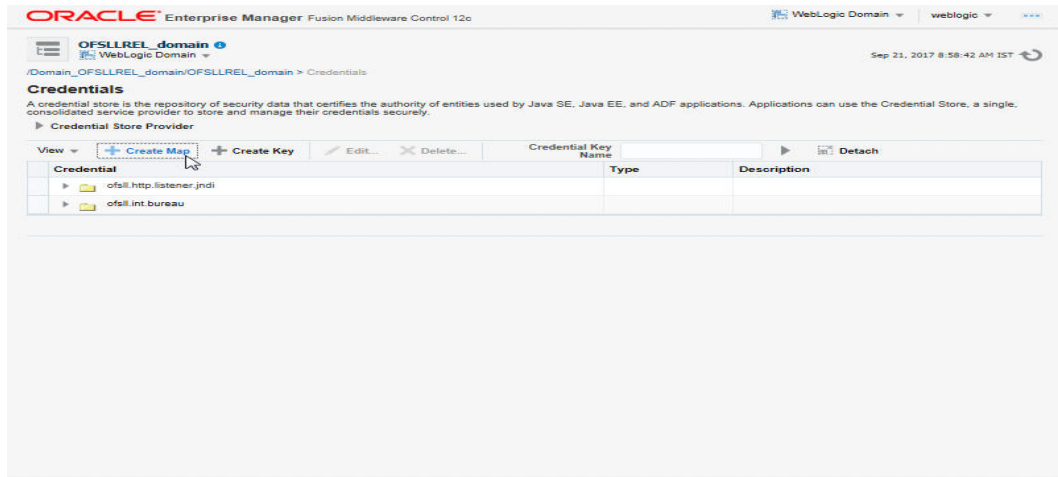
The screenshot displays the Oracle Enterprise Manager Fusion Middleware Control 12c interface. The left-hand navigation pane shows a tree structure with the following categories: Info, Cert, Serve, Clust, and Doma. The 'Security' option under the 'Doma' category is selected, and a context menu is open, listing various security-related options. The 'Credentials' option is highlighted by the mouse cursor. The main content area shows the 'AdminServer' configuration page, which includes a table of servers. The table has columns for Cluster, Machine, State, Health, and Listen Port. The data in the table is as follows:

Cluster	Machine	State	Health	Listen Port
		Running	OK	9001
		Running	OK	9003
		Running	OK	9004

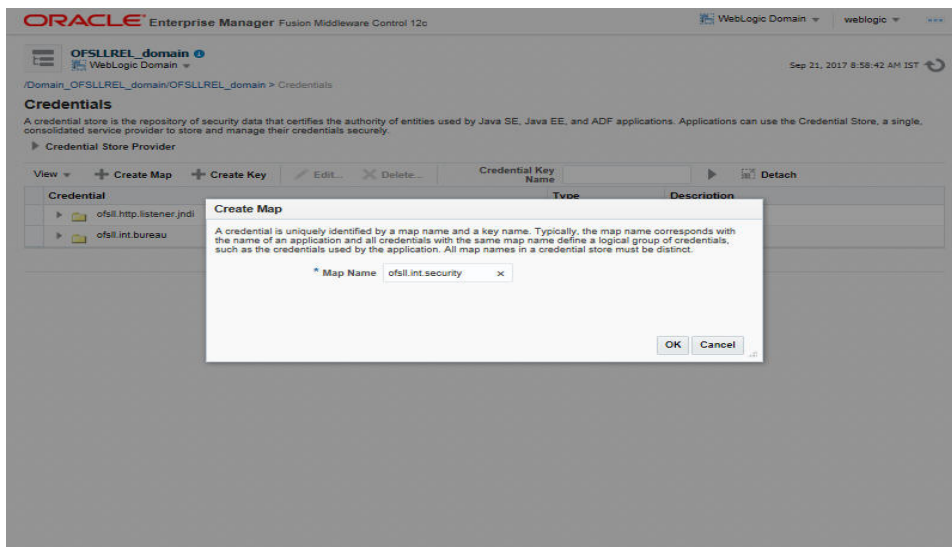
At the bottom of the interface, it indicates 'Columns Hidden 34' and 'Servers 3 of 3'.



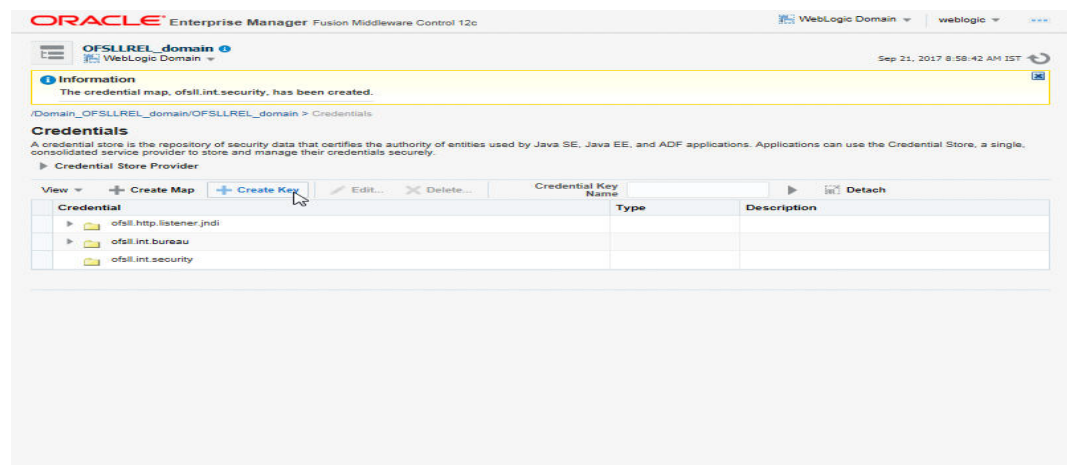
4. Click WebLogic Domain on the right panel. Select Security > Credentials. Click 'Create Map'.



5. Enter the Map Name: ofssl.int.security.

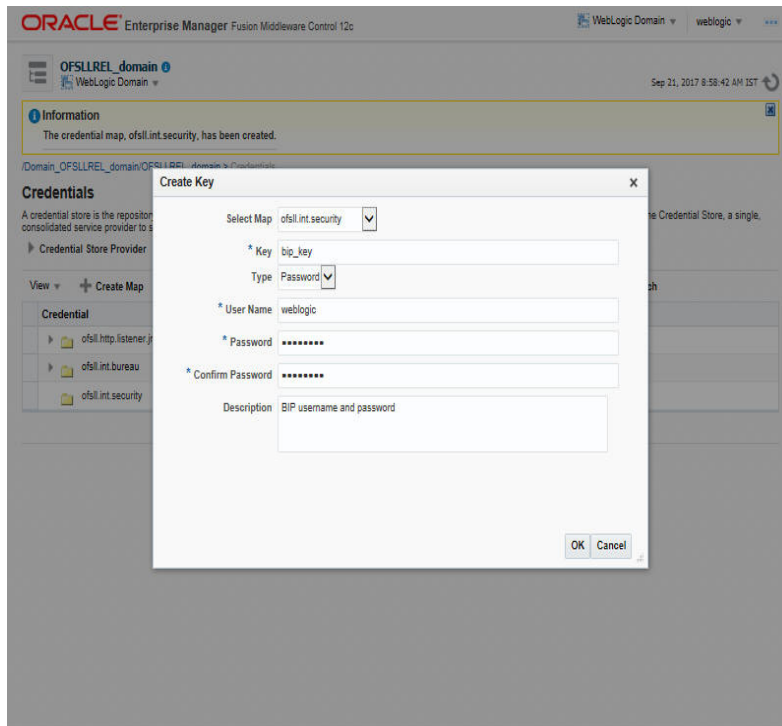


6. Click 'OK'.

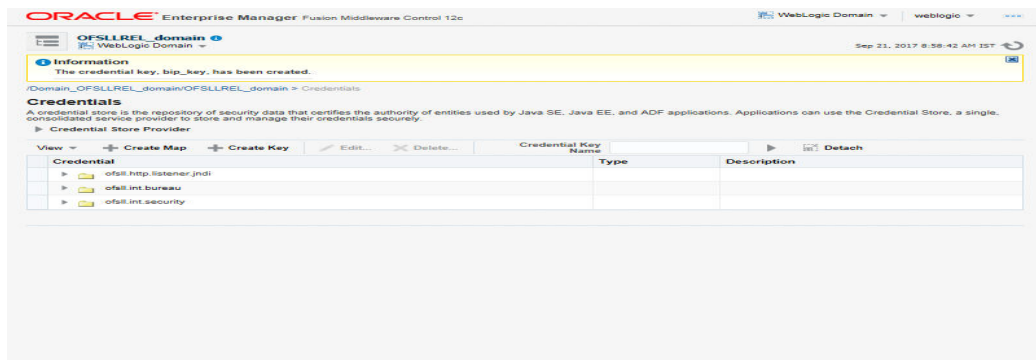


7. Click 'Create Key' Button.

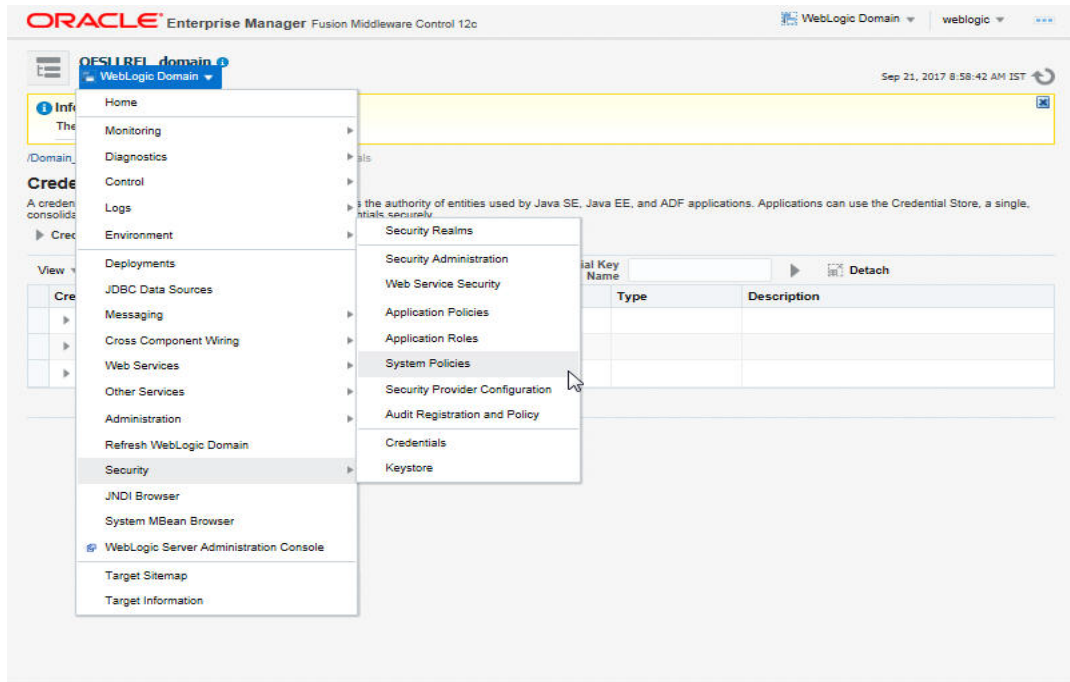
8. Enter the details as per your requirement. Specify 'User Name' and 'Password' of BI Publisher console.



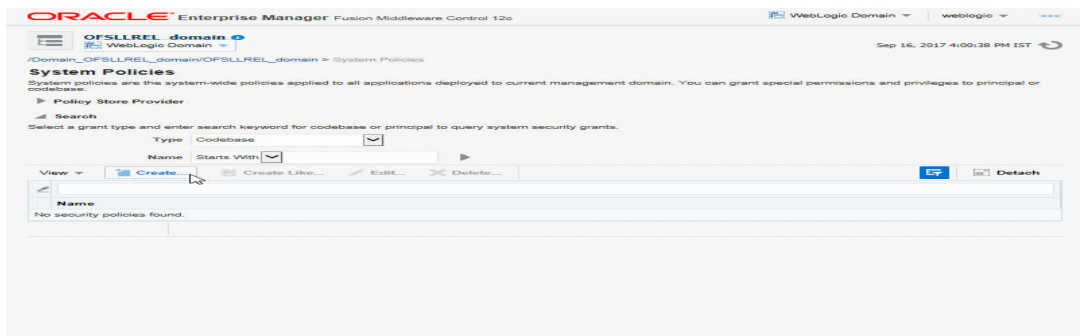
9. Click 'OK'. The following window is displayed.



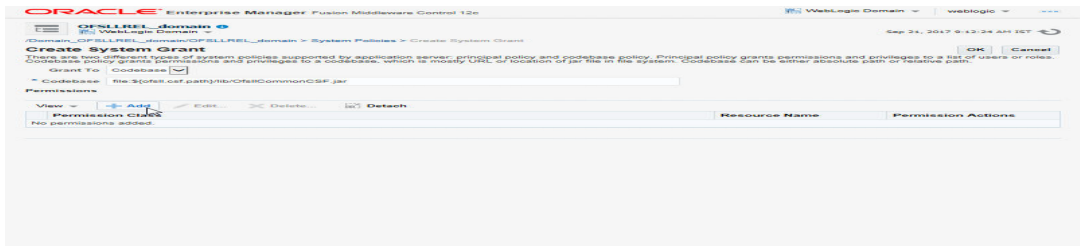
- On the left panel, right click on the domain OFSLL\_domain > Security > System Policies. The following window is displayed.



- Click 'Create'.

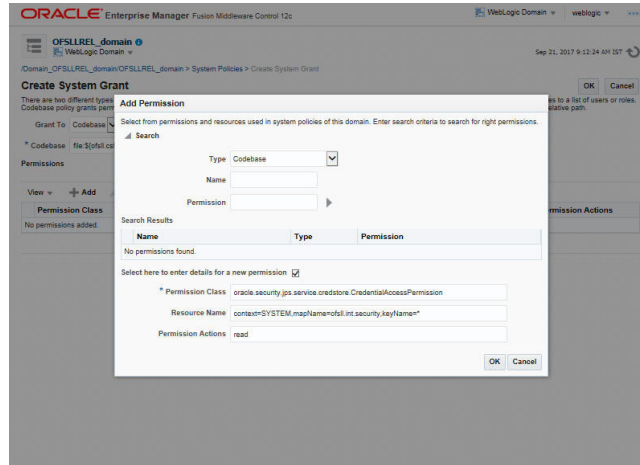


- The following window is displayed. Enter the codebase as 'file:\${ofssl.csf.path}/lib/OfsllCommonCSF.jar' and click 'Add'.



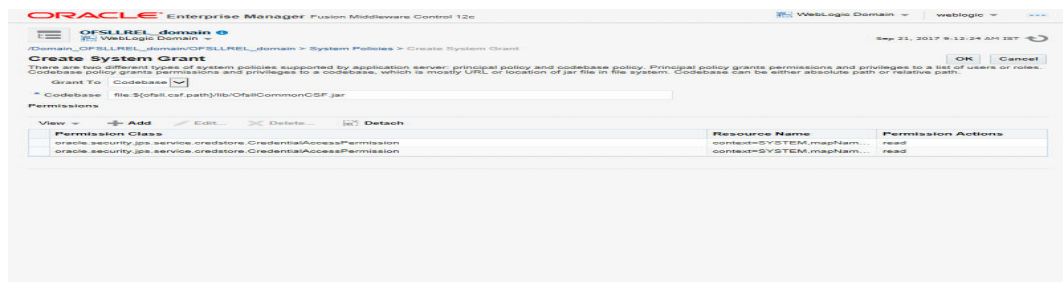
- The following window is displayed. Select the checkbox 'Select here to enter details for a new permission' and enter the following details as the first permission class.
  - Permission Class: oracle.security.jps.service.credstore.CredentialAccessPermission
  - Resource Name: context=SYSTEM,mapName=ofssl.int.security,keyName=\*

- Permission Actions: read

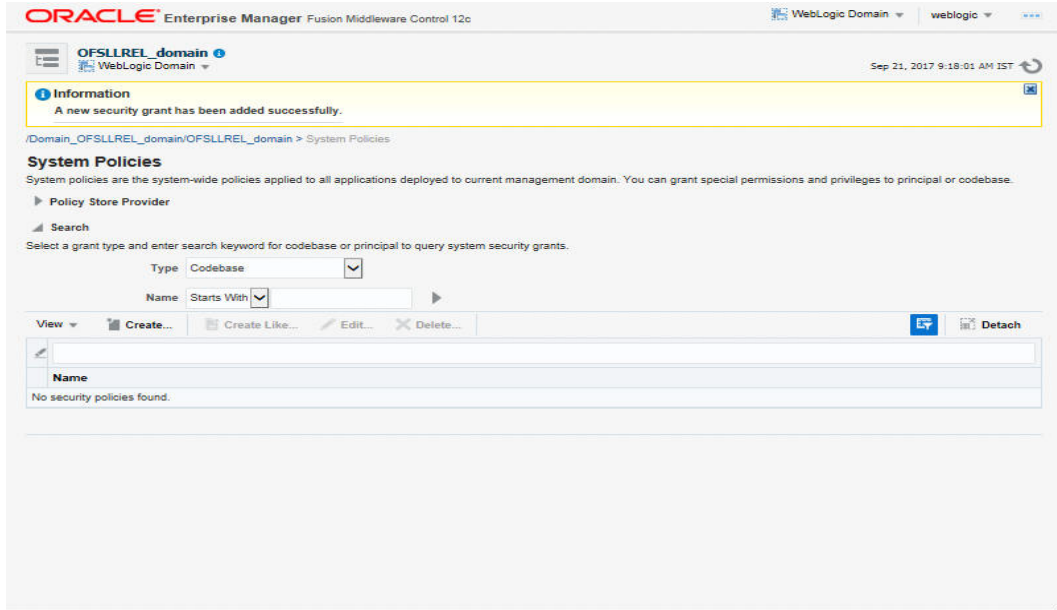


## Configuring JNDI Name for http Listener

1. Similarly, click Add to add the second permission class. Select the check box 'Select here to enter details for a new permission' and enter the following details as the second permission class.
  - Permission Class: oracle.security.jps.service.credstore.CredentialAccessPermission
  - Resource Name: context=SYSTEM,mapName=ofsl.http.listener.jndi,keyName=\*
  - Permission Actions: read
2. Click 'OK'. The following window is displayed.



3. Click 'OK'. The following window is displayed.





# 11. Launching Application

## Verifying Successful Application Deployment and Launching Application

Successful Application deployment can be verified by following:

- Making sure that the state is ACTIVE and health is OK in the Weblogic.
- Access and log into the application.

After you enable SSL you can launch the application via https:\\ protocol.

### To launch application

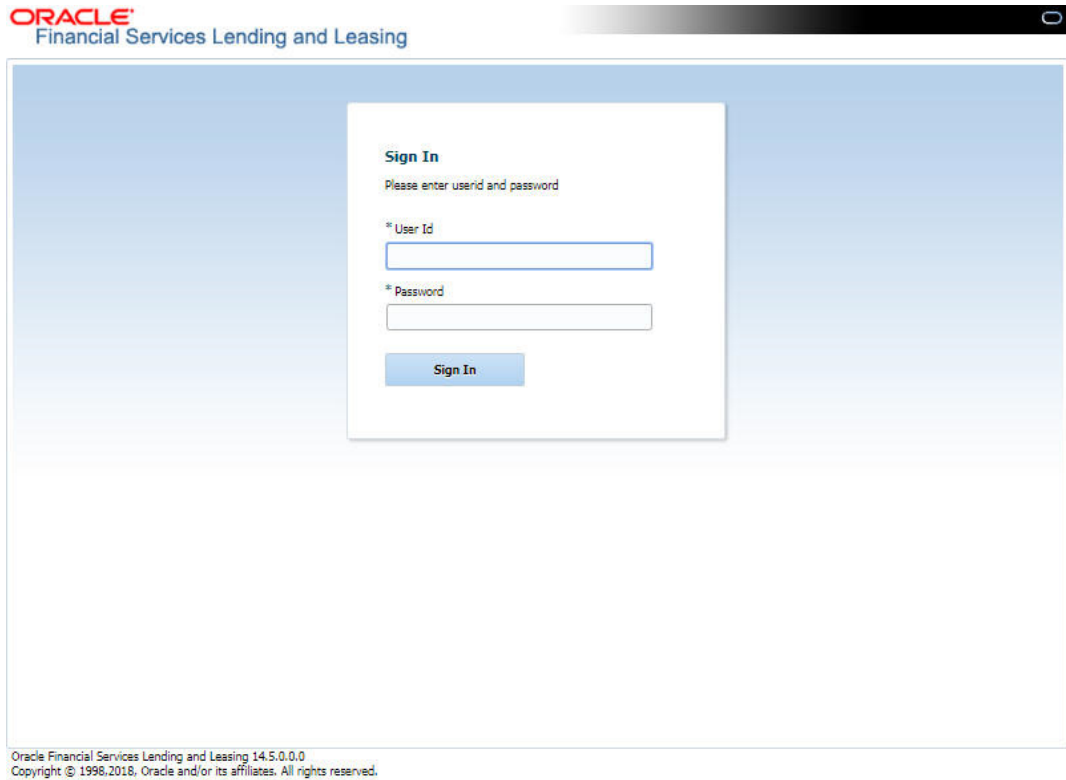
1. Verify if the deployed OFSLL application is 'Active'.

The screenshot shows the Oracle WebLogic Administration Console interface. On the left, there is a navigation pane with 'Domain Structure' expanded to 'Deployments'. Below it, there is a 'How do I...' section with links for installing, configuring, updating, and monitoring applications. At the bottom left, the 'System Status' section shows the health of running servers as of 17:28, with 2 servers in an 'OK' state. The main content area displays a table of deployments. The table has columns for Name, State, Health, Type, Targets, Scope, Domain Partitions, and Deployment Order. The 'ofsll146' application is highlighted in blue. The table shows that all listed applications are in an 'Active' state with 'OK' health. The 'ofsll146' application is an Enterprise Application with targets 'AdminServer' and 'OFSLL\_ManagedServer', a Global scope, and a deployment order of 100. The console footer indicates the WebLogic Server Version is 12.2.1.3.0 and includes copyright information for Oracle Corporation.

Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
coherence-transaction-rar	Active	OK	Resource Adapter	AdminServer, OFSLL_ManagedServer, WS_ManagedServer	Global		100
DMS Application (12.2.1.1.0)	Active	OK	Web Application	AdminServer, OFSLL_ManagedServer, WS_ManagedServer	Global		5
em	Active	OK	Enterprise Application	AdminServer	Global		400
ofsll146 (V14.6.0.0.0-b132)	Active	OK	Enterprise Application	OFSLL_ManagedServer	Global		100
opss-rest	Active	OK	Web Application	AdminServer	Global		150
state-management-provider-memory-rar	Active	OK	Resource Adapter	AdminServer, OFSLL_ManagedServer, WS_ManagedServer	Global		100

2. The URL of the OFSLL application will be of the format - https://<hostname>:<Port>/<ContextName>/faces/pages/OfsllSignIn.jsf (Example: https://localhost:7003/ofsll/faces/pages/OfsllSignIn.jsf)

3. Login with the user credentials that was created in Users Creation.



4. After successful login, the following screen is displayed

