

WebServices Installation Guide

Oracle Financial Services Lending and Leasing

Release 14.7.0.0.0

Part No. F16599-01

May 2019

WebServices Installation Guide
May 2019
Oracle Financial Services Software Limited

Oracle Park

Off Western Express Highway
Goregaon (East)
Mumbai, Maharashtra 400 063
India

Worldwide Inquiries:

Phone: +91 22 6718 3000

Fax: +91 22 6718 3001

<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 WebServices. 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 the WebServices product 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 WebServices.

This guide covers the following processes.

- [Installing WebServices Database Objects](#)
- [Configuring RESTful WebService](#)

1.1 Prerequisites

1. Download and Install the Oracle Fusion Middleware 12c Version 12.2.1.3.0 (Fusion Middleware Infrastructure installer) from <http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html#close>. They are also available from the following sources:
 - Oracle Software Delivery Cloud (<http://edelivery.oracle.com/>)
 - Oracle Technology Network (OTN)
2. It is assumed that the Oracle Financial Services Lending and Leasing DB is installed and configured, before running the WebServices installer.

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 WebServices Database Objects

Download and unzip the WebServices database (ofslxwsdb.zip) to a staging folder.

Run `$./instalofslxwsdb.sh`

```
-bash-4.1$ ./instalofslxwsdb.sh
```

This installer adds the required tables and packages to the application database.

```
Oracle Financial Services Lending and Leasing Webservices DB Installer
```

```
Important Note:
```

```
-----  
It is expected to have the OFSLL Application DB been installed and configured  
before running this installer.
```

```
This installer adds the required tables and packages to the same OFSLL DB schema.
```

```
Continue? [y/n]: y
```

Enter 'y' when prompted to continue.

```
Oracle Financial Services Lending and Leasing Webservices DB Installer
```

```
Important Note:
```

```
-----  
It is expected to have the OFSLL Application DB been installed and configured  
before running this installer.
```

```
This installer adds the required tables and packages to the same OFSLL DB schema.
```

```
Continue? [y/n]: y
```

```
Enter the Oracle Financial Services Lending and Leasing  
Home Path? (usually /home/ofsl): /scratch/work_area/DEV/OFSLLREL
```

```
OFSLLHOME=/scratch/work_area/DEV/OFSLLREL
```

```
Okay? [y/n]: y
```

Script Prompts	Description and Action Required
Oracle Financial Services Lending and Leasing Home Path	Enter the path to the home directory. This is referred to as \$OFSLL_HOME. Enter 'y' when prompted for.

Oracle Financial Services Lending and Leasing Webservices DB Installer

Important Note:

It is expected to have the OFSL Application DB been installed and configured before running this installer.

This installer adds the required tables and packages to the same OFSL DB schema.

Continue? [y/n]: y

Enter the Oracle Financial Services Lending and Leasing Home Path? (usually /home/ofsl): /scratch/work_area/DEV/OFSLREL

OFSLHOME=/scratch/work_area/DEV/OFSLREL

Okay? [y/n]: y

Enter the Oracle DB Home Path? /scratch/app/db12c/product/12.1.0/dbhome_1

ORAHOME=/scratch/app/db12c/product/12.1.0/dbhome_1

Okay? [y/n]: y

Enter the Oracle SID? ORCL

INSTANCENAME=ORCL

Okay? [y/n]: y

Script Prompts	Description and Action Required
Oracle DB Home Path	Enter the path to the Oracle DB home directory. This is referred to as \$ORACLE_HOME. Enter 'y' when prompted for.
Oracle SID	Enter the Name of Oracle Instance. Enter 'y' when prompted for.

Important Note:

Here is a list of CRITICAL environment variables and their settings:

```
PATH=/usr/lib64/qt-3.3/bin:/usr/kerberos/sbin:/usr/kerberos/bin:/bin:/usr/bin:/usr/dev_infra/platform/bin:/usr/dev_infra/generic/bin:11R6/bin:/usr/local/ade/bin:/scratch/app/db12c/product/12.1.0/dbhome_1/bin
ORACLE_HOME=/scratch/app/db12c/product/12.1.0/dbhome_1
ORACLE_SID=ORCL
OFSL_HOME=/scratch/work_area/DEV/OFSLREL
```

With the above environment, you should be able start SQLPlus and connect to the database. If you cannot, correct the environment and restart the script to continue.

Continue? [y/n]: y

The script lists and sets the CRITICAL environment variables

```
.....  
Oracle Financial Services Lending and Leasing Webservices Database Object Installation
```

The following items are available for installation:

- 1. database types (512)
- 2. database tables (47)
- 3. database views (295)
- 4. database trigger (4)
- 5. database package specs (412)
- 6. database package bodies (420)
- 7. database indexes (30)
- 8. System Seed Data (0)

Continue with Installation? [y/n] : █

Enter 'y' when prompted to continue. A list of items available for installation are listed. Enter 'y' when prompted to 'Continue with Installation'.

```
Oracle Financial Services Lending and Leasing Webservices Database Object Installation  
  
The following items are available for installation:  
  
1. database types (173)  
2. database tables (47)  
3. database views (157)  
4. database trigger (4)  
5. database package specs (254)  
6. database package bodies (262)  
7. database indexes (30)  
8. System Seed Data (0)  
  
Continue with Installation? [y/n] : y  
  
Log files will be located in /scratch/work_area/DEV/OFSLREL/logs/ofsl_xws_install_logs  
Press Enter to Continue...  
  
Enter the Oracle userid (schema name) that will own the Oracle Financial Services Lending and Leasing  
objects? (usually ofslprd): OFSLREL  
  
Enter the password for this userid: █
```

Sets the path for the location of log files. Press 'Enter' to continue.

Script Prompts	Description and Action Required
Oracle User ID that will own the Oracle Financial Services Lending and Leasing objects	Valid User ID
Password for this User ID	Valid Password

The script installs the objects.

```
PL/SQL procedure successfully completed.  
  
PL/SQL procedure successfully completed.  
  
PL/SQL procedure successfully completed.  
  
PL/SQL procedure successfully completed.  
  
PL/SQL procedure successfully completed.  
  
Commit complete.  
  
Recompiling Invalid Objects...  
Oracle Financial Services Lending and Leasing Webservices DB Object Installation Com
```

While installing, the script recompiles the invalid objects and completes the installation of DB objects.

3. Configuring RESTful Webservice

Follow the below steps to configure RESTful Webservice.

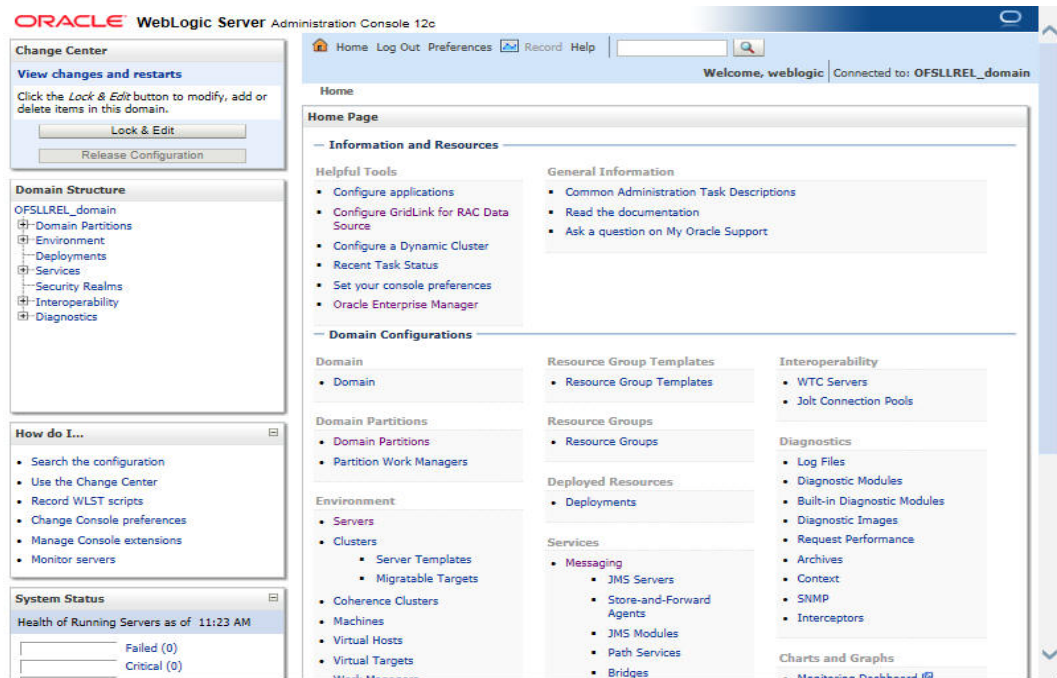
- [Create Data Sources for RESTful Webservice](#)
- [OAuth Implementation](#)
- [Deploy RESTful Webservice](#)

3.1 Create Data Sources for RESTful Webservice

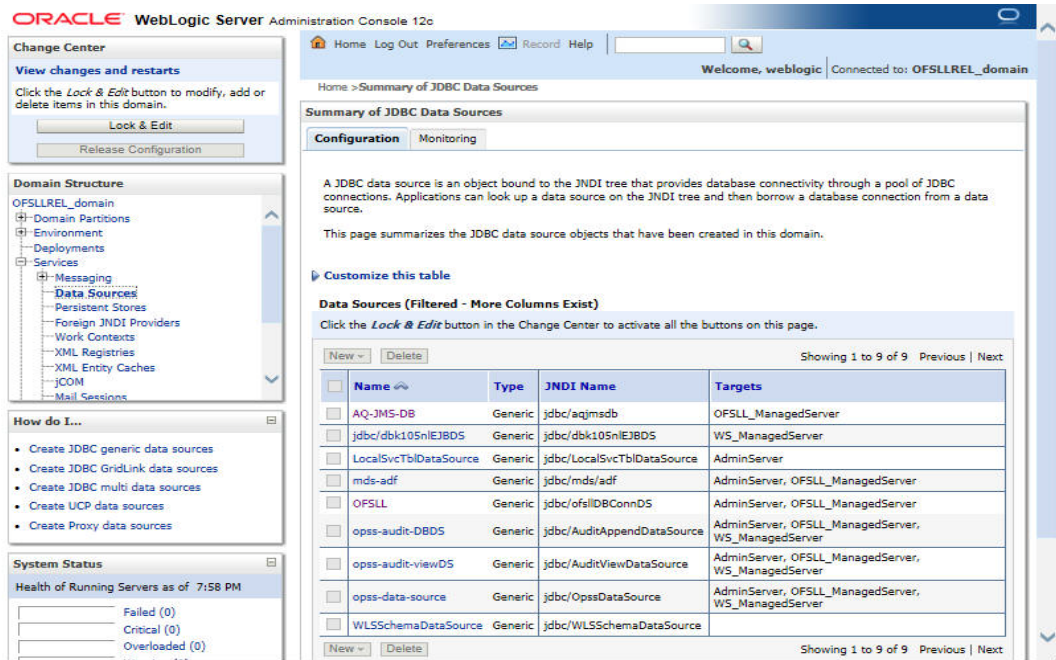
1. Login to Oracle Weblogic 12c console (<http://hostname:port/console>).



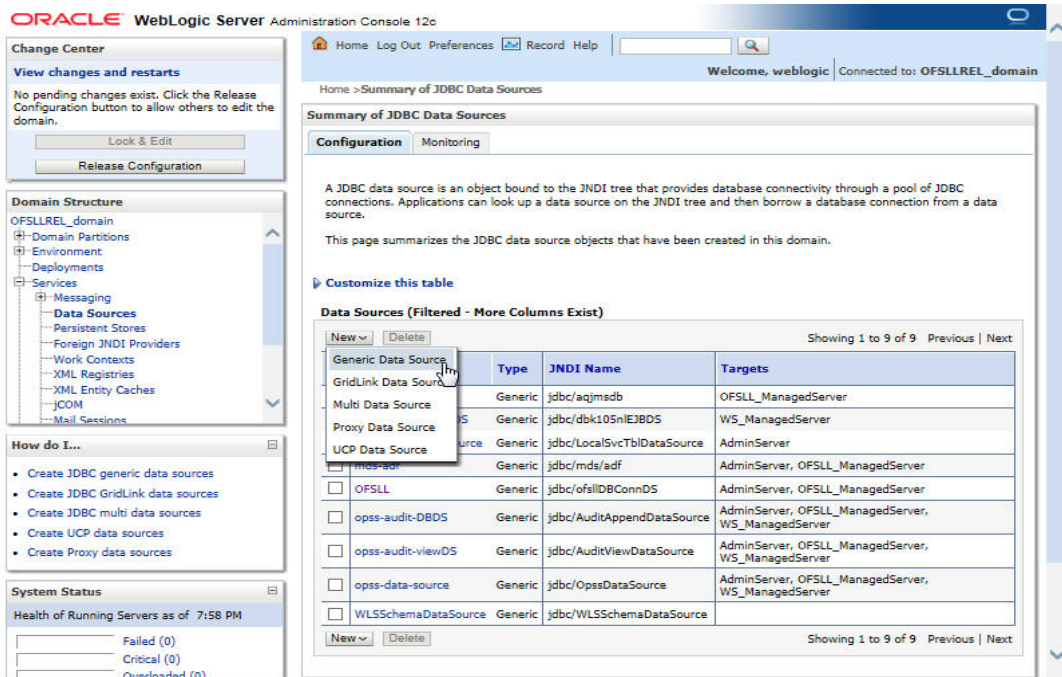
2. On successful login, the following window is displayed.



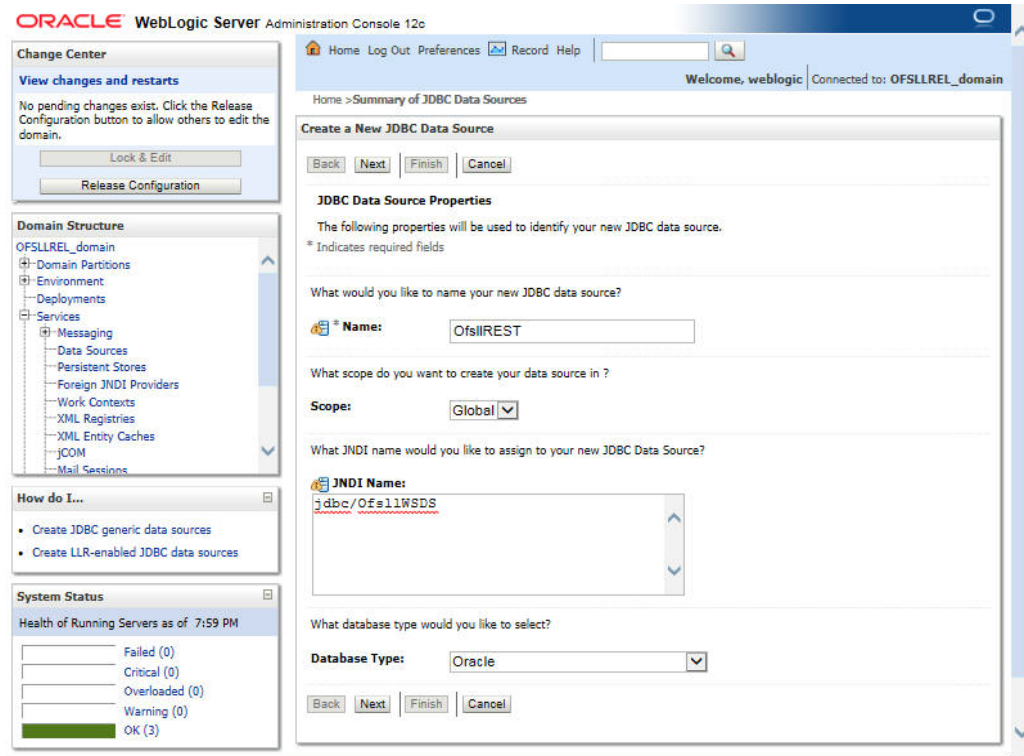
3. Click Domain Name > Services > Data Sources. The following window is displayed.



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



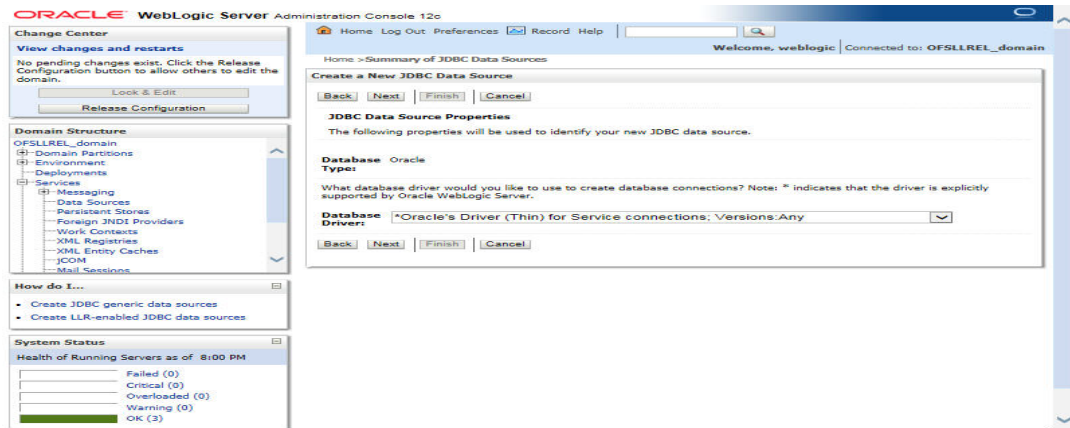
5. The following window is displayed.



6. Specify the following details:

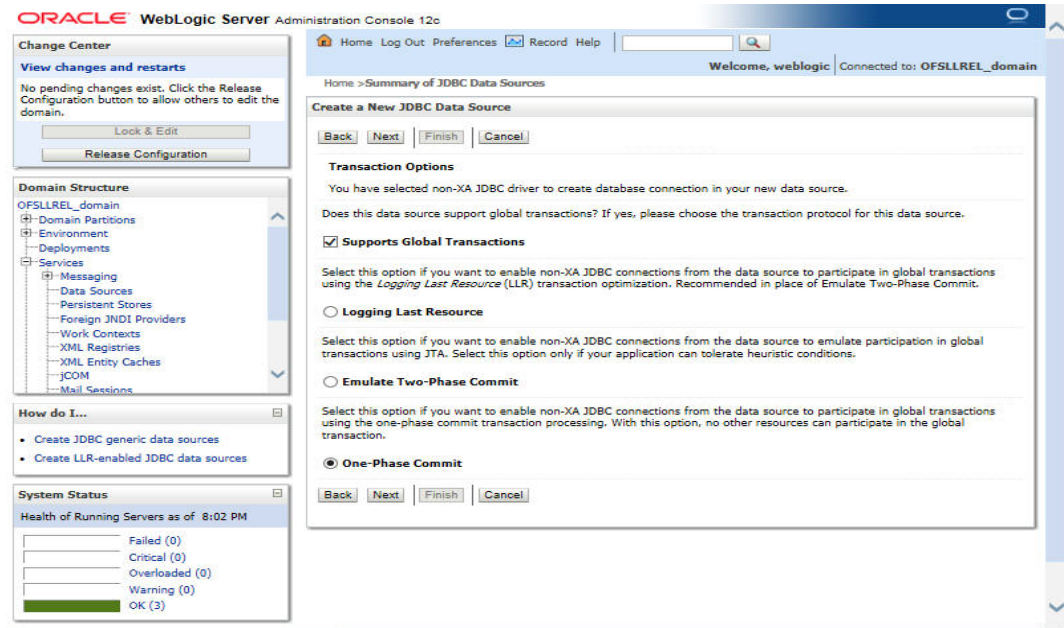
- Enter Data source Name
- Enter the JNDI Name as 'jdbc/OfsIIWSDS'.
- Select 'Oracle' as Database Type.

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

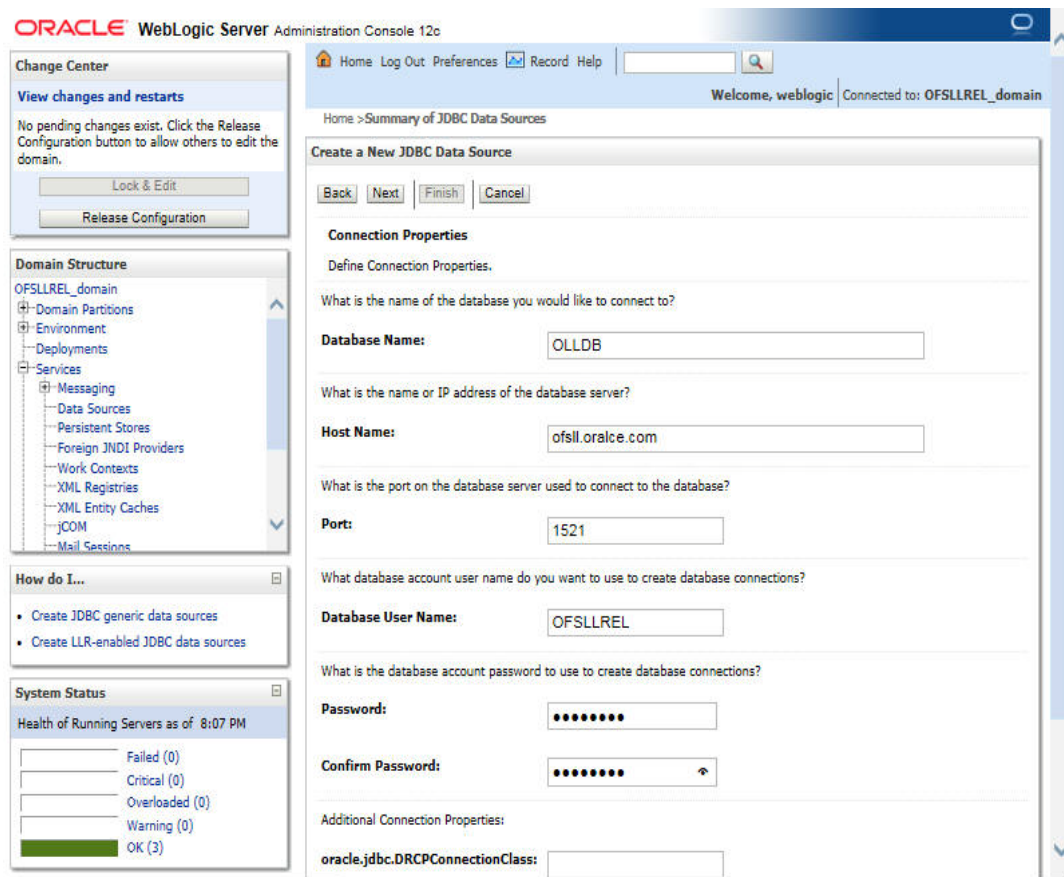


8. Select the Database Driver 'Oracle's Driver(Thin) for Services connections;Versions:Any'.

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



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



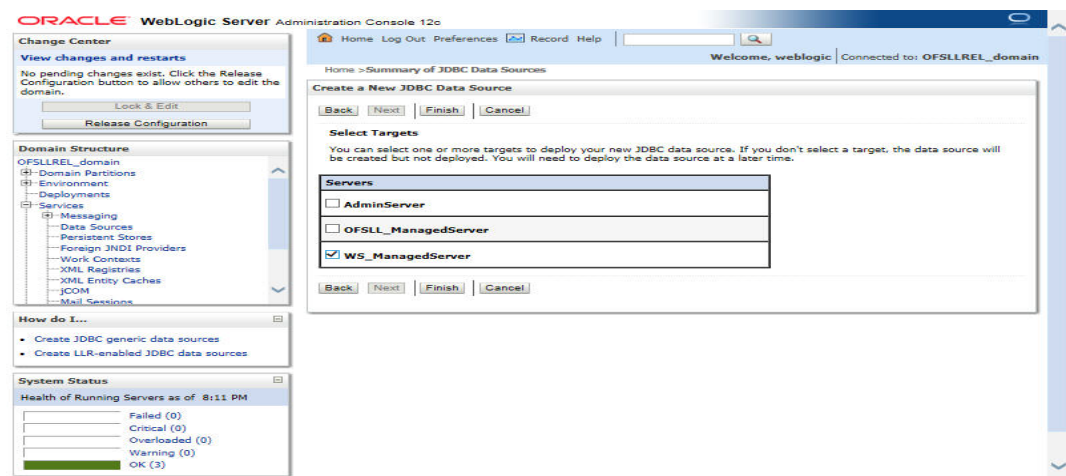
11. Enter the Database details.

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 'WS_ManagedServer'.

16. Click Advanced button and update the 'Inactive Connection Timeout' to 300 seconds.

17. Click 'Finish' to activate the changes.

3.2 OAuth Implementation

(Optional) To extend OFSLL SaaS, OAuth2 can be used for securing OFSLL web services user access Authentication.

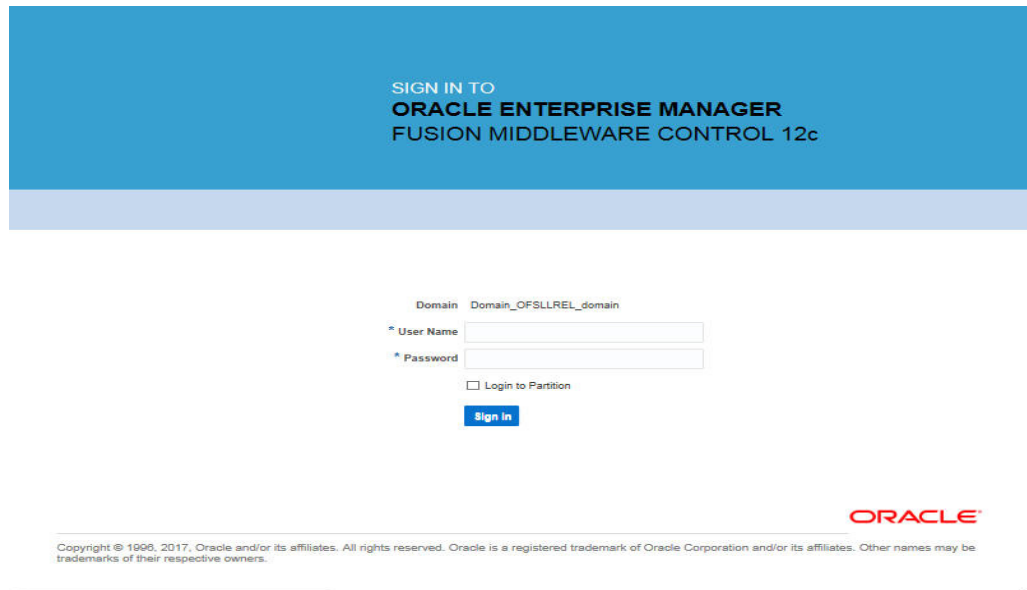
Web services authentication using OAuth2 is one of the best approach for securing user authentication to extend OFSLL SaaS. This uses Oracle / Non-Oracle PaaS to authenticate service access request from an external partner application without sharing OFSLL environment access credentials (UID / Password) and leverages the built-in support for OAuth 2.0.

OAuth 2.0 is an open standard token-exchange technology for verifying a user's identity across multiple systems and domains without risking the exposure of a password.

For detailed information, refer to the OAuth Implementation guide shared in OTN library: https://docs.oracle.com/cd/F16599_01/references.htm.

3.3 Deploy RESTful WebService

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



SIGN IN TO
ORACLE ENTERPRISE MANAGER
FUSION MIDDLEWARE CONTROL 12c

Domain Domain_OFSLLREL_domain

* User Name

* Password

Login to Partition

Sign In

ORACLE

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

The screenshot shows the Oracle Enterprise Manager Fusion Middleware Control 12c interface. The main content area displays the 'Administration Server' configuration for the 'OFSSLREL_domain'. The server name is 'AdminServer', the host is 'ofsl.in.oracle.com', and the listen port is '9001'. Below this, a table lists the servers in the domain:

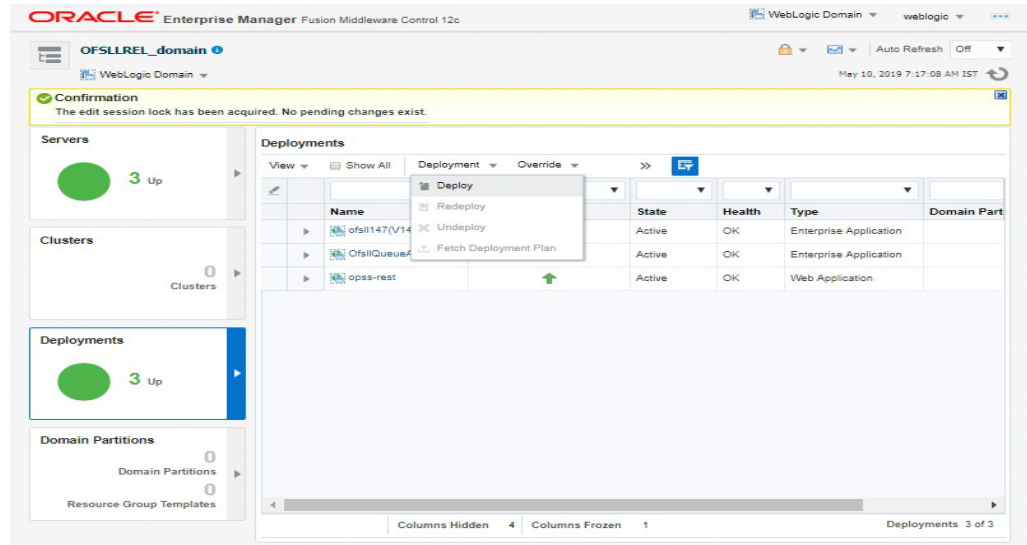
Name	Status	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)	↑			Running	OK	9001
OFSSL_ManagedServer	↑			Running	OK	9003
WS_ManagedServer	↑			Running	OK	9004

The left-hand navigation pane shows 'Servers' with 3 Up, 'Clusters' with 0 Clusters, 'Deployments' with 3 Up, and 'Domain Partitions' with 0 Domain Partitions and 0 Resource Group Templates.

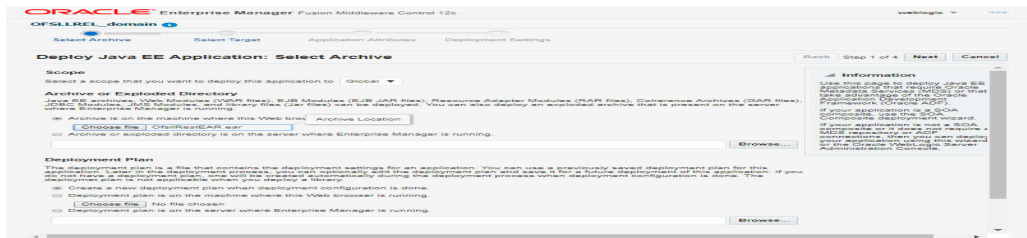
3. Select 'Lock & Edit' option in the lock drop-down list available in the header.
4. Click 'Deployment' in the left panel. The following window is displayed.

The screenshot shows the same Oracle Enterprise Manager Fusion Middleware Control 12c interface as the previous image. The 'Administration Server' configuration page is still visible. In the top right corner, a dropdown menu is open, showing the 'Lock & Edit' option selected. The menu items include: Edit Sessions, Lock & Edit, View Change List, View & Resolve Conflicts, Release Configuration, Activate Changes, Undo All Changes, View Restart Checklist, Preferences, and Help. The left-hand navigation pane is also visible, showing 'Servers' with 3 Up, 'Clusters' with 0 Clusters, 'Deployments' with 3 Up, and 'Domain Partitions' with 0 Domain Partitions and 0 Resource Group Templates.

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

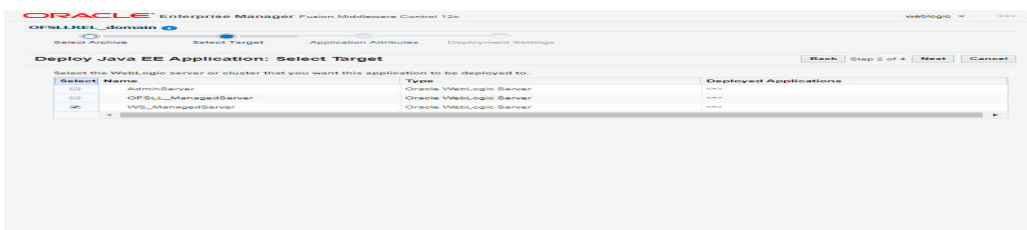


6. The following window is displayed.



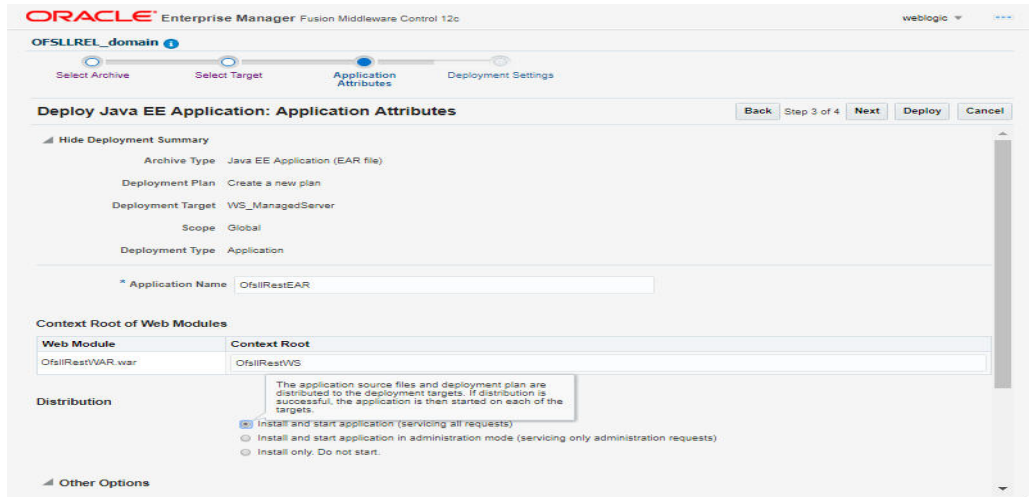
7. Browse to the folder containing the WebService. Eg: C:/OfsllRestEAR.ear

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



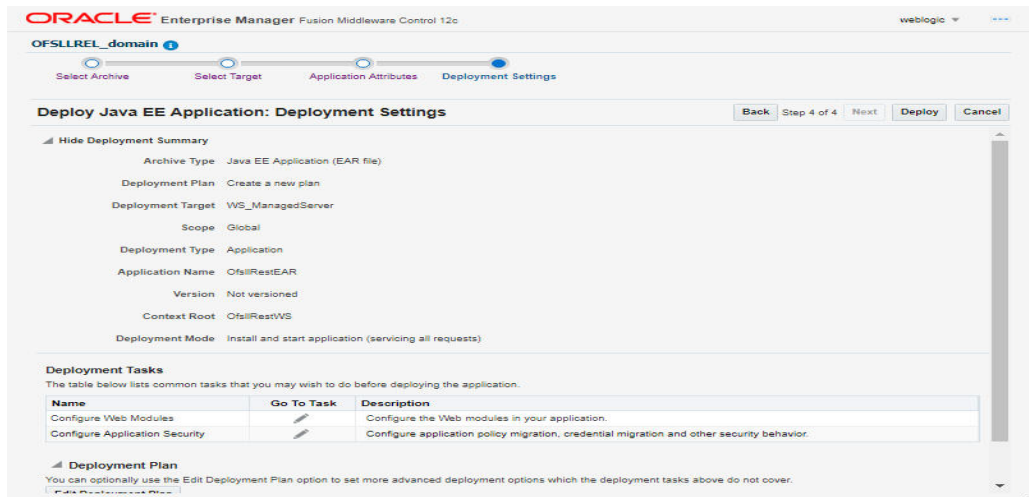
9. Select the server on which the WebService needs to be deployed.

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

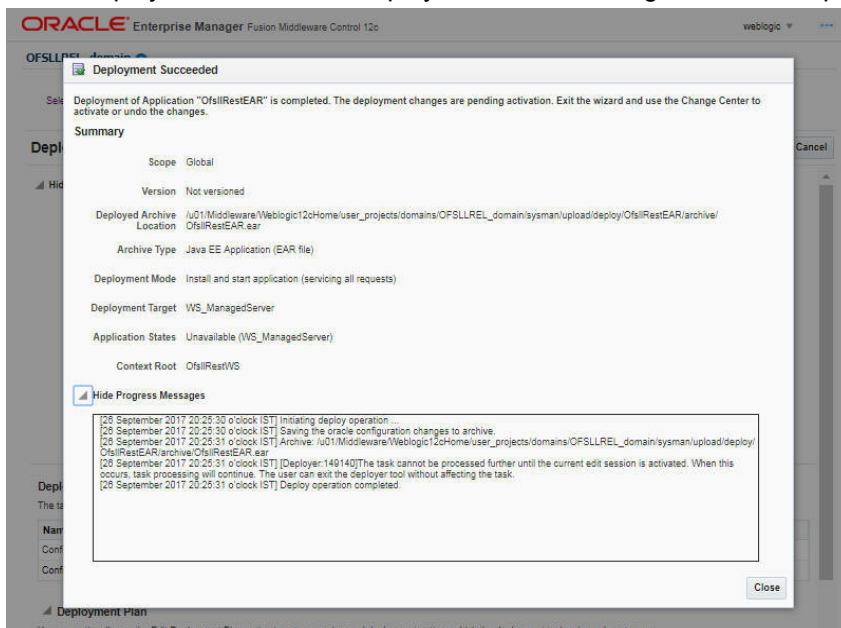


11. Select the option 'Install and start application (servicing all requests)'.

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



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



- 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.

To Identify the RESTful Webservice URL

- Login to WebLogic Server 12c console (<http://hostname:port/console>).
- Click 'Deployments' Under Configuration tab and select 'OfsllRestEAR' services. The following window is displayed.

Summary of Deployments

Configuration Control Monitoring

This page displays the list of Java EE applications and standalone application modules installed to this domain.

You can update (redeploy) or delete installed applications and modules from the domain by selecting the checkbox next to the application name and then using the controls on this page.

To install a new application or module for deployment to targets in this domain, click **Install**.

Customize this table

Deployments

Install Update Delete Showing 31 to 40 of 61 Previous Next

<input type="checkbox"/>	Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
<input type="checkbox"/>	odl.clickhistory (1.0,12.2.1)	Active		Library	AdminServer, OFSLL_ManagedServer, WS_ManagedServer	Global		100
<input type="checkbox"/>	odl.clickhistory.webapp (1.0,12.2.1)	Active		Library	AdminServer, OFSLL_ManagedServer, WS_ManagedServer	Global		100
<input type="checkbox"/>	OfsllQueueMDB	Active	OK	EJB	OFSLL_ManagedServer,	Global		100
<input type="checkbox"/>	OfsllRestEAR	Active	OK	Enterprise Application	WS_ManagedServer	Global		100

- Click 'Testing' tab and expand 'OfsllRestWS'. The following window is displayed.

Settings for OfsllRestEAR

Overview Deployment Plan Configuration Security Targets Control **Testing** Monitoring Notes

Some deployment types support test points you can use to verify that a deployment was successful and that the module is ready for use.

The following table includes all of the test points available for this application or module.

Deployment Tests

Showing 1 to 1 of 1 Previous Next

Name	Test Point	Comments
<input type="checkbox"/> OfsllRestEAR		
<input type="checkbox"/> OfsllRestWS		
/OfsllRestWS/rest	/application.wadl	WADL page on server WS_ManagedServer
/OfsllRestWS/service/api/resources	/application.wadl	WADL page on server WS_ManagedServer
default	http://10.184.132.155:8315/OfsllRestWS	Default url on server WS_ManagedServer

Showing 1 to 1 of 1 Previous Next

- You can view the 'OfsllRestful' Services URL as shown.
- Swagger documentation for RESTful web services can be accessed using the following URL type - `http://<server_name>;<port>/<Application_context>/swagger.json`