ORACLE®

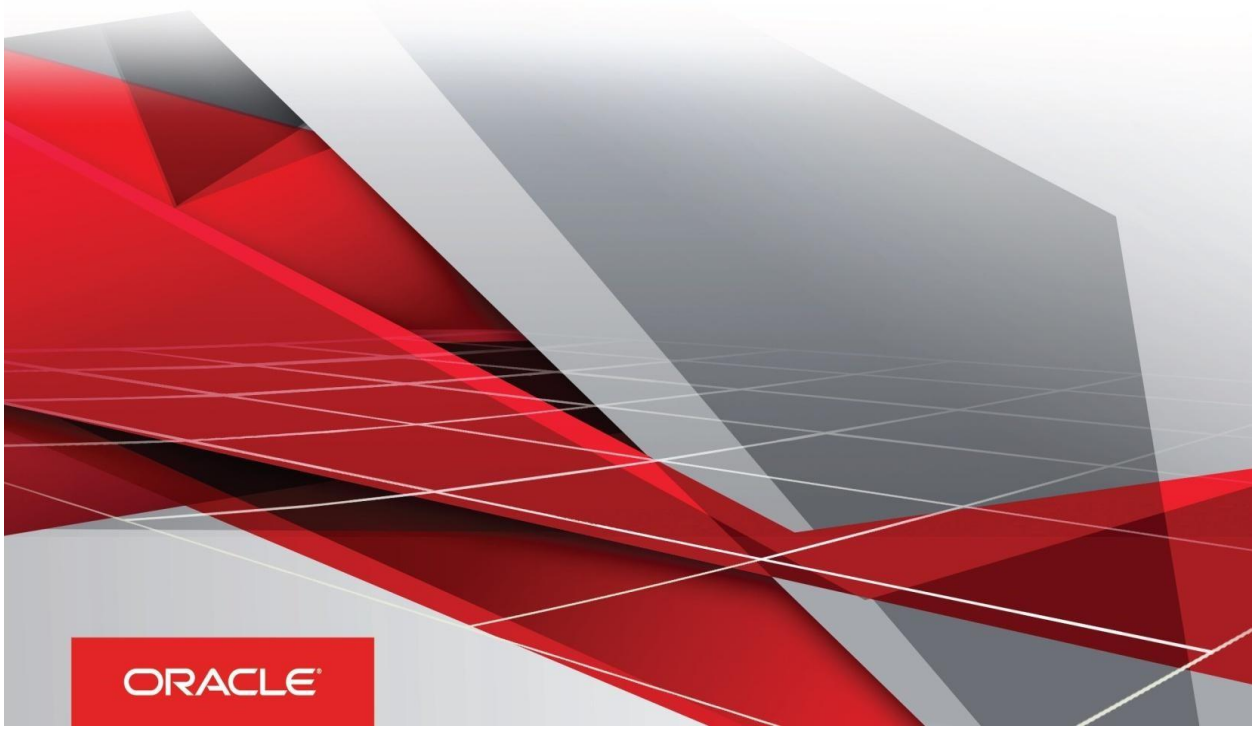
Financial Services

Regulatory Reporting Solution for US Federal Reserve – Lombard Risk Integration Pack

Release 8.0.5.0.0

Installation Guide

November 2017



Document Versioning

Version	Date	Change Reference
02	November 30, 2017	Updated: Final version published
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Executive Summary

This document includes the necessary instructions to apply 8.0.5.0.0 maintenance level release for Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack and perform the required post install configurations. You can find the latest copy of this document in OHC Documentation Library.

Before you begin the installation, ensure that you have an access to Oracle Support Portal with the required login credentials to quickly notify us for any specific issues. You can obtain one by contacting My Oracle Support.

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Preface

Oracle Financial Services Regulatory Reporting for US Federal Reserve (OFS_REG_REP_USFED) enables the customers to enables the banks to comply with BCBS 239 regulations. It integrates risk data reporting systems and enhances the accuracy of reporting in banks. OFS Risk Regulatory Solution (RRS) helps in achieving the objectives by enabling preset steps based on the generalization of a set of solutions. This is made possible by:

- Providing a centralized data storage for risk data through relevant subject areas of Financial Services Data Foundation (FSDF).
- Interfacing with a Regulatory Reporting tool – Lombard AgileREPORTER to build necessary template reports to meet the regulatory expectations.
- Managing accuracy of risk reporting through Data Governance Studio (DGS).

This document provides step-by-step instructions to install the Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack (OFS_REG_REP_USFED) Release 8.0.5.0.0.

This chapter discusses the following topics:

- Audience
- Scope
- Prerequisites for the Audience
- How this Guide is organized
- Documentation Accessibility
- Access to Oracle Support
- Recommended Environment
- Related Documents
- Conventions and Acronyms

Audience

This Manual is meant for Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack System Administrator. It provides step-by-step instructions necessary for installing the OFS_REG_REP_USFED application components.

Scope

This manual provides a step-wise instruction to install Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack.

Prerequisites for the Audience

Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack (OFS_REG_REP_USFED) Installation Guide is intended for administrators and implementation consultants who are responsible for installing and maintaining the application pack components.

The document assumes you have experience in installing Enterprise components. Basic knowledge about the Oracle Financial Services Data Foundation Application Pack components, OFSAA Architecture, UNIX commands, Database concepts and Web Server/ Web Application Server is recommended.

How this Guide is Organized

The Installation Manual is organized into the following chapters.

- **Pre Requisites** section identifies the hardware and base software environment that is required for a successful installation and functioning of the Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack.
- **Installing the Application** section details the steps to be followed during the installation.
- **Post installation Activities** section details the steps that are required to be performed after a successful installation of Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Documents

This section identifies additional documents related to Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack. You can access Oracle documentation online from Documentation Library (OTN):

- Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack User Guide
- Oracle Financial Services Data Foundation Installation Manual Release 8.0.5.0.0 Java 7 and Java 8
- Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide (present in this OHC Documentation Library)

Conventions and Acronyms

The following conventions and acronyms are used in this document.

Conventions	Description
References to sections or chapters in the manual are displayed in *Italics*. Screen names are displayed in the following manner: **Introduction** screen Options and buttons are displayed in **Bold.**	
OFSAAI	Oracle Financial Services Analytical Applications Infrastructure
OFS AAAI	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack
RHEL	Red Hat Enterprise Linux
Atomic Schema	Database schema where the application data model is uploaded.
Config Schema	Database schema which contains setup related configurations and metadata.
OFS_REG_REP_USFED	Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack

Hardware and Software Requirements and Specifications

This section describes the various Operating System, Database, Web Server, and Web Application Server version and other variant details on which this release of the OFS Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack (OFS_REG_REP_USFED) application has qualified.

Configurations Supported for Java 7

The following table shows the minimum hardware and software requirements for OFS_REG_REP_USFED (Java 7) application on each machine.

Requirement	Sub-Category	Value
Operating System	Oracle Linux / Red Hat Enterprise Linux (x86-64)	Oracle Linux Server release 5.3 up to 5.10 - 64 bit Oracle Linux Server release 6.0 and above - 64 bit **Note**: Same versions of RHEL are supported.
	Shell	KORN Shell (KSH)
Note: If the operating system is RHEL, install the package `lsb_release` using one of the following commands by logging in as `root` user: • yum install redhat-lsb-core • yum install redhat-lsb		
Java Runtime Environment	Oracle Linux / Red Hat Enterprise Linux	Oracle Java Runtime Environment (JRE) 1.7.x - 64 bit
Oracle Database Server and Client	Oracle Database Server Enterprise Edition 11g Release 2 (11.2.0.3.0 +) - 64 bit RAC/ Non-RAC with/ without partitioning option Oracle Database Server Enterprise Edition 12c Release 1 (12.1.0.1.0 +)- 64 bit RAC/ Non-RAC with/ without partitioning option Oracle Client 11g Release 2 (11.2.0.3.0+) - 64 bit Oracle Client 12c Release 1 (12.1.0.1.0+) - 64 bit Oracle 11g Release 2 (11.2.0.3+) JDBC driver (Oracle thin driver) Oracle 12C Release 1 (12.1.0.1+) JDBC driver (Oracle thin driver) **Note**: Ensure that the following patches are applied: Oracle Server 12c, v12.1.0.1 – 17082699 Oracle Server 12c, v12.1.0.2 - 19392604, 19649591 Also for latest information, refer http://support.oracle.com/, 12.1.0.2 Bundle Patches for Engineered Systems and DB In-Memory - List of Fixes in each Bundle (Doc ID 1937782.1)	
OLAP	Oracle Hyperion Essbase	V 11.1.2.1+ (Server and Client) with Oracle 11g Database V 11.1.2.3+ (Server and Client) with Oracle 12c Database
	Oracle OLAP	V 11.2.0.3+ with Oracle 11g Database V 12.1.0.1+ with Oracle 12c Database
	Note:	

Requirement	Sub-Category	Value
	Oracle Hyperion Essbase & Oracle OLAP is required only if you are using the OLAP feature of OFSAAI. For Oracle OLAP, ensure that you have configured the Oracle Database server with OLAP option.	
Web Server/ Web Application Server	Oracle Linux / Red Hat Enterprise Linux	Oracle HTTP Server 11.1.1.1/ Apache HTTP Server 2.2.x/ IBM HTTP Server • Oracle WebLogic Server 12.1.2+ (64 bit) • IBM WebSphere Application Server 8.5+ with bundled IBM Java Runtime (64 bit) • Apache Tomcat 8.0.x (64 bit)
	Note: OFSAA Infrastructure web component deployment on Oracle WebLogic Server with Oracle JRockit is not supported.	
Desktop Requirements	Operating System	MS Windows 7/ Windows 8/ Windows 8.1
	Browser	MS Internet Explorer 9 , 10(Compatibility Mode) and 11 (Compatibility Mode) Oracle Java plug-in 1.7.0+* (64- bit) Turn on Pop-up blocker settings. For more information, refer Internet Explorer Settings.
	Office Tools	MS Office 2007/ 2010/2013 Adobe Acrobat Reader 8 or above
	Screen Resolution	1024*768 or 1280*1024
Directory Services	-	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software like MS Active Directory.
	Note: Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Infrastructure LDAP Configuration. Open LDAP needs to be installed on MS Windows Server machine only.	

Configurations Supported for Java 8

The following table shows the minimum hardware and software requirements for installing OFS_REG_REP_USFED (Java 8) application on each machine.

Requirement	Sub-Category	Value
Operating System	Oracle Linux / Red Hat Enterprise Linux (x86-64)	Oracle Linux Server release 5.3 up to 5.10 - 64 bit Oracle Linux Server release 6.0 and above - 64 bit **Note**: Same versions of RHEL are supported.
	Shell	KORN Shell (KSH)

Requirement	Sub-Category	Value
Note: If the operating system is RHEL, install the package `lsb_release` using one of the following commands by logging in as `root` user: • yum install redhat-lsb-core • yum install redhat-lsb		
Java Runtime Environment	Oracle Linux / Red Hat Enterprise Linux	Oracle Java Runtime Environment (JRE) 1.8.x - 64 bit
Oracle Database Server and Client	• Oracle Database Server Enterprise Edition 11g Release 2 (11.2.0.3.0 +) - 64 bit RAC/ Non-RAC with/ without partitioning option • Oracle Database Server Enterprise Edition 12c Release 1 (12.1.0.1.0 +)- 64 bit RAC/ Non-RAC with/ without partitioning option • Oracle Client 11g Release 2 (11.2.0.3.0+) - 64 bit • Oracle Client 12c Release 1 (12.1.0.1.0+) - 64 bit • Oracle 11g Release 2 (11.2.0.3+) JDBC driver (Oracle thin driver) • Oracle 12C Release 1 (12.1.0.1+) JDBC driver (Oracle thin driver) **Note**: Ensure that the following patches are applied: • Oracle Server 12c, v12.1.0.1 – 17082699 • Oracle Server 12c, v12.1.0.2 - 19392604, 19649591 • Also for latest information, refer http://support.oracle.com/, 12.1.0.2 Bundle Patches for Engineered Systems and DB In-Memory - List of Fixes in each Bundle (Doc ID 1937782.1)	
OLAP	Oracle Hyperion Essbase	V 11.1.2.1+ (Server and Client) with Oracle 11g Database V 11.1.2.3+ (Server and Client) with Oracle 12c Database
	Oracle OLAP	V 11.2.0.3+ with Oracle 11g Database V 12.1.0.1+ with Oracle 12c Database
	Note: Oracle Hyperion Essbase & Oracle OLAP is required only if you are using the OLAP feature of OFSAAI. For Oracle OLAP, ensure that you have configured the Oracle Database server with OLAP option.	
Web Server/ Web Application Server	Oracle Linux / Red Hat Enterprise Linux	Oracle HTTP Server 11.1.1.1/ Apache HTTP Server 2.2.x/ IBM HTTP Server • Oracle WebLogic Server 12.1.3+ (64 bit) • Apache Tomcat 8.0.x (64 bit) **Note**: IBM WebSphere 8.5.x (Full Profile) on Java 8 is not available.
	Note: OFSAA Infrastructure web component deployment on Oracle WebLogic Server with Oracle JRockit is not supported.	
Desktop	Operating System	MS Windows 7/ Windows 8/ Windows 8.1

Requirement	Sub-Category	Value
Requirements	Browser	MS Internet Explorer 9 , 10(Compatibility Mode) and 11 (Compatibility Mode) Oracle Java plug-in 1.7.0+* (64- bit) Turn on Pop-up blocker settings. For more information, refer Internet Explorer Settings.
	Office Tools	MS Office 2007/ 2010/2013 Adobe Acrobat Reader 8 or above
	Screen Resolution	1024*768 or 1280*1024
Other Software	Directory Services	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software like MS Active Directory.
	Note: Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Infrastructure LDAP Configuration. Open LDAP needs to be installed on MS Windows Server machine only.	

OFS_REG_REP_USFED application recommends the following software combinations for deployment.

Recommended Software Combinations

Operating System	Database	Web Application Server	Web Server
Oracle Linux 5.3 up to 5.10 / 6.0 and above	Oracle Database	Oracle WebLogic Server / Apache Tomcat Server	Oracle HTTP Server / Apache HTTP Server

Preparing for Installation

This chapter provides necessary information to review before installing the OFS_REG_REP_USFED Application v8.0.5.0.0. This chapter includes the following topics:

- Obtaining the Software
- Prerequisites for Installation
- Configuration for GUI Mode Installation
- Copying and Extracting the Software

Obtaining the Software

Login to https://support.oracle.com/ and search for **27040985** under the Patches and Updates tab.

Prerequisites for Installation

The prerequisite software that must be installed are:

- Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) **8.0.5.0.0** (patch **25873206)**
- Oracle Financial Services Data Foundation (FSDF) **8.0.5.0.0** patch (**26583731**)
- AgileREPORTER version **1.15.6-b1293**
- AgileREPORTER Templates version **ARforFED_v1.11.1.3**
- Ensure that you have executed **.profile** before you trigger the installation.
- Ensure that the FIC Server is up and running before you trigger the installation. For information on restarting the services, Refer OFS AAI Release 8.0.5.0.0 Installation Guide (OHC Documentation Library) for more information.

Configuration for GUI Mode Installation

To install OFS_REG_REP_USFED in GUI mode, you need to ensure the below software and configurations are available:

- Install and configure any PC X Server software such as Open Text Exceed (formerly Hummingbird Exceed) on the user desktop system from which the installation is triggered.
- Configure DISPLAY variable.

  Ensure to set the DISPLAY variable on the system on which the OFSAA is installed, to point to the user desktop system where the PC X Server software has been installed.

  Syntax:

  ```
  export DISPLAY=hostname:n.n1
  ```

  where, hostname is the IP Address/ Host Name of the user desktop system and n is the sequence number (usually 0).

  For example, `10.11.12.13:0.0` or `myhostname:0.0`

Copying and Extracting the Software

Once you obtain the installer, copy the installer (in BINARY mode) to the system on which the OFS_REG_REP_USFED application components are installed.

NOTE: You must be logged in to the UNIX operating system as a non-root user.

1. Download the unzip utility (OS specific) `unzip_<os>.Z`, and copy it in Binary mode to any directory and include the directory in your PATH variable. If you already have the unzip utility to extract the contents of the downloaded archive, skip to the next step.
2. Uncompress the unzip installer file using the command:

   ```
   uncompress unzip_<os>.Z
   ```

NOTE: In case you notice an error message "uncompress: not found [No such file or directory]" when the package is not installed, contact your UNIX administrator.

3. Give EXECUTE permission to the file using the command:

   ```
   chmod 751 unzip_<os>
   ```

   For example, chmod 751 unzip_sparc
4. Extract the contents of the OFS_REG_REP_USFED 8.0.5.0.0 in the Download Directory installer archive file using the following command:

   ```
   unzip OFS_REG_REP_USFED_8.0.5.0.0_<os>.zip
   ```

NOTE: DO NOT rename the Application installer folder name on extraction from the archive.

5. Give below permission to the installer folder. Navigate to the Download Directory and execute the command:

   ```
   chmod –R 755 OFS_REG_REP_USFED
   ```

GUI Mode Installation

The OFS_REG_REP_USFED installer can be installed in both GUI and silent mode.

For executing the installer in silent mode, refer to the section Silent Mode Installation.

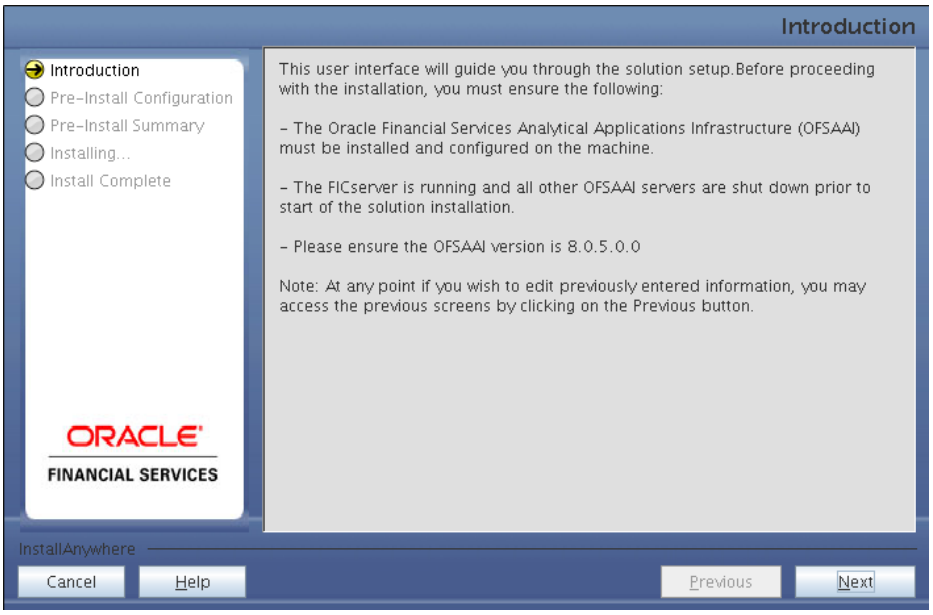
For running in GUI mode, follow these steps:

1) Log in to the system as **non-root user**
2) Execute the user **.profile**
3) Navigate to installer location **OFS_REG_REP_USFED/bin**
4) Run the installer in GUI Mode by executing the command:

```
./setup.sh GUI
```

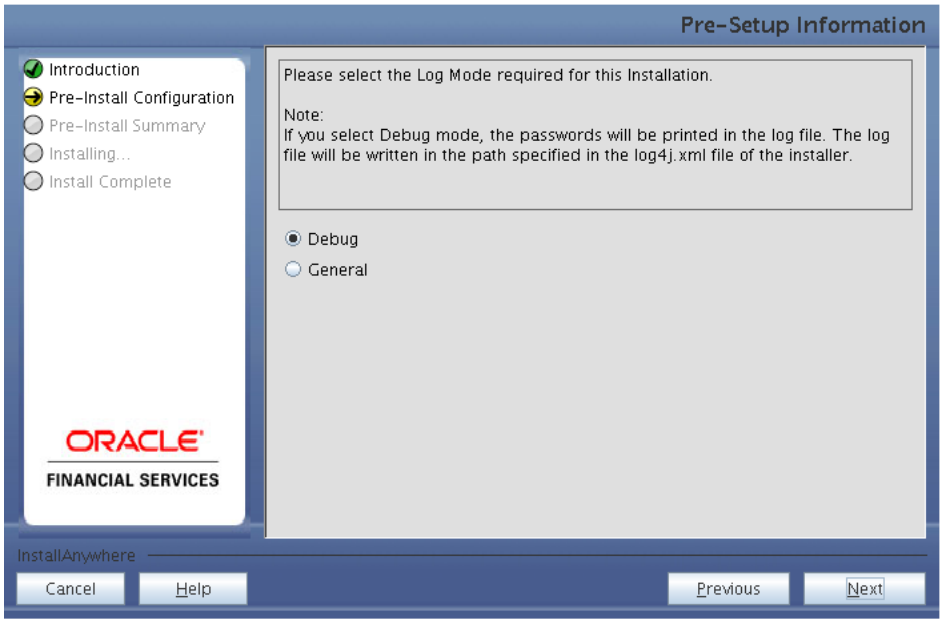
Installation Splash Screen

1. The **Introduction** screen displays the prerequisites for installation. Ensure that the prerequisites are satisfied before you proceed.



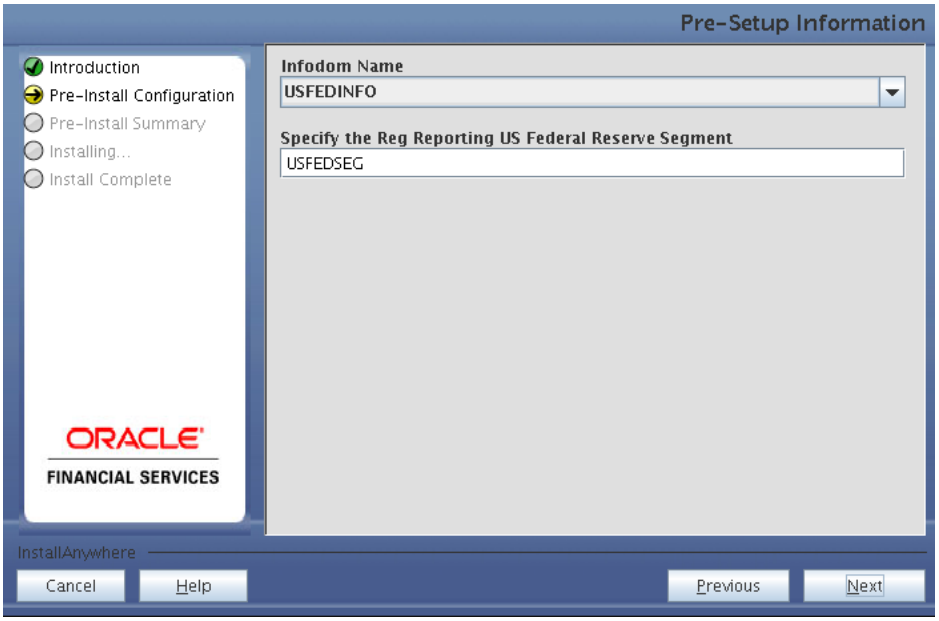
Introduction Screen

2. Choose the **Log Mode** for this installer. If you select, **Debug**, the Passwords are printed in the log file.



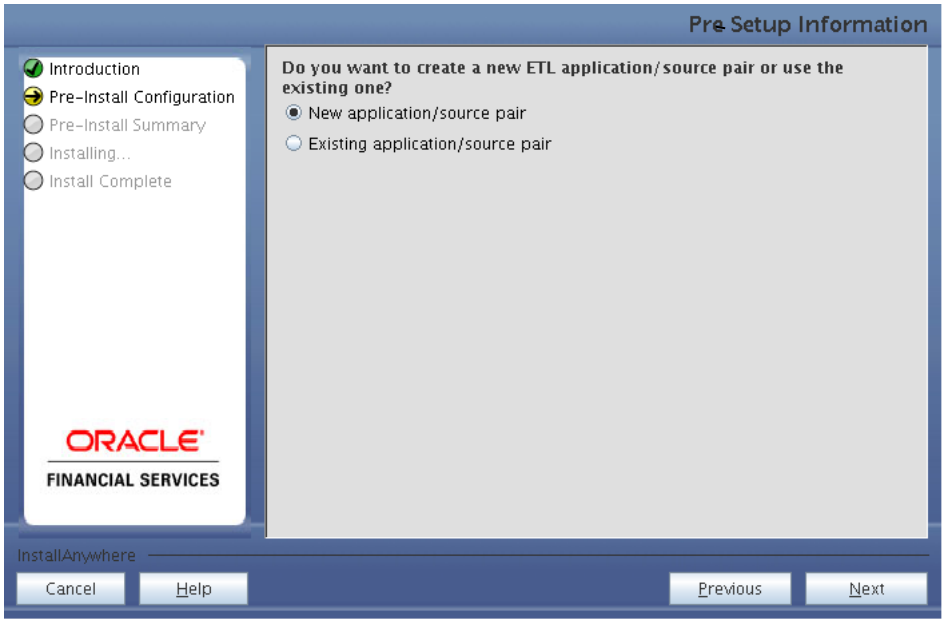
Pre-Setup Information – Log Mode Screen

3. In the **Pre-Setup Information** screen, specify the existing infodom name to be used for the application installation and click **Next**.



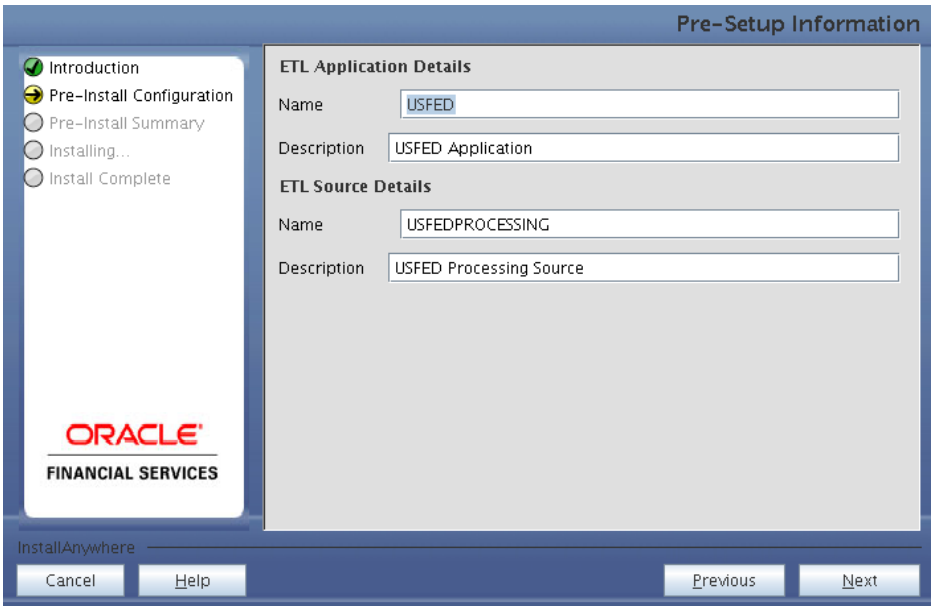
Pre-Setup Information – Infodom Type Screen

4. In the **Pre-Setup Information** screen, select **New application/source pair** to create a new ETL application and click **Next**.



Pre-Setup Information – ETL Application Selection Screen

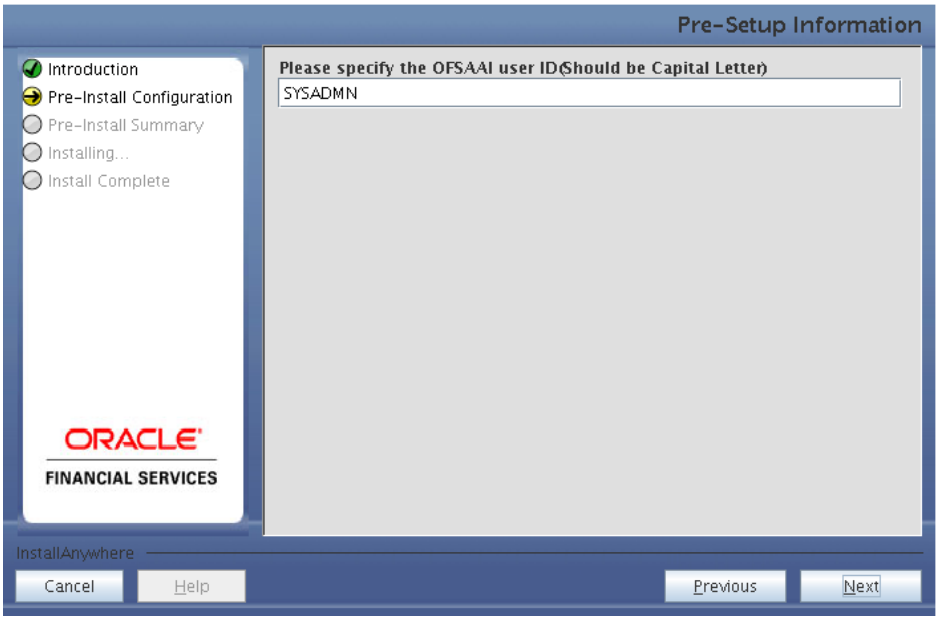
5. In the **Pre-Setup Information** screen, enter the **ETL Application Name & Description** as you wish and **ETL Source Name & Description** as you wish. Then click **Next**.



Pre-Setup Information – ETL Application Details Screen

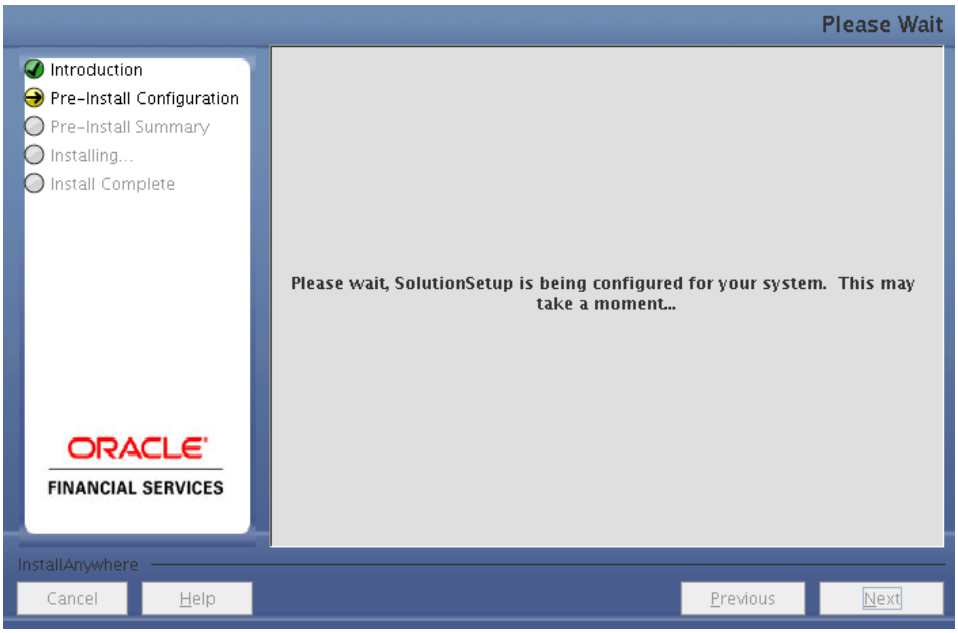
6. In the **Pre-Setup Information** screen, enter the **OFSAAI User ID** and click **Next**.

   Default Value is: **SYSADMN**



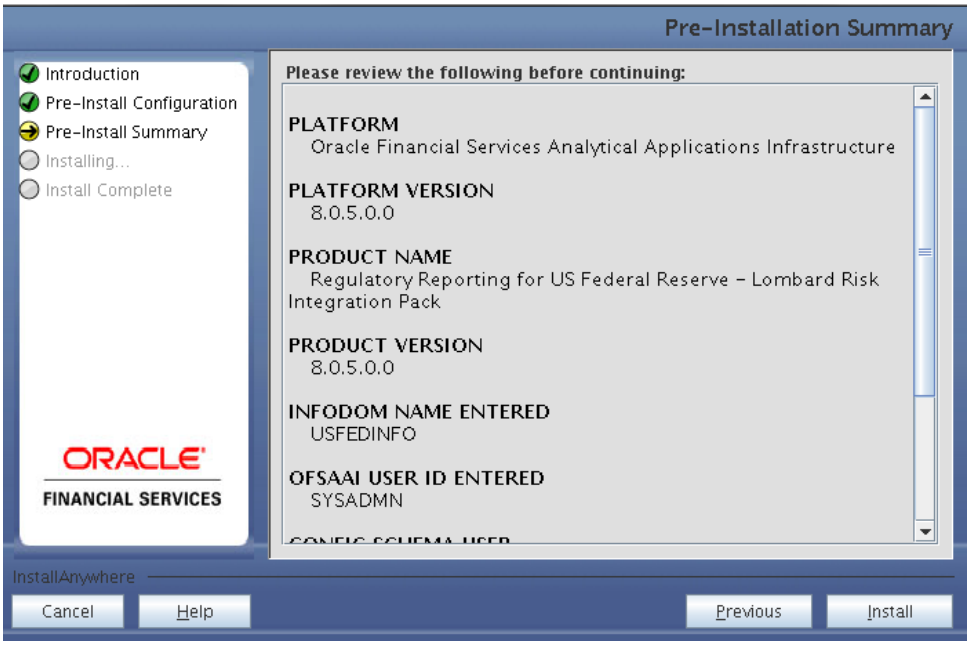
Pre-Setup Information – OFSAAI User ID Screen

7. The **Pre-Install Configuration** (**Please Wait**) screen is displayed.



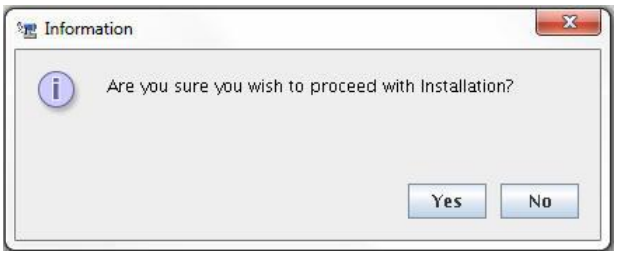
Pre-Install Configuration – Please Wait Screen

8. Review the settings in the **Pre-Installation Summary** screen and click **Install**.

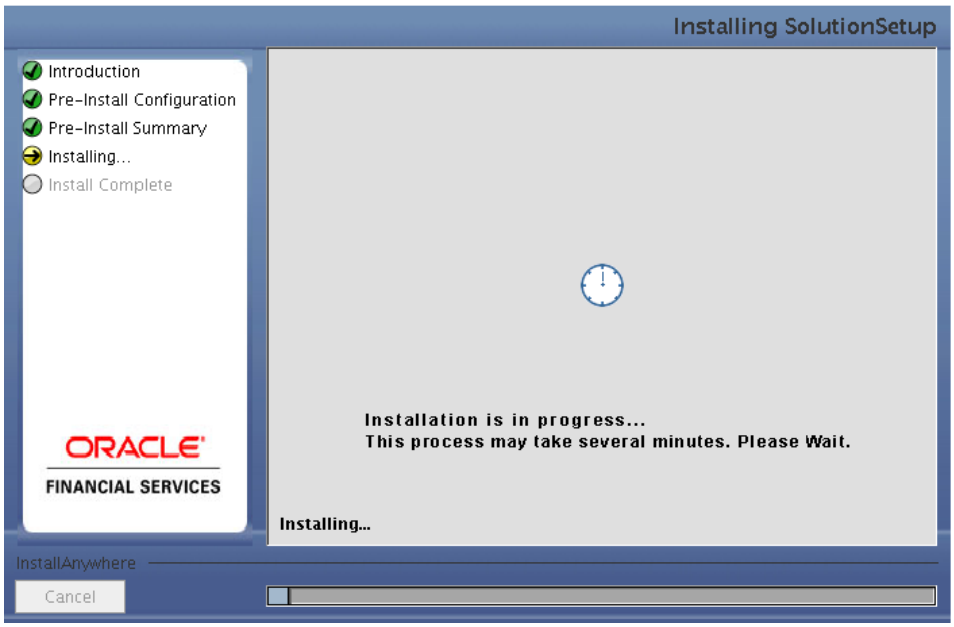


Pre-Installation Summary Screen

9. The following message is displayed. Select **Yes** to begin the installation process.

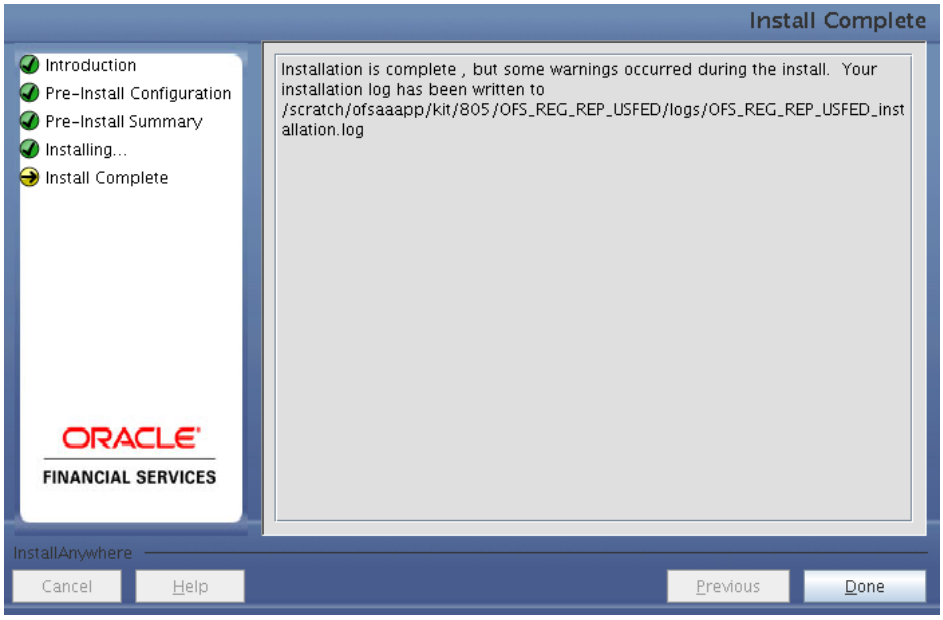


10. The **Installing SolutionSetup** screen is displayed.



Installing SolutionSetup Screen

11. The **Install Complete** screen is displayed.



Install Complete Screen

12. Refer to the log file created in the path `/OFS_REG_REP_USFED/logs` of installer directory for any error messages.

13. Click **Done** to complete the installation.

Silent Mode Installation

Silent installation is achieved via a properties file (**Silent.props**) that must be updated with proper values, before attempting to install using the silent mode. Follow these steps to install the product in Silent Mode:

1) Navigate to installer directory **`OFS_REG_REP_USFED/conf`** containing the template file **Silent.template**.
2) Create a copy of this file and rename the copy as **Silent.props**.
3) Edit the **Silent.props** file and specify the parameters as per the requirements.

   The following table lists all the properties that must be specified.

Property Name	Description of Property	Permissible Values	Comments
LOG_MODE	Mode for logging	0 = Debug 1= General	Optional; Default : 0
INFODOM_NAME	Specify name of Information Domain (Infodom) into which you wish to install.	For example, OFSBFNDINFO	Mandatory. Specify Infodom Name Value where FSDF Application is got installed
APPFTP_LOG_PATH	Specify the Infodom App Maintenance log path	For example, /home/ftpshare/OFSBFNDINFO/logs	Mandatory. Path value must be same as the path which was given during FSDF installation
DBFTP_LOG_PATH	Specify the Infodom DB Maintenance log path	For example, /home/ftpshare/OFSBFNDINFO/logs	Mandatory. Path value must be same as the path which was given during FSDF installation
SEGMENT_1_CODE	Specify the US Federal Reserve Segment Code	For example, USFEDSEG	Mandatory
ETL_APPSRC_TYPE	Please specify if you want create new ETL App/Src pair or use an existing one.	0 = If you want to create a new ETL app/src pair 1 = If you want to use an existing pair	Mandatory
ETL_APP_1_NAME	Specify the ETL Application Name where the Definitions will be deployed.	For example: USFED	Mandatory

ETL_SRC_1_1_NAME	Specify the ETL Source Name into ETL Area Definitions will be deployed	For example: PROCESSING	Mandatory
ETL_APP_1_DESC	Please give description for the ETL Application	For example: USFED Application	Mandatory when ETL_APPSRC_TYPE = 0
ETL_SRC_1_1_DESC	Please give description for the ETL Source	For example: USFED Processing Source	Mandatory when ETL_APPSRC_TYPE = 0

4) Log in to the system as **non-root** user
5) Execute the user **.profile**
6) Navigate to installer location **OFS_REG_REP_USFED/bin**
7) Run the installer in SILENT Mode with the following command:

```
./setup.sh SILENT
```

Refer to the console log for any error messages.

Post Installation Steps

Perform the following instructions after successful installation of the IR patch:

- Refer to the log file in the **/OFS_REG_REP_USFED/logs** directory to ensure that there are no errors reported.
- Restart all the OFSAAI Servers. Refer OFS AAI Release 8.0.5.0.0 Installation Guide (OHC Documentation Library) for more information.
- Execute all the batches to Re-save the Derived Entities EXCEPT the following batches:
  - **<<INFODOM>>_USFED_FR2052A_RESAVEDEPV**
  - **<<INFODOM>>_USFED_FRY14M_RESAVEPV**
  - **<<INFODOM>>_USFED_FRY2900_RSVDEPV**
  - **<<INFODOM>>_USFED_FRY2644_RESVDEPV**
  - **<<INFODOM>>_USFED_FRY2314_RSVDEPV**
- Execute ALL the view scripts (available under **OFS_REG_REP_USFED/Post_Scripts** directory of the patch) in Atomic Schema:
- Execute the following batches after the previous SQL script executions are completed:
  - **<<INFODOM>>_USFED_FR2052A_RESAVEDEPV**
  - **<<INFODOM>>_USFED_FRY14M_RESAVEPV**
  - **<<INFODOM>>_USFED_FRY2900_RSVDEPV**
  - **<<INFODOM>>_USFED_FRY2644_RESVDEPV**
  - **<<INFODOM>>_USFED_FRY2314_RSVDEPV**

The Oracle Financial Services Regulatory Reporting for US Federal Reserve – Lombard Risk Integration Pack is now ready for use. If you encounter any problems during set up, contact OFSAA Support at Oracle Support.

Creating and Deploying EAR/ WAR File

This chapter describes the steps to create and deploy the EAR/ WAR file.

- Creating EAR/WAR File
- Deploying EAR/WAR File

Creating EAR/WAR File

To create EAR/ WAR File, follow these steps:

1. Navigate to the $FIC_WEB_HOME directory on the OFSAA Installed server.
2. Execute `./ant.sh` to trigger the creation of EAR/ WAR file.
3. On completion of the EAR files creation, the "BUILD SUCCESSFUL" and "Total time" message is displayed and you will be returned to the prompt.

```
/scratch/ofsaaweb>cd /scratch/ofsaaweb/OFSA80/ficweb
/scratch/ofsaaweb/OFSA80/ficweb>
/scratch/ofsaaweb/OFSA80/ficweb>ls
ant.sh                      ficwebChecksum.sh
apache-ant-1.7.1            ficweb_InstalledChecksum.txt
application.xml             lib
build.xml                   MANIFEST.MF
conf                        mycertificates
ficweb_Build_CheckSum.txt   OFSALMINFO_FusionMenu.xml
ficwebCheckSum.log          unix
ficwebChecksum.properties   webroot
/scratch/ofsaaweb/OFSA80/ficweb>./ant.sh
executing "ant"
Buildfile: build.xml

createwar:
      [war] Building war: /scratch/ofsaaweb/OFSA80/ficweb/AAI80.war

createear:
      [ear] Building ear: /scratch/ofsaaweb/OFSA80/ficweb/AAI80.ear

BUILD SUCCESSFUL
Total time: 2 minutes 8 seconds
/scratch/ofsaaweb/OFSA80/ficweb>
```

4. The EAR/ WAR file - `<contextname>.ear/ .war` - is created.

NOTE: The `<contextname>` is the name given during installation.
This process overwrites any existing version of EAR file that exists in the path.
For OFSAA configured on Tomcat installation, `<contextname>.war` will be created.

Deploying EAR/WAR File

This section includes the following topics:

- Deploying EAR/WAR Files on WebSphere
- Deploying EAR / WAR File on WebLogic
- Deploying WAR Files on Tomcat

NOTE: Ensure to clear the application cache prior to the deployment of Application Pack Web Archive. This is applicable to all Web Servers (WebSphere, WebLogic, and Tomcat).

Deploying EAR/WAR Files on WebSphere

To deploy WebSphere EAR/WAR File, follow these steps:

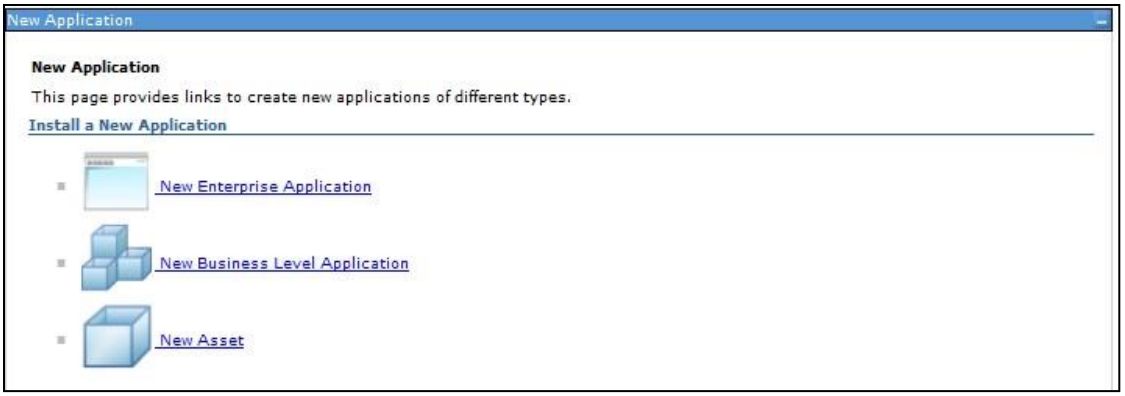
1. Start WebSphere Profile by navigating to the path `/<Websphere_Installation_Directory>/IBM/WebSphere/AppServer/profiles/<Profile_Name>/bin/` and execute the command:

   ```
   ./startServer.sh server1
   ```

2. Open the following URL in the browser: `http://<ipaddress>:<Administrative Console Port>/ibm/console`. (https if SSL is enabled). The login screen is displayed.

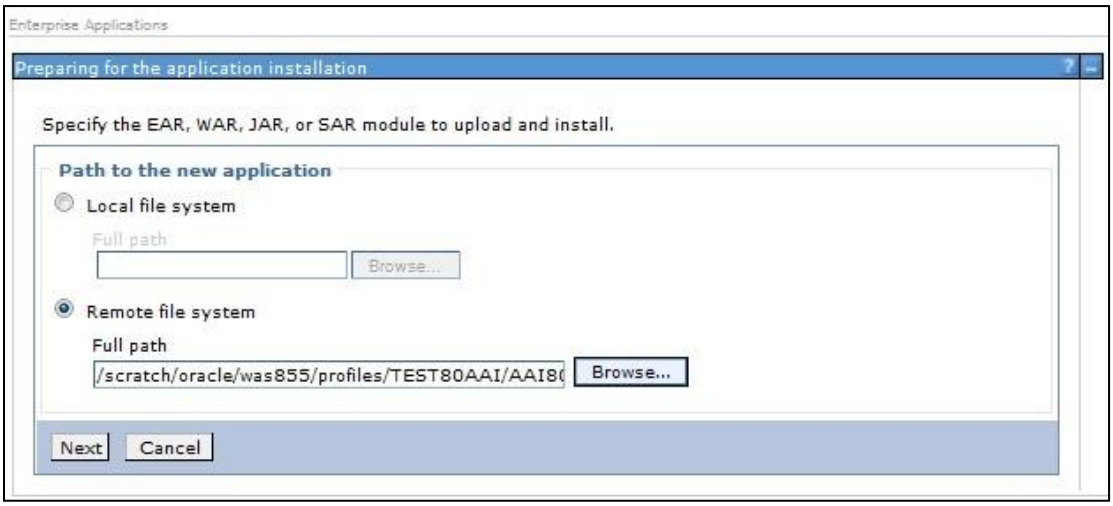
Login Window

3. Enter the user credentials with admin privileges and click **Log In**.
4. From the LHS menu, select **Applications** and click **New Application**. The *New Application* window is displayed.



New Application

5. Click **New Enterprise Application**. The *Preparing for the application installation* window is displayed.

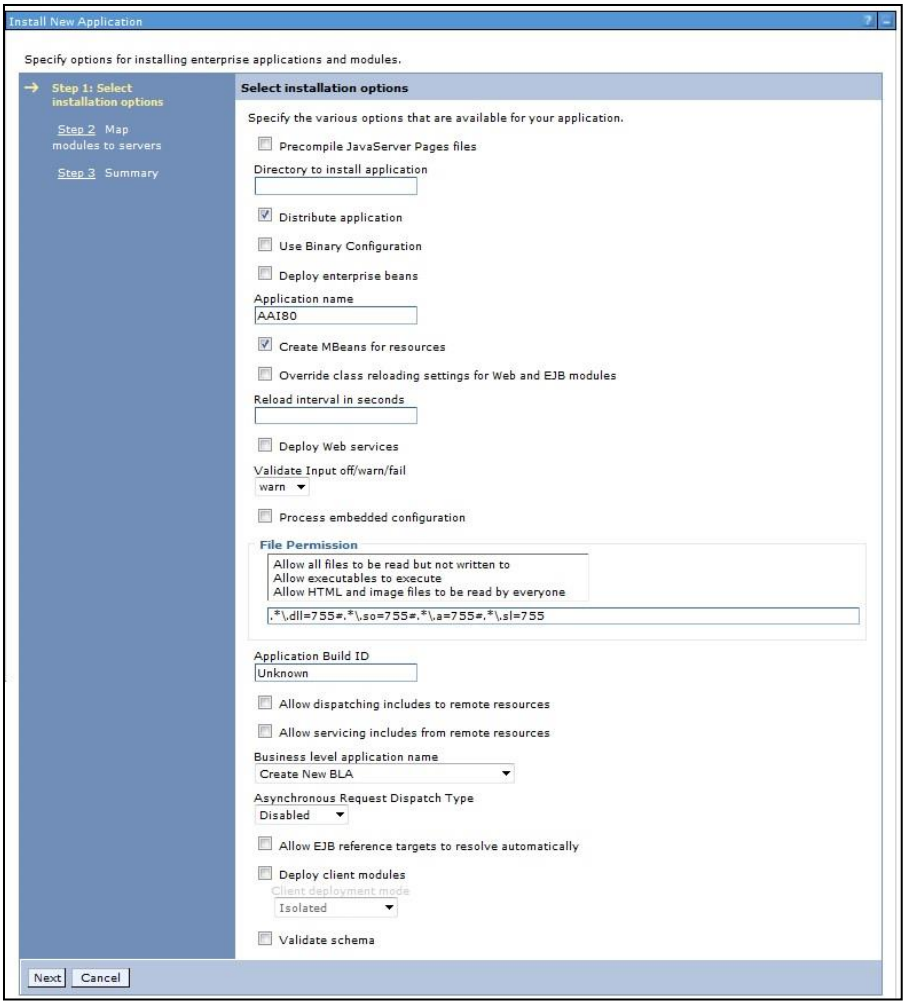


Preparing for the application installation

6. Select **Remote File System** and click **Browse**. Select the EAR file generated for OFSAA to upload and install. Click **Next**.

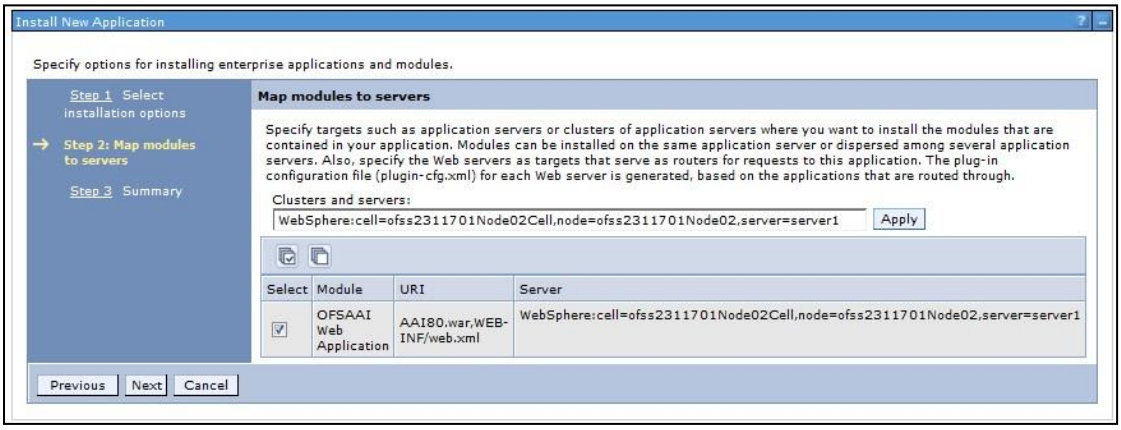
Installation Options

7. Select the **Fast Path** option and click **Next**. The *Install New Application* window is displayed.



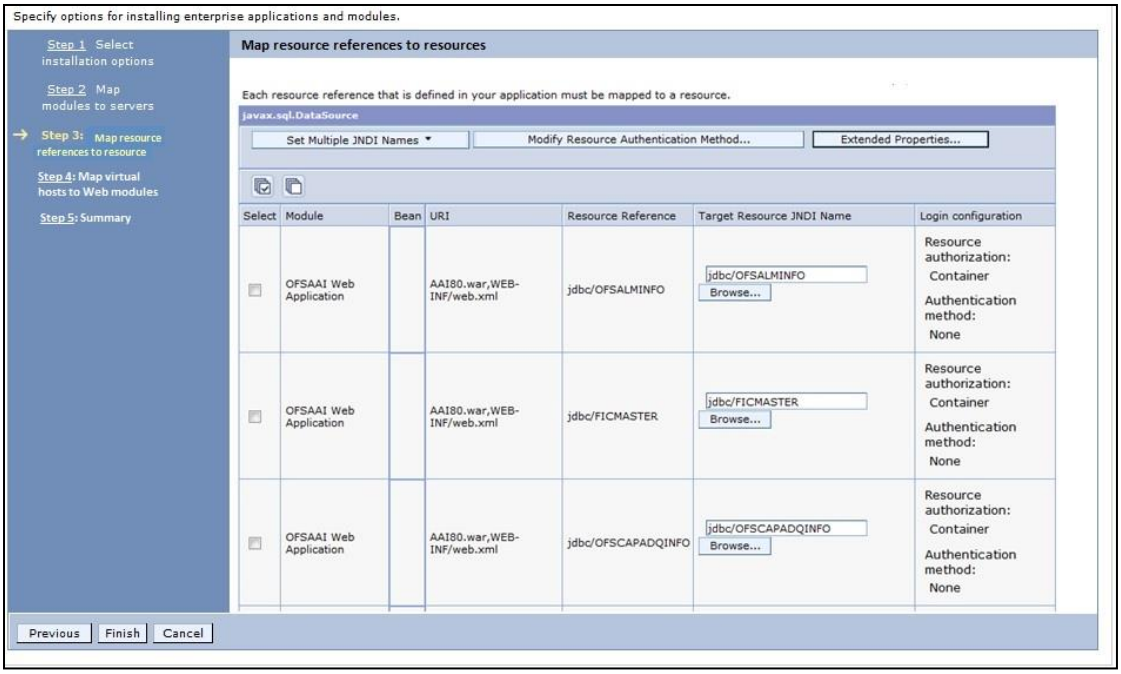
Install New Application

8. Enter the required information and click **Next**. The *Map Modules to Servers* window is displayed.



Map Modules to Servers

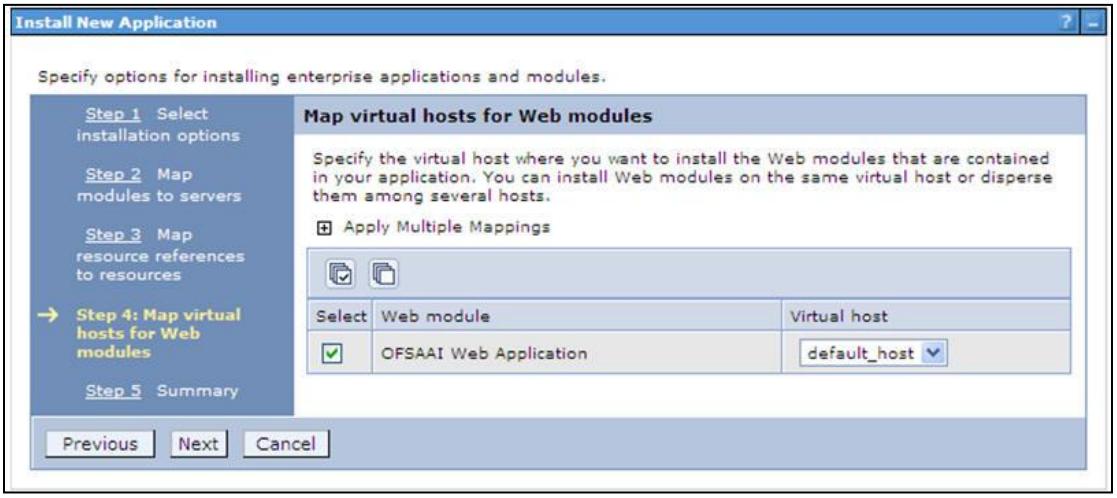
9. Select the **Web Application** and click **Next**. The *Map Resource References to Resources* window is displayed.



Map Resource References to Resources

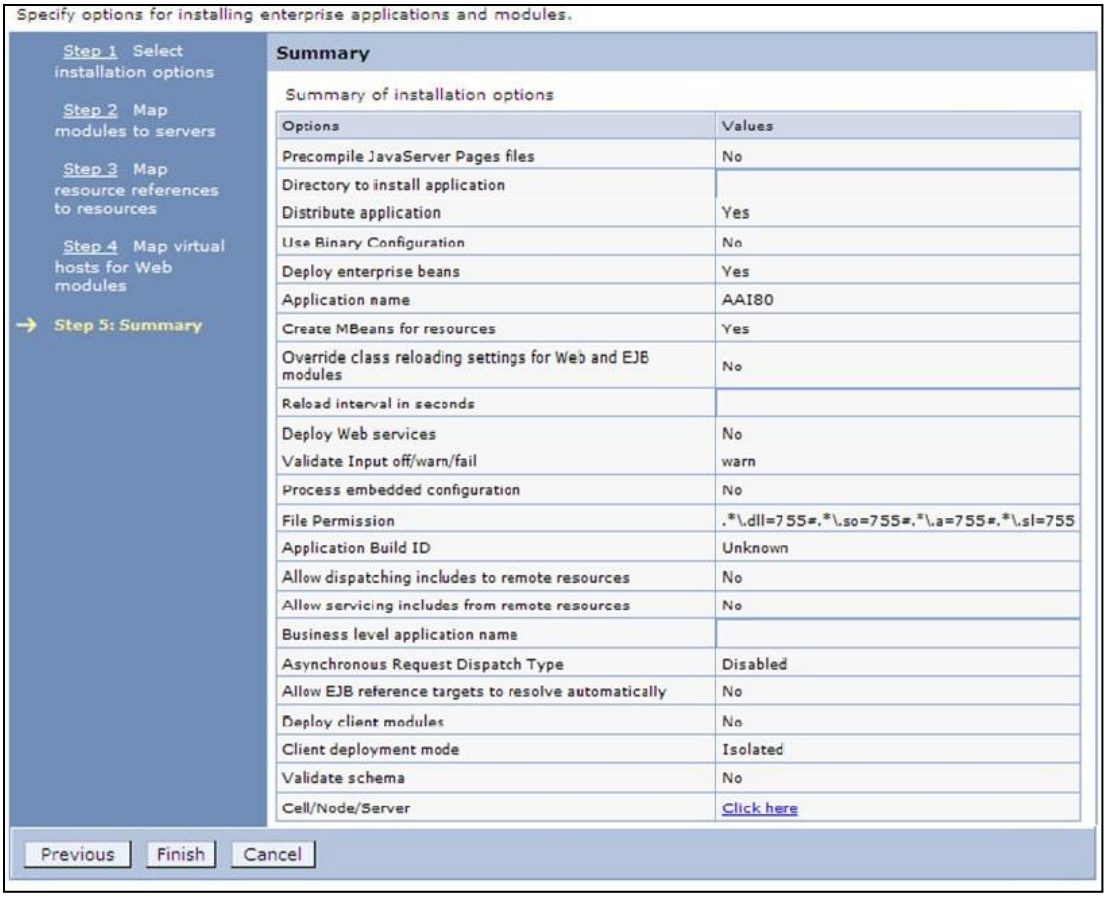
10. Map each resource defined in the application to a resource JNDI name defined earlier.
11. Click **Modify Resource Authentication Method** and specify the authentication method created earlier.

    You can specify "config" for FICMASTER resource or "atomic" for atomic resource as the authentication method.
12. Select the **OFSAAI Web Application** check box and click **Next**. The *Map Virtual hosts for Web Modules* window is displayed.



Map Virtual host for Web Modules

13. Select the **Web Application** check box and click **Next**. The *Summary* page is displayed.



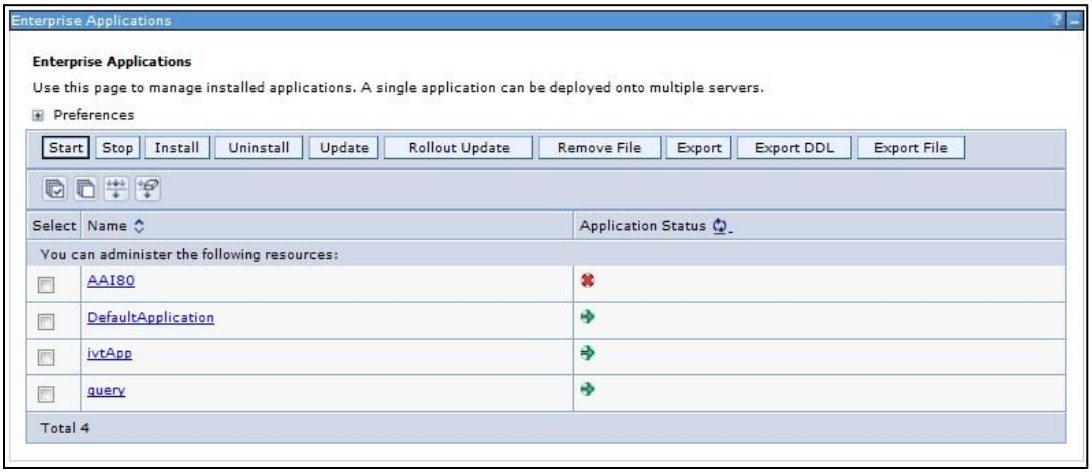
Summary

14. Click **Finish** and deploy the Infrastructure Application on WebSphere.
15. On successful installation, a message is displayed. Click **Save** and save the master file configuration. The details are displayed in the *Master File Configuration* window.

To Start the Application

To start the application, follow these steps:

1. Expand **Applications** > **Application Type** > **WebSphere enterprise applications**. The *Enterprise Applications* window is displayed.



Enterprise Applications

2. Select the installed application and click **Start**.

NOTE: `<profilename>` is the profile name given while creating the WebSphere profile.
`<cellname>` is the cell name given during profile creation
`<contextname>` is the context name given during installation.

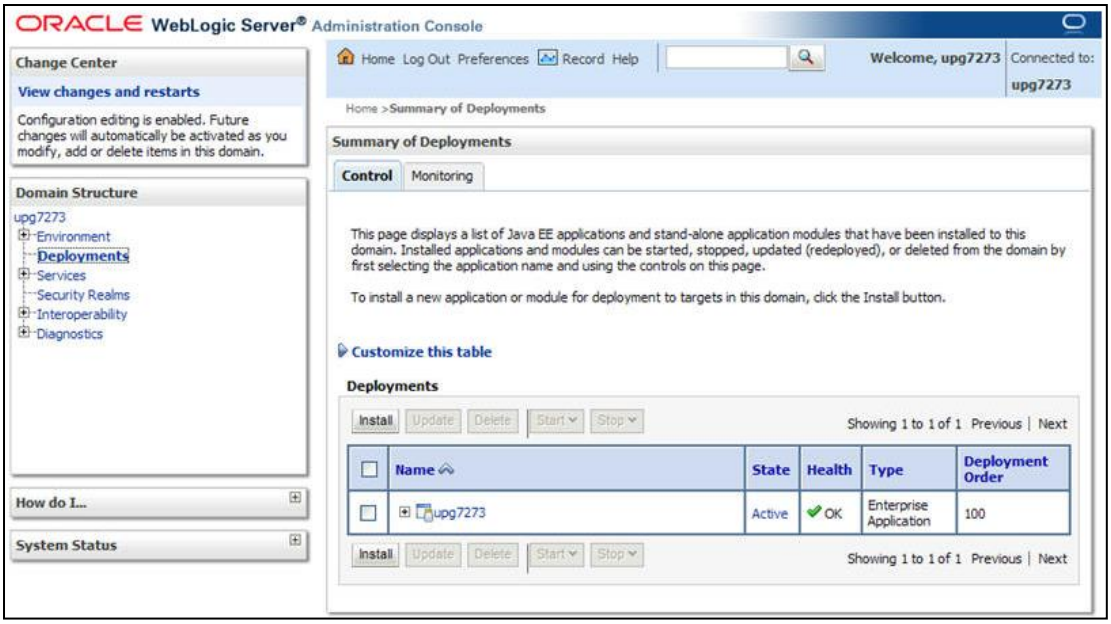
Deploying EAR / WAR File on WebLogic

To deploy the Infrastructure application that is created during installation, follow these steps:

1. Navigate to the path `<WebLogic Installation directory>/user_projects/domains/<domain name>/bin` in the machine in which WebLogic is installed.
2. Start WebLogic by executing the command:
   `./startWebLogic.sh -d64 file`
3. Open the URL in the browser window: `http://<ipaddress>:<admin server port>/console`. (https if SSL is enabled). The Sign in window of the WebLogic Server Administration Console is displayed.

NOTE: Ensure that you have started the Infrastructure Server by executing `./reveleusstartup.sh` command.

4. Log on to the WebLogic Server by entering the user credentials having privileges to deploy the EAR file.
5. From the **Domain Structure** LHS menu, click **Deployments**. The *Summary of Deployments* window is displayed.



Summary of Deployments

6. Click **Install**. The *Install Application Assistant* window is displayed.
7. Select the Exploded EAR directory after browsing to the directory where it is saved and click **Next**.

Explode EAR

To explode EAR, follow these steps:

1. Create the "applications" folder under domain name. For example, `/Bea/user_projects/domains/<Domain_name>/applications`
2. Create `<context_name>.ear` folder under "applications" folder.
3. Copy the `<$FIC_WEB_HOME/<context_name>.ear file to <WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear`
4. Explode the `<context_name>.ear` file by executing the command:

   ```
   jar -xvf <context_name>.ear
   ```

5. Delete the `<context>.ear` and `<context>.war` files (recently created) `<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear`
6. Create a directory `<context_name>.war` under `<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear`
7. Copy `<$FIC_WEB_HOME/<context_name>.war` file to `<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear/<context_name>.war`.

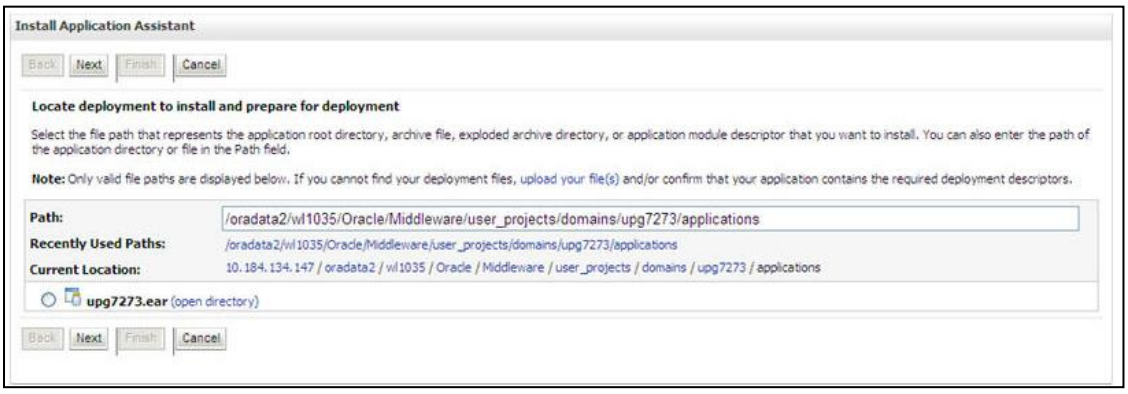
8. Explode the `<context_name>.war` file by executing the following command to get the directory structure:

   ```
   jar -xvf <context_name>.war
   ```

Install Application

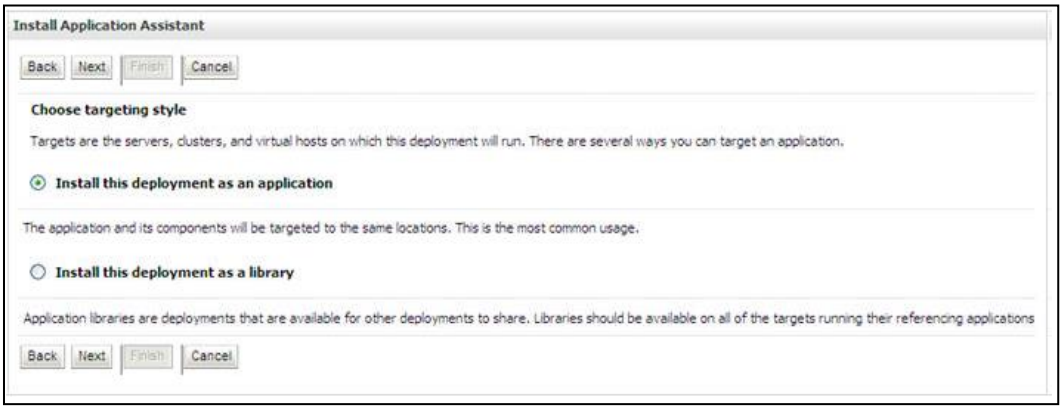
To install the Application, follow these steps:

1. Open the Install Application Assistant.



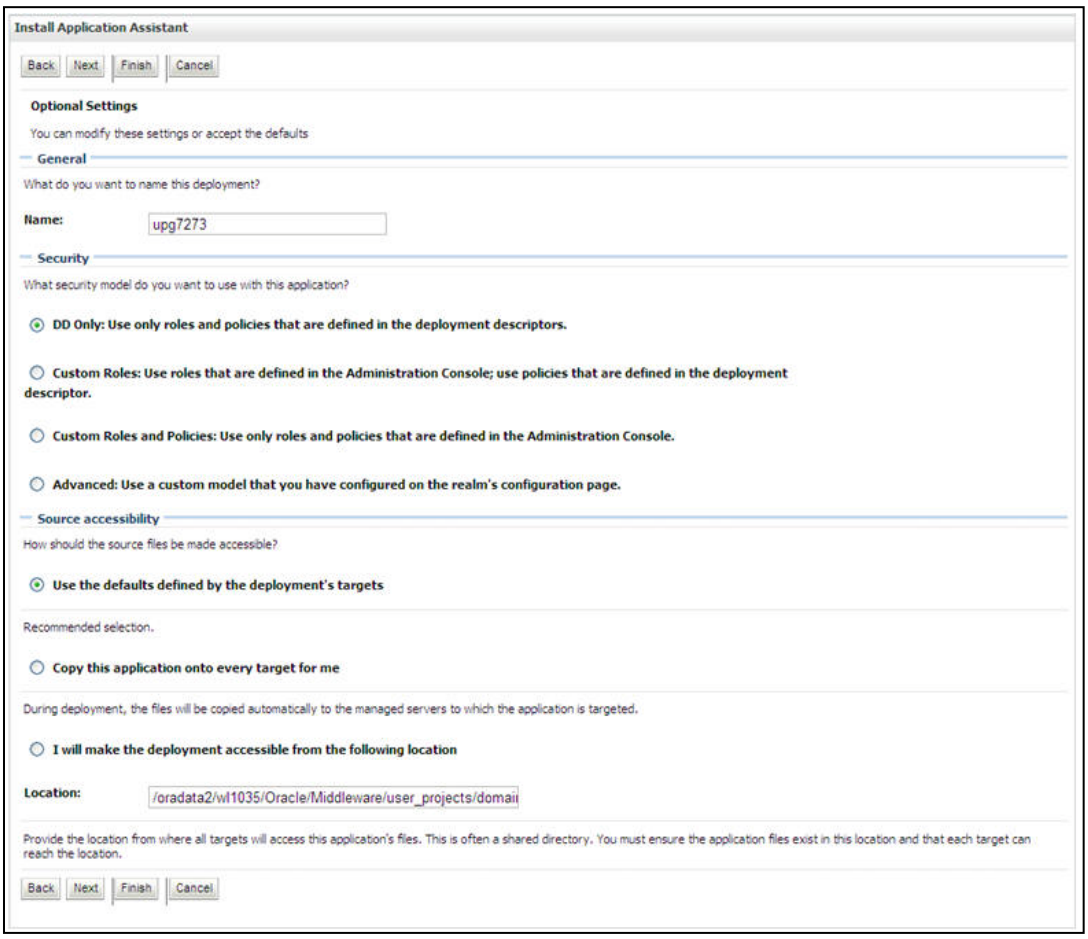
Install Application Assistant

2. Click **Next**.



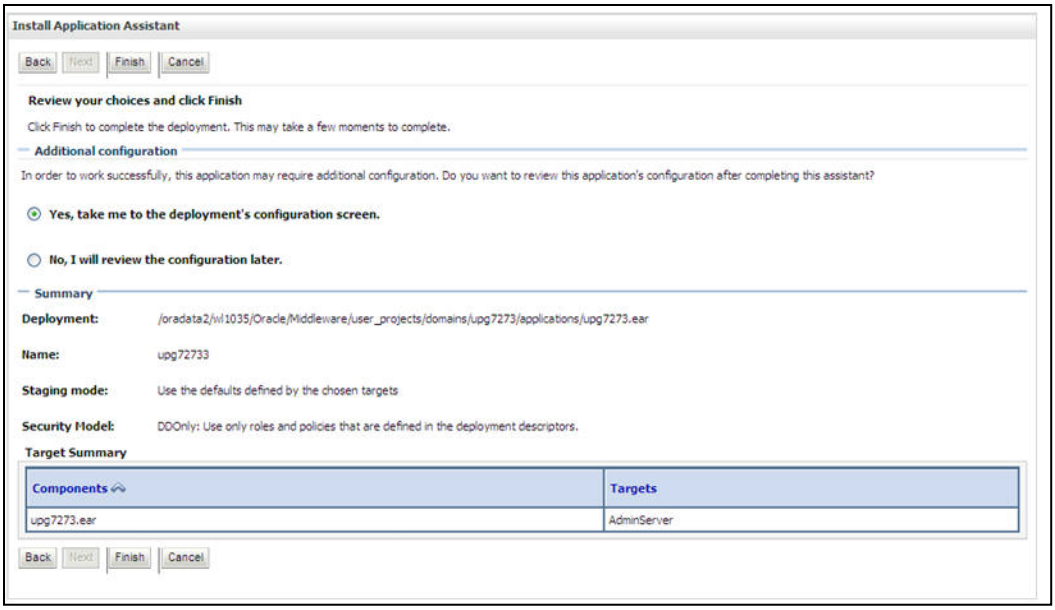
Install Application Assistant

3. From the *Choose targeting style* section, select the **Install this deployment as an application** option and click **Next**. The *Optional Settings* window is displayed.



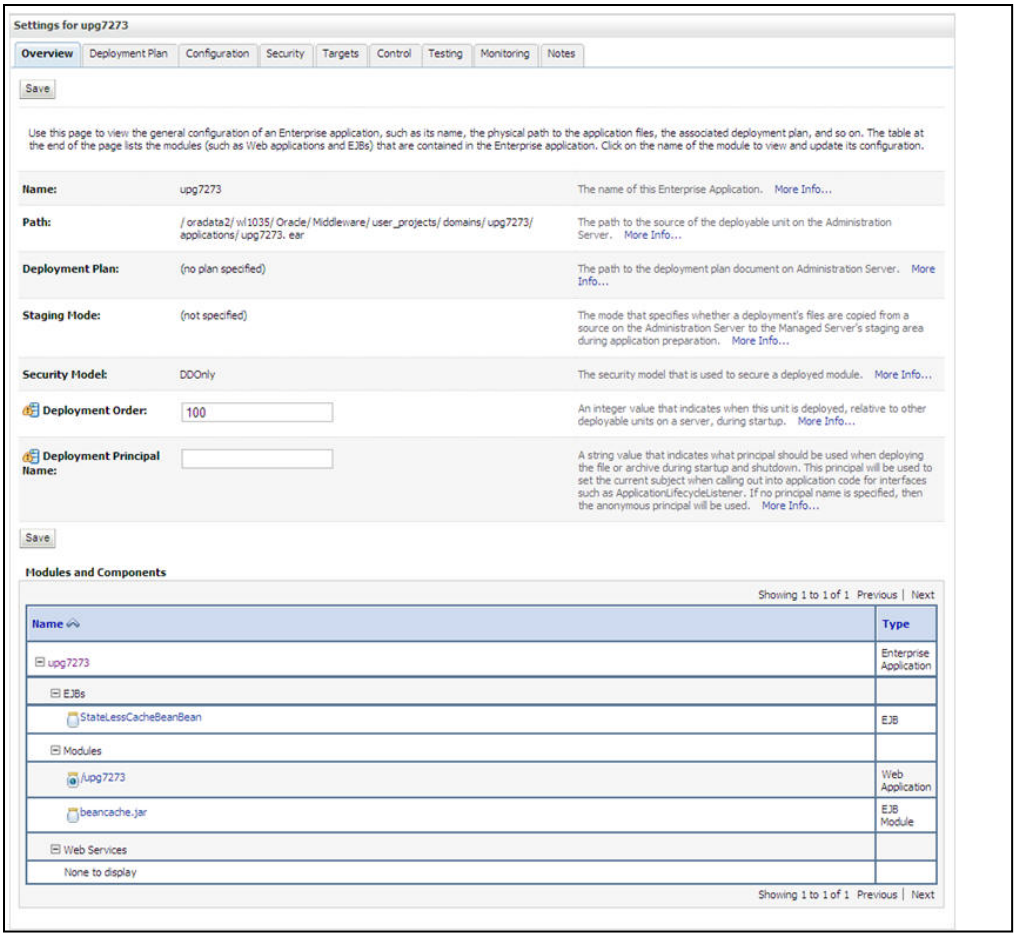
Optional Settings

4. Enter a **Name** for the deployment if required.
5. Under the *Security* section, select the **DD only** option to specify that only roles and policies that are defined in the deployment descriptors should be used.
6. Select the **I will make the deployment available from the following location** option under the *Source accessibility* section.
7. Click **Next** to continue. The *Deployment Summary* window is displayed.



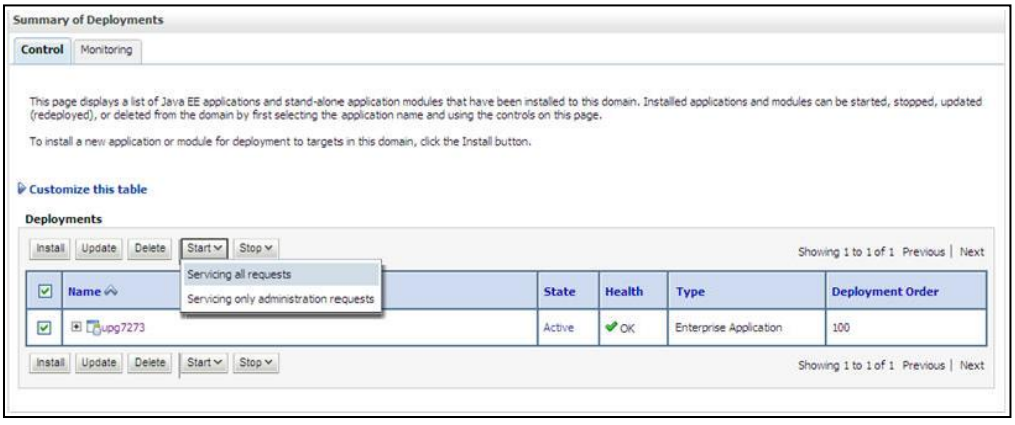
Deployment Summary

8. Select the **Yes, take me to the deployment's configuration screen** option and click **Finish**. The *Settings for <Deployment Name>* window is displayed.



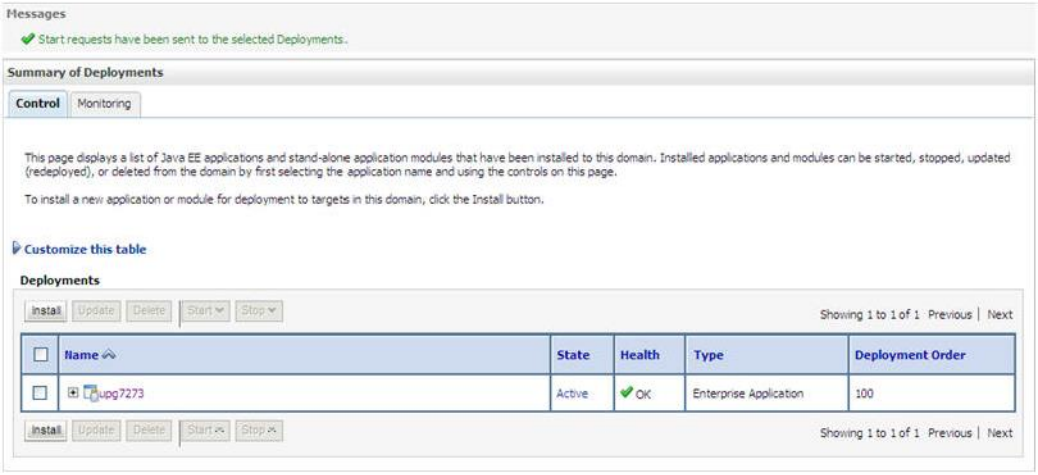
Settings for <Deployment Name>

9. Review the general configuration details of the deployment. You can also update the configuration of the deployment in this window. In the *Overview* tab you can view the complete deployment configuration.
10. Click **Save** to update the changes, if any.
11. From the LHS menu, click **Deployments**. The *Summary of Deployments* window is displayed.



Summary of Deployments

12. Select the newly deployed Infrastructure application and click **Start** > **Servicing all requests**. Ensure that the Infrastructure server is up and running.



Summary of Deployments

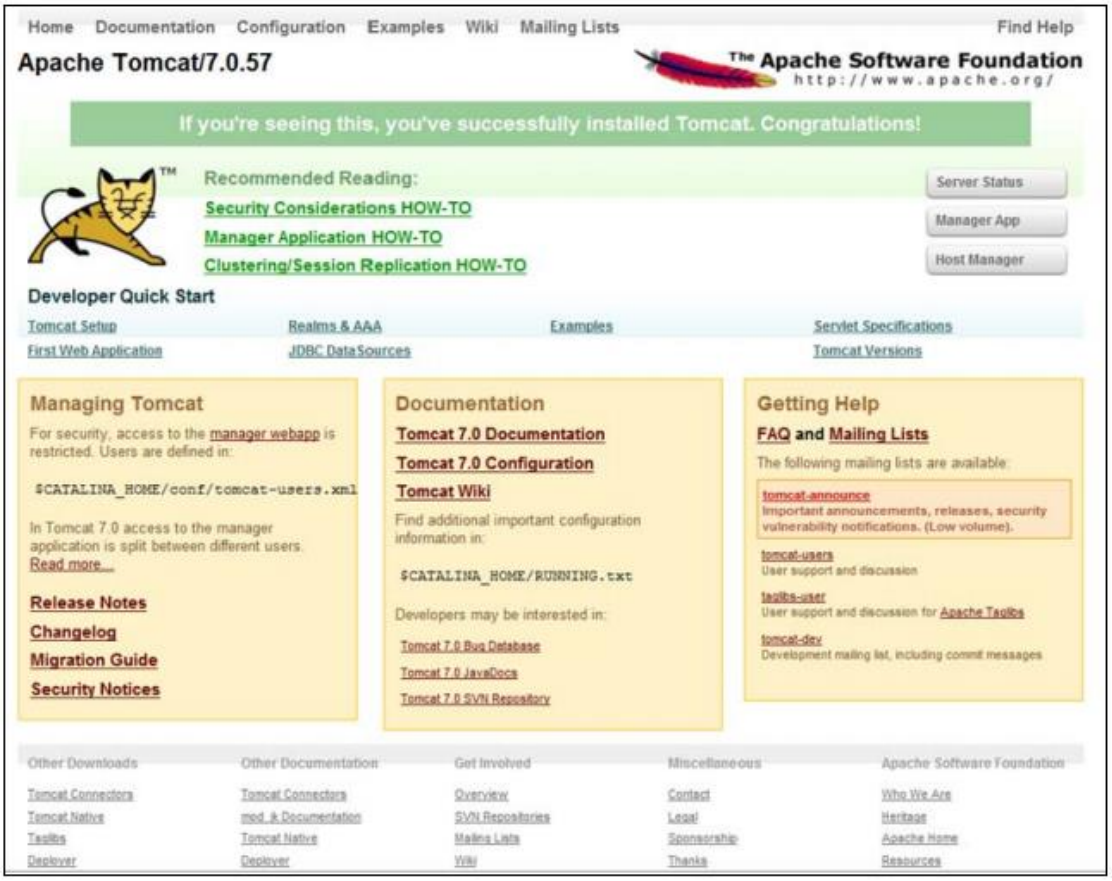
13. The **State** of the deployed application is displayed as **Active** if started successfully.

Deploying WAR Files on Tomcat

Before deploying the WAR files, ensure that the previously deployed applications of Infrastructure are uninstalled.

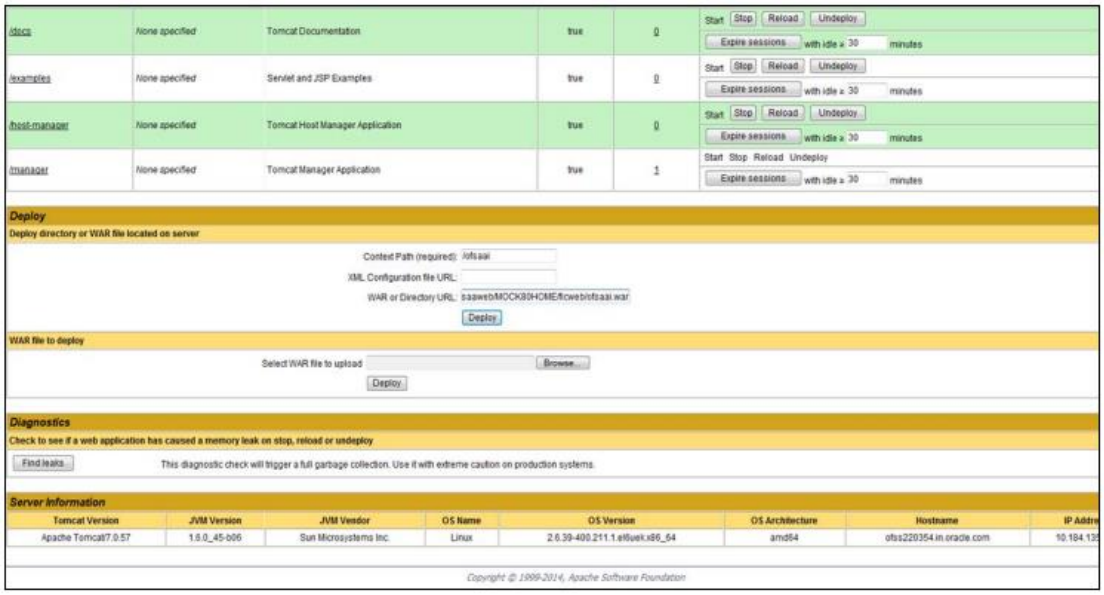
On the machine that hosts Tomcat, follow the below steps outlined to deploy Infrastructure application:

1. Copy the `<context-name>.war` file from $`FIC_WEB_HOME/ <context-name.war>` to `<Tomcat Installation Directory>/webapps/` directory.



Tomcat Home Page

2. Click **Manager App**. The *Connect to* dialog box is displayed.
3. Enter the **User ID** and **Password** that has admin rights and click **OK**. The *Tomcat Web Application Manager* window is displayed with the list of all the applications deployed.



Tomcat Web Application Manager

4. In the Deploy section, enter the **Context Path** provided during the installation as `/<context-name>`.
5. Enter the path where the `<context-name>.war` file resides (by default `$FIC_WEB_HOME/<context-name>.war`) in the **WAR or Directory URL** field and click **Deploy**.
6. On successful application deployment, a confirmation message is displayed. Start the Tomcat server.

If you encounter any problems during deployment, contact OFSAA Support at Oracle Support Services.

Appendix

Additional Information

This section includes the following topics:

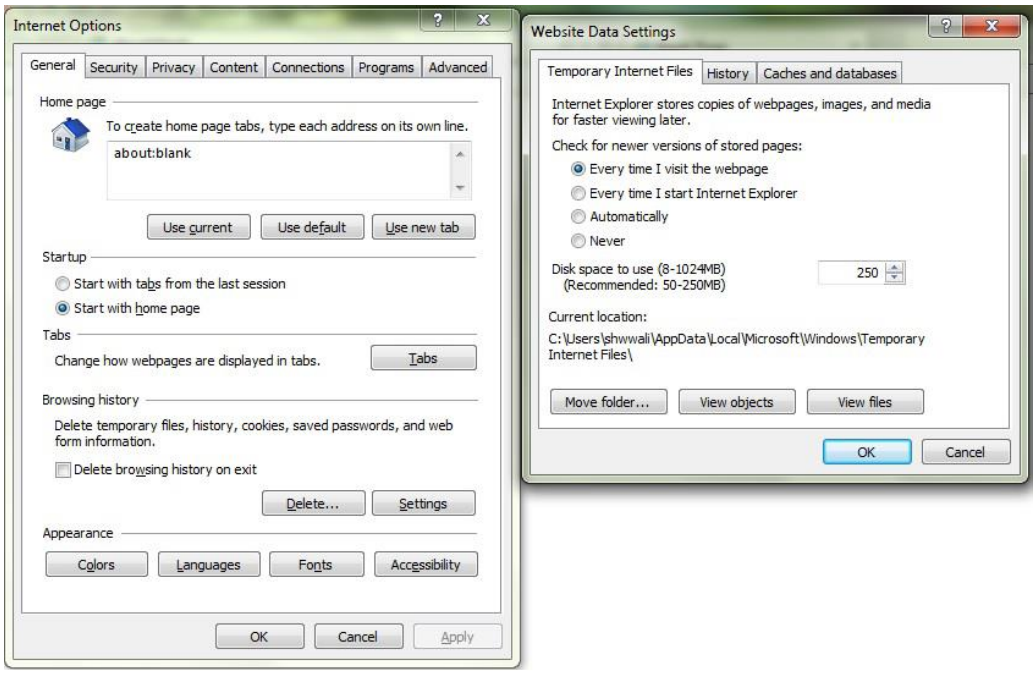
- Internet Explorer Settings
- Infrastructure LDAP Configuration

Internet Explorer Settings

NOTE: OFSAAI supports only default zoom setting in Internet Explorer, that is, 100%. Cookies should be enabled.

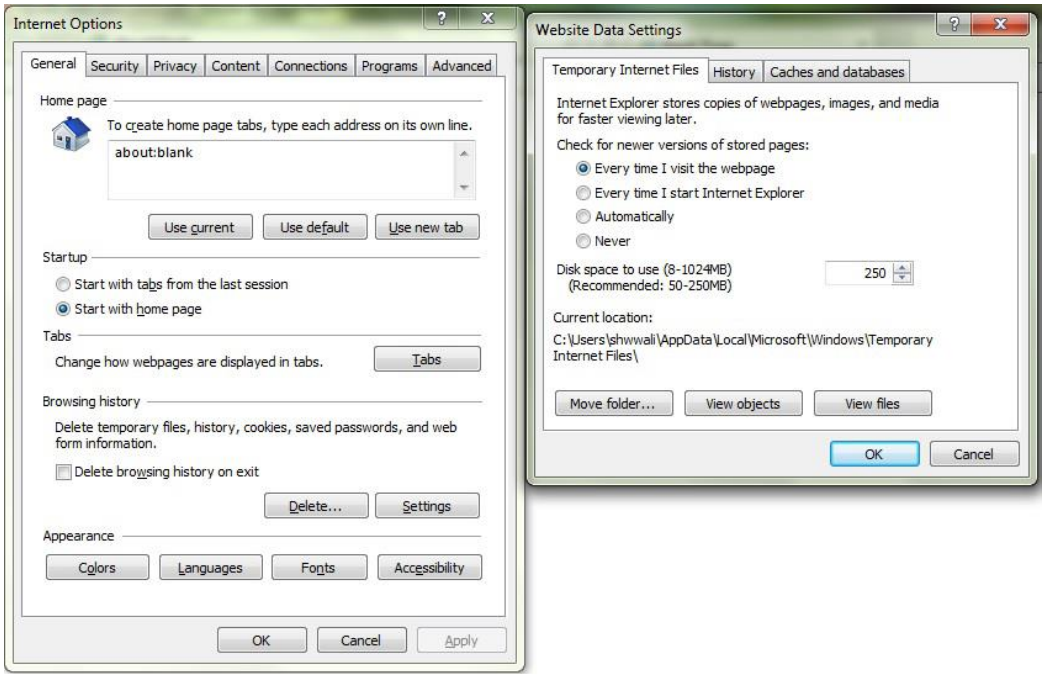
The following browser settings have to be specified at every client machine prior to accessing the Infrastructure application.

1. Open **Internet Explorer**. Select **Tools** > **Internet Options**. The Internet Options window is displayed.
2. Click the **Settings** button. The Settings window is displayed.
3. Select the option **Everytime I Visit the webpage** and click **OK**.



4. In the Internet Options window, select the **Security** tab and select the **Internet option** under **Select a zone to view or change the security** settings.
5. Click **Default Level** under **Security level for this zone**.

6. Click **OK** to save.
7. Click **Internet Explorer** >> **Tools** >> **Compatibility View Settings**.
8. Enter the OFSAA setup URL in the **Add this website** field.
9. Click **Add**.
10. Ensure the URL is listed under **Websites you've added to Compatibility View**.
11. In the Internet Options window, select the **Privacy** tab and select the **Turn on Pop-up Blocker** option under **Pop-up Blocker** settings.



12. Click **Settings**. The Pop-up Blocker Settings window is displayed.
13. Enter the URL of the OFSAA Application in the **Address of Website to Allow:** field.
14. Click **Add**. The OFSAA URL is displayed in the **Allowed Sites** section.
15. Click **Close**.
16. Click **OK** in the Internet Options window.

Infrastructure LDAP Configuration

This provides you with the option of using LDAP (Lightweight Directory Access Protocol) authentication or Infrastructure SMS authentication for logging on to Infrastructure.

If you are using the Infrastructure authentication, the user and user group details, profile creation, function and role maintenance and other mappings can be done through the Infrastructure Administration module under Security Management. The data in this case, will be updated in the CSSMS table.

However, if you wish to use LDAP for user authentication, then you have to ensure that the LDAP server is installed and configured. Also make sure that OPEN LDAP 2.2.29+ is installed and configured in Windows machine. Before doing the following configuration, it is required to select the "Authentication type" as LDAP in the *Configuration* screen of Infrastructure. This screen can be accessed by selecting *System Configuration* > *Configuration* in the LHS menu of Infrastructure. In the Windows machine in which LDAP Server is installed, go to the OpenLDAP installation directory through the command prompt and execute the command "**`slapd -d 1`**" to start the LDAP server.

Configure Infrastructure "Configuration Schema"

In the Infrastructure "configuration schema", ensure the following entries in Configuration Table.

PARAMNAME	Description	PARAM Value Example

PARAMNAME	Description	PARAM Value Example
AUTHENTICATIONTYPE	Authentication type	3 - AUTHENTICATIONTYPE value must be 3 for LDAP
ROOTCONTEXT	The Root Context for the LDAP Directory	dc=<OFSAA>, dc=<com>
ROOTDN	The Root dn for LDAP directory	cn=<Manager>, dc=<Reveleus>, dc=<com>
ROOTPASS	Password for the Root	<secret>
LDAPURL	LDAP URL	<ldap://10.11.12.13.1234/>
LDAP_SSL_MODE	LDAP in SSL Mode	N for non - SSL and Y for SSL
HASHPASS	Should the user password be Hashed	FALSE or TRUE. When HASSPASS is set as FALSE, we need to have the ROOTDN value as "uid=ORCLADMIN, ou =Users, dc=OFSAAI, dc=com". ORCLADMIN is a dummy user, it will be replaced dynamically with the logged in user. When HASSPASS is set as TRUE, we need to have the ROOTDN value as "cn=orcladmin, cn=Users, dc=i-flex,dc=com" and proper oracladmin LDAP password as ROOTPASS. First OFSAAI connects to LDAP directory using orcladmin user and fetches the login user details and verifies the entered password.
RETRIEVE_DN	To retrieve Distinguished Name	TRUE

NOTE: `ROOTCONTEXT`, `ROOTDN`, and `ROOTPASS` entries should be same as in the `slapd.conf` file.

Configure OpenLDAP Files

1. Copy the reveleusSchema.schema from **<Infrastructure Installation Directory> /ficapp/common/FICServer/conf/LDAP_LDIF folder to LDAPServer Schema** folder.
2. Copy the Domains.ldif and Reveleus.ldif files from **<Infrastructure Installation Directory>/ficapp/common/FICServer/conf/LDAP_LDIF** folder to **OpenLDAPServer** folder.

NOTE: Make sure that the ROOTCONTEXT in the Domains.ldif and Reveleus.ldif files are the same as slapd.conf file.

3. Provide the appropriate entries for **ROOTDN, ROOTPASS,** and **ROOTCONTEXT** in **slapd.conf** file in the **OpenLDAPServer** folder.
4. Add the text **"include schema/reveleusSchema.schema"** as the first line of the **slapd.conf** file.

NOTE: The above steps of the configuration are for OpenLDAP Server only. If you need to configure Infrastructure for any other LDAP Server, you will have to make the changes appropriately.

5. In the command prompt, navigate to the LDAP installation directory and execute the command **"ldapadd -D"ROOTDN" -w ROOTPASS -f/data/Reveleus.ldif"**
6. This is for creating the entries for Users, User Groups, Functions, Profiles, Segments, Domains, Roles, and HolidayMaster in the Data information Tree of LDAP.
7. Make an entry in the **Domains.ldif** file for each Information Domain that is created through the Infrastructure UI.

   To add an entry corresponding to the new Information Domain to the **Domains.ldif** file, add the following block of text with the appropriate values:

NOTE: DSNID refers to Information Domain name.

```
dn: DSNID=<DSN ID>,ou=Domains,@LDAP_DIRECTORY_ROOTCONTEXT@
changetype: add
mappedsegments: <Mapped segments/~>
dsnid: <DSN ID>
infodomname: < Information Domain Name>
objectClass: Infodom
objectClass: top
infodomdescription: < Information Domain Description>
Example:
dn: DSNID=FUSIONMOCK, ou=Domains, dc=FTP1,dc=com
mappedsegments: ~
dsnid: FUSIONMOCK
infodomname: FUSIONMOCK
objectClass: Infodom
objectClass: top
infodomdescription: FUSIONMOCK
```

Then, navigate to LDAP installation directory and execute the command **"D"ROOTDN" -w ROOTPASS -f/data/Domains.ldif"**

NOTE: You can add entries for multiple Information Domains at the same time.

Migrate Data from CSSMS Tables to LDAP Server

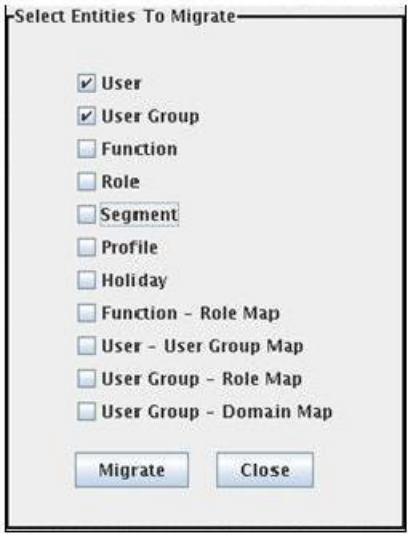
If you are using LDAP authentication, it is required to migrate all the details from the CSSMS table, which contains the information entered using the Infrastructure Administration module under Security Management to the LDAP Server.

To migrate data from CSSMS tables to LDAP server:

1. Invoke the **`LDAP_Migration.sh`** file in **`$FIC_HOME/MigrationUtilities/Migration_LDAP/bin`** folder. The Select Source & Destination for Migration window is displayed with the option to migrate the data from SMS to LDAP or vice versa.

Select Source and Destination for Migration

2. Select the SMS to LDAP option and click OK. The Select Entities to Migrate window is displayed.



Select Entities to Migrate

3. You can select the data that you wish to migrate such as Users, User Groups, Functions, Roles, Segment, Profiles, Holiday Master, Function Role Maps, User - User Group Maps, User Group Role Map, and User Group- Domain Map.
4. Select the entities that you wish to migrate and click Migrate. The data is migrated and a confirmation dialog is displayed.
5. You can verify the data migrated to LDAP server through the LDAP Browser.

NOTE: You should also enter the passwords for all the users as passwords are not migrated in migration process.

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