Oracle Financial Services Governance, Risk, and Compliance Application Pack

Installation Guide

Release 8.0.0.0.0
July 2015

ORACLE

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Document Control

This section provides the revision details of the document.

Table 1. Revision Details

Version Number	Revision Date	Changes Done
1.0	Created January 2015	Captured installation and configuration steps for 8.0.0.0.0 Release.
1.1	March 2015	Added Configurations for Java 7.
1.2	July 2015	Added Configurations for Java 8.
1.3	August 2015	Added 21133780 patch details, if installing on 8.0.1.0.0 version.
1.4	September 2015	Added an Appendix to capture details on upgrading an existing OFSAA 8.0.x Java 7 instance to Java 8
1.5	December 2015	Added Security Settings for ORA

This document includes the necessary instructions to install the OFS GRC Application Pack 8.0.0.0.0 and perform the required post installation configurations. The latest copy of this guide can be accessed from OTN Library.

Contents

Preface

This guide provides information for the Oracle Financial Services Governance, Risk, and Compliance Applications Pack Installation and Configuration Guide.

This chapter includes the following topics:

Summary

You can find the latest copy of this document in OTN library which includes all the recent additions/revisions (if any) done till date.

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

Audience

Oracle Financial Services Installation Guide is intended for Administrators and Implementation Consultants who are responsible for installing and maintaining the application pack components.

Pre-requisites for Audience

Following are the expected preparations before starting the actual installation:

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

Related Documents

This section identifies additional documents related to OFSAA Infrastructure. Following documemts are available in OTN.

OFSAA Related Documents

- *Oracle Financial Services Analytical Applications Infrastructure Administration Guide*
- *Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide*
- *Oracle Financial Services Analytical Applications Infrastructure Language Pack Guide*
- *Oracle Financial Services Analytical Applications Infrastructure User Guide*
- *Secure Configuration Document.*

OFSGRC Related Documents

This section identifies additional documents related to OFS GRC Application Pack. Following documemts are available in OTN.

- *Oracle Financial Services Governance Risk and Compliance Management Operational Risk User Guide:* This guide provides information about all the modules in the Oracle Financial Services Governance and Compliance Management Operational Risk application.
- *Oracle Financial Services Governance Risk and Compliance Management Enterprise Risk Assessment User Guide:* This guide provides information about all the modules in the Oracle Financial Services Governance and Compliance Management Enterprise Risk Assessment application.
- *Oracle Financial Services Model Risk Management User Guide:* This guide provides information about all the modules in the Oracle Financial Services Model Risk Management application.
- *Oracle Financial Services Operational Risk Analytic User Guide:* This guide explains the structures of the entities in the OFSORA and provides in-depth information on data handling of the Oracle Financial Services Operational Risk Analytic system.

Conventions Used in this Guide

Table 1. Conventions Used in this Guide

This convention...	Stands for...
Italics	• Names of books, chapters, and sections as references • Emphasis
Bold	• Object of an action (menu names, field names, options, button names) in a step-by-step procedure • Commands typed at a prompt • User input
`Monospace`	• Directories and subdirectories • File names and extensions • Process names • Code sample, including keywords and variables within text and as separate paragraphs, and user-defined program elements within text
<Variable>	• Substitute input value

Abbreviations

The following table lists the abbreviations used in this document:.

Table 2. Conventions Used in this Guide

Abbreviation	Meaning
AIX	Advanced Interactive eXecutive
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
ORA	Operational Risk Analytics
FTP	File Transfer Protocol
GUI	Graphical User Interface
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
MOS	My Oracle Support
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OLAP	On-Line Analytical Processing

Table 2. Conventions Used in this Guide (Continued)

Abbreviation	Meaning
RAM	Random Access Memory
RDMS	Relational Database Management System
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
WAR	Web Archive
XML	Extensible Markup Language

CHAPTER 1 About OFS GRC Application Pack

This chapter includes the following topics:

About Oracle Financial Services Analytical Applications (OFSAA)

In today's turbulent markets, financial institutions require a better understanding of their risk-return while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications (OFSAA) enable financial institutions to measure and meet risk adjusted performance objectives, cultivate a risk management culture through transparency, lower the costs of compliance and regulation, and improve insight into customer behavior.

OFSAA uses industry-leading analytical methods, shared data model, and applications architecture to enable integrated risk management, performance management, customer insight, and compliance management. OFSAA actively incorporates risk into decision making, enables to achieve a consistent view of performance, promote a transparent risk management culture, and provide pervasive intelligence.

Oracle Financial Services Analytical Applications delivers a comprehensive and integrated suite of financial services analytical applications for both banking and insurance domain.

About Oracle Financial Services Analytical Applications (OFSAA) Application Packs

The following figure depicts the various application packs that are available across the OFSAA Banking and Insurance domains

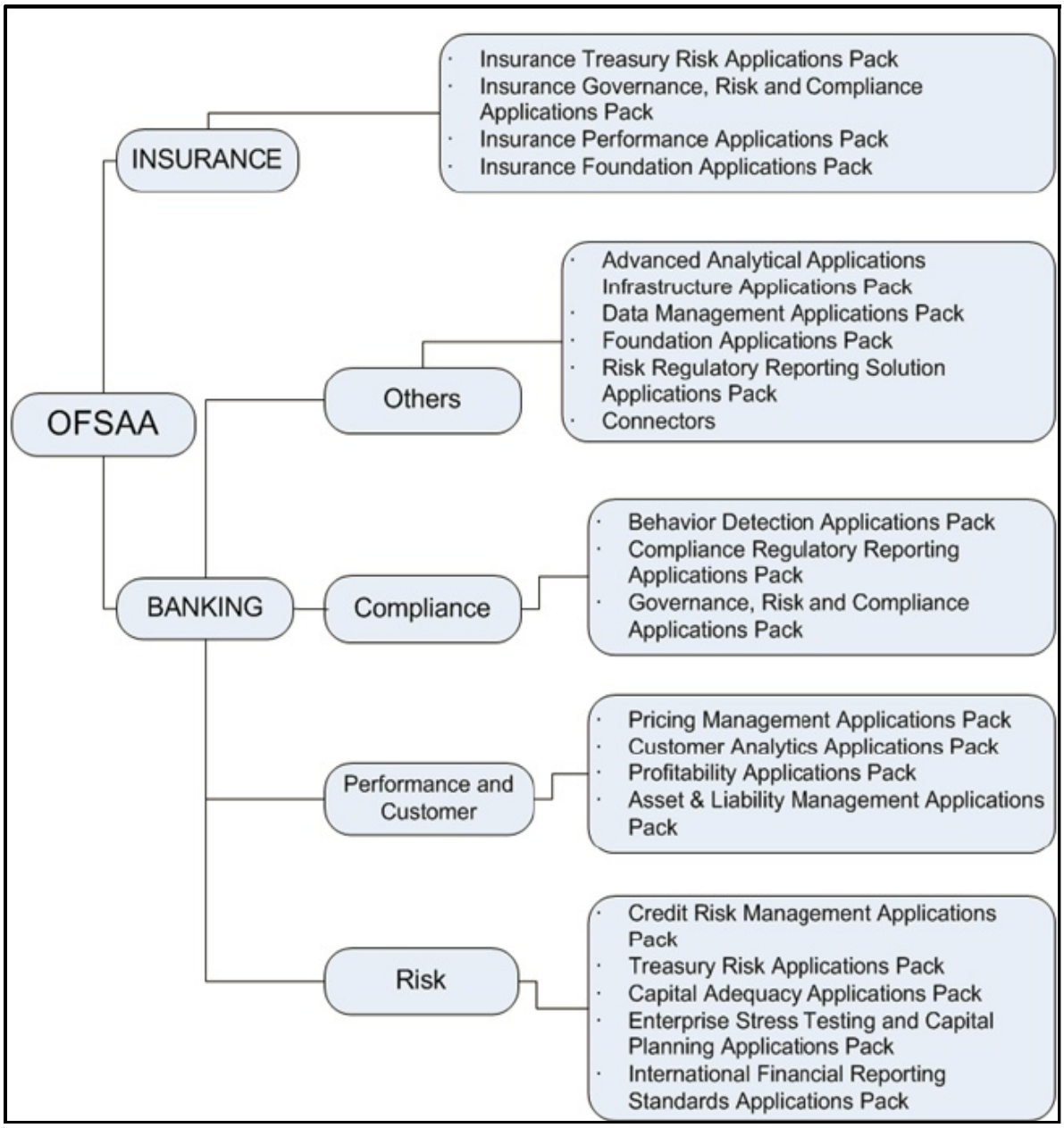

Figure 1. OFSAA Application Packs

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About OFS GRC Application Media Pack

The OFS GRC Application Pack includes the following applications:

- **Financial Services Analytical Applications Infrastructure:** This application streamlines analysis using a set of tools for data management and security administration and creates a single, consistent and enterprise-wide source of all relevant customer and financial data.

- **Financial Services Operational Risk:** Financial Services Operational Risk solution provides a comprehensive framework to manage governance, risk, and compliance across the organization.

  This application provides the ability to conduct Risk and Control Assessment, capture Key Indicators (for Risk and Control), collect Losses and compute Economic Capital, thus providing all the elements required for addressing Regulatory Compliance which can be facilitated by a Central Operational Risk Management Team.

- **Financial Services Governance and Compliance Management :** Oracle Financial Services Governance and Compliance Management provides an in-depth level of insight across the enterprise to effectively identify, monitor, and manage risks and controls across lines of business and processes within a comprehensive, Governance, Risk, and Compliance (GRC) framework. This level of insight gives senior management and additional stakeholders the confidence that the business is performing in line with stated business objectives.

- **Financial Services Model Risk Management :** Financial institutions rely heavily on financial and economic models for a wide range of applications such as risk management, valuation, and financial/regulatory reporting. The level of sophistication of models used for such applications varies widely from relatively simple spreadsheet tools to complex statistical models applied to millions of transactions. Regardless of the level of sophistication, model use exposes the financial institutions to model risks ? which leads to the possibility of a financial loss, incorrect business decisions, misstatement of external financial disclosures, or damage to the company's reputation arising from possible errors in the model design and development process (including the design and development of changes to existing models) - such as errors in the data, theory, statistical analysis, assumptions, or the code of underlying model. The Oracle Financial Services Model Risk Management provides model information vide a single instance thereby breaking silos within an organization and facilitates in better management of model risks through periodic assessments and validations.

- **Financial Services Operational Risk Analytics :** This application enables institutions to perform business-user driven reporting through historical and predictive analysis of enterprise-wide operational risk with a comprehensive and readily deployable suite of pre-built analytics, thereby allowing institutions to capitalize on their present investments. Through better in-depth analysis of loss, risk and control data, an institution can see areas of weakness as well as scope for improvements. OFSORA helps in determining trends based on risks by business units, locations, and any other operational risk dimension across time periods and achieve desired transparency and audit ability in reports and dashboards. OFSORA also helps in alerting senior management to evolving situations to prevent future crises and comply with BIS Principles for Effective Risk Data Aggregation and Risk Reporting.

- **Financial Services Enterprise Risk Assessment :** This application provides a comprehensive framework to define and access risk appetite across the organization. It also provides a framework for defining risk appetite in terms of Strategic Objectives, Specific Statements, and Key Indicators. The application provides a framework for assessing risk appetite by computing the scores of the Strategic Objectives and Specific Statements based on the Key Indicators values and comparing them against the pre-specified limits highlighting deviations from the organizational goals, thereby enabling institutions to take timely corrective action. The solution is built on Oracle Financial Services Analytical Application Infrastructure, the industry's only integrated business infrastructure designed to serve Enterprise Risk, Performance, Compliance, and Customer Insight requirements. Oracle Financial Services Analytical Applications use a commonly available analytical infrastructure consisting of a unified financial services data model, analytical computations and the industry-leading Oracle Business Intelligence platform.

About Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAAI)

Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAAI) powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection and manipulation of data and information needed to analyze, understand and report on specific performance, risk, compliance and customer insight issues by providing a strong foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of Risk, Performance, Compliance and Customer Insight.

Components of OFSAAI

The OFSAA Infrastructure is comprised of a set of frameworks that operates on and with the Oracle Financial Services Analytical Applications Data Model and form the array of components within the Infrastructure.

The OFSAA Infrastructure components or frameworks are installed in two layers: primarily the metadata server and Infrastructure services run on one layer, and the UI and presentation logic runs on the other. The UI and presentation layer is deployed on any of the supported J2EE Servers.

The following figure depicts the various frameworks and capabilities that make up the OFSAA Infrastructure:

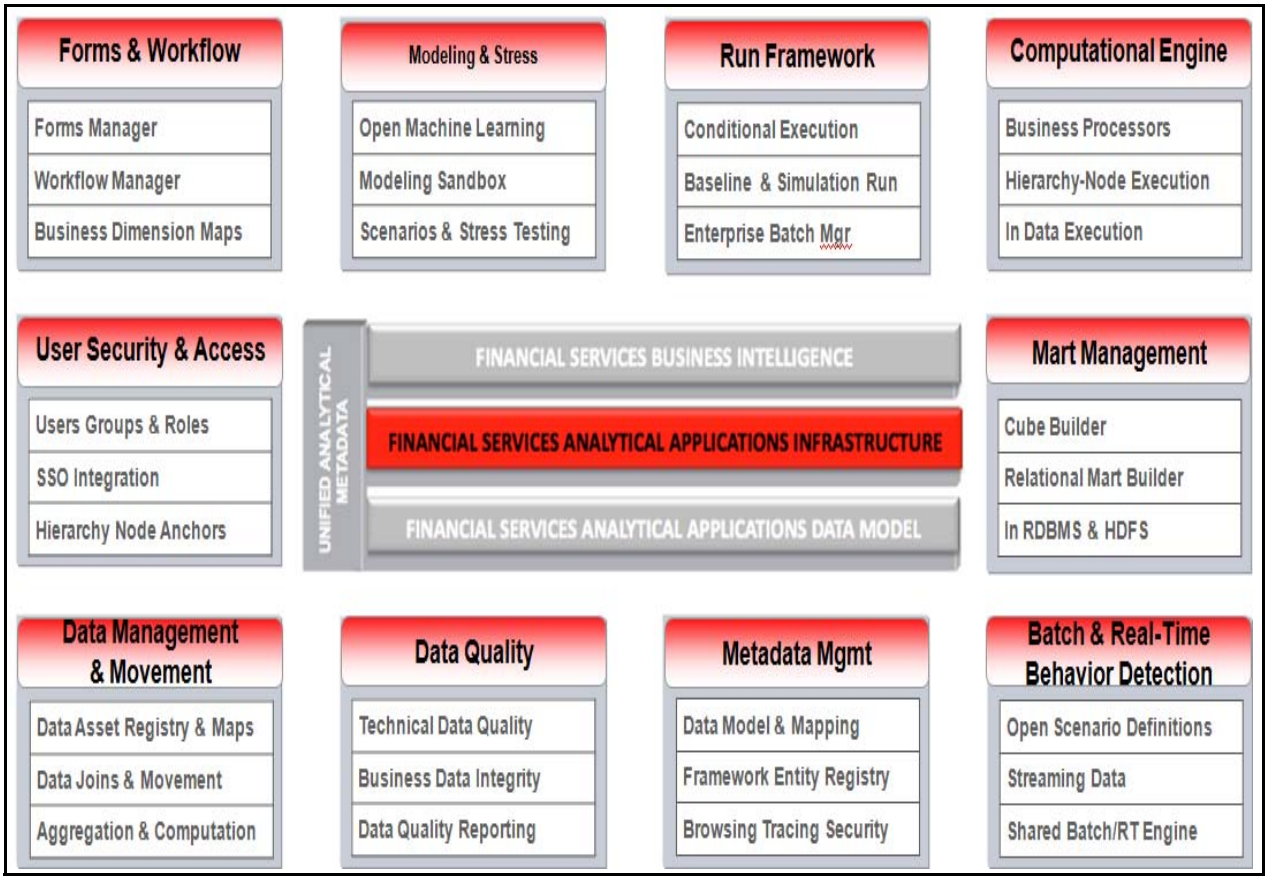

Figure 2. Components of OFSGRC

CHAPTER 2 Understanding OFS GRC Application Pack Installation

This chapter includes the following topics:

Installation Overview

This section gives an overview of the OFS GRC Application Pack Installation.

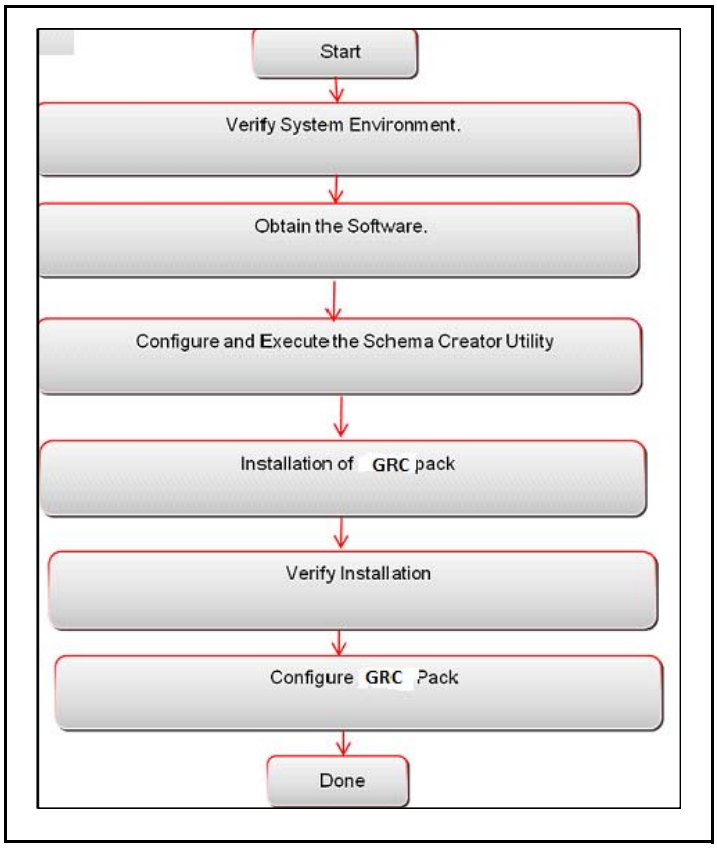

Figure 3. Installation Overview

The following table provides additional information and links to specific documentation for each task in the flowcharts.

Table 1. OFSGRC Application Pack Installation Tasks and Descriptions

Tasks	Details and Documentation
Verify Systems Environment	To verify that your system meets the minimum necessary requirements for installing and hosting the OFS GRC Application Pack, See *Verifying the System Environment*.
Obtain the software	See *Obtaining Software*.
Configure and Execute the Schema Creator Utility	See *Configuring and Executing the Schema Creator Utility*.
Install OFS GRC Pack	See *Installing OFS GRC Application Pack*.
Configure OFS GRC Pack	See *Post Installation Configuration*.

Deployment Topology

The following figure depicts the logical architecture implemented for OFS GRC Application Pack.

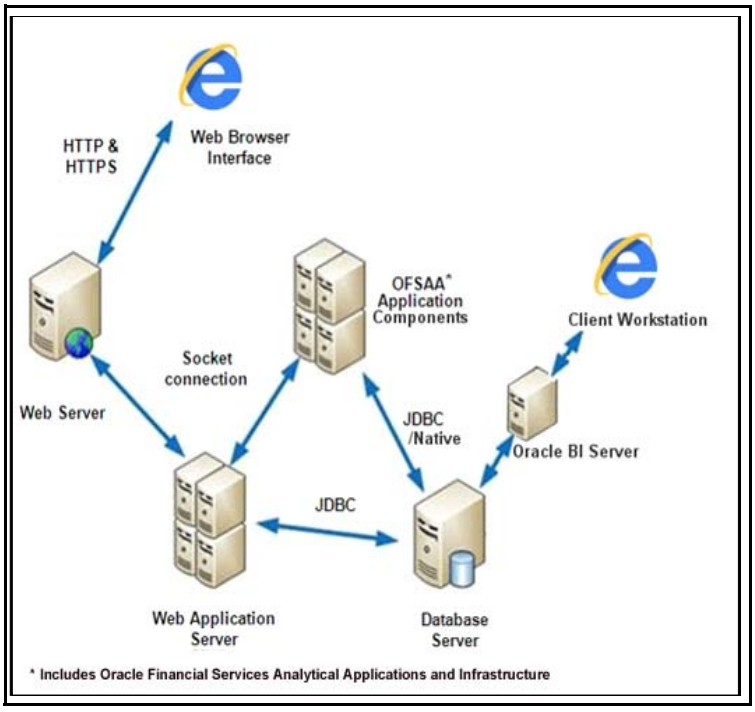

Figure 4. Logical Deployment Architecture

Hardware and Software Requirements

This section describes the various Operating Systems, Database, Web Server and Web Application Server versions, and other variant details on which this release of the OFS GRC Application Pack has been qualified.

Note: OFS GRC Application Pack installation can be performed on both Virtual and Physical servers.

The following table shows the minimum hardware and software requirements for running OFS GRC Application Pack.

Configurations supported for Java 7

The following table shows the minimum hardware and software requirements for installing GRC Application Pack (for Java 7).

Table 2. Configurations Supported for JAVA 7

Category	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 is supported
	Oracle Solaris (SPARC)/ Solaris x86	• Oracle Solaris v5.10 Update 11 and above - 64 bit • Oracle Solaris v5.11 update 1 and above – 64 bit
	IBM AIX (PowerPC)	AIX 6.1 (TL 09 and above) - 64 bit
	Shell	KORN Shell (KSH)
Note : If the OS is IBM AIX 6.1, configure the size parameter setting for *Large File Support.* Refer link http://www-01.ibm.com/support/docview.wss?uid=isg3T1000290 for more details. 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 Solaris	Oracle Java Runtime Environment (JRE) 1.7.x - 64 bit.
	IBM AIX	IBM AIX Runtime, Java Technology JRE 1.7.x - 64 bit.

Table 2. Configurations Supported for JAVA 7

Category	Sub-Category	Value
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) • Oracle Distribution of R version 2.15.1, 2.15.2, or 2.15.3.(Optional) • Oracle R Enterprise (Server) version 1.4. (Optional)
	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 / IBM AIX • Oracle Solaris	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.	

Table 2. Configurations Supported for JAVA 7

Category	Sub-Category	Value
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 off Pop-up blocker settings. For more information, refer Internet Explorer Settings.
	Office Tools	• MS Office 2007/ 2010/2013 • Adobe Acrobat Reader 8 and 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.	

Configurations supported for Java 8

The following table shows the minimum hardware and software requirements for installing GRC Application Pack (for Java 8).

Table 3. Configurations Supported for JAVA 8

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 is supported
	Oracle Solaris (SPARC)/ Solaris x86	• Oracle Solaris v5.10 Update 11 and above - 64 bit • Oracle Solaris v5.11 update 1 and above – 64 bit
	IBM AIX (PowerPC)	AIX 6.1 (TL 09 and above) - 64 bit
	Shell	KORN Shell (KSH)

<table>
<tr><th>Requirement</th><th>Sub-Category</th><th>Value</th></tr>
<tr><td colspan="3">Note :
If the OS is IBM AIX 6.1, configure the size parameter setting for "Large File Support". Refer link http://www-01.ibm.com/support/docview.wss?uid=isg3T1000290 for more details.
If the operating system is RHEL, install the package <code>lsb_release</code> using one of the following commands by logging in as root user:
<code>yum install redhat-lsb-core</code>
<code>yum install redhat-lsb</code></td></tr>
<tr><td rowspan="2">Java Runtime Environment</td><td>Oracle Linux / Red Hat Enterprise Linux
Oracle Solaris</td><td>Oracle Java Runtime Environment (JRE) 1.8.x - 64 bit</td></tr>
<tr><td>IBM AIX</td><td>IBM AIX Runtime, Java Technology JRE 1.8.x - 64 bit</td></tr>
<tr><td rowspan="2">Oracle Database Server and Client</td><td></td><td>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)
Oracle Distribution of R version 2.15.1, 2.15.2 or 2.15.3.(Optional)
Oracle R Enterprise (Server) version 1.4. (Optional)</td></tr>
<tr><td colspan="2">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
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)</td></tr>
<tr><td rowspan="2">OLAP</td><td>Oracle Hyperion Essbase</td><td>V 11.1.2.1+ (Server and Client) with Oracle 11g Database
V 11.1.2.3+ (Server and Client) with Oracle 12c Database</td></tr>
<tr><td>Oracle OLAP</td><td>V 11.2.0.3+ with Oracle 11g Database
V 12.1.0.1+ with Oracle 12c Database</td></tr>
<tr><td colspan="3">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.</td></tr>
</table>

Requirement	Sub-Category	Value
Web Server/ Web Application Server	● Oracle Linux / Red Hat Enterprise Linux /IBM AIX ● Oracle Solaris	● 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. ● For deployment on Oracle WebLogic Server 12.1.3+ (64 bit) with Java 8, download and install patch 18729264 from http://support.oracle.com/.	
Desktop Requirements	Operating System	MS Windows 7/ Windows 8/ Windows 8.1
	Browser	● MS Internet Explorer 9 , 10, and 11 (Compatibility Mode) ● Oracle Java plug-in 1.7.0+*(64- bit) ● Turn off 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.	

Note: To upgrade an existing OFSAA 8.0.x Java 7 instance to Java 8, refer APPENDIX P.

OFSAAA recommends the following software combinations for deployment:

Table 4. 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
Oracle Solaris 5.10/ 5.11	Oracle Database	Oracle WebLogic Server /Apache Tomcat Server	Oracle HTTP Server/ Apache HTTP Server
IBM AIX 6.1	Oracle Database	IBM WebSphere Application Server /Apache Tomcat Server	IBM HTTP Server/ Apache HTTP Server

Verifying the System Environment

To verify your system environment meets the minimum requirements for the installation, a Pre-Install Check utility is available within the Install Kit archive file. This utility can also be obtained separately by contacting Oracle Support.

Though the system environment verification is an integral and automated part of the installation of this software product, Oracle strongly recommends running this utility prior to beginning the installation as part of your organization's Installation Readiness Verification Process.

Note: For more details on download and usage of this utility, refer Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide.

Understanding Installation Modes

The following modes of installation are available for the OFS GRC Application Pack.

- GUI Mode
- Silent Mode

GUI Mode

This mode launches the product installation in a Graphical User Interface (GUI) Mode. You need to enter the required information on various panels within the UI in a user interaction format at various stages.

For more information on configuration required for GUI Mode installation, refer Configuration for GUI Mode Installation.

Silent Mode

This mode mandates updating the installation files with required details and performs installation in a Silent format.

CHAPTER 3 Preparing for Installation

This chapter provides necessary information to review before installing the Oracle Financial Services Governance, Risk, and Compliance Applications (OFS GRC) Pack v 8.0.0.0.0.

This chapter includes the following topics:

Installer and Installation Prerequisites

The following table lists the prerequisites required before starting the installation of OFS GRC application. The Installer/Env Check utility notifies you if any requirements are not met.

Table 5. Prerequisites Information

Category	Sub-Category	Expected Value
Environment Settings	Unix User Settings	• User to have 755 permission on the directory identified for installation (FIC_HOME). • User to have 755 permission on the .profile file.
	Java Settings	PATH in .profile to be set to include the Java Runtime Environment absolute path. The path should include java version (Java 7 or Java 8) based on the configuration selected. **Note:** • Ensure the absolute path to JRE/bin is set at the beginning of PATH variable. For example, PATH=/usr/java/jre1.7/bin:$ORACLE_HOME/bin:$PATH • Ensure no SYMBOLIC links to JAVA installation is being set in the PATH variable.
	Oracle Database Settings	• TNS_ADMIN to be set in .profile pointing to appropriate tnsnames.ora file. • ORACLE_HOME to be set in .profile pointing to appropriate Oracle Client installation. • PATH in .profile to be set to include appropriate $ORACLE_HOME/bin path.
	Oracle Essbase Settings	ARBORPATH, ESSBASEPATH, HYPERION_HOME to be set in the .profile pointing to an appropriate Oracle Essbase Client installation. **Note:** These settings are required only if you want to use Oracle Hyperion Essbase OLAP features.

Table 5. Prerequisites Information

Category	Sub-Category	Expected Value
OS/ File System Settings	File Descriptor Settings	Greater than 15000
	Total Number of Process Settings	Greater than 4096
	Port Settings	• Default port numbers to be enabled on the system are 6500, 6501, 6505, 6507, 6509, 6510, 6666, 9999, and 10101.
	.profile permissions	User to have 755 permission on the `.profile` file.
	Installation Directory	• A directory where the product files will be installed/ copied. • Set to 755 on the Installation directory • Installation directory is also set as FIC_HOME in `.profile`
	Staging Area/ Metadata Repository	• A directory to hold the application metadata artifacts and additionally act as staging area • The directory should exist on the same system as the OFSAA Installation. This directory can be configured on different mount or under a different user profile • Set 775 permission on this folder
	Download Directory	• A directory where the product installer file will be downloaded/ copied. • Ensure user permission is set to 755 on the download directory.
Database Settings	Database Instance Settings	• `NLS_CHARACTERSET` to be AL32UTF8 • `NLS_LENGTH_SEMANTICS` to be BYTE • `OPEN CURSORS` limit to be greater than 1000

Table 5. Prerequisites Information

Category	Sub-Category	Expected Value
Web Application Server	WebSphere/ WebLogic/Tomcat	● Web Application Server should be installed and profile/domain is created ● You are prompted to enter the WebSphere Profile path or WebLogic Domain path or Tomcat Deployment path during OFSAAI installation **Note:** ● For More information on WebSphere Profile Creation and WebLogic Domain Creation, refer to APPENDIX A. ● For deployment on Oracle WebLogic Server 12.1.3+ (64 bit) with Java 8, download and install patch 18729264 from https://support.oracle.com/
Web Server	Apache HTTP Server/ Oracle HTTP Server	This is an optional requirement. HTTP Server Installation to be present. You are required to enter the Web Server IP/ Hostname and Port details. **Note:** For more information for Web Server Installation, refer to APPENDIX A.

Table 5. Prerequisites Information

Category	Sub-Category	Expected Value
Others	Oracle R/ Oracle R Enterprise	This is an optional requirement. For more information, refer Installation of Oracle R distribution and Oracle R Enterprise (ORE)
	OFSAA	• For installation on Java 8, login to https://support.oracle.com/ and search for 21160684 under the Patches and Updates tab. • For installation of this release on an existing OFSAA instance version 8.0.1.0.0, login to https://support.oracle.com/ and search for 21133780 under the Patches and Updates tab. • For installation of this release on an existing OFSAA instance version 8.0.2.0.0, login to https://support.oracle.com/ and search for 21657319 under the Patches and Updates tab.

	GRC on BD Pack	For installation of this release on an existing BD Pack instance, below steps needs to be followed:
		• Execute below scripts in Config Schema before start of GRC installation
		  ■ alter table CSSMS_GROUP_MAST_PACK drop CONSTRAINT UK_CSSMS_GROUP_MAST_PACK drop INDEX
		  ■ alter table CSSMS_GROUP_MAST drop CONSTRAINT UK_GROUP_MAST drop INDEX
		• Once GRC installation is done, apply the 1-off with Bug 21796081. Login to https://support.oracle.com/ and search for corresponding patch id under the Patches and Updates tab. Download & save the patch for post installation activity.

	GRC on CAP Pack	For installation of this release on an existing CAP Pack instance, below steps needs to be followed: • Order Of Installation should be as below: *CAP 8.0 >> CAP 8.0.0.0.1(Bug ID-21080052) >> GRC 8.0 >> GRC 8.0.0.0.10(Bug ID-21530684) >> CAP 8.0.0.0.2(Bug ID-21767340)* Login to https://support.oracle.com/ and search for corresponding patch id under the Patches and Updates tab. Save all patches & complete the installation as per above order.

Taking Backup

Take a backup of the following before the application installation process starts. The backup should be kept until the application runs successfully.

- OFSAAI Configuration schema
- OFSAAI Installation directory
- OFSAAI FTPSHARE directory
- OFSAAI Atomic Schema

Note: This activity should be performed if any other media pack is already installed.

Obtaining Software

This release of OFS GRC Application Pack v8.0.0.0.0 can be downloaded from the Oracle Software Delivery Cloud (https://edelivery.oracle.com). You need have a valid Oracle account in order to download the software.

Common Installation Tasks

The following are the common pre-installation activities that you need to carry out before installing the OFS GRC application pack.

This section includes the following topics:

- Configuration for GUI Mode Installation
- Identifying the Installation and Download Directory
- Download and Copy OFS GRC Application Pack Installer
- Copying and Extracting Software
- Setting up Web Application Server
- Installation of Oracle R distribution and Oracle R Enterprise (ORE)

Configuration for GUI Mode Installation

To install OFS GRC Application Pack in GUI mode, you need to ensure the 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 will be 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`

Identifying the Installation and Download Directory

For installation of any OFSAA Application Pack, the folders/directories required to be created.

- **GRC Download Directory (Optional)** - Create a download directory and copy the GRC Application Pack Installer File (Archive). This is the directory where the downloaded installer/ patches can be copied. The pack folder name should be `OFS_BGRC_PACK`.
- **OFSAA Installation Directory (Mandatory)** - Create an installation directory. This is the directory where the installer is install/copy the product files. FIC_HOME variable to be set in the `.profile` pointing to this OFSAA Installation Directory.
- **OFSAA Staging/Metadata Repository Directory (Mandatory)** - Create a Staging/Metadata Repository Directory. This is the directory where you are required to copy the data loading files, save data extracts and so on. Additionally, this folder also maintains the OFSAA metadata artifacts. This is commonly referred as FTPSHARE.

Note:

- Ensure the user permission is set to 755 on the Installation and Download Directory.
- Ensure the user permission is set to 775 on the Staging Directory.

Download and Copy OFS GRC Application Pack Installer

- To download the OFS GRC Application Pack, you need to login to the Oracle Software Delivery Cloud (https://edelivery.oracle.com). You need to have a valid Oracle account in order to download the software.
- Copy the downloaded installer archive to the Download Directory (in Binary Mode) on the setup identified for GRC installation.

Copying and Extracting Software

Once you obtain the installer, copy the installer in BINARY mode to the Download Directory.

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 the directory that is included 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: If 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 GRC Application Pack 8.0.0.0.0 to Download Directory using the following command:

   unzip `OFS_BGRC_PACK.zip`

   Note: Do not rename the Application Pack installer folder name on extraction from the archive.

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

   ```
   chmod -R 755 OFS_BGRC_PACK
   ```

Setting up Web Application Server

For setting up the environment based on your selected Web Server/Web Application Server, refer to APPENDIX A for more information.

Installation of Oracle R distribution and Oracle R Enterprise (ORE)

This is an optional step and required only if you intend to use Oracle R scripting in the Oracle Financial Services Enterprise Modeling Application. Ensure the below sequence of prerequisites are followed:

1. 1.Install Oracle R Distribution and Oracle R Enterprise (Server Components) on the Oracle Database server. See Oracle® R Enterprise Installation and Administration Guide for Windows, Linux, Solaris, and AIX, Release 1.3.1.
   - Oracle R Distribution versions supported- Oracle Distribution of R version 2.15.1, 2.15.2 or 2.15.3.
   - ORE version supported- Oracle R Enterprise (Server) version 1.4.

   Note:
   - Skip this step if it is already installed.
   - Oracle R Enterprise 1.4 requires Oracle Database Enterprise Edition 11.2.0.3+/ 12.1.0.1+.

CHAPTER 4 Installing GRC Application Pack

Follow the instructions in this chapter to install the OFS GRC Application pack depending on the mode of installation.

This chapter includes the following sections:

Schema Creator Utility

Creating database users/schemas is one of the primary steps in the complete OFSGRC installation. This release of OFSGRC provides a utility to quickly get started with the installation by allowing easier and faster creation of database User(s)/Schema(s), assign the necessary Grants(s), and so on. Additionally, it also creates the required entities in these schemas.

This section includes the following topics:

About Schema Creator Utility

The schema creator utility should be configured and executed mandatorily every time prior to the installation of any OFSAA Application Pack.

The following are the schemas that can be configured in OFSAA:

- **CONFIG** – Denotes the unique OFSAA setup configuration schema. It contains entities and other objects required for OFSAA setup information.

  Note: There can be only one CONFIG schema per OFSAA instance.

- **ATOMIC** – Denotes the schema that contains the data model entities. One ATOMIC schema is attached to one Information Domain.

  Note: There can be multiple ATOMIC schemas per OFSAA Instance.

- **SANDBOX** - Denotes the schema that contains the data for all Sandbox executions. One SANDBOX schema is attached to one Sandbox Information Domain.

  Note: There can be multiple SANDBOX schemas per OFSAA Instance.

- **ADDON** - Denotes any additional schema used by the OFSAA Applications.

  Note: This Schema type is not applicable for OFS AAAI Application Pack.

Execution Modes in Schema Creator Utility

The Schema Configuration Utility supports the following modes of execution:

- **Online Mode**: In this mode, the utility connects to the database and executes the DDLs for User, Objects, and Grants. If you have the SYSDBA privileges you can execute the Schema Creator Utility in Online mode and thereby create Users, Objects, and Grants during the execution process.

  Note: To execute the utility in Online mode, you need to connect as `<user> AS SYSDBA`

- **Offline Mode**: In this mode, the utility generates a SQL script with all required DDLs for User, Objects, and Grants. This script needs to be executed by the DBA on the appropriate database identified for OFSAA usage. If you do not have the SYSDBA privileges, you can execute the Schema Creator Utility in Offline mode and generate the script file that contains the Schemas, Objects, and Grants information. Subsequently, a SYSDBA user should execute the script file manually.

  Note:

  a. To execute the utility in Offline mode, you need to connect as any user with the following grants (alternatively, you can also connect as a user with SYSDBA privileges):

  - SELECT ON DBA_ROLES
  - SELECT ON DBA_USERS
  - SELECT ON DBA_DIRECTORIES
  - SELECT ON DBA_TABLESPACES
  - CREATE SESSION

  b. If there are any errors during the script execution, reconfigure the `<PACK>_SCHEMA_IN.XML` file and execute the utility. This regenerates the scripts with corrected information.

  c. For more information on Configuring `<<APP Pack>>_SCHEMA_IN.XML` file, refer APPENDIX K .

  d. Do not modify the `<PACK>_SCHEMA_OUT.XML` file generated after the execution of this utility.

Execution Options in Schema Creator Utility

Depending on the option selected to run the GRC Application Pack Installer, you need to select the schema creator utility execution option. If you try to run the OFSAA Application Pack installer in SILENT mode, it is mandatory to execute the schema creator utility with– s option.

Note: If the schema creator utility is executed without the option–s, it is mandatory to run the OFSAA Application Pack Installer in GUI mode.

Configuring and Executing the Schema Creator Utility

This section includes the following topics:

Prerequisites

The following prerequisites must be ensured before configuring the Schema Creator Utility:

- You must have the Oracle User ID/Password with SYSDBA privileges (not applicable for offline mode)
- You must have the JDBC Connection URL for RAC/Non RAC database
- Make sure the database TNS Entry is available in `TNSNAMES.ORA` file
- The HOSTNAME/IP of the server on which OFS GRC is getting installed is `TNSNAMES.ora` which is available under `TNS_ADMIN` path.

NOTE:

- If this release of the OFS GRC Application Pack version 8.0.0.0.0 is installed on an OFSAA setup where the underlying OFSAA Infrastructure (OFS AAI) version is upgraded to version 8.0.1.x.x, download and install the patch for schema creator utility (Bug 20912588) by following the instructions in the Readme.txt packaged in it prior to executing the utility.
- If this release of the OFS GRC Application Pack version 8.0.0.0.0 is installed on an OFSAA setup where the underlying OFSAA Infrastructure (OFS AAI) version is upgraded to version 8.0.2.x.x, download and install the patch for schema creator utility (Bug 21657319) by following the instructions in the Readme.txt packaged in it prior to executing the utility.

Configuring Schema Creator Utility

To configure the Schema Creator Utility, follow these steps:

1. Navigate to the following path: `<OFS BGRC Pack>/schema_creator/conf.`
2. Edit the `OFS_BGRC_SCHEMA_IN.xml` file in a text editor.
3. Configure the elements as described in APPENDIX K.
4. Save the `OFS_BGRC_SCHEMA_IN.xml` file.

   Note: On successful execution of the utility, the entered passwords in the `OFS_BGRC_SCHEMA_IN.xml` file are nullified.

Executing the Schema Creator Utility

This section includes the following topics:

- Executing Schema Creator Utility in Online Mode
- Executing Schema Creator Utility in Offline Mode
- Executing the Schema Creator Utility with- s option
- Executing the Schema Creator Utility while Installing Subsequent Application Pack

  Note: If you intend to use Oracle OLAP feature, execute the following grant on all ATOMIC schema(s) grant `olap_user to` and database_username.

Executing Schema Creator Utility in Online Mode

In Online Mode, the Schema Creator Utility will create all the Schemas, Schema Objects, Tablespaces, Grants, and Roles in the database during the execution process.

To execute the schema creator utility in online mode, follow these steps:

1. Log in to the system as non-root user.
2. Navigate to the following folder path: `OFS_BGRC_PACK/schema_creator/bin/`
3. Execute the osc.sh file using the following command `./osc.sh`

   The following message is displayed: *You have chosen ONLINE* mode. *Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/y or N/n).*
4. Enter Y/ y to proceed with the script generation.

   or

   Enter N/n to quit script creation.
5. Enter the DB Username with SYSDBA Privileges. For example, SYS as SYSDBA.
6. Enter the User Password.

.

```
./osc.sh
============================================================
ou have chosen ONLINE mode
============================================================
riggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed?


============================================================
ava Validation Started ...
ava found in : /scratch/ofsaa/jdk1.6.0_25/jre/bin
AVA Version found : 1.6.0_25
AVA Bit Version found : 64-bit
ava Validation Completed. Status : SUCCESS
============================================================
B specific Validation Started ...
nter the DB User Name With SYSDBA Privileges:
ys as sysdba
nter the User Password:
racle Client version : 11.2.0.3.0. Status : SUCCESS
racle Server version Current value : 11.2.0.3.0. Status : SUCCESS
```

Figure 5. Online Mode

7. The console runs the initial validation checks and then displays the following message: *You have chosen to install this Application Pack on <Name of the Atomic Schema>ATOMIC schema. Do you want to proceed? (Y/N).*
8. Enter Y/y to proceed with the schema creation.

or

Enter N/n to quit schema creation.

The following message is displayed.

You have chosen to install this Application Pack on <Name of the Infodom>. Do you want to proceed? (Y/N).

```
                    Schema Creation Started
============================================================================
ecking OFSAA installation...
SAA installed not found.
lidating the dat file OFS_AAAI_CFG.dat started...
cessfully validated OFS_AAAI_CFG.dat file
lidating the input XML file.../scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
D validation completed successfully.
============================================================================
echecks Execution started on ...OFS_AAAI_SCHEMA_IN.xml
lidating Connection URL ...jdbc:oracle:thin:@ofss220623:1521:MEDIADB
ccessfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@ofss220623:1521:MEDIADB
nnection URL successfully validated...
u have chosen to install this Application Pack on "dev_atm14" ATOMIC schema. Do you want to proceed? (Y/N)
```

Figure 6. Schema Creation

9. Enter Y/y to start the schema creation.

   Or

   Enter N/n if you want to quit executing the schema creation.

```
============================================================================
Executing TableSpace Scripts started...
Executing TableSpace Scripts completed...
============================================================================
Creating Schemas started...
CONFIG User dev_conf14 successfully created on Default TableSpace : USERS on Temp TableSpace : TEMP
Grants creation scripts execution started...
Grants creation scripts execution completed...
Successfully connected to User - dev_conf14 URL - jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Scripts execution for CONFIG schema started ...
Scripts execution for CONFIG schema completed ...
User dev_conf14 details updated into the dbmaster table
User dev_atm14 details updated into the dbmaster table
User dev_atm14 is successfully created on Default TableSpace : USERS on Temp TableSpace : TEMP
User dev_atm14 already exists in dbmaster table.
Creating Schemas completed ...
============================================================================
Roles creation scripts execution started ...
Roles creation scripts execution completed ...
============================================================================
Grants creation scripts execution started...
Grants creation scripts execution completed...
============================================================================
                        Schemas Creation Completed
============================================================================
Schema Creator executed Successfully.Please proceed with the installation.
$
```

Figure 7. Creating Schema

Note:

- On successful execution of schema creator utility, the console displays the following status message:

  Schema Creator executed successfully. Please proceed with the installation.

- Refer log file in OFS_BGRC_PACK/schema_creator/logs folder for execution status. In case of any errors, contact Oracle Support.

Executing Schema Creator Utility in Offline Mode

In Offline Mode, the Schema Creator Utility will create an output in SQL file format. This script has to be executed manually by logging as database user with SYSDBA privileges. The SQL file will contain the scripts for creation of Schemas, Schema Objects, Tablespaces, Grants, and Roles.

Prerequisites

Database user with following privileges:

- SELECT ON DBA_ROLES
- SELECT ON DBA_USERS
- SELECT ON DBA_DIRECTORIES
- SELECT ON DBA_TABLESPACES
- CREATE SESSION

Note: Explicit Grants to the user are required. Grants assigned through Roles are not supported.

To execute the schema creator utility in the offline mode, follow these steps:

1. Log in to the system as non-root user.
2. Navigate to the following path: `OFS_BGRC_PACK/schema_creator/bin`
3. Execute the osc.sh file using the following command:

   ```
   ./osc.sh –o
   ```

4. The following message is displayed: *You have chosen OFFLINE mode. Triggering the utility in OFFLINE mode will generate the script. Do you wish to proceed? (Y/y or N/n).*
5. Enter Y /y to generate the script.

   or

   Enter N/n to quit the schema creation.
6. Enter the DB Username with SELECT privileges.
7. Enter the User Password.

```
$ ./osc.sh -o
============================================================
You have chosen OFFLINE mode
============================================================
Triggering the utility in OFFLINE mode will generate the script. Do you wish to proceed? (Y/y or N/n):
y
============================================================
Java Validation Started ...
Java found in : /scratch/ofsaa/jdk1.6.0_25/jre/bin
JAVA Version found : 1.6.0_25
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
============================================================
DB specific Validation Started ...
Enter the DB User Name with SELECT privileges on following tables
1. DBA_ROLES
2. DBA_USERS
3. DBA_DIRECTORIES
4. DBA_TABLESPACES
sys as sysdba
Enter the User Password:
Oracle Client version : 11.2.0.3.0. Status : SUCCESS
Oracle Server version Current value : 11.2.0.3.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
```

Figure 8. Executing Schema

8. The console runs the initial validation checks and displays the following message:
   You have chosen to install this Application Pack on <Name of the Atomic Schema>ATOMIC schema. Do you want to proceed? (Y/N).
9. Enter **Y** to start the script generation.

   Or

   Enter **N** if you want to quit the script generation.

   The following message is displayed. *You have chosen to install this Application Pack on <Name of the Infodom>. Do you want to proceed? (Y/N).*

```
================================================================================
                    Generating Schema Creation Scripts Started
================================================================================
Checking OFSAA installation...
OFSAA installed not found.
Validating the dat file OFS_AAAI_CFG.dat started...
Sucessfully validated OFS_AAAI_CFG.dat file
Validating the input XML file.../scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
XSD validation completed successfully.
================================================================================
Prechecks Execution started on ...OFS_AAAI_SCHEMA_IN.xml
Validating Connection URL ...jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Connection URL successfully validated...
You have chosen to install this Application Pack on "dev_atm14" ATOMIC schema. Do you want to proceed? (Y/N)
y
```

Figure 9. Checking OFSAA Installation

10. Enter **Y** to start the script generation.

    Or

    Enter **N** if you want to quit the script generation.

```
All the prechecks execution completed successfully.
================================================================================
Generating TableSpace creation Scripts started...
Generating TableSpace creation Scripts completed...
================================================================================
Generating Schema creation scripts started...
CONFIG User dev_conf14 creation script generated successfully on Default TableSpace : USERS on Temp TableSpace : TEMP
Generation of grants creation scripts started...
Generation of grants creation scripts completed...
Scripts Generation for CONFIG schema started ...
Scripts Generation for CONFIG schema completed ...
User dev_conf14 details updated into the dbmaster table
User dev_atm14 details updated into the dbmaster table
User dev_atm14 creation script generated successfully on Default TableSpace : USERS on Temp TableSpace : TEMP
User dev_atm14 creation is skipping as the user is already created.
Generating Schema creation scripts completed...
================================================================================
Generating Roles creation Scripts started...
Generating Roles creation Scripts completed...
================================================================================
Generating Grants creation scripts started...
Generating Grants creation scripts completed...
================================================================================
                        Generating Schema Creation Scripts Completed
================================================================================
```

Figure 10. Generating Scripts

On successful execution of schema creator utility, the console displays the following status message: *Schema Creator executed successfully. Please execute OFS_BGRC_PACK/schema_creator/sysdba_output_scripts.sql before proceeding with the installation.*

11. Navigate to the directory: `OFS_BGRC_PACK/schema_creator.`
12. Login to SQLPLUS with a user having SYSDBA Privileges.

```
Schema Creator executed Successfully.Please execute /scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator/sysdba_output_scripts.sql before proceeding with the installation.
$ cd ..
$ sqlplus sys/oracle@MEDIADB as sysdba

SQL*Plus: Release 11.2.0.3.0 Production on Wed Dec 31 14:50:53 2014

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> @/scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator/sysdba_output_scripts.sql
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
$
```

Figure 11. Login to SQLPLUS

13. Execute the sysdba_output_scripts.sql file using the following command:

    `SQL>@sysdba_output_scripts.sql`

    Alternatively, you can copy the `sysdba_output_scripts.sql` file and SQLScripts folder to a remote server and execute `sysdba_output_scripts.sql` file.

    Note: Refer log `sysdba_output_scripts.log` file for execution status. In case of any errors, contact Oracle Support.

Executing the Schema Creator Utility with- s option

If you try to run the OFSGRC Application Pack Installer in SILENT mode, it is mandatory to execute the schema creator utility with - s option.

To execute the Schema Creator Utility with- s option, follow these steps:

1. Edit the file `OFS_BGRC_PACK/schema_creator/conf/OFS_BGRC_SCHEMA_IN.xml` in text editor.
2. Set the value for attribute `"INFODOM" of <SCHEMA>` tag(s) to specify a specific Information Domain name. By default, the value is empty and the utility will derive the Information Domain name. If the attribute value is set, the utility/ installer will configure the Information Domain against this `<SCHEMA>`.
3. Execute the utility with –s option. For example,

   `./osc.sh –s.`

Note:

- If the utility is executed without the –s option, it is mandatory to launch the OFSGRC Application Pack Installer in GUI mode.
- To execute the utility in OFFLINE mode with SILENT option, enter the following command

  `./osc.sh –o –s.`

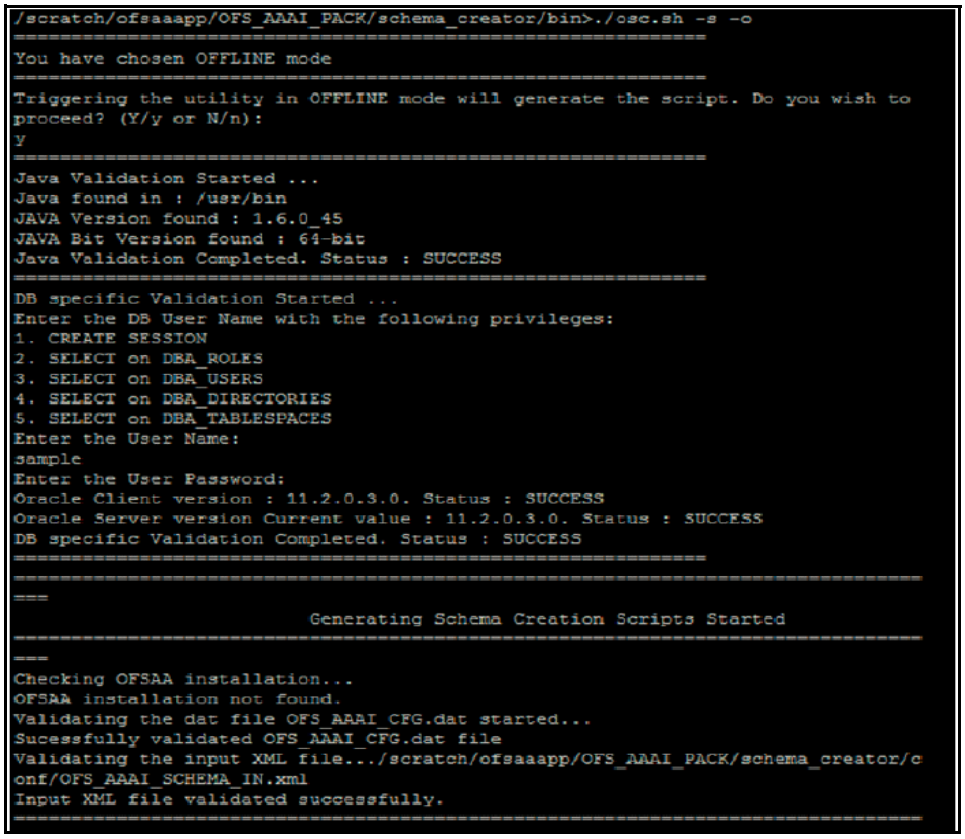

Figure 12. Schema Creator Utility with -s option

```
Validating Connection URL ...jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Successfully connected to User - sample URL - jdbc:oracle:thin:@ofss220623:1521:
MEDIADB
Connection URL successfully validated...
You have chosen to install this Application Pack on "uat_atm_anurag" ATOMIC sche
ma. Do you want to proceed? (Y/N)
y
You have chosen to install this Application Pack on INFODOM "ofsaaaiinfo1". Do y
ou want to proceed? (Y/N)
y
================================================================================
===
Generating TableSpace creation Scripts started...
Generating TableSpace creation Scripts completed...
================================================================================
===
Generating Schema creation scripts started...
CONFIG User uat_conf_anurag creation script generated successfully on Default Ta
bleSpace : USERS on Temp TableSpace : TEMP
Generation of grants creation scripts started...
Generation of grants creation scripts completed...
Scripts Generation for CONFIG schema started ...
Scripts Generation for CONFIG schema completed ...
User uat_conf_anurag details updated into the dbmaster table
User uat_atm_anurag details updated into the dbmaster table
User uat_atm_anurag creation script generated successfully on Default TableSpace
 : USERS on Temp TableSpace : TEMP
User uat_atm_anurag creation is skipping as the user is already created.
Generating Schema creation scripts completed...
================================================================================
===
Generating Roles creation Scripts started...
Generating Roles creation Scripts completed...
--------------------------------------------------------------------------------
===
Generating Grants creation scripts started...
Generating Grants creation scripts completed...
================================================================================
===
                        Generating Schema Creation Scripts Completed
================================================================================
===
Schema Creator executed Successfully.Please execute /scratch/ofsaaapp/OFS_AAAI_P
ACK/schema_creator/sysdba_output_scripts.sql before proceeding with the installa
tion.
```

Figure 13. Schema Creator Utility with -s option

```
/scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator/bin>cd ..
/scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator>acle@mediadb as sysdba        <

SQL*Plus: Release 11.2.0.3.0 Production on Tue Jan 13 11:01:55 2015

Copyright (c) 1982, 2011, Oracle.  All rights reserved.


Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> @/scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator/sysdba_output_scripts.sql
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64
bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
```

Figure 14. Schema Creator Utility with -s option

Executing the Schema Creator Utility while Installing Subsequent Application Pack

While executing the schema creator utility for subsequent Application Pack, you can choose to install the pack either on the same Information Domain/Atomic Schema or on a new Information Domain/Atomic Schema. You can execute the Schema Creator Utility either in Online or Offline Mode.

Note: OFS GRC Application Pack can be installed on any Information Domain/atomic schema where any OFS Application Packs are installed other than OFS Behavior Detection Application Pack or OFS Compliance Regulatory Reporting Application Pack.

To execute the schema creator utility while installing OFS GRC Application Pack over an existing Application pack, follow these steps:

1. Repeat the steps 1 to 5 from Executing the Schema Creator Utility section.

   Note: Ensure to use the same config schema user name as the previous Application Pack.

   The utility identifies the Application Packs that are already installed on the current OFSAA setup and displays the following on console:

   - Atomic schema of the Existing Application Pack
   - Information Domain Name of the Existing Pack
   - List of Installed Application Packs

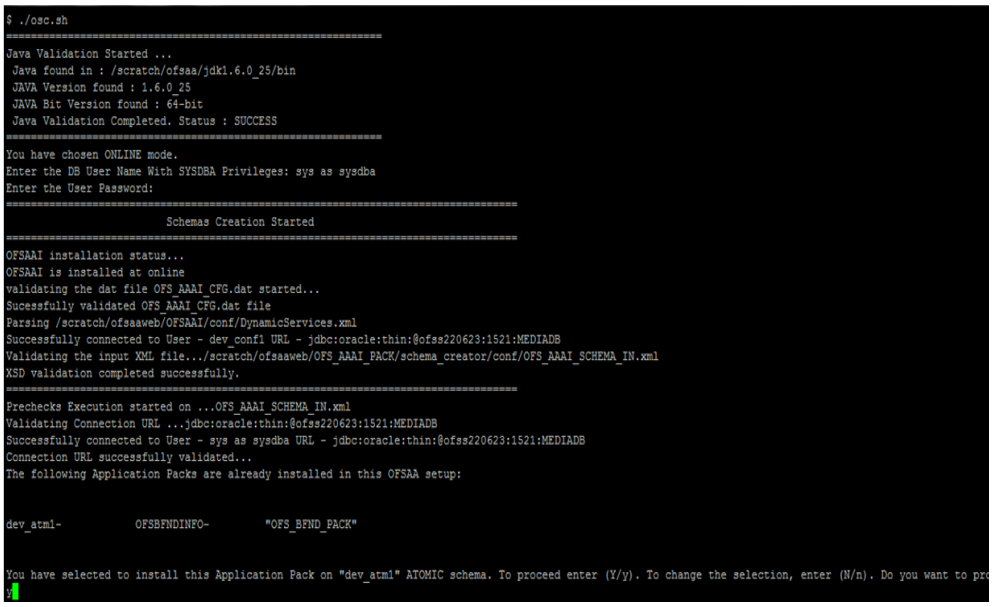

Figure 15. Executing Schema Creator Utility

2. Enter **Y** to start the schema creation.

   Or

   Enter **N** if you want to quit executing the schema creation.

   On successful execution of schema creator utility, the console displays the following status message: *Success. Please proceed with the installation.*

Note:

- Refer log file in `OFS_BGRC_PACK/schema_creator/logs` folder for execution status if scripts are executed in online mode.
- Refer log `sysdba_output_scripts.log` file for execution status, if executed in offline mode.
- In case of any errors, contact Oracle Support.

Installing OFS GRC Application Pack

Follow the instructions in this section to install the OFS GRC Application Pack depending on the mode of installation.

This section includes the following topics:

GUI Mode Installation

Ensure you have followed the steps as mentioned in the Configuration for GUI Mode Installation section prior to proceeding with the next steps.

1. Log in to the system as non-root user.

   Identify a directory for installation and set the same in the user `.profile` file as following:`FIC_HOME=< OFSAA Installation Directory >`

   ```
   export FIC_HOME
   ```

2. Execute the user `.profile.`
3. Navigate to the path: `OFS_BGRC_PACK/bin`
4. To install OFS GRC Application Pack on :

- **For Java 7**: Proceed with step 6.
- **For Java 8**: Edit the `VerInfo.txt` file to modify the value for property `JAVA_VERSION` to 1.8. Save the changes and proceed with step 6.

5. Execute the following command in the console:

   ```
   ./setup.sh
   ```

   Note: Refer the console for any errors during Pre-install checks.

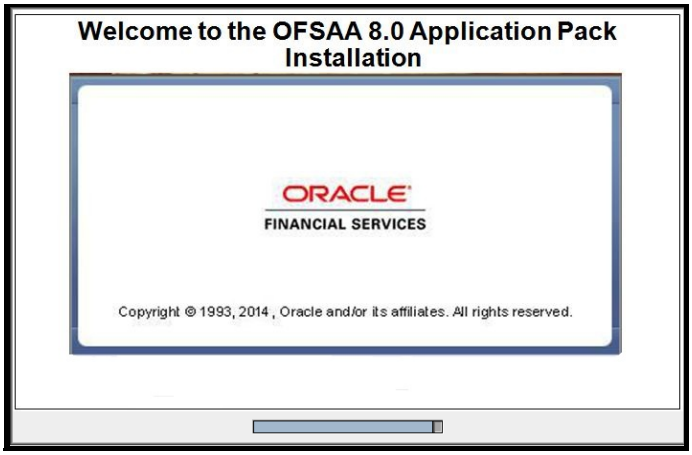

Figure 16. Initialization Window

6. The general License Agreement is displayed**.**

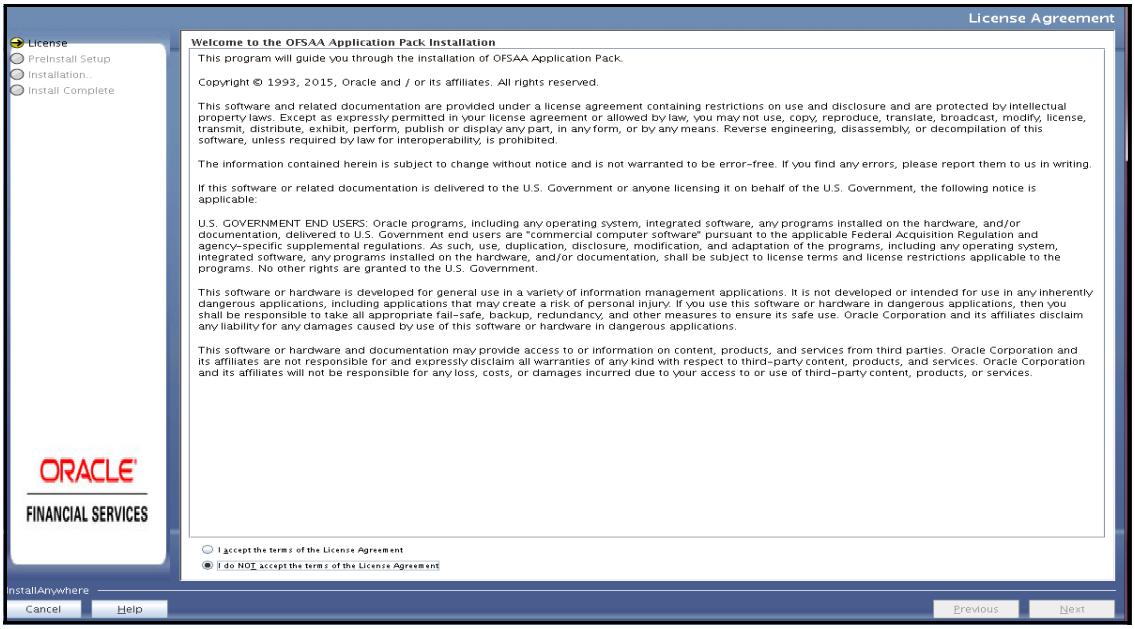

Figure 17. License Agreement

7. Select **I accept the terms if the License Agreement** option.
8. Click **Next**. The Financial Services GRC Pack details are displayed:

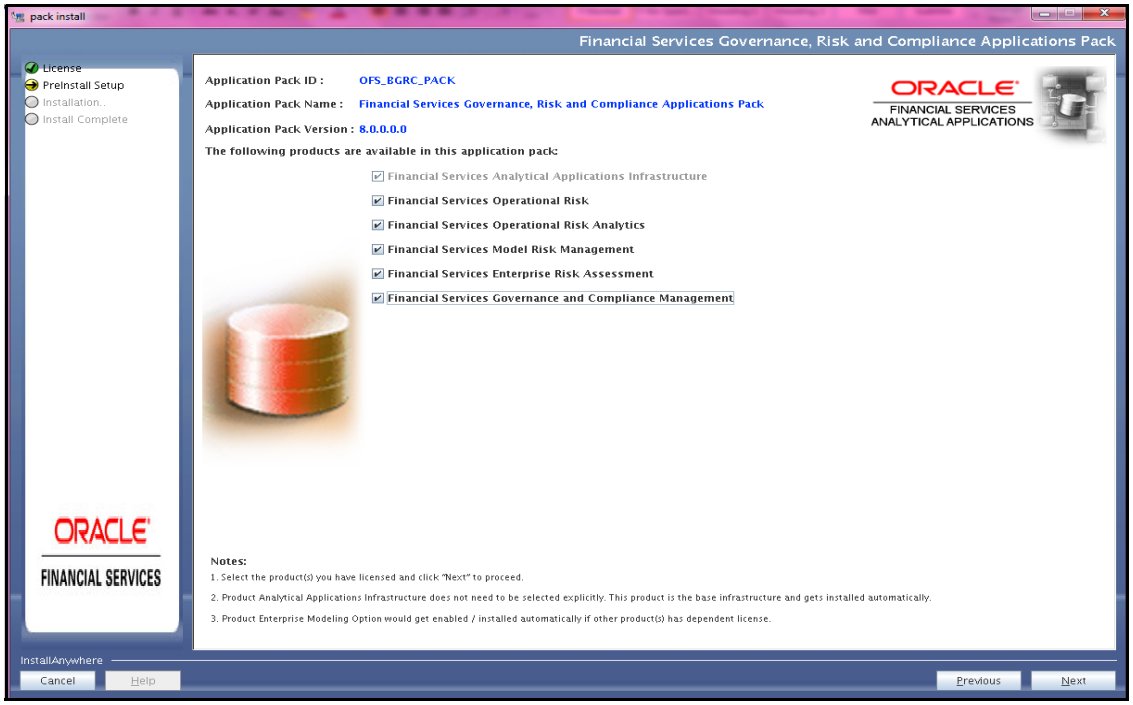

Figure 18. Application Pack Details

9. Select the product(s) to enable.

   Note: Financial Services Analytical Applications Infrastructure is selected by default.

10. Click **Next**. The Application Pack License Agreement is displayed.

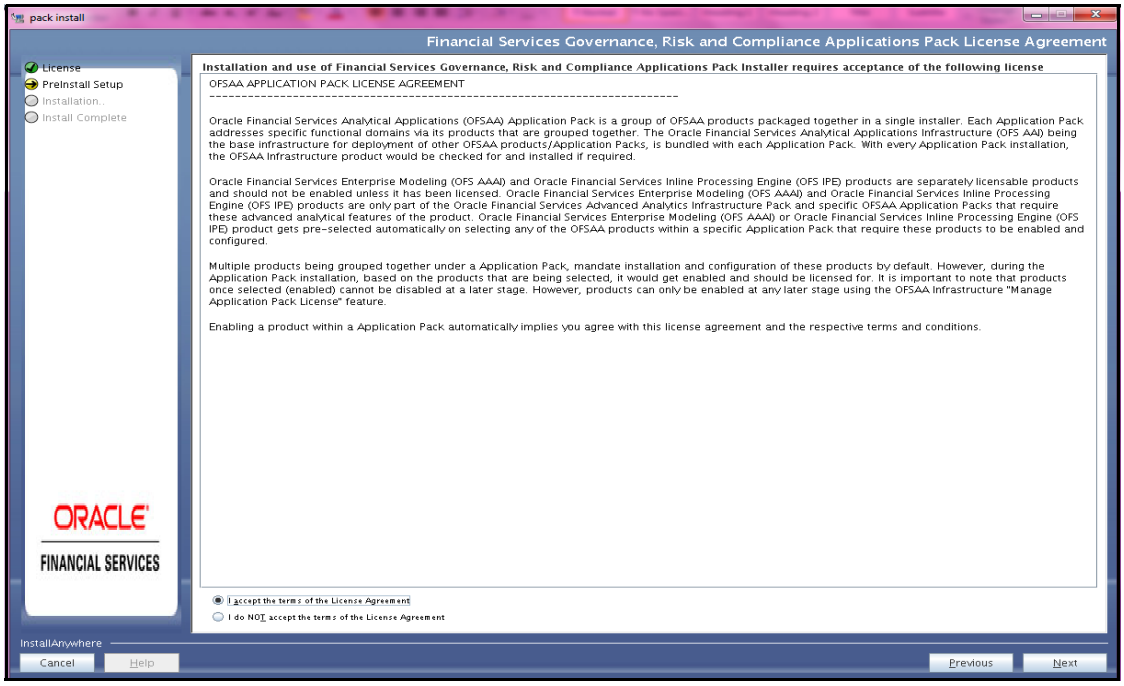

Figure 19. License Agreement

11. Select **I accept the terms if the License Agreement** option.
12. Click **Next**. The Pre-Installation Summary page is displayed.

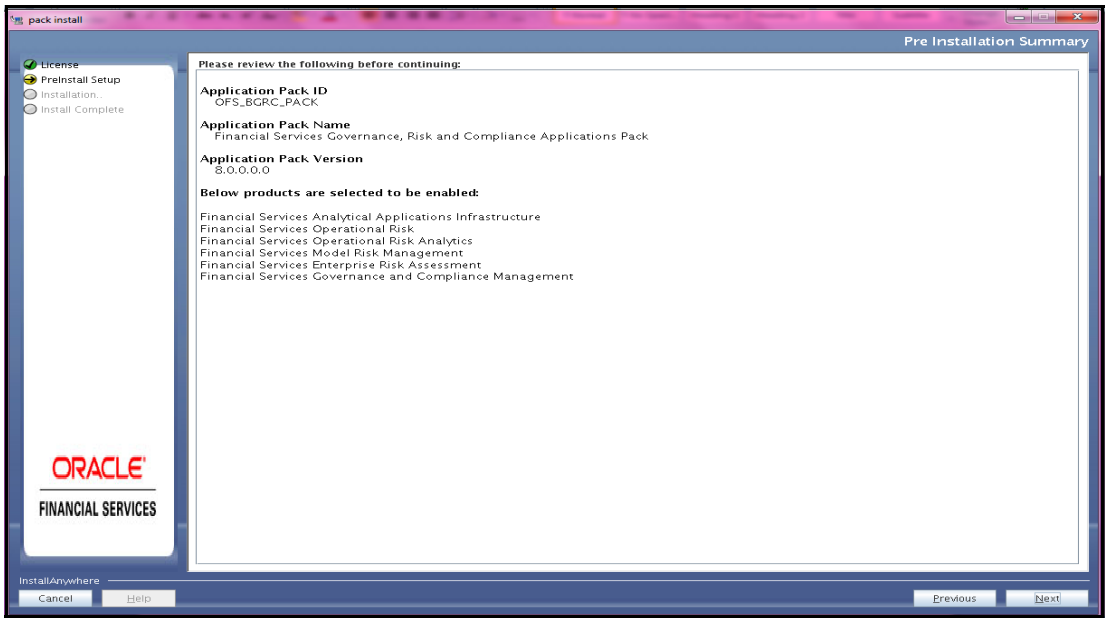

Figure 20. Pre-Installation Summary Page

13. Click **Next.** The Manage Information Domain Screen is displayed.

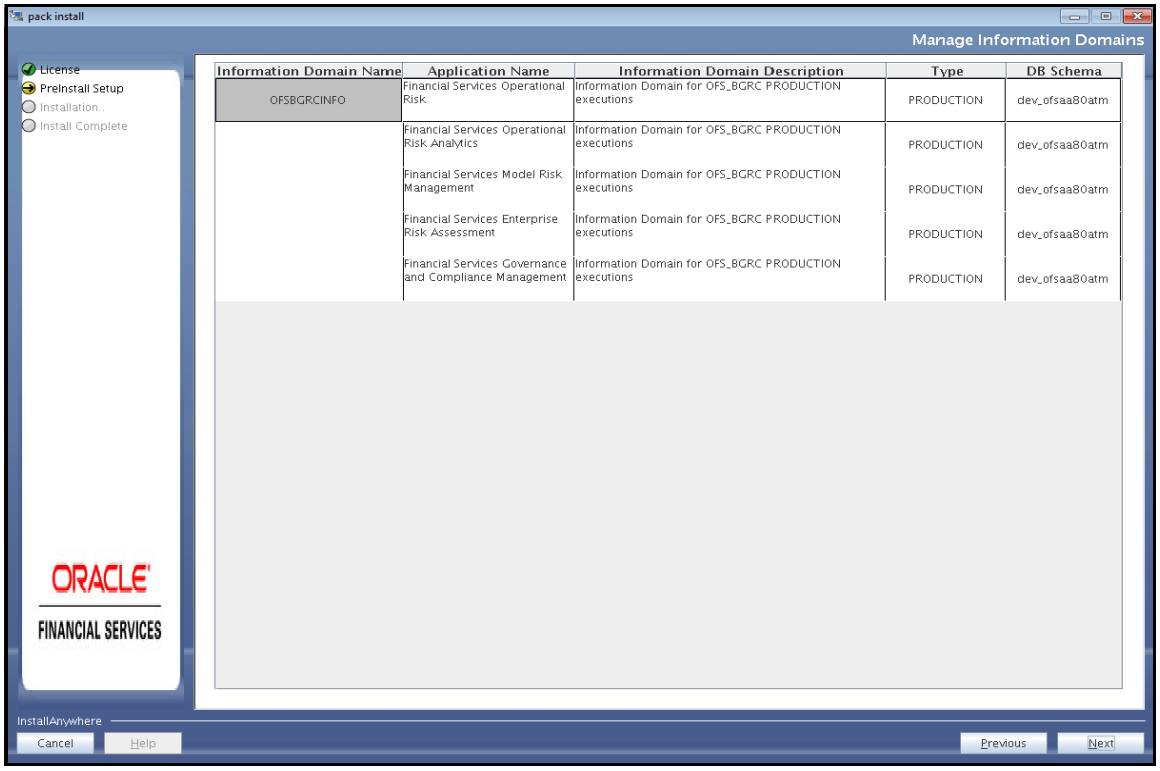

Figure 21. Manage Information Domains

14. The default Information Domain Name for this Application Pack is OFSGRCINFO. Double-click the Information Domain Name field to edit. Refer Appendix for permissible length and allowed characters.

    Note: In case of subsequent Application Pack installation on the same Information Domain, the Information Domain Name is not editable.

15. Click **Next**. The Pre-Pack panel is displayed. Click **Next** for Pre-Pack Install.

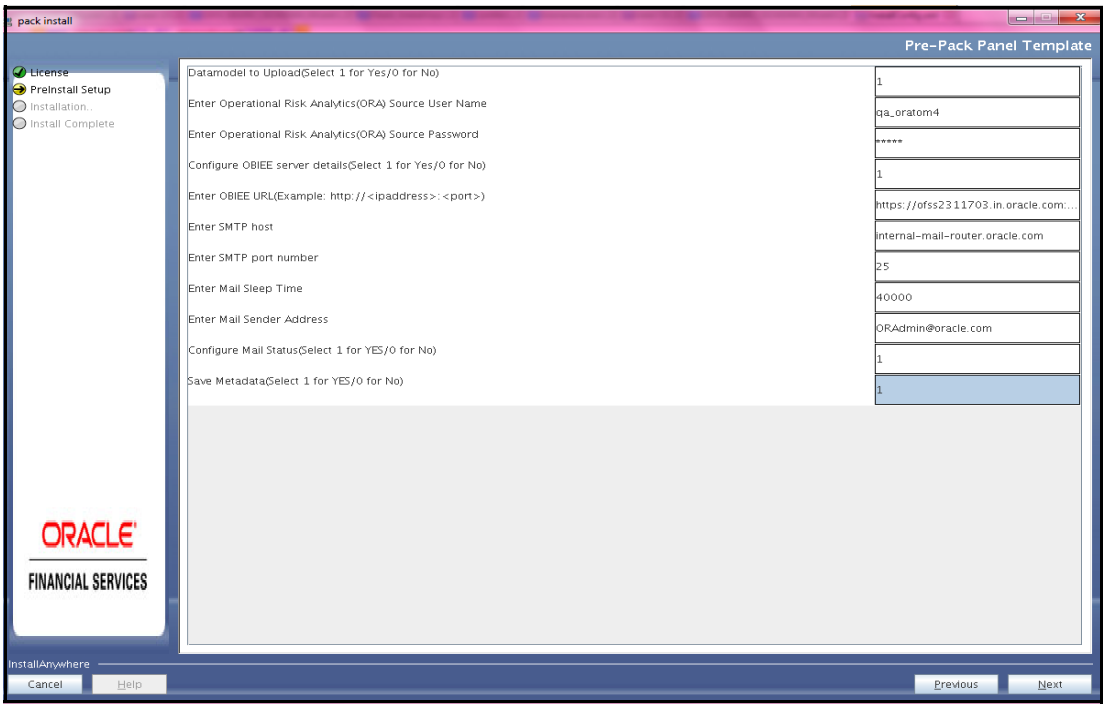

Figure 22. Pre-Pack Panel

Note: The user inputs are required for mail configuration and datamodel upload and ORA.

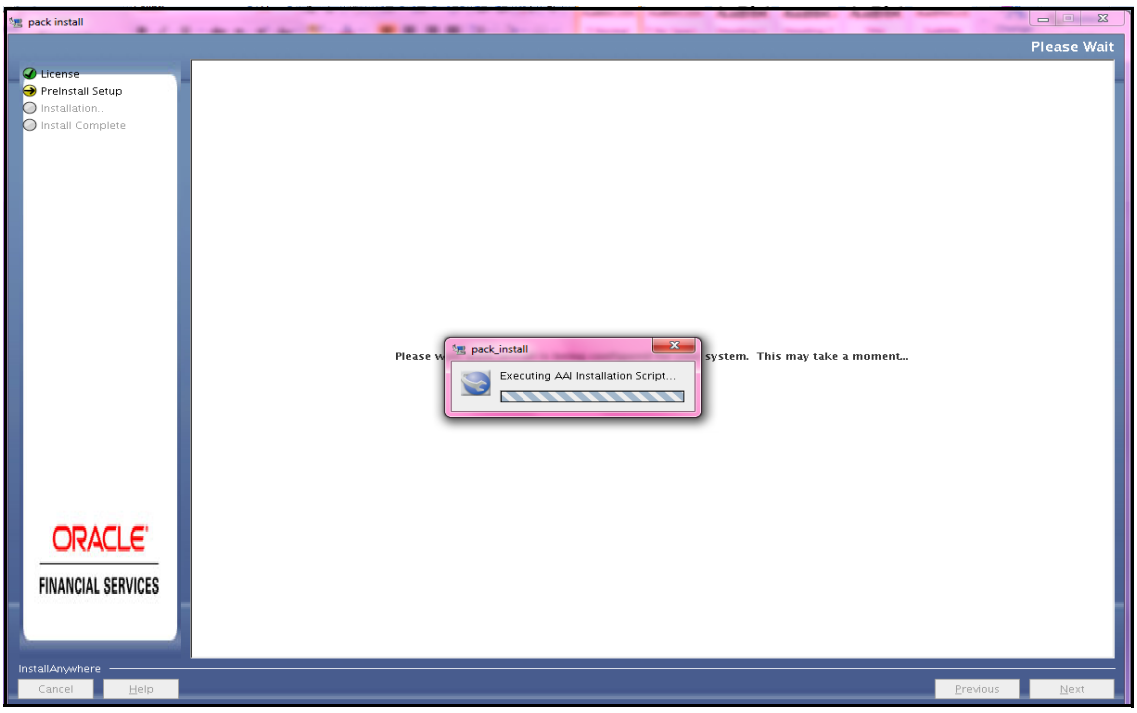

Figure 23. Installation Process

16. Click **Next**. The User Installation Directory page is displayed.

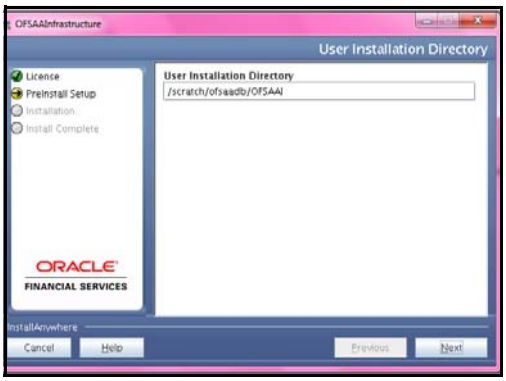

Figure 24. User Installation Directory

Note: The User Installation Directory path is auto-populated from the path you have set in the user .profile file in Step 2.

17. Click **Next**. The OFSAA Infrastructure Server Details window is displayed.

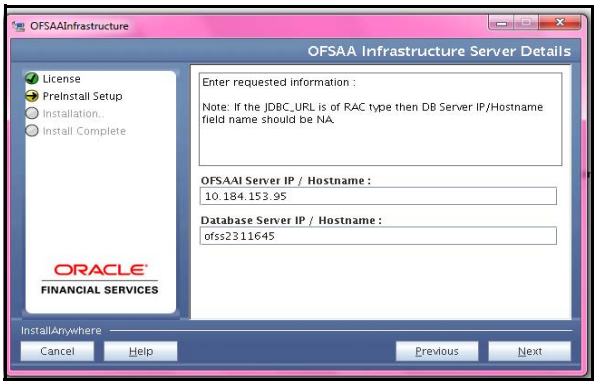

Figure 25. OFSAA Infrastructure Server Details

18. Enter the IP address or hostname of the Database Server.

    Note: The OFSAAI Server IP/Hostname is auto-populated by default.

19. Click **Next**. The Web Application Server window is displayed.

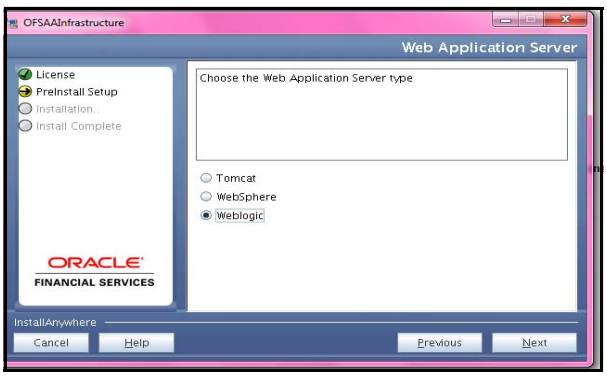

Figure 26. Web Application Server

20. Select the required Web Application server type. The options are Tomcat, WebSphere, and WebLogic.
21. Click **Next**. Based on the selection, corresponding screens are displayed.
    - *For Websphere:* The WebSphere Setup Details window is displayed.

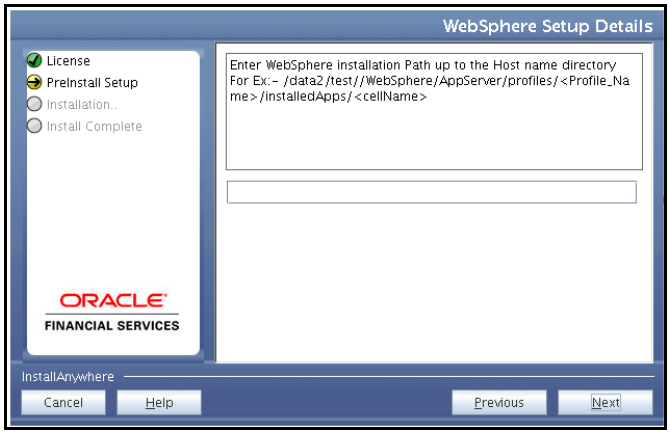

Figure 27. WebSphere Setup Details screen.

22. Enter the installation path (up to the host name directory) of the WebSphere. The format is WebSphere path `<WebSphere profile directory>/installedApps/ <NodeCellName>`.
    - *For Tomcat*: The Absolute Tomcat Path window is displayed.

Figure 28. Absolute Tomcat Path

23. Enter the Tomcat installation path (till /webapps) where OFSAAI will be deployed.
    - *For WebLogic*: The Weblogic Home window is displayed.

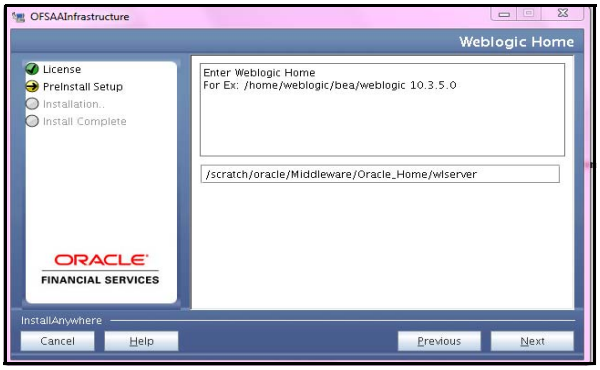

Figure 29. Weblogic Home Details

24. Enter the WebLogic home directory path. Click **Next**. The Weblogic Setup Details screen is displayed.

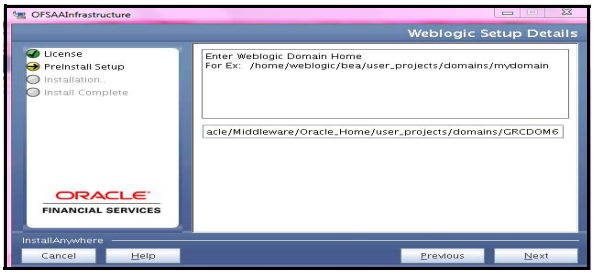

Figure 30. Weblogic Setup Details

25. Enter the path of the Weblogic domain home directory and click **Next**. The OLAP Details window is displayed.

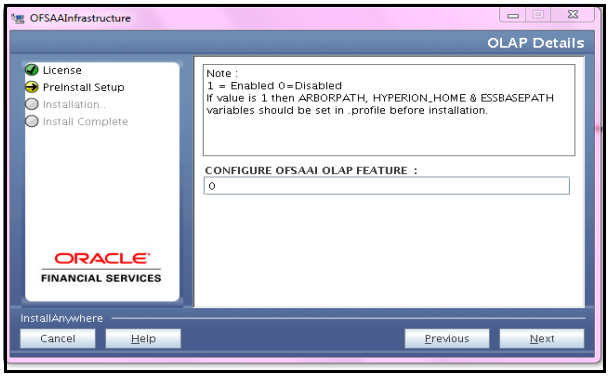

Figure 31. OLAP Details

26. Proceed with the default value 0 displayed.
27. Click **Next**. The *Web Server Details* window is displayed.

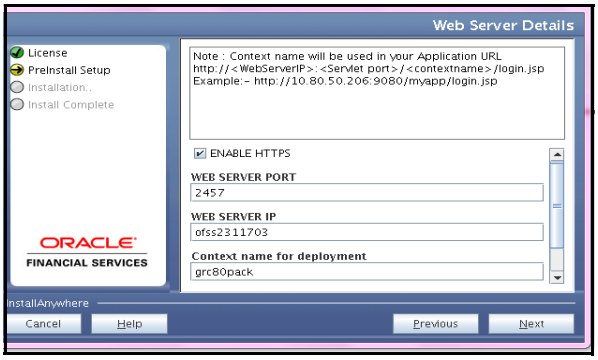

Figure 32. Web Server Details

28. Select **Enable HTTPS** checkbox if you want to configure HTTPS. Also, enter the Web Server (HTTP Server) Port, Web Server IP address (`myhost.mydomain.com`), Context name for deployment and Local path to any folder on the Web Application Server (Tomcat/ Websphere/ Weblogic).

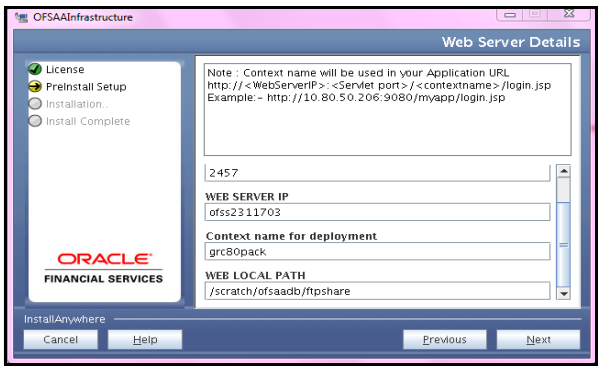

Figure 33. Web Server Details

29. Click **Next**. The *Database Details* window is displayed.

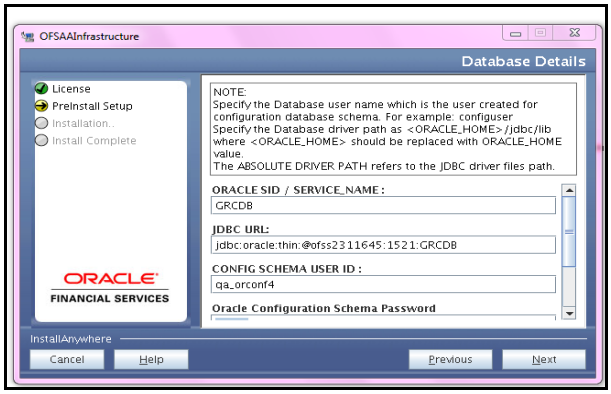

Figure 34. Database Details

30. Enter the Oracle SID/Service Name.

Note: The JDBC URL, Configuration Schema User ID, Oracle Configuration Schema Password, and Absolute Driver Path are auto-populated.
Absolute Driver Path can be the path where Oracle DB client is installed or JDBC driver is installed. For example, `/scratch/oracle/app/oracle/product/11.2.0/client_1/jdbc/lib`.

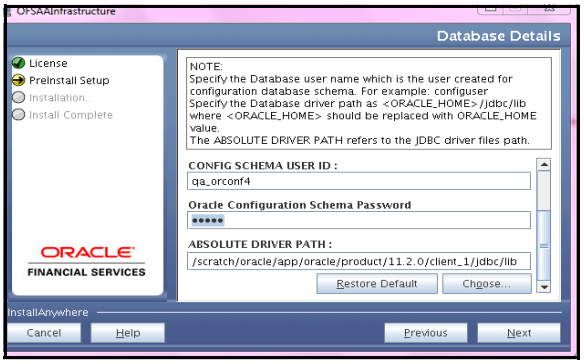

Figure 35. Database Details

31. Click **Next**. The *Ports Configuration* window is displayed.

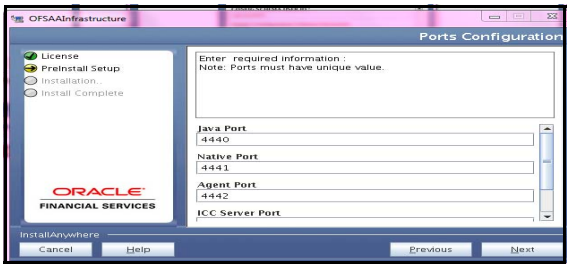

Figure 36. Ports Configuration

Note: The Java Port, Native Port, Agent Port, ICC Server Port, and ICC Native Ports are auto-populated. You can also configure the Ports settings.

32. Click **Next**. The *Ports Configuration* window is displayed.

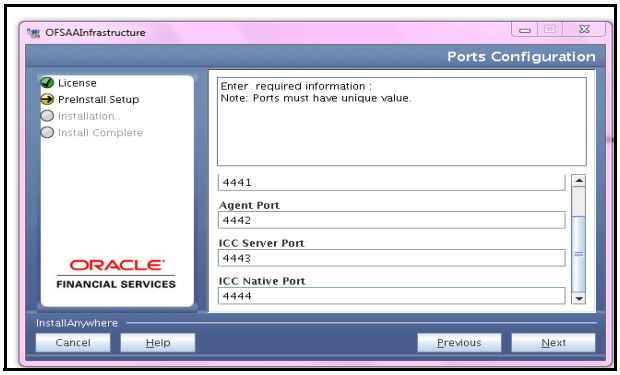

Figure 37. Ports Configuration

Note: The OLAP Port, Message Server Port, Router Port and AM Port details are auto-populated. You can also configure the Ports settings.

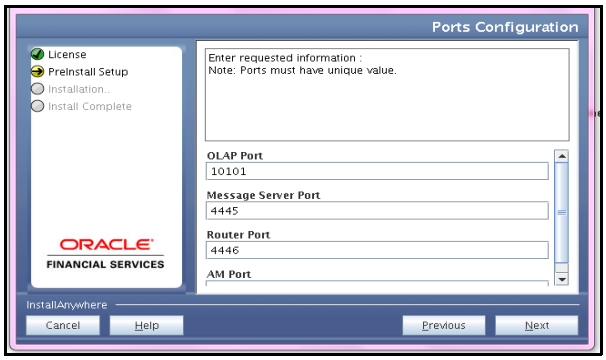

Figure 38. Ports Configuration

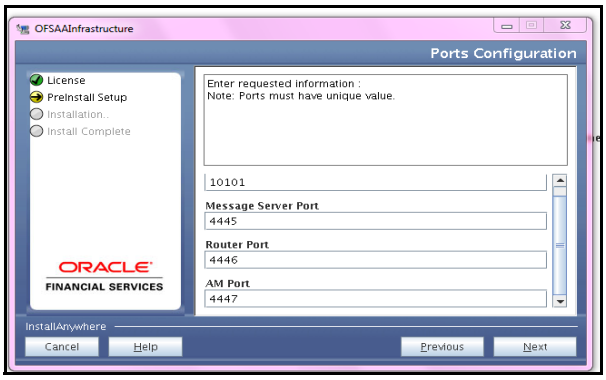

Figure 39. Ports Configuration

33. Click **Next**. The Default Infrastructure Administrator and Authorizer User Password window is displayed.

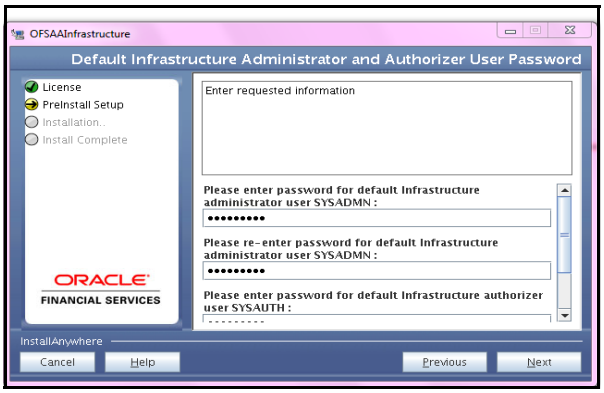

Figure 40. Default Infrastructure Administrator and Authorizer User Password

34. Enter the passwords for default System Administrator and System Authorizer users.
35. Click **Next**. The *SFTP Details* window is displayed.

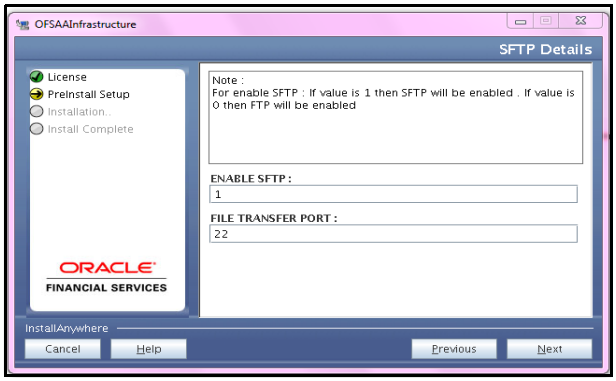

Figure 41. SFTP Details

Note:

- Enable SFTP and File Transfer Port details are auto-populated.
- Ensure that the system, on which the OFSAA Infrastructure is being installed, has either FTP/ SFTP enabled.
- You can also modify the SFTP settings

36. Click **Next**. The *OFSAAI Post Install Details* window is displayed.

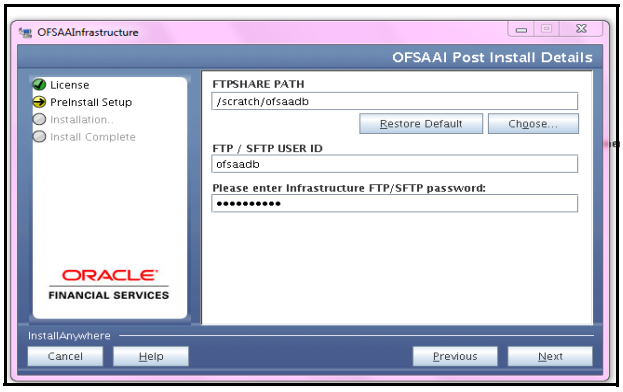

Figure 42. OFSAAI Post Install Details

37. Enter the FTPSHARE Path. This is same as the OFSAA Staging/ Metadata Repository Directory.
38. Enter the FTP/SFTP User ID and Password for FTPSHARE Directory access

Note: The transfer of data (files) between the OFSAAI Server and the Web Application Server happens over FTP/ SFTP. Ensure the necessary host configurations are made for a successful handshake. For more details, refer Section FTP/ SFTP Configuration for File Transfer.

39. Click **Next**. The Pre Installation Summary window is displayed.

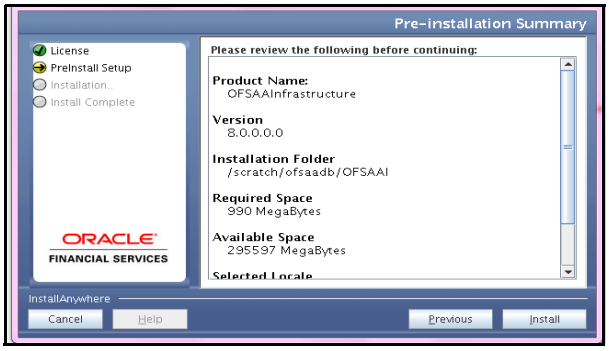

Figure 43. Pre-Installation Summary

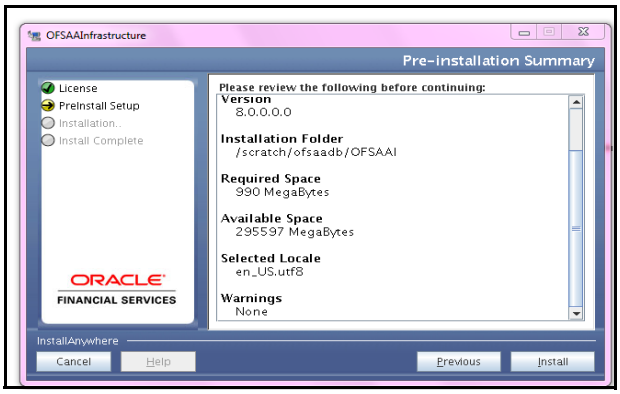

Figure 44. Pre-Installation Summary

40. Click **Install**. The Installing OFSAA Infrastructure window is displayed.

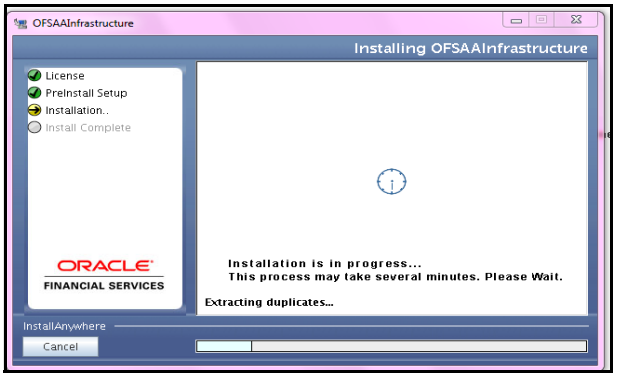

Figure 45. Installing OFSAA Infrastructure

Note: Anytime during the installation you can click **Cancel** to stop the installation. Once completed, the Installation Summary screen is displayed.

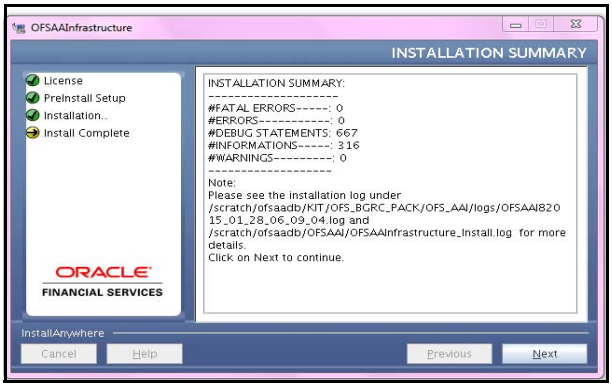

Figure 46. Installation Summary

Note: The Summary screen displays the number of Fatal Errors, Errors, Debug Statements, Information, and Warnings along with the location of log files.

41. Click **Next**. The Installation Complete window is displayed.

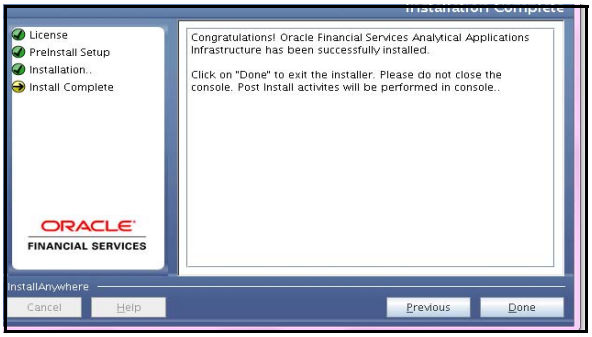

Figure 47. Installation Complete

42. Click **Done**. The following message is displayed: *Please wait, pack_install is being configured for your system. This may take a moment.*

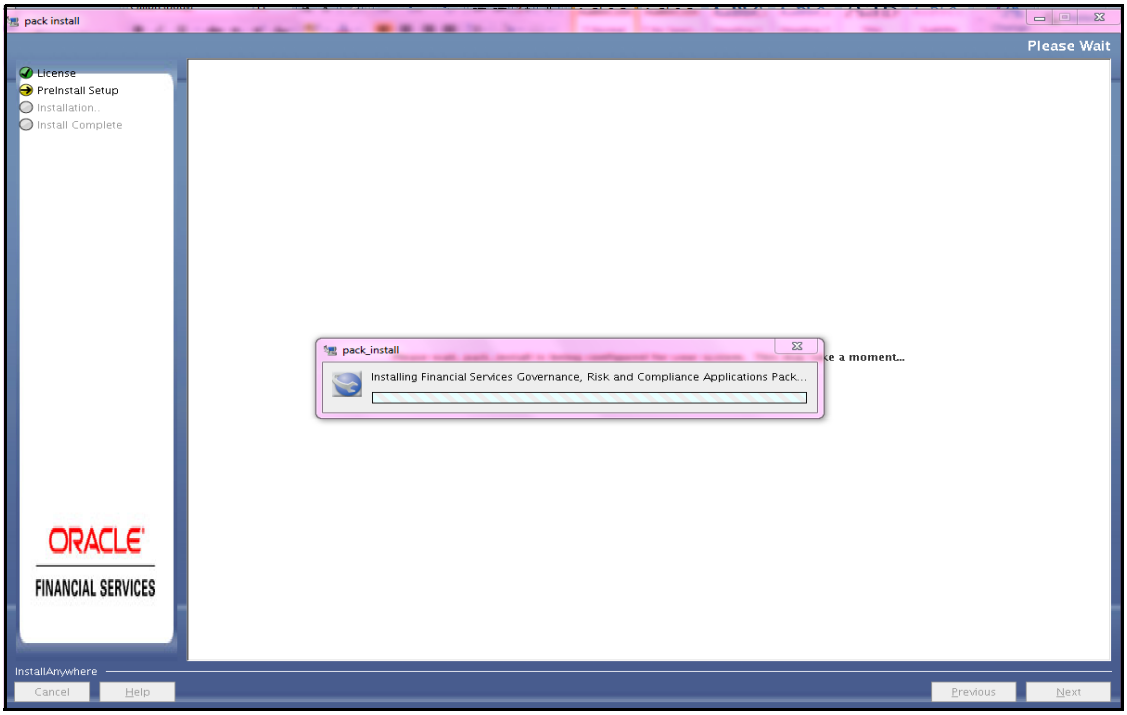

Figure 48. Checking OFSAAI Services

43. The Checking OFSAA Service screen is displayed.

    Note: This step verifies the OFSAA services startup. In case of errors during services check, an appropriate error message is displayed.

44. On completion of Application Pack installation, the Installation Summary screen is displayed.

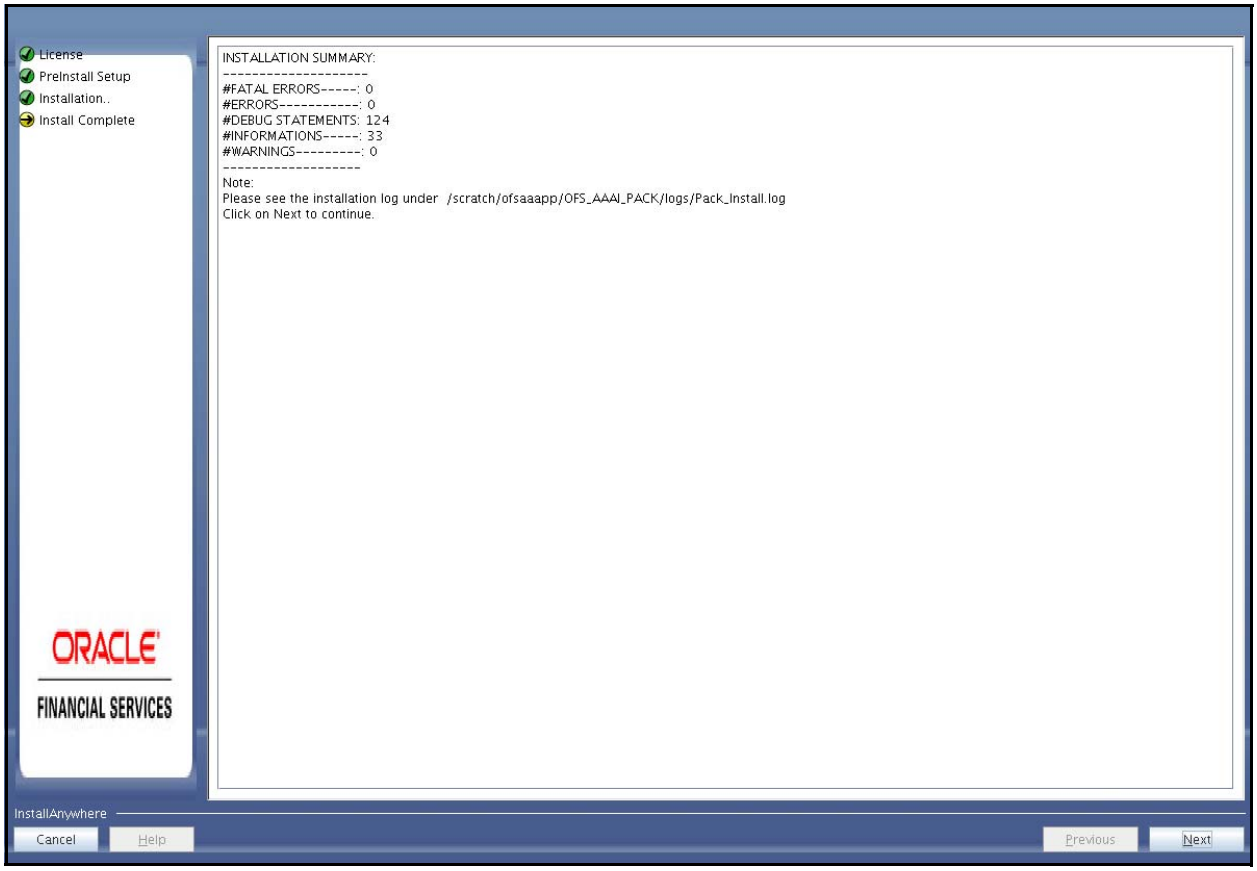

Figure 49. Installation Summary

Note: In case of any ERRORS/ FATAL ERRORS, contact Oracle Support.

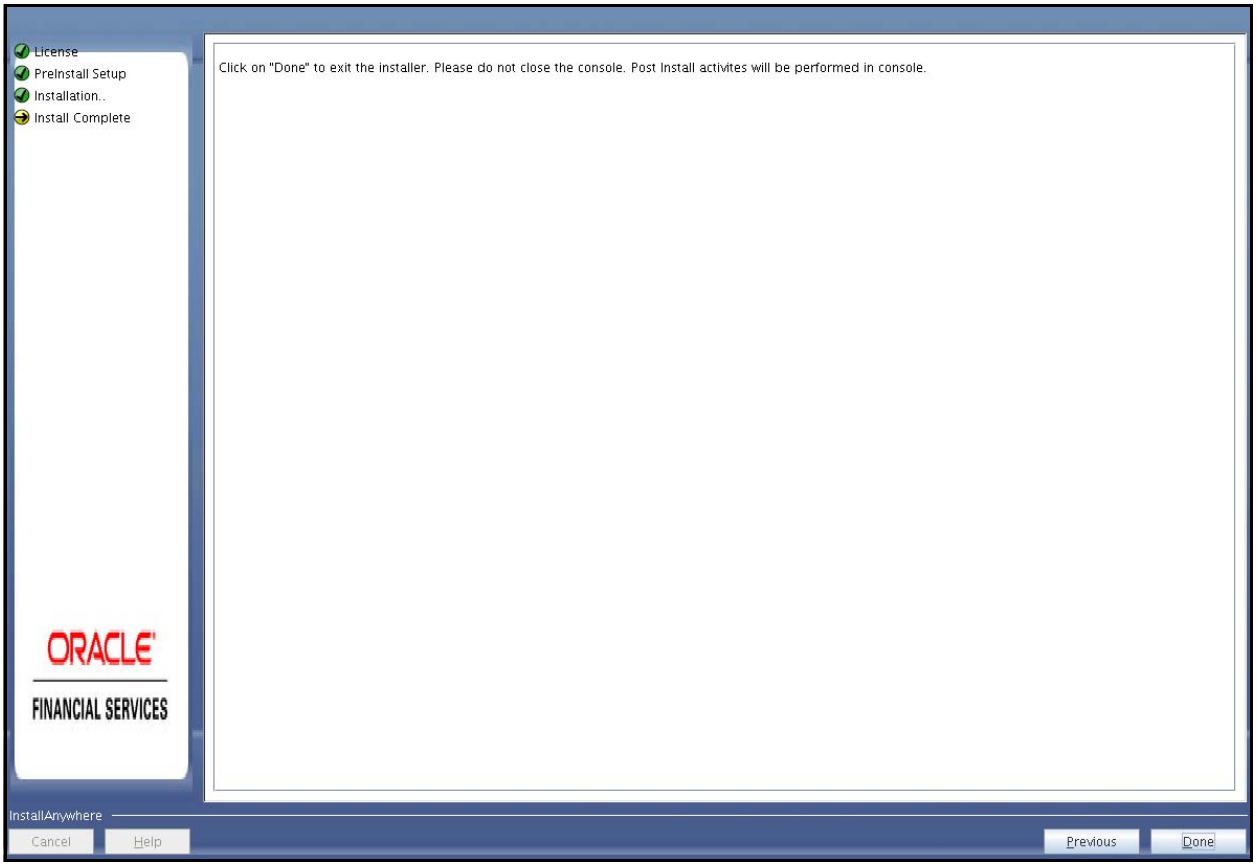

Figure 50. Installation Complete

45. Click **Done**.

Note: The installation process continues on the console. Do not close the console until the installation process is complete.

```
$ . ./.profile
$ cd /scratch/ofsaaapp/OFS_AAAI_PACK/bin
$ ls
OFSAAI.jar  install.jar  pack_install.bin  setup.sh
$ ./setup.sh GUI
FIC_HOME : /scratch/ofsaaapp/AAAIPACK
Environment check utility started...
===============================================================
Java Validation Started ...
Java found in : /scratch/ofsaa/jdk1.6.0_25/bin
JAVA Version found : 1.6.0_25
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
===============================================================
Environment Variables Validation Started ...
ORACLE_HOME : /scratch/OracleClient11g/product/11.2.0/client_1
TNS_ADMIN : /scratch/OracleClient11g/product/11.2.0/client_1/network/admin
Environment Variables Validation Completed. Status : SUCCESS
===============================================================
OS specific Validation Started ...
Unix shell found : /bin/ksh. Status : SUCCESS
Total file descriptors : 15000. Status : SUCCESS
Total number of process : 10240. Status : SUCCESS
OS version : 5. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
===============================================================
DB specific Validation Started ...
Oracle Client version : 11.2.0.3.0. Status : SUCCESS
CREATE SESSION has been granted to user. Status : SUCCESS
CREATE PROCEDURE has been granted to user. Status : SUCCESS
CREATE VIEW has been granted to user. Status : SUCCESS
CREATE TRIGGER has been granted to user. Status : SUCCESS
CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
CREATE TABLE has been granted to user. Status : SUCCESS
CREATE SEQUENCE has been granted to user. Status : SUCCESS
SELECT privilege is granted for V_$nls_parameters view. Current value : SELECT. Status : SUCCESS
NLS_LENGTH_SEMANTICS : BYTE. Current value : BYTE. Status : SUCCESS
NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
SELECT privilege is granted for V_$parameter view. Current value : SELECT. Status : SUCCESS
Open cursor value is greater than 1000. Current value : 1200. Status : SUCCESS
Oracle Database Partitioning feature is enabled. Current value : Partitioned. Status : SUCCESS
SELECT privilege is granted for USER_TS_QUOTAS view. Current value : SELECT. Status : SUCCESS
Schema is granted with at least 500 MB table space. Current value :       1073741824. Status : SUCCESS
Oracle Server version Current value : 11.2.0.3.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
===============================================================
Environment check utility Status : SUCCESS
===============================================================
Starting installation...
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

*********************************************************
CTRL characters removal started ...
CTRL characters removal over ...
Windows executable files removal started ...
Windows executable files removal over ...
We are now in /scratch/ofsaaapp ...
*********************************************************
Installation completed...
*********************************************************
$
```

Figure 51. Installation Complete

46. Following message is displayed: *You have successfully installed the OFS GRC Application Pack*.

    Note: Download and install patch for Bug 21160684 if installing this release of the OFS GRC Application Pack version 8.0.0.0.0 on Java 8.

Silent Mode Installation

In the Silent Mode Installation you must configure the product xml files and follow the instructions in command prompt.

Configuring OFSAAI_InstallConfig.xml

For Configuring OFSAAI_InstallConfig.xml, refer APPENDIX L

Configuring OFS_BGRC_PACK.xml

For configuring OFS_BGRC_PACK.xml, refer to APPENDIX K.

Configuring InstallConfig.xml

For configuring InstallConfig.xml, refer to APPENDIX L.

Configuring OFS_BGRC_SCHEMA_IN.xml file

For configuring OFS_BGRC_SCHEMA.xml, refer to APPENDIX K.

Running Installer in Silent Mode

To install the OFSGRC in Silent mode, execute the following command:

1. Navigate to the path `<DOWNLOAD DIRECTORY>/OFS_BGRC_PACK/bin`
2. To install OFS GRC Application Pack on:
   - **For Java 7**: Proceed with step 3.
   - **For Java 8**: Edit the `VerInfo.txt` file to modify the value for property JAVA_VERSION to 1.8. Save the changes and proceed with step 3.
3. Execute the application pack installer with SILENT option.
4. Execute the command `./setup.sh SILENT`

```
/scratch/ofsaaapp/OFS_AAAI_PACK/bin>ls
install.jar  OFSAAI.jar  pack_install.bin  pack_installsilent.bin  setup.sh
/scratch/ofsaaapp/OFS_AAAI_PACK/bin>./setup.sh SILENT
 FIC_HOME : /scratch/ofsaaapp/OFSAAI
Environment check utility started...
============================================================
Java Validation Started ...
 Java found in : /usr/bin
 JAVA Version found : 1.6.0_45
 JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
============================================================
Environment Variables Validation Started ...
 ORACLE_HOME : /scratch/OracleClient11g/product/11.2.0/client_1
 TNS_ADMIN : /scratch/ofsaaapp
Environment Variables Validation Completed. Status : SUCCESS
============================================================
OS specific Validation Started ...
 Unix shell found : /bin/ksh. Status : SUCCESS
 Total file descriptors : 16240. Status : SUCCESS
 Total number of process : 16240. Status : SUCCESS
 OS version : 5. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
============================================================
DB specific Validation Started ...
 Oracle Client version : 11.2.0.3.0. Status : SUCCESS
 CREATE SESSION has been granted to user. Status : SUCCESS
 CREATE PROCEDURE has been granted to user. Status : SUCCESS
 CREATE VIEW has been granted to user. Status : SUCCESS
 CREATE TRIGGER has been granted to user. Status : SUCCESS
 CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
 CREATE TABLE has been granted to user. Status : SUCCESS
 CREATE SEQUENCE has been granted to user. Status : SUCCESS
 SELECT privilege is granted for V_$nls_parameters view. Current value : SELECT.
 Status : SUCCESS
 NLS_LENGTH_SEMANTICS : BYTE. Current value : BYTE. Status : SUCCESS
 NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
 SELECT privilege is granted for V_$parameter view. Current value : SELECT. Stat
us : SUCCESS
 Open cursor value is greater than 1000. Current value : 1200. Status : SUCCESS
 SELECT privilege is granted for USER_TS_QUOTAS view. Current value : SELECT. St
atus : SUCCESS
 Schema is granted with at least 500 MB table space. Current value : 10239.60113
52539063 MB. Status : SUCCESS
 Oracle Server version Current value : 11.2.0.3.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
============================================================
Environment check utility Status : SUCCESS
============================================================
```

Figure 52. Validation Process

5. Enter the Infrastructure FTP/SFTP password value, when prompted at the command prompt.

Table 6. Console Prompts

Console Prompts	User Inputs
Enter Infrastructure FTP/SFTP password.	Enter the password to access Product Staging/Metadata repository directory in the application server.
Note: In case the prompt reads as follow, enter the username/ password for accessing the product Staging/ Metadata Repository FTPSHARE. • Kerberos username [user] • Kerberos password for user	

6. Enter **Always**, when prompted to add host key fingerprint.
7. The OFSAAI License Agreement is displayed.

Figure 53. OFSAAI License Agreement

8. Accept the License Agreement.

Table 7. Console Prompts

Console Prompts	User Inputs
Are you accepting the terms and conditions mentioned above? [Y/N].	Enter Y if you accept the license agreement and want to proceed with installation.
Please nter password for default Infrastructure administrator user SYSADMN.	Enter the password for the System Administrator.

Table 7. Console Prompts

Please re-enter password for default Infrastructure administrator user SYSADMN.	Enter the same password again to confirm its validity.
Please enter password for default Infrastructure authorizer user SYSAUTH.	Enter the password for the System Authorizer.
Please enter password for default Infrastructure authorizer user SYSAUTH.	Enter the same password again to confirm its validity.

Note: SYSADMN and SYSAUTH are the two default OFSAAI administrative users created.

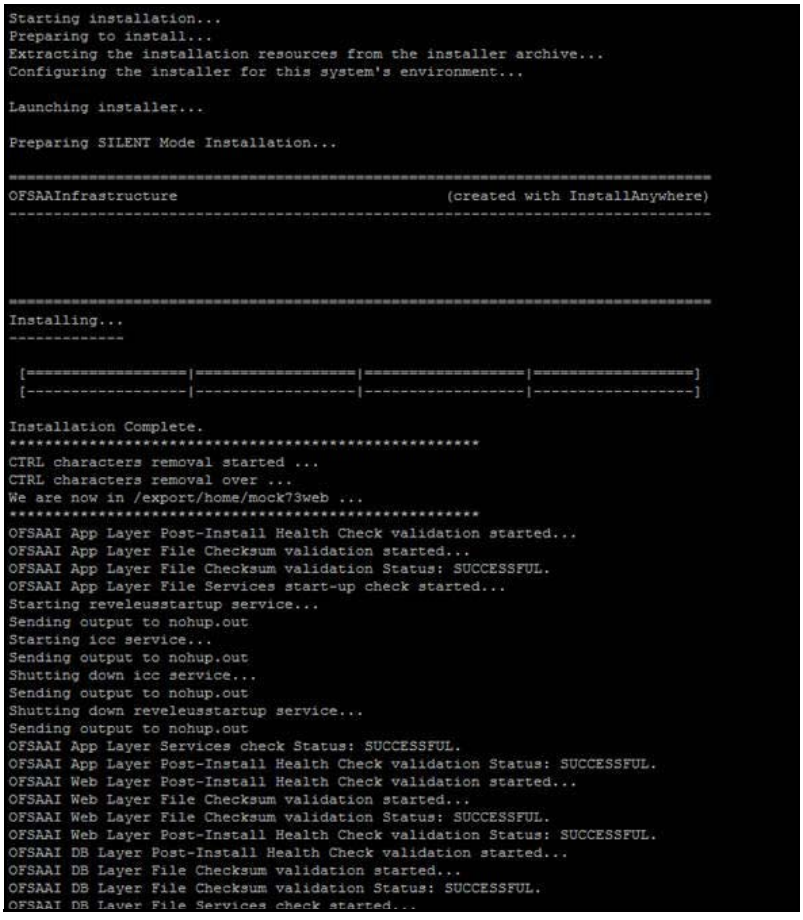

Figure 54. Installation Completes

The following message is displayed in the console: *Installation completed…*

9. On completion of installation, refer the installation log files.

   For more information, refer Verifying Log File.

Note:

- The installation process continues on the console. Do not close the console until the installation process is complete.
- Download and install patch for Bug 21160684 if installing this release of the OFS GRC Application Pack version 8.0.0.0.0 on Java 8. This patch is not required if an existing OFSAA instance already exists and is configured for Java 8.

Verifying Log File

Refer the following logs files for more information:

- Refer the Pack_Install.log located at `OFS_BGRC_PACK/logs/` folder for OFS GRC Application Pack installation log file.
- Refer the log file(s) located at `OFS_BGRC_PACK/OFS_AAI/logs/` folder for Infrastructure installation log.
- Refer the OFSAAInfrastucture_Install.log located at OFSAA Installation Directory folder for Infrastructure installation log.
- Refer the `OFS_BGRC_LOG.log` located at `OFS_BGRC_PACK/OFS_BGRC/logs` folder for OFS BGRC Application Installation.

CHAPTER 5 Post Installation Configuration

This chapter explains the post installation steps. On successful installation of the Oracle Financial Services Governance, Risk, and Compliance Pack, follow these post installation steps.

This chapter includes the following sections:

Creating and Deploying the Application Pack Web Archive

On successful installation of the OFS GRC Application Pack, the web archive file is automatically generated. However, you need to deploy the generated web archive file on the Web Application Server.

For identifying the location of the generated web archive file and for generating and deploying the web archive file at any time later, refer APPENDIX C.

Configuring Resource Reference

Configure the resource reference in the Web Application Server configured for OFSAA Applications. Refer APPENDIX B for details on configuring the resource reference in WebSphere, WebLogic, and Tomcat Application Servers.

Creating Sample Users

After successful installation, you can create sample GRC application users through scripts available under following path:

`$FIC_HOME/ficdb/Test_Data.`

To Execute Sample User Scripts, follow these steps:

1. Navigate to $FIC_HOME/ficdb/Test_Data
2. Connect to config schema through sqlplus.
3. Execute command `@'Execution_order.txt'`
4. Commit the change.

Note: Sample users are useful for understanding of OFS GRC application in initial stages. However, Oracle doesn't restrict on use of OFS GRC application only through sample users.

This script needs to be executed each time any of the App from GRC pack gets enabled post installation.

Compiling Data Base Objects

Login to atomic schema and make sure that all data base objects are compiled.

Starting OFSAA Infrastructure Services

Start the OFSAA Infrastructure Services prior to deployment or accessing the OFSAA Applications.

Refer to the APPENDIX D for details on Start/ Stop OFSAA Services.

Adding TNS entries in TNSNAMES.ORA file

Add TNS entries in the `tnsnames.ora` file, for every schema created for the Application Pack

To find the tnsname for the entries, follow these steps:

1. Login to the application using System Administrator privileges.
2. Navigate to System Configuration & Identity Management tab.
3. Click Administration and Configuration. Select System Configuration and click Database Details.
4. Expand the drop-down list for Name to get the list of TNS entry names.
5. Alternatively, you can connect to the CONFIG schema and execute the following query:

```
Select dbname from db_master where dbname !='CONFIG'
```

Accessing OFSGRC Application Pack

Prior to accessing the OFSGRC application ensure the Internet Explorer Settings are configured.

Refer to APPENDIX E for details on accessing the OFSGRC Application on successful deployment of the application web archive.

Performing Post Deployment Configurations

Prior to using the OFSGRC Application perform the Post Deployment Configuration steps detailed in APPENDIX F.

Operational Risk Analytics (ORA) Batch

To move data from processing to reporting tables, ORA batch needs to be executed. This can be done, once OFS GRC pack installation is done and setup is ready for use. Before executing this batch make sure proper data has been inserted into processing table either through application front end or through staging table.

Note: This section is applicable if OFSORA is enabled.

To execute ORA batch, follow these steps:

Login to OFS GRC application with user having ORA Admin credentials. You can log in with AORADMIN user, if sample user scripts are ran as mentioned in section Creating Sample Users.

1. Access Common tasks. Select Rules Administration, and clisk Run screen.
2. Select **Run Name** as Integrated_Domain.
3. Click on **Fire Run** icon in the grid.
4. Click **OK** on the confirmation window without any change.
5. This generates a Batch in the Batch Execution section of Operations module.
6. Execute the Batch from the Batch Execution screen of Operations module.
7. Navigate to Batch Monitor screen to know the status of batch execution.

Configurating Axis API

This step is optional and required only if the web application server is Apache Tomcat. If you use any other web application server, skip and proceed to next step.

Copy the `jaxrpc.jar from the <OFSAA Installation Directory>/axis-1_4/webapps/axis/WEB-INF/lib` and place it in under `<Tomcat Installation Directory>/lib` and restart the Tomcat Server.

Taking Backup

The backup should be kept until the application runs successfully. Take a backup of the following post installation.

- OFSAAI Configuration schema
- OFSAAI Installation directory
- OFSAAI FTPSHARE directory
- OFSAAI Atomic Schema

Deploying Operational Risk Dashboard Analytics

This section explains how to deploy Configuration and Deployment of GRC Analytics on Oracle Business Intelligence Enterprise Edition (OBIEE).

This section includes the following sections:

- Installing OBIEE Server
- Installing OBIEE Windows Administration Client
- Disabling the Cache Feature in OBIEE Server
- Deploying Operational Risk Report Analytics
- Post Installation Steps
- Security setting for ORA

For more information on deploying operational risk dashboard analytics, refer Deploying Operational Risk Dashboards Analytics APPENDIX M.

E-mail Configuration

This section describes how to configure the email utility for GRC application.

This configuration is required if SMTP details are not filled in `OFS_BGRC_PACK\OFS_BGRC\conf\InstallConfig.xml` during installation.

To configure the email utility for GRC application, follow these steps:

The web application server should have access to the SMTP server at the designated port.

Update the following entries in the configuration table in config schema.

Following values are examples, needs to be updated as required.

- REV_SMTP_HOST - 'internal-mail-router.oracle.com'
- REV_SMTP_PORT - 25
- MAILUTILITY_SLEEPINTERVAL - 40000 (in Micro Seconds)
- MAILUTILITY_STATUS - 'Yes'

- REV_MAIL_FROM - GRCdmin@oracle.com

OBIEE Configuration

Update the following entries in the configuration table in config schema.

This configuration is required if OBIEE details are not filled in "OFS_BGRC_PACK\OFS_BGRC\conf\InstallConfig.xml" during installation.

- OBI_URL_<<INFODOM>> - `http://<ip address or hostname>:<port>/analytics/saw.dll`
- <<INFODOM_SEGMENT>>_OBI_URL - `http://<ip address or hostname>:<port>`

Configurations for Java 8

Refer to the following instructions to extract and apply the patch.

1. Copy the downloaded patch file (21160684) to your OFSAA server in Binary mode.

   For more informaiton on downloading the patch files, refer Prerequisite Information, go to Category - Others and Sub-Category - OFSAA in Installer and Installation Prerequisites chapter.

2. Follow the instructions given in the Readme to apply the patch.
3. If the Oracle Database version is 12c, copy `ojdbc7.jar` from `$ORACLE_HOME/jdbc/lib` to the following locations:
   - `$FIC_HOME/utility/OFSAAGenerateRepository/lib/`
   - `$FIC_HOME/realtime_processing/WebContent/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/lib/`
   - `$FIC_HOME/ficapp/icc/lib/`
   - `$FIC_HOME/ficapp/common/FICServer/lib/`
   - `$FIC_HOME/FMStandalone/FormsManager/WEB-INF/lib/`
   - `$FIC_HOME/ficweb/webroot/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/etl/classes/`
4. If the Oracle Database version is 11g, copy ojdbc6.jar from `$ORACLE_HOME/jdbc/lib` to the following locations:
   - `$FIC_HOME/utility/OFSAAGenerateRepository/lib/`
   - `$FIC_HOME/realtime_processing/WebContent/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/lib/`
   - `$FIC_HOME/ficapp/icc/lib/`
   - `$FIC_HOME/ficapp/common/FICServer/lib/`
   - `$FIC_HOME/FMStandalone/FormsManager/WEB-INF/lib/`

- `$FIC_HOME/ficweb/webroot/WEB-INF/lib/`
- `$FIC_HOME/ficdb/etl/classes/`

Installing OFS GRC Application Pack 8.0.0.0.0 over Higher version of OFS AAI (Infrastructure) 8.0.x.0.0

This section explains step to install OFS GRC Application Pack 8.0.0.0.0 release on an existing OFSAA instance. Where the OFSAA infrastructure (OFS AAI) is already upgraded to a higher release for example, 8.0.1.0.0,

To install OFS GRC Application Pack 8.0.0.0.0 over Higher version of OFS AAI (Infrastructure) 8.0.x.0.0, follow these steps:

1. Navigate to $FIC_HOME/Post_AAI_Migration folder.
2. Execute `./aaipi.sh`

APPENDIX A Configuring Web Server

This appendix includes the following sections:

Configuring Web Server

This step assumes an installation of a Web Server exists as per the prerequisites.

Refer the product specific Installation Guide/ Configuration Guide to install/ configure the Web Server. If an installation already exists, skip and proceed to the next step.

Make a note of the IP Address/ Hostname and Port of the web server. This information is required during the installation process.
Refer *Oracle Financial Services Analytical Applications Infrastructure Security Guide* mentioned in the , on page xi, section for additional information on securely configuring your Web Server.

Configuring Web Application Server

This step assumes an installation of a web application server exists as per the prerequisites. To configure the Web Application Server for OFSAA Deployment refer the sections below.

This section includes the following topics:

Note: Make a note of the IP Address/ Hostname and Port of the web application server. This information is required during the installation process (required if Web Server is not configured).
Refer OFSAA Secure Configuration Guide/ Security Guide mentioned in the Related Documents section for additional information on securely configuring your Web Server.

Configuring WebSphere Application Server for Application Deployment

You can deploy multiple OFSAA applications on different profiles of a WebSphere application server. To create multiple WebSphere "Profiles", use the command line option as explained below. A profile is the set of files that define the runtime environment. At least one profile must exist to run WebSphere Application Server.

This section includes the following topics:

- Creation of New Profile in WebSphere
- Manage Applications in WebSphere
- Delete WebSphere Profiles
- WebSphere HTTPS Configuration
- WebSphere Memory Settings

Creation of New Profile in WebSphere

The Profile is created in WebSphere through command line using the **manageprofiles.sh** which resides in *<WebSphere Install directory>/AppServer/bin*.

The command to create a profile **without admin** security through command line is as follows:

```
"manageprofiles.sh -create -profileName <profile> -profilePath
<profile_path> -templatePath <template_path> -nodeName <node_name>
-cellName <cell_name> -hostName <host_name>"
```

Example:

```
$usr/home>./manageprofiles.sh -create -profileName mockaix
-profilePath/websphere/webs64/Appserver/profiles/mockaix
-templatePath/websphere/webs64/Appserver/profileTemplates/default
-nodeName ipa020dorNode04 - cellName ipa020dorNode04Cell -hostName
ipa020dor
```

The command to create a profile **with admin** security through command line is as follows:

```
"manageprofiles.sh -create -profileName <profile> -profilePath
<profile_path> -templatePath <template_path> -nodeName <node_name> -cellName
<cell_name> -hostName <host_name> -enableAdminSecurity true -adminUserName
<Admin User Name> -adminPassword < Admin User Password> -samplespassword
<sample User Password>"
```

Example:

```
$usr/home>./manageprofiles.sh -create -profileName mockaix
-profilePath/websphere/webs64/Appserver/profiles/mockaix
-templatePath/websphere/webs64/Appserver/profileTemplates/default -nodeName
ipa020dorNode04 -cellName ipa020dorNode04Cell -hostName ipa020dor
-enableAdminSecurity true -adminUserName ofsaai -adminPassword ofsaai
-samplespassword ofsaai"
```

Note: While using the manageprofiles.sh command to create a New Profile in WebSphere, you can also use "-validatePorts" to validate if the specified ports are not reserved or in use. Additionally, you can specify new ports with "-startingPort <base port>" which specifies the starting port number to generate and assign all ports for the profile. For more information on using these ports, refer WebSphere manageprofiles command.

Manage Applications in WebSphere

To manage the installed applications in WebSphere, do the following:

1. Open the administrator console using the following URL:

   `http://<ipaddress>:<Administrative Console Port>/ibm/console`

   Example: `http://10.111.222.333:9003/ibm/console` (https if SSL is enabled)

Note: Administrative Console Port value is available in `serverindex.xml` file within <WebSphere Profile Directory>/config/cells/<Node Cell>/nodes/<Node Name> directory.

The Integrated Solutions Console Login window is displayed.

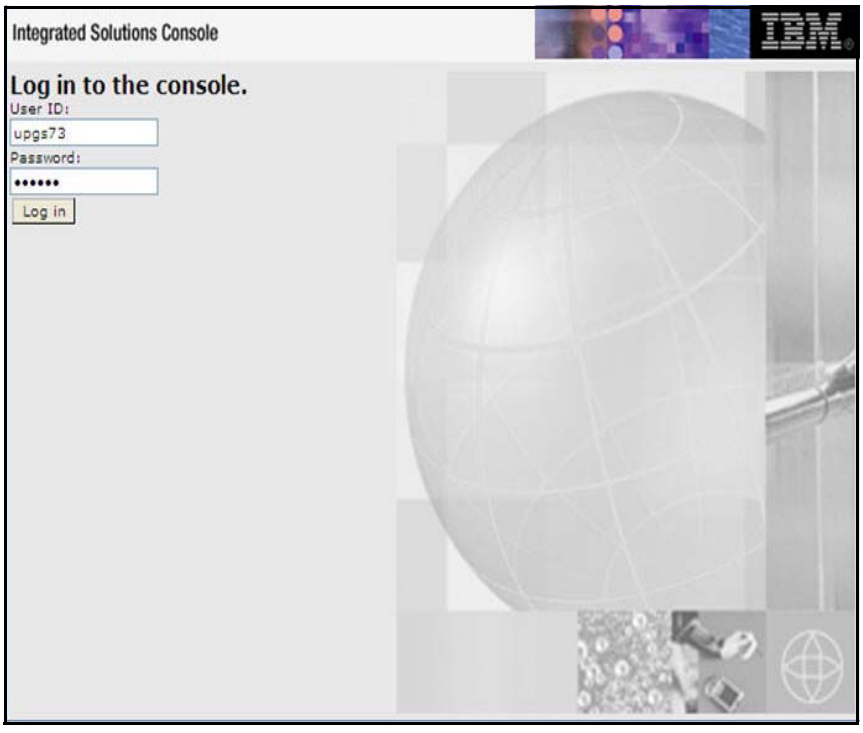

Figure 55. Integrated Solutions Console Login

2. Log on with the **User ID** provided with the admin rights.
3. From the LHS menu, expand the **Applications** > **Application Type**> **WebSphere Enterprise Applications**. The Enterprise Applications screen is displayed.

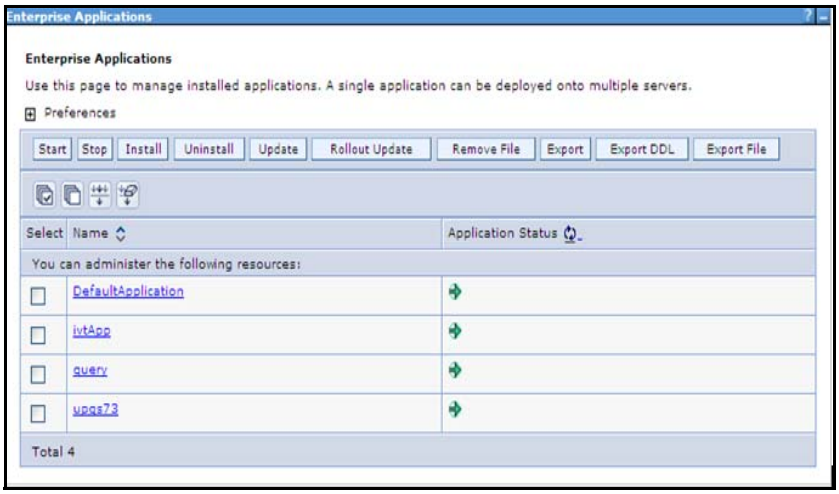

Figure 56. Enterprise Applications

This Enterprise Applications screen helps you to:

- Install new application
- Uninstall existing applications
- Start or Stop the installed applications

Delete WebSphere Profiles

To delete a WebSphere profile, do the following:

1. Select the checkbox adjacent to the required application and click **Stop**.
2. Stop the WebSphere profile to be deleted.
3. Navigate to WebSphere directory:

   `<WebSphere_Installation_Directory>/AppServer/bin/`
4. Execute the command:

   `manageprofiles.sh -delete -profileName <profile_name>`
5. Delete profile folder.

   Example: `<WebSphere_Installation_Directory>/AppServer/profiles/<profile_name>`
6. Execute the command: manageprofiles.sh
7. Validate and update Registry.

WebSphere HTTPS Configuration

Following are the steps for configuring an HTTPS Transport on WebSphere:

1. Create a profile using the Profile Creation Wizard in WebSphere.

   Note: Note down the https port specified during this process and use the same as servlet port or web server port during OFSAAI installation.

2. To enable https configuration on Infrastructure, assign value 1 to "HTTPS_ENABLE" in OFSAAI_InstallConfig.xml for Silent mode OFSAAI installation.

WebSphere Memory Settings

To configure the WebSphere Memory Settings:

1. Navigate to `Websphere applications server > Application servers > server1 > Process definition > Java Virtual Machine.`
2. Change the memory setting for Java Heap:

```
Initial heap size = 512

Maximum heap size =3072
```

Configuring WebLogic for Application Deployment

You can deploy multiple OFSAA applications on different domains of a stand-alone Weblogic application Server. To create a WebLogic "Domain" you can use the Domain Creation wizard. A domain is the set of files that define the runtime environment. At least one domain must exist to run WebLogic Application Server.

Note: For deployment on Oracle WebLogic Server 12.1.2+ (64 bit) with Java 8, download and install patch 18729264.

This section includes the following topics:

- Creating Domain in WebLogic Server
- Delete Domain in WebLogic
- WebLogic Memory Settings

Creating Domain in WebLogic Server

To create a new domain using Configuration Wizard in WebLogic, do the following:

1. Navigate to the directory `<WLS_HOME>/wlserver/common/bin` and execute the command:.`\config.sh.` The *Welcome* window of the *Configuration Wizard* is displayed.

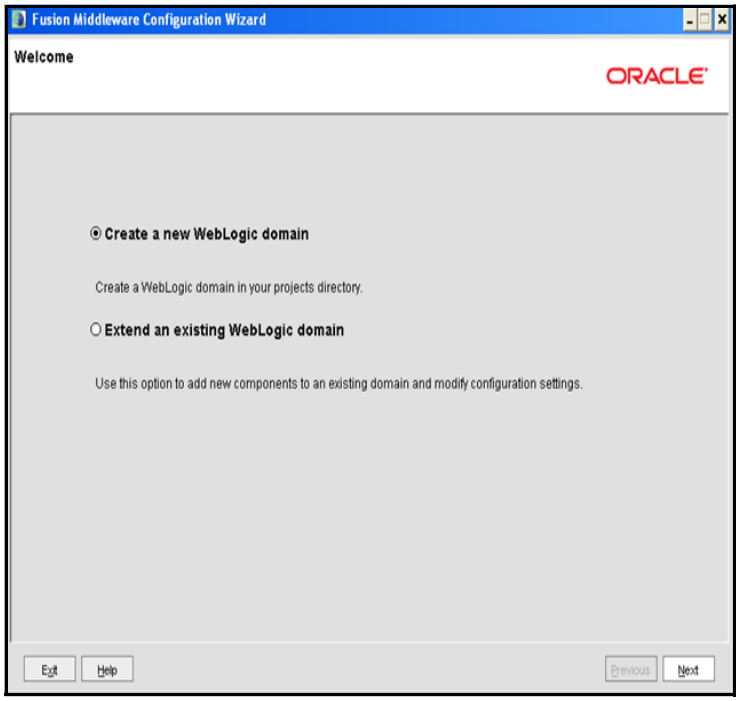

Figure 57. Welcome Screen

2. Select Create a new WebLogic domain option and click **Next.** The *Select Domain Source* window is displayed.

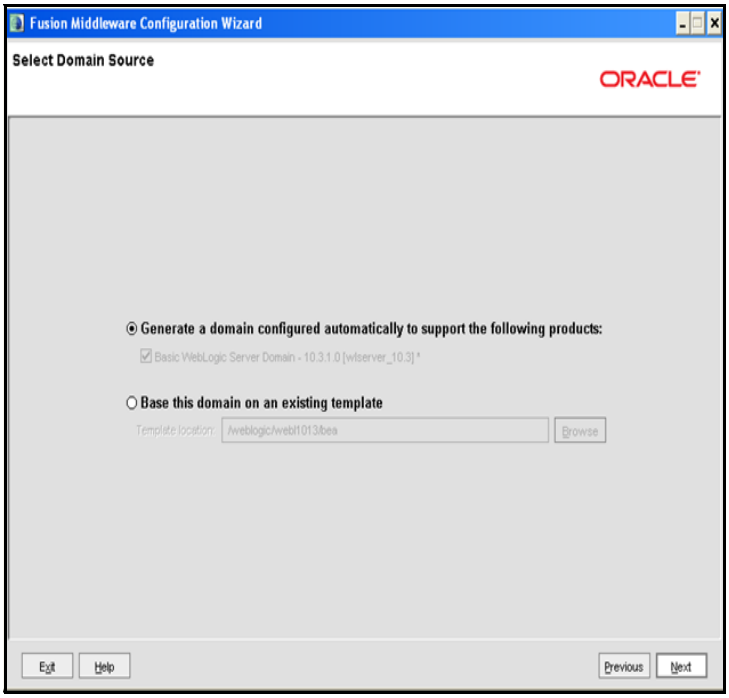

Figure 58. Select Domain Source

3. Select the Generate a domain configured automatically to support the following products option and click **Next.** The Specify Domain Name and Location window is displayed.

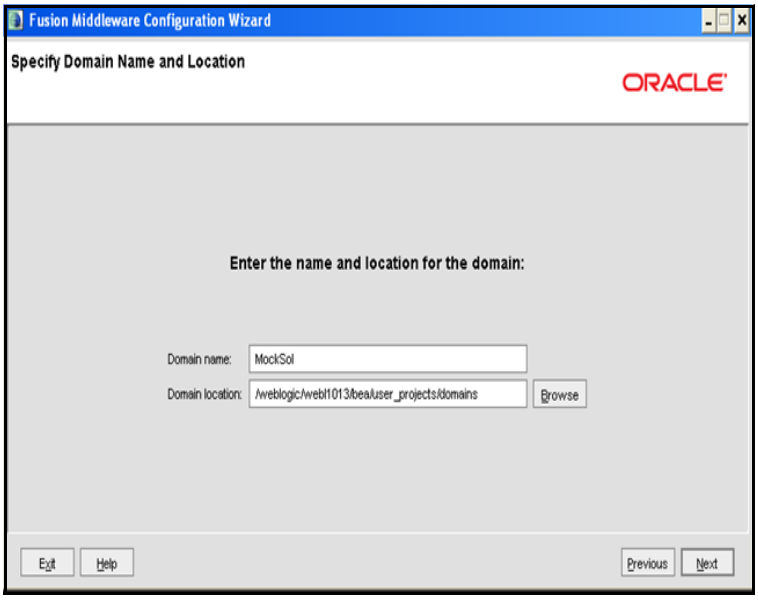

Figure 59. Specify Domain Name and Location

4. Enter the **Domain Name** and **Location**. Click **Browse** to navigate and specify the location. Click **Next**. The Configure Administrator Username and Password window is displayed.

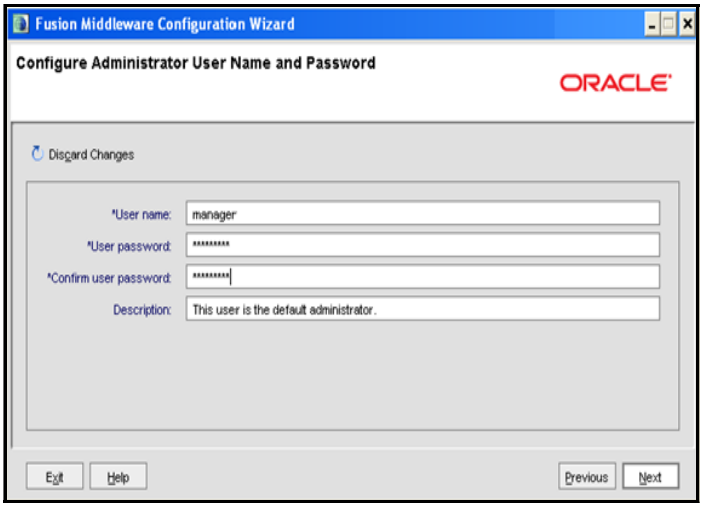

Figure 60. Configure Administrator Username and Password

5. Enter the **User name** and **User password** to be assigned to the Administrator. Ensure that the password is of minimum 8 characters in length.
6. Re-enter the password for confirmation and add a brief **Description**. Click **Next**. The Configure Server Start Mode and JDK window is displayed.

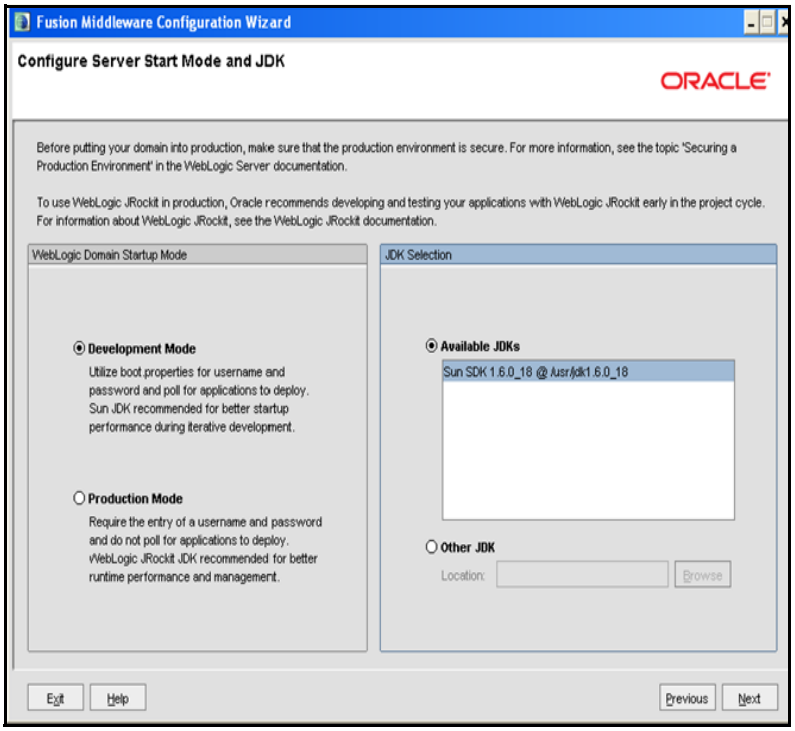

Figure 61. Configure Server Start Mode and JDK

7. Select the following options:
   - In the WebLogic Domain Startup Mode section, select the required mode (Development Mode or Production Mode).
   - In the *JDK Selection* section, select **Other JDK**. Click **Browse** and navigate to the JDK location.
8. Click **Next**. The Select Optional Configuration window is displayed.

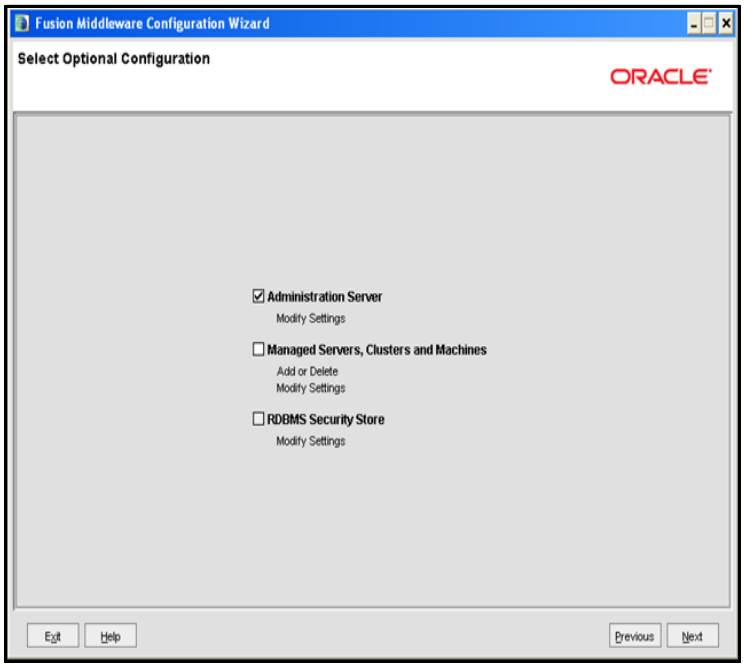

Figure 62. Select Optional Configuration

9. Select **Administration Server**. A WebLogic Server domain must have an Administration Server. You can also select Manages Servers, Clusters and Machines and RDBMS Security Store if required.
10. Click **Next**. The Configure the Administration Server window is displayed.

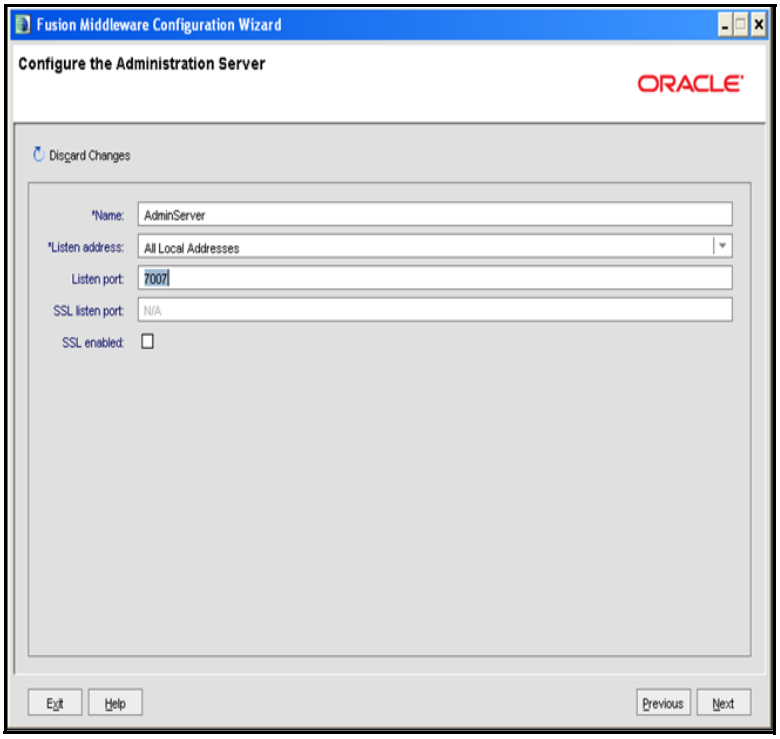

Figure 63. Configure the Administration Server

11. Enter Administration Server details such as the Name, Listen address, Listen Port, SSL listen port, and SSL enabled (for secure login using https) check box.
12. Click **Next**. The Configuration Summary window is displayed.

Note: Make a note of the Listen Port or SSL Listen Port value (ex: 7007), since the same has to be entered in the Servlet port field during installation.

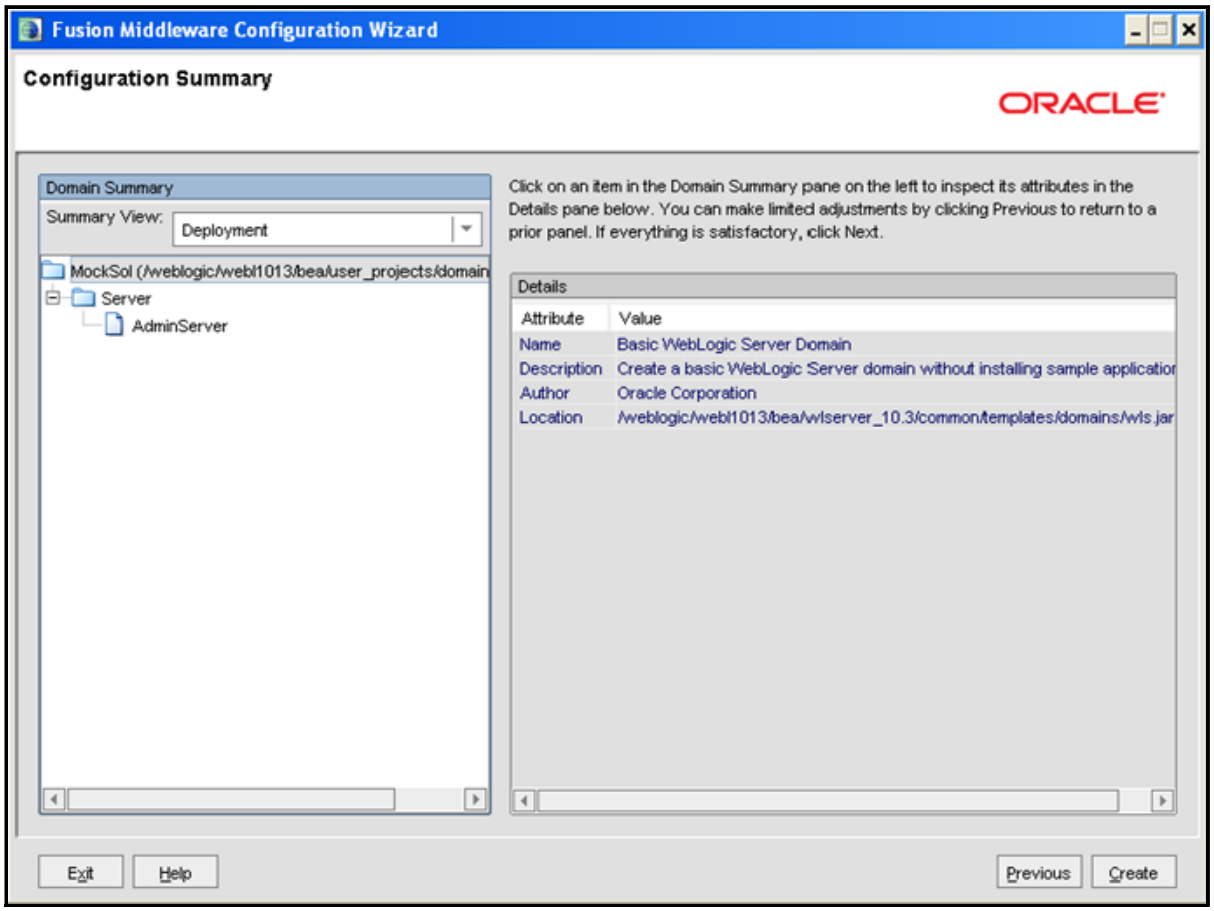

Figure 64. Configure Server Start Mode and JDK

13. Verify the configuration details of the WebLogic domain and click **Create**. The Creating Domain window is displayed with the status indication of the domain creation process.

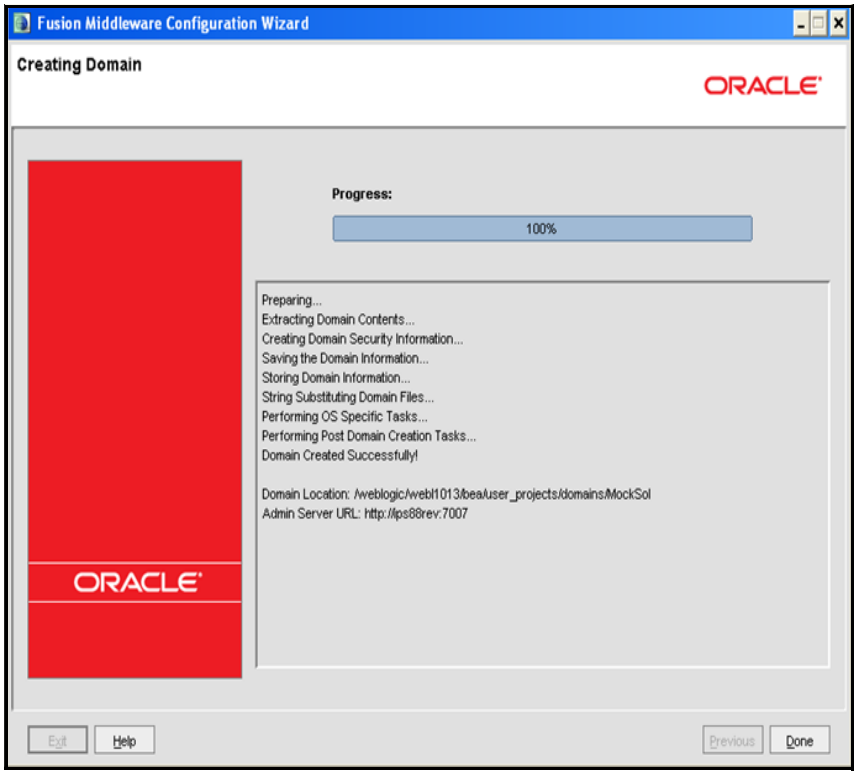

Figure 65. Configure Server Start Mode and JDK

14. Click **Done** when complete. The domain server is created enabling the deployment of multiple Infrastructure applications on a single WebLogic.

Note: Note down the HTTPS port specified during this process and use the same as servlet port or web server port during OFSAAI Installation.
To enable https configuration on Infrastructure, assign value 1 to "HTTPS_ENABLE" in OFSAAI_InstallConfig.xml for silent mode OFSAAI installation.

15. Add a java option entry `-DUseSunHttpHandler=true in WLS_HOME/bin/ "setDomainEnv.sh"` file (Required only if self signed certificate is used).

Delete Domain in WebLogic

1. Navigate to the following directory:

   `<WebLogic Installation directory>/user_projects/domains/<domain name>/bin`

2. Execute ./stopWebLogic.sh to stop the WebLogic domain.
3. Delete the WebLogic domain.

WebLogic Memory Settings

To configure the WebLogic Memory Settings:

1. Change the memory setting for Java Heap to -Xms512m -Xmx1024m in setDomainEnv.sh file, which resides in the folder <DOMAIN_HOME>/bin and in `CommEnv.sh` file which resides in the folder common/bin.

2. Edit this file for customizing memory settings and garbage collector settings depending on the available hardware configuration.

Example 1:

```
if [ "${JAVA_VENDOR}" = "Sun" ] ; then
WLS_MEM_ARGS_64BIT="-Xms512m -Xmx1024m"
export WLS_MEM_ARGS_64BIT
WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"
export WLS_MEM_ARGS_32BIT
else
WLS_MEM_ARGS_64BIT="-Xms512m -Xmx1024m"
export WLS_MEM_ARGS_64BIT
WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"
export WLS_MEM_ARGS_32BIT
```

Example 2:

```
    JAVA_VM=
MEM_ARGS="-Xms256m -Xmx1024m"
```

Configuring Apache Tomcat Server for Application Deployment

This section is applicable only when the Web Application Server type is Tomcat.

This section includes the following topics:

- Tomcat User Administration
- Configure Tomcat to use JAVA 64 bit Executables
- Configure Servlet Port
- SSL Port Configuration
- Apache Tomcat Memory Settings

Tomcat User Administration

The Tomcat administration and manager application does not provide a default login. You are required to edit `"$CATALINA_HOME/conf/tomcat-users.xml"` as instructed below.

This file contains an XML tag <user> for each individual user, which will display the username and password used by admin to log on to Tomcat, and the role names to which the admin user is associated with. For example, `<user name="admin" password="admin" roles="standard,manager" />`

1. Add the manager role to any one of the existing username/password combination as shown in the example above.
2. Use the same username/password to which the manager role has been assigned to access the Tomcat Application Manager.
3. If the Tomcat server is already running, it requires a re-start after the above configuration is done.

Configure Tomcat to use JAVA 64 bit Executables

1. Navigate to the "$CATALINA_HOME/bin" folder.
2. Edit the setclasspath.sh as explained below.
3. Replace the following block of text

```
# Set standard commands for invoking Java.
_RUNJAVA="$JRE_HOME"/bin/java
if [ "$os400" != "true" ]; then
_RUNJDB="$JAVA_HOME"/bin/jdb
With:
# Set standard commands for invoking Java.
_RUNJAVA="$JAVA_BIN"/java
if [ "$os400" != "true" ]; then
_RUNJDB="$JAVA_BIN"/jdb
```

4. If the Tomcat server is already running, it requires a re-start after the above configuration is done

Note: In case tomcat is installed under different Unix profile, set JAVA_BIN environment variable in .profile to include the Java Runtime Environment absolute path.

For example:export `JAVA_BIN /usr/java6_64/jre/bin`
`export JAVA_BIN = /usr/java6_64/jre/bin//sparcv9 for Solaris Sparc`

Configure Servlet Port

The default servlet port configured for the Tomcat installation is 8080. Ignore this section if you need to use the default port.

If you need to use a different port number, you must first configure the port in the `"server.xml"` in the `"conf"` directory of Tomcat Installation directory. The following steps guide you through the configuration process:

1. Navigate to `$CATALINA_HOME/conf`. Open `server.xml` and locate the tag.`"Define a non-SSL HTTP/1.1 Connector on port 8080 "`
2. Against this tag, a parameter is specified `'Connector port = "8080" '.` Edit this value to the new port number that was used during the Infrastructure installation process.
3. Save your changes in `"server.xml"`

Note: Make a note of the servlet port configured. This information is required during the installation of OFSAA Application Pack.

SSL Port Configuration

If you need to configure and access your OFSAA setup for HTTPS access, ensure that the following connect tag under "Define a SSL HTTP/1/1 Connector on port 8443" in "<Tomcat_installation_folder>/conf/server.xml" file is uncommented for SSL Configuration. (By default, it is commented).

```
<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"
maxThreads="150" scheme="https" secure="true"
clientAuth="false" sslProtocol="TLS"
```

Note:

- Make a note of the servlet port configured. This information would be required during the installation of OFSAA Application Pack.
- To enable https configuration on Infrastructure, assign value 1 to "HTTPS_ENABLE" in OFSAAI_InstallConfig.xml for SILENT mode OFSAAI installation.

For more information related to SSL Configuration on Tomcat, refer to http://tomcat.apache.org/

Apache Tomcat Memory Settings

To configure the Apache Tomcat Memory Settings:

1. Locate the file catalina.sh which resides in the folder <CATALINA_HOME>/bin.
2. Edit this file for customizing the memory settings and garbage collector settings depending on the available hardware configuration.
3. Add the memory setting for Java Heap to -Xms512m -Xmx1024m
4. Example

```
if [ -z "$LOGGING_MANAGER" ]; then
JAVA_OPTS="$JAVA_OPTS -Xms512m -Xmx1024m
-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager"
else
JAVA_OPTS="$JAVA_OPTS -Xms512m -Xmx1024m $LOGGING_MANAGER"fi
```

APPENDIX B Configuring Web Application Servers

This appendix includes the following topics:

Configure Resource Reference in WebSphere Application Server

This section is applicable only when the Web Application Server is WebSphere.

This section includes the following topics:

Create JDBC Provider

To create JDBC Provider follow these steps:

1. Open the WebSphere admin console in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console.` (https if SSL is enabled). The *Login* window is displayed
2. Login with the **User ID** that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC** > **JDBC Providers**. The *JDBC Providers* window is displayed.

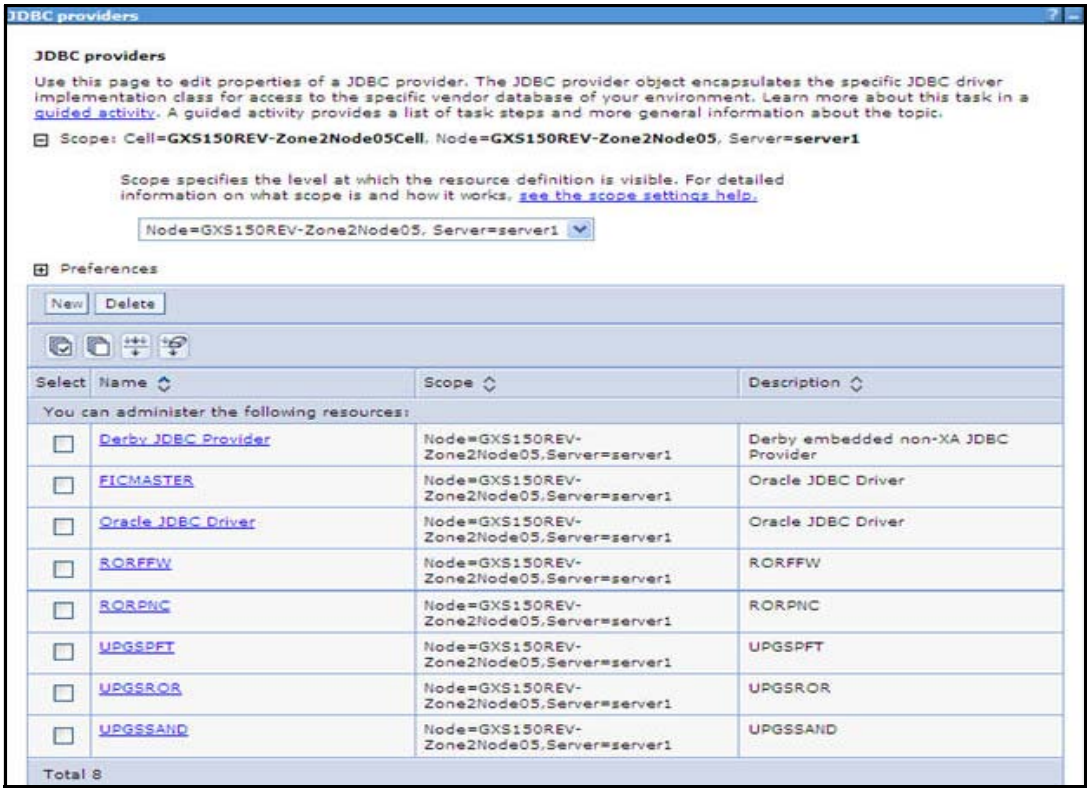

Figure 66. JDBC Providers

5. Select the **Scope** from the drop-down list. Scope specifies the level at which the resource definition is visible.
6. Click **New** to add new JDBC Provider under the *Preferences* section. The Create *new JDBC provider* window is displayed.

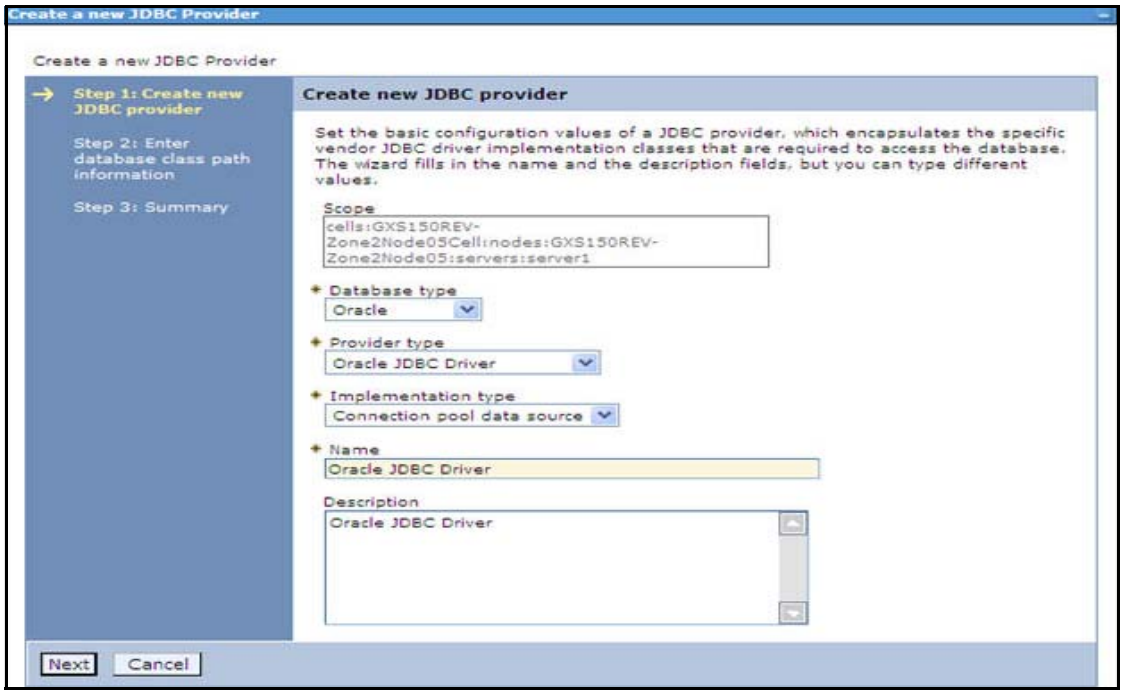

Figure 67. Create a new JDBC Provider

7. Enter the following details:
   - Database Type - Oracle
   - Provider Type- Oracle JDBC Driver
   - Implementation Type- Connection pool data source
   - Name- The required display name for the resource
   - Description - The optional description for the resource
8. Click **Next.**

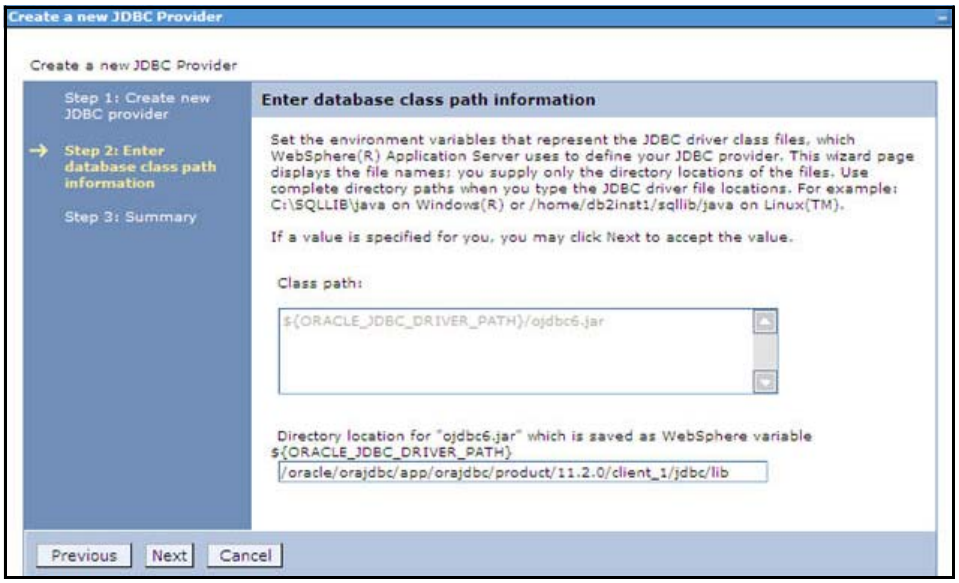

Figure 68. Enter database class path information

9. Specify the directory location for "ojdbc<version>.jar" file. Ensure that you do not use the trailing slash file separators.

   The Oracle JDBC driver can be downloaded from the following Oracle Download site:

   Oracle Database 11g Release 2 (11.2.0.4) JDBC Drivers

   Oracle Database 12c Release 1 (12.1.0.1) JDBC Drivers

   Once downloaded, you need to copy the file in the required folder on the server.

Note: Refer APPENDIX O for identifying the correct ojdbc<version>.jar version to be copied.

10. Click **Next**. The *Summary* window is displayed.

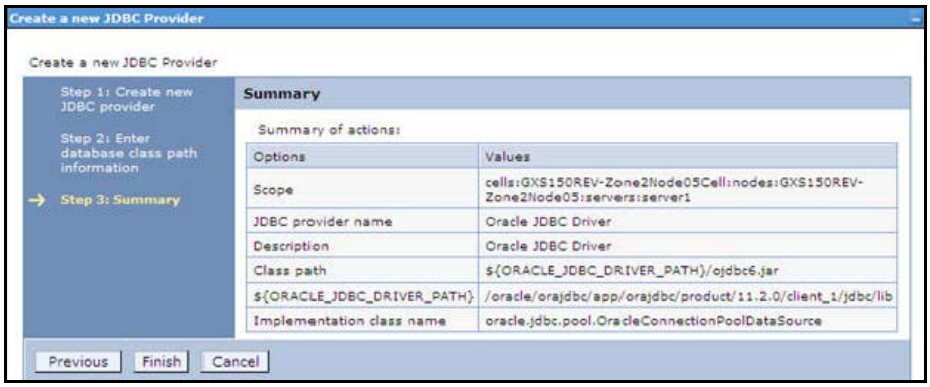

Figure 69. Summary

11. Verify the details and click **Finish** to create the JDBC Provider.
12. The options to **Save** and **Review** are displayed. Click **Save**.

Create Data Source

The steps given below are applicable for both CONFIG and ATOMIC data source creation.

1. Open this URL in the browser window: http://<ipaddress>:<administrative console port>/ibm/console. (https if SSL is enabled). The Login window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC > Data sources** option. The *Data sources* page is displayed.
4. Select the **Scope** from the drop-down list. Scope specifies the level at which the resource definition is visible.
5. Click **New**. The *Create a Data Source* window is displayed.

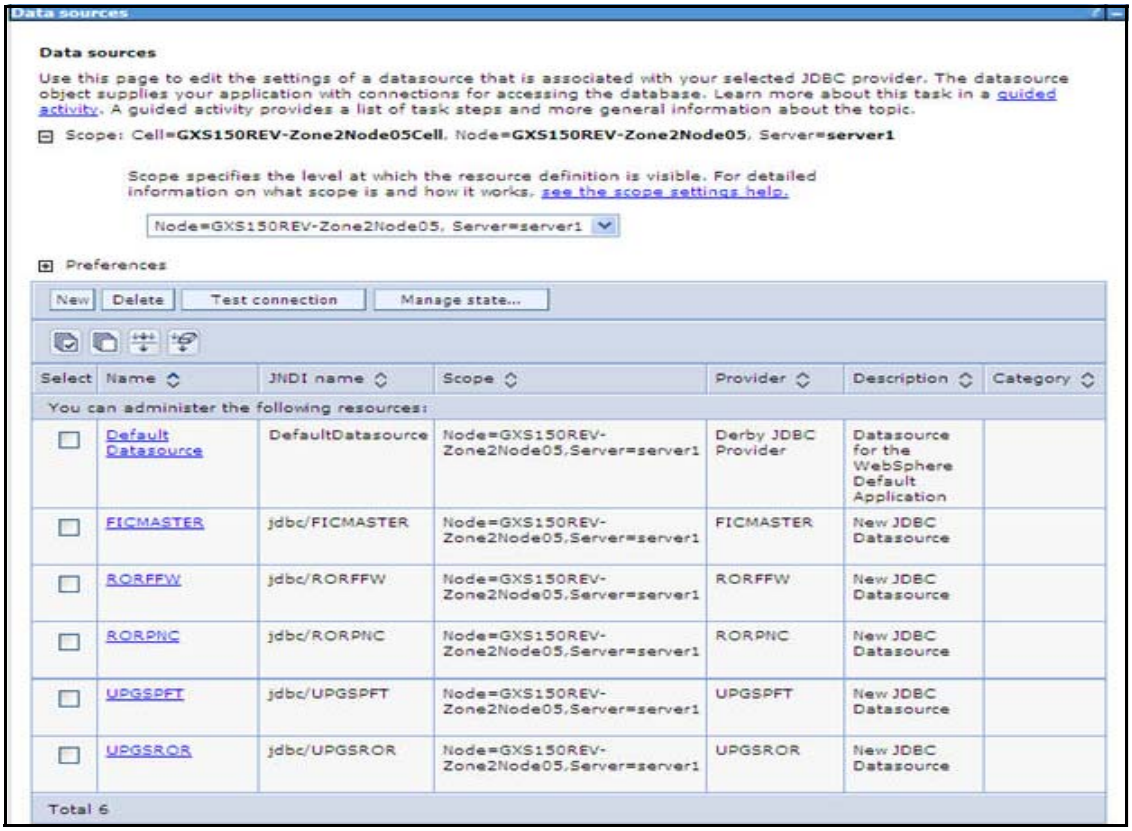

Figure 70. Data Sources

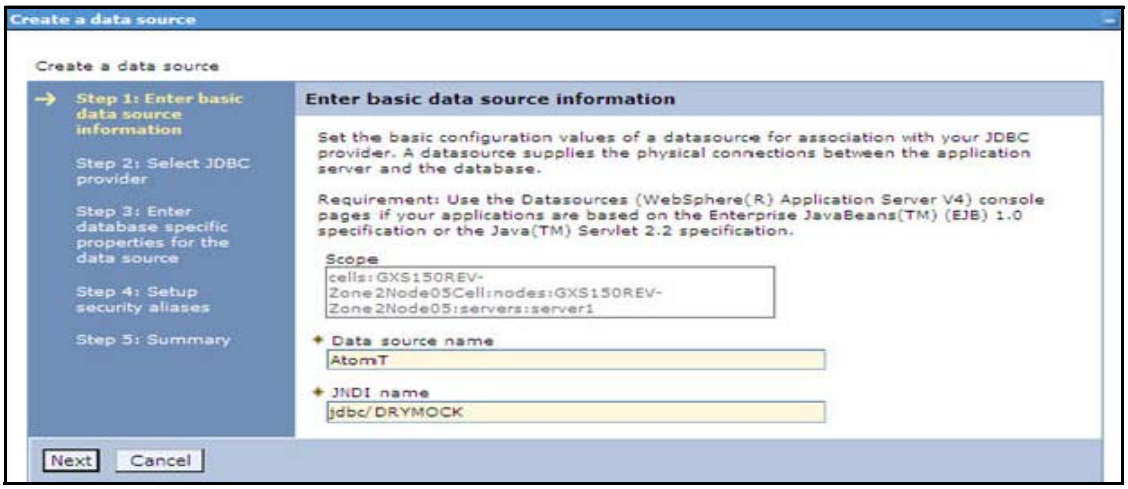

Figure 71. Create a data source

6. Specify **the Data Source name** and **JNDI name** for the new "Data Source". The **JNDI** and **Data Source name** are case sensitive. Ensure that JNDI name is same as the "Information Domain" name.
7. Click **Next**. The Select *JDBC provider* window is displayed.

Figure 72. Select JDBC provider

8. Select the option **Select an Existing JDBC Provider** and select the required JDBC provider from the drop-down list. Click **Next.**

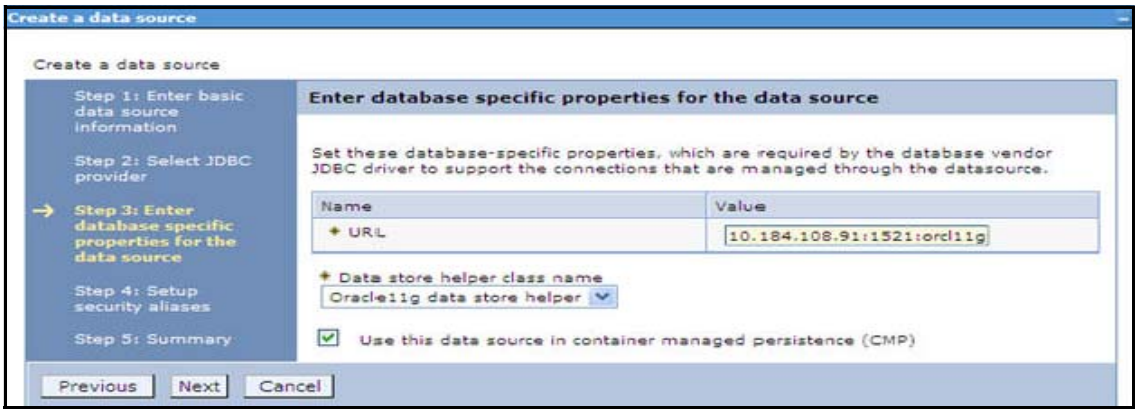

Figure 73. Enter database specific properties

9. Specify the database connection URL.

   For Example: jdbc:oracle:thin:@<DB_SEREVER_IP>:<DB_SERVER_PORT>:<SID>

10. Select **Data Store Helper Class Name** from the drop-down list and ensure that the checkbox **Use this data source in container managed persistence (CMP)** is selected.

Note: For RAC configuration, provide the RAC URL specified during installation

For Example:

```
jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=10.11.12.13)(port=152
1))(ADDRESS=(PROTOCOL=TCP)(HOST=10.11.12.14)(PORT=1521))(LOAD_BALANCE=no)(FAILOVER=yes))(CONNEC
T_DATA=(SERVICE_NAME=pqadb))).
```

11. Click **Next**.

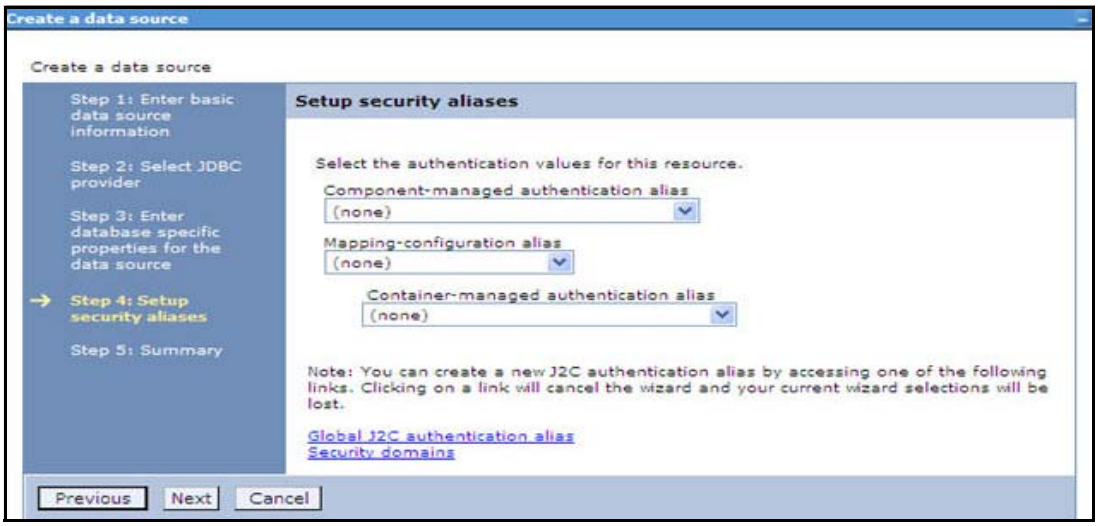

Figure 74. Setup security aliases

12. Map the J2C authentication alias, if already created. If not, you can create a new J2C authentication alias by accessing the link given (**Global J2C authentication alias**) or you can continue with the data source creation by clicking **Next** and then **Finish**.

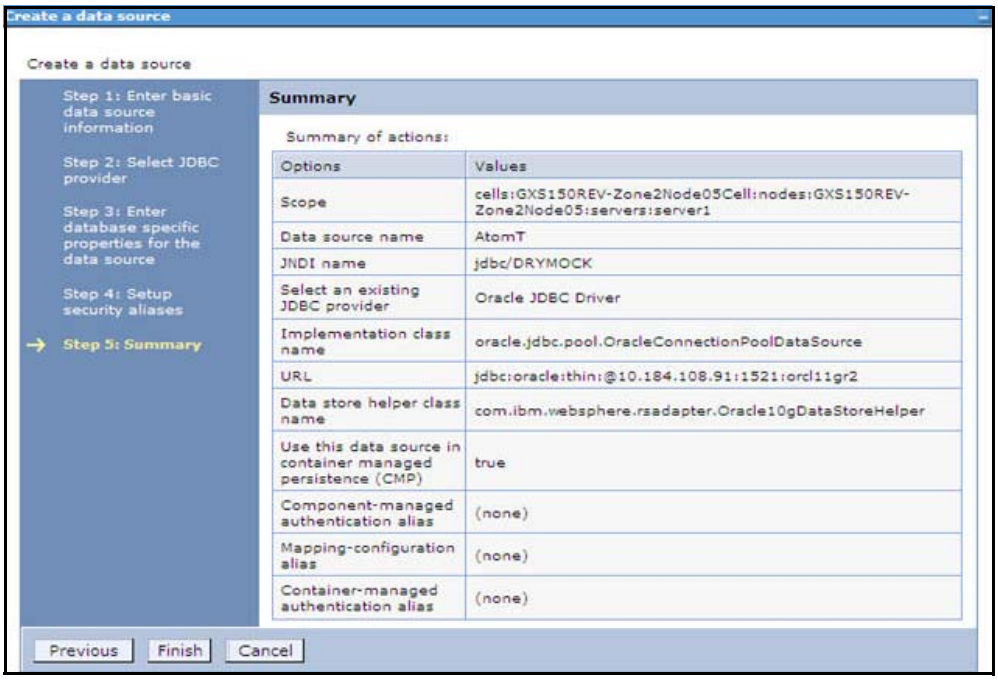

Figure 75. Summary

You can also create and map J2C authentication alias after creating the data source.

13. You must create another Data source by following the above procedure with jdbc/FICMASTER as JNDI name pointing to the "configuration schema" of Infrastructure.

J2C Authetication Details

The steps given below are applicable for creating both config and atomic J2C Authentication.

To create J2C Authentication details:

1. Select the newly created Data Source and click **JAAS - J2C authentication data** link under **Related Items.**

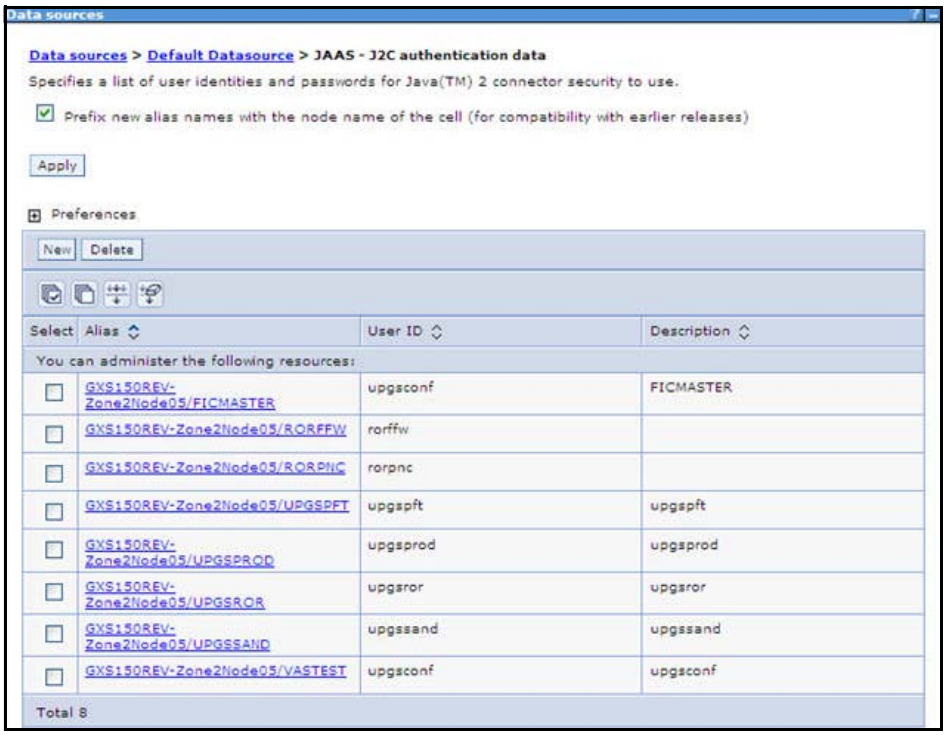

Figure 76. JAAS- J2C authentication data

2. Click **New** under the *Preferences* section.

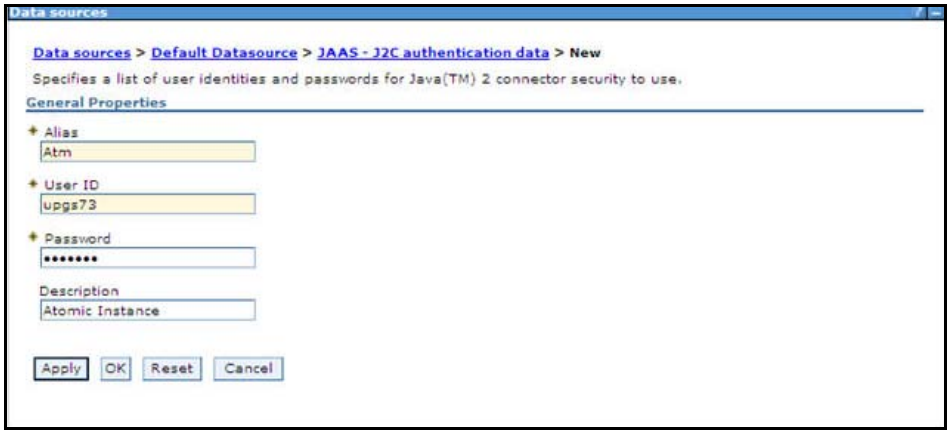

Figure 77. JAAS- J2C authentication data- New

3. Enter the **Alias**, **User ID**, **Password**, and **Description.** Ensure the following:

- User ID is the Oracle user ID created for the respective CONFIG and ATOMIC Schema for the "Information Domain".
- Specify the CONFIG database user ID and password information for the jdbc/FICMASTER data source, and specify the ATOMIC database user ID and password information for the ATOMIC schema data source that you created earlier.
- Click **Apply** and save the details.

JDBC Connection Pooling

To define the JDBC connection pooling ensure that you have created JDBC Provider and Data source to access the data from the database.

1. Expand the **Resources** option in the LHS menu and click **JDBC > Data sources** option. The *Data sources* page is displayed.
2. Click the newly created Data Source $DATA_SOURCE$ and navigate to the path Data sources>$DATA_SOURCE$>Connection pools.

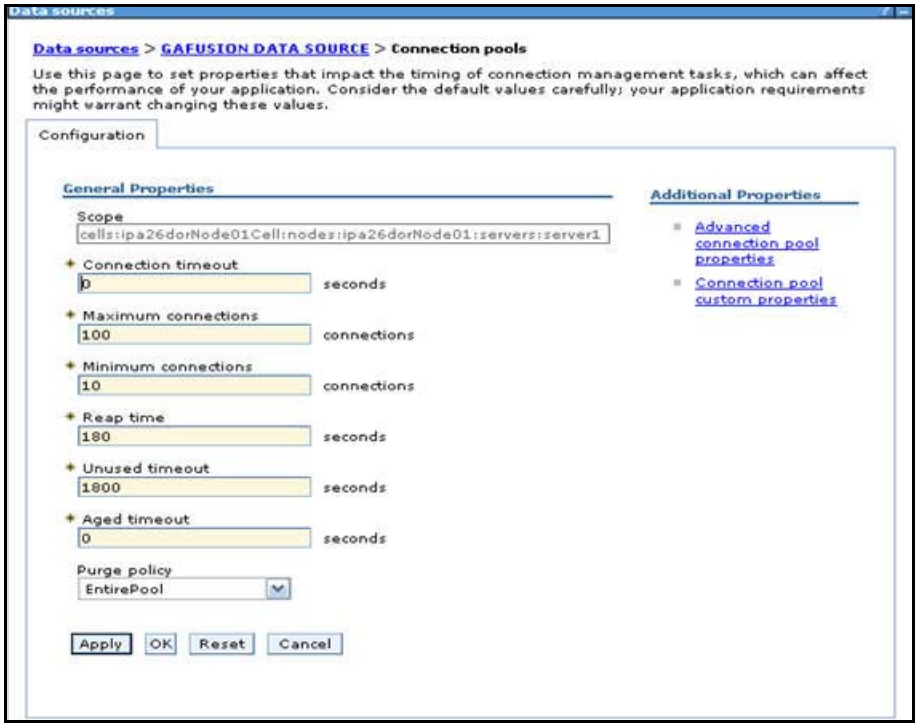

Figure 78. Connection Pools

3. Set the values for **Connection timeout** to 0 seconds, **Maximum connections** to 100 connections, and **Minimum connections** to 10 connections as shown in the above figure. You can also define **Reap Time, Unused Timeout, and Aged Timeout** as required.

Configure Resource Reference in WebLogic Application Server

This section is applicable only when the Web Application Server is WebLogic.

This section includes the following topics:

- Create Data Source.
- Create GridLink Data Srouce.
- Configure MultiData Sources.
- Advanced Settings for Data Source.
- JDBC Connection Pooling.

In WebLogic, you can create "Data Source" in the following ways:

- For a Non RAC Database instance, Generic Data Source has to be created. See Create Data Source..
- For a RAC Database instance, Gridlink Data Source has to be created. See Create GridLink Data Srouce..
- When Load Balancing/Fail over is required, Multi Data Source has to be created. See Configure MultiData Sources.

Create Data Source

The steps given below are applicable for both config and atomic data source creation.

1. Open WebLogic Admin Console in the browser window: http://<ipaddress>:<administrative console port>/console. (https if SSL is enabled). The *Welcome* window is displayed.
2. Login with the Administrator **Username** and **Password**.

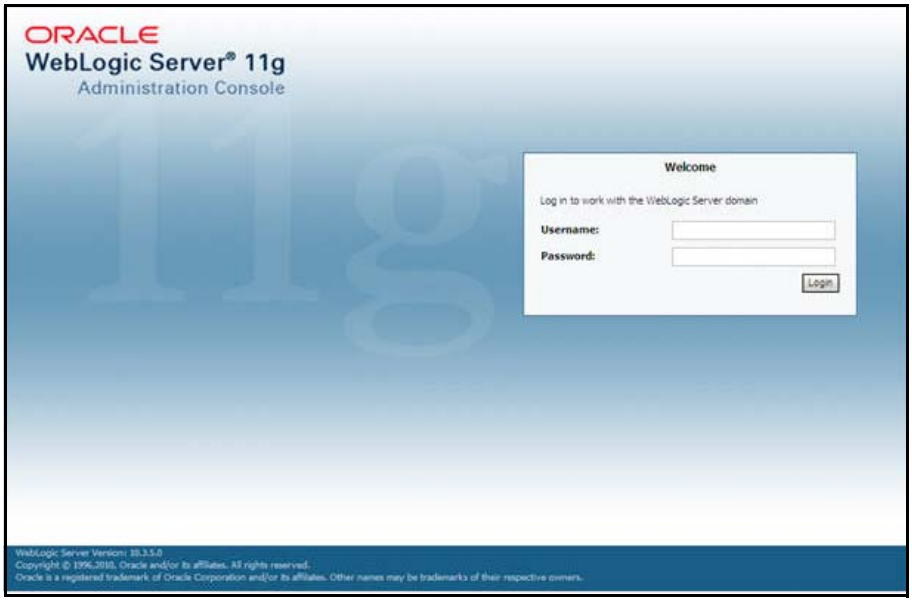

Figure 79. Welcome Screen

3. From the LHS menu (Domain Structure), click **Services** > **Data Sources**. The *Summary of JDBC Data Sources* window is displayed.

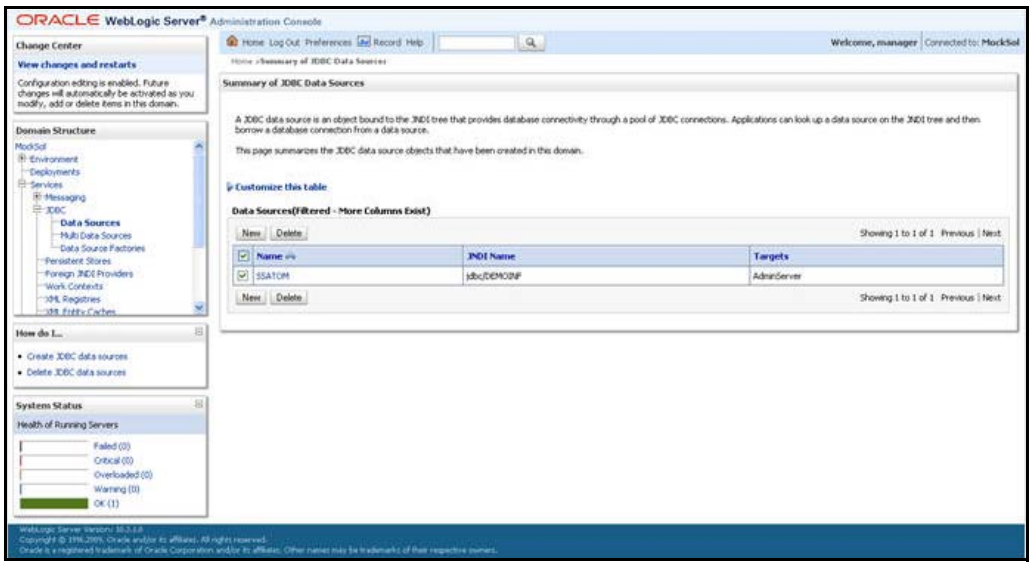

Figure 80. Summary of JDBC Data Sources

4. Click **New** and select **Generic Data Source** option. The *Create a New JDBC Data Source* window is displayed.

You can also select **GridLink Data Source** or **Multi Data Source** while creating a Data Source. For more information, see Create Data Source. or Configure MultiData Sources..

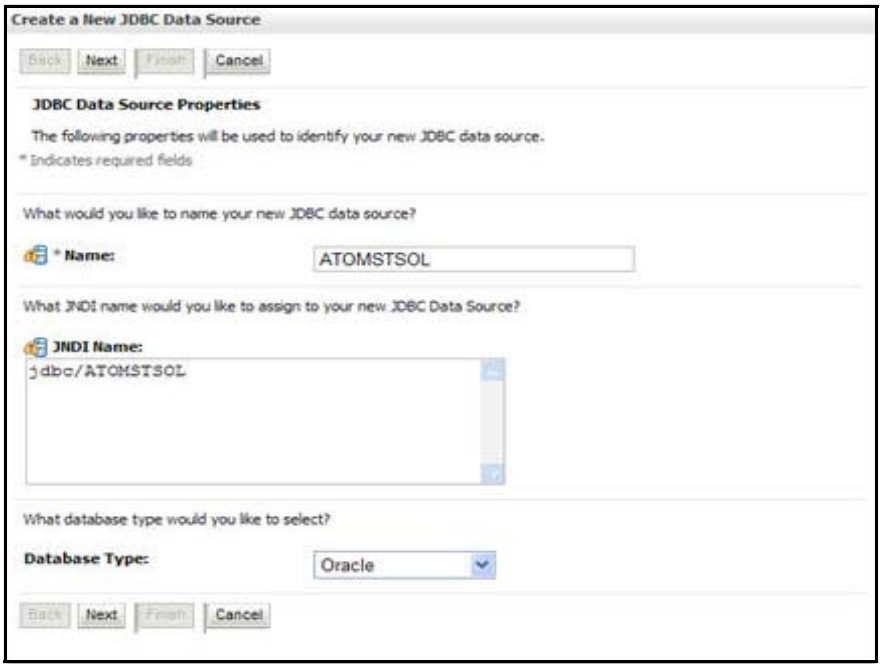

Figure 81. Create a New JDBC Data Source

5. Enter JDBC data source **Name**, **JNDI Name**, and select the **Database Type** from the drop-down list. Click **Next**.
6. Ensure the following:

- The JNDI Name field should be in the format "jdbc/informationdomain"
- Same steps needs to be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/FICMASTER as JNDI name.
- JNDI Name is the same as mentioned in web.xml file of OFSAAI Application.
- Required "Database Type" and "Database Driver" should be selected.

Figure 82. JDBC Data Source Properties

7. Select the Database **Driver** from the drop-down list. You need to select the Database Driver depending on database setup, that is, with or without RAC. Click **Next**.

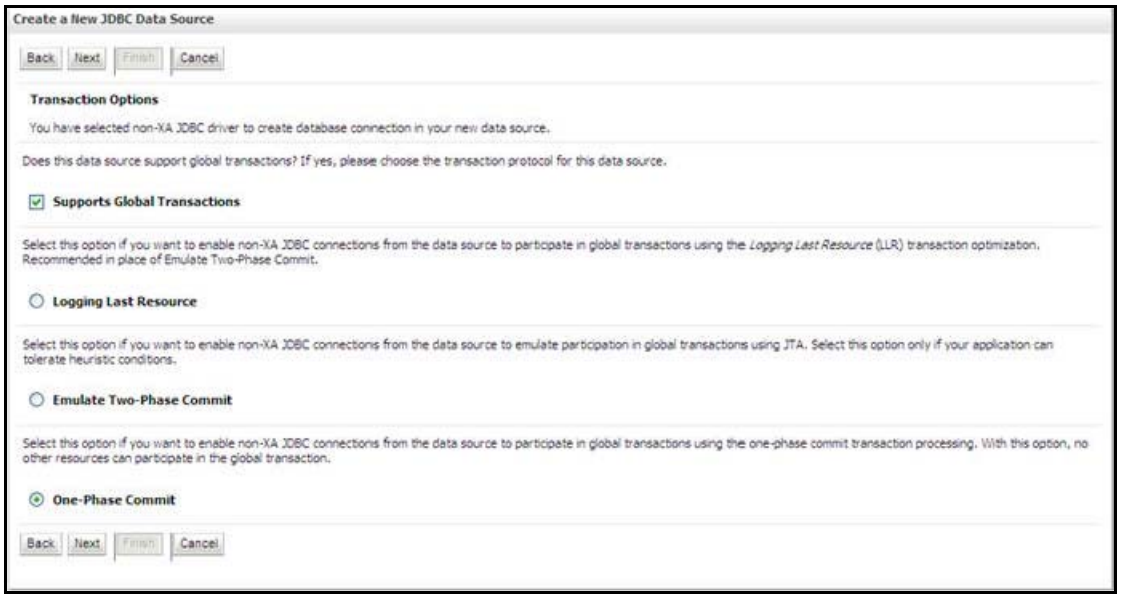

Figure 83. Transaction Options

8. Select the Supports Global Transactions checkbox and the One-Phase Commit option.
9. Click **Next**. The *Connection Properties* window is displayed

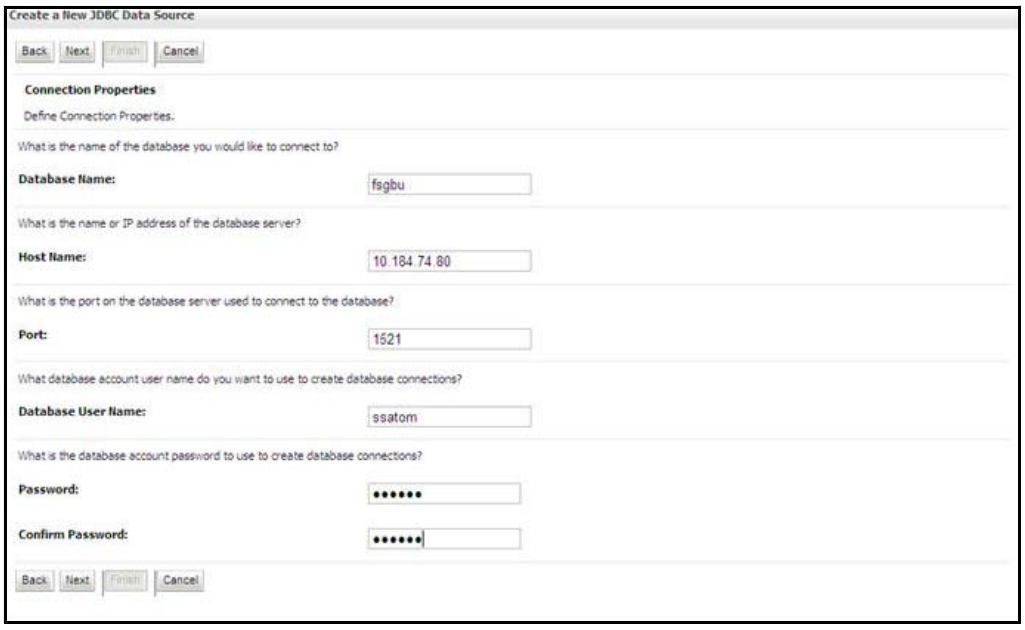

Figure 84. Connection Properties

10. Enter the required details such as the Database Name, Host Name, Port, Oracle User Name, and Password .
11. Click **Next**. The *Test Database Connection* window is displayed.

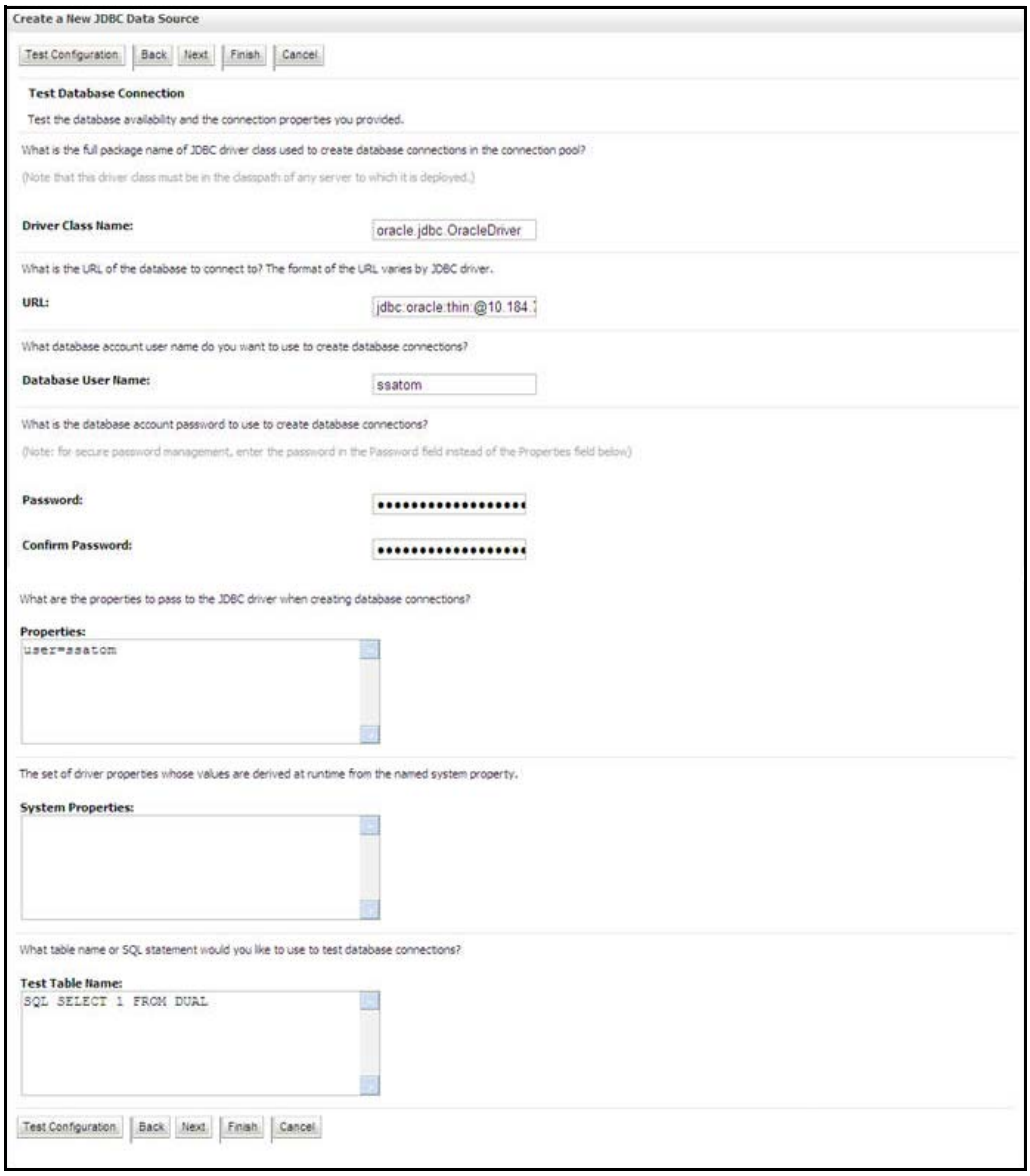

Figure 85. Test Database Connection

12. Verify the details and click **Test Configuration** and test the configuration settings. A confirmation message is displayed stating "Connection test succeeded."
13. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

    NOTE:

- "User ID" is the Oracle user ID that is created for the respective CONFIG and ATOMIC schema of the respective "Information Domain".
- "User ID" to be specified for data source with "FICMASTER" as "JNDI" name should be the Oracle user ID created for the CONFIG schema.

14. Select the new Data Source and click the **Targets** tab

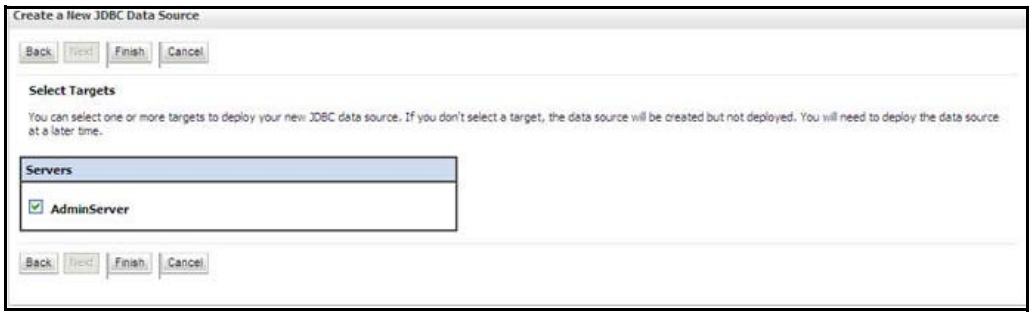

Figure 86. Select Targets

15. Select the **AdminServer** option and click **Finish**.

Create GridLink Data Srouce

If you have selected the option, **New** > **GridLink Data Source** while creating the "Data Source", you can directly specify the JDBC URL as indicated.

Figure 87. Create a New JDBC GridLinkData Source

1. Enter Data Source **Name**, and **JNDI Name**.
2. Ensure that the "JNDI Name" field is specified in the format "jdbc/infodomname" and the XA Driver checkbox is not selected. Click **Next.**

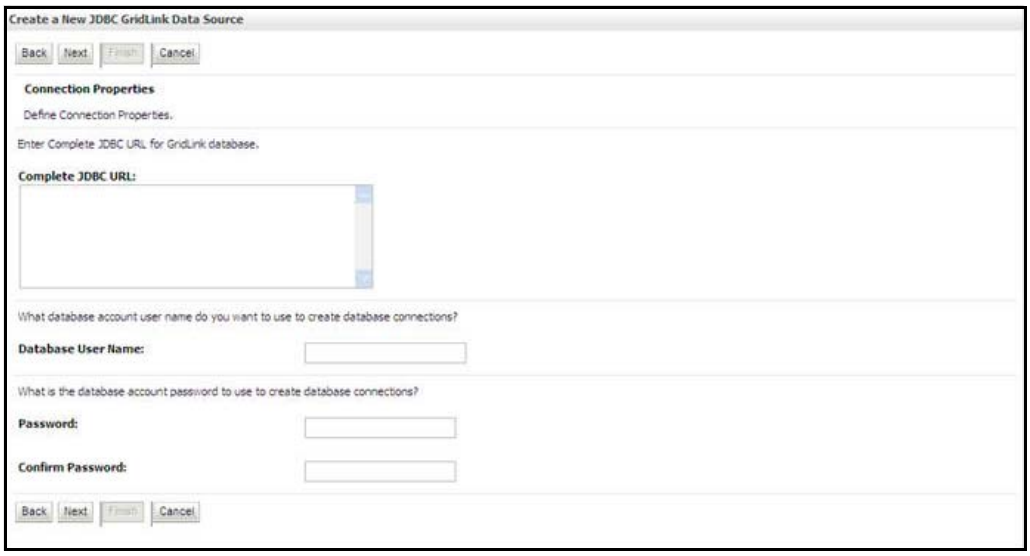

Figure 88. JDBC GridLinkData Source- Connection Properties

3. Specify **Complete JDBC URL**, **Database User Name**, and **Password**. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

Configure MultiData Sources

A JDBC multi data source is an abstraction around a group of data sources that provides load balancing and failover between data sources. As with data sources, multi data sources are also bound to the JNDI tree. Applications can look up a multi data source on the JNDI tree and then reserve a database connection from a data source. The multi data source determines from which data source to provide the connection.

When the database used is **Oracle RAC (Real Application Clusters)** which allows Oracle Database to run across a set of clustered servers, then group of data sources can be created for instances running on a set of clustered servers and a JDBC multi data source can be created so that applications can look up a multi data source on the JNDI tree to reserve database connection. If a clustered server fails, Oracle continues running on the remaining servers.

1. Open WebLogic Admin Console in the browser window: http://<ipaddress>:<administrative console port>/console. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the "User ID" that has admin rights.
3. In the LHS menu (Domain Structure), select **Services** > **JDBC** > **Multi Data Sources**. The *Summary of JDBC Multi Data Sources* window is displayed.

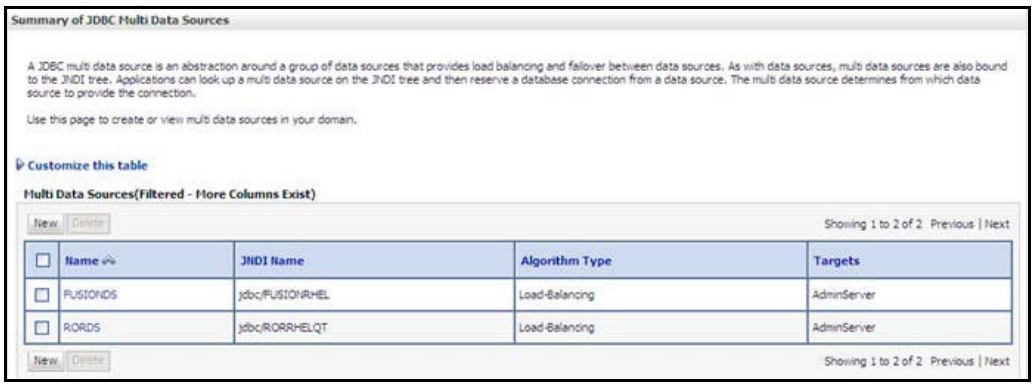

Figure 89. Summary of JDBC Multi Data Sources

4. Click **New**.The New JDBC Multi Data Source screen is displayed.

Note: For more information, see Create Data Sourceor Ensure that the Data Sources which needs to be added to new JDBC Multi Data Source has been created.

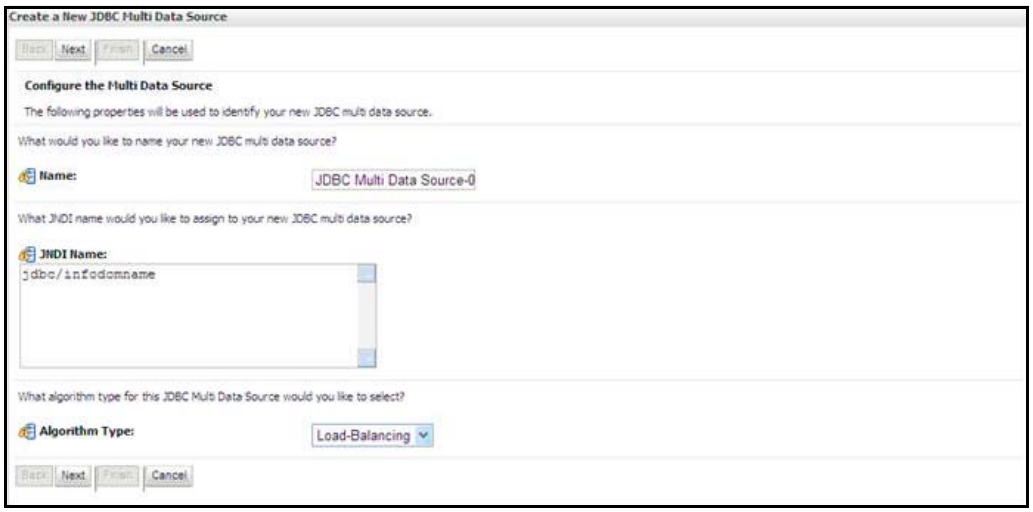

Figure 90. Configure the Multi Data Source

5. Enter the JDBC Source **Name**, **JNDI name**, and select the **Algorithm Type** from the drop-down list. Click **Next**.

Note:

- The JNDI Name has to be specified in the format jdbc/infodomname.
- JNDI Name of the Data Sources that will be added to new JDBC Multi data source should be different from the JNDI name specified during Multi Data Source.
  Same steps needs to be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/FICMASTER as JNDI name for Data Source.
- JNDI Name provided in multi data source should be the same name that will be mentioned in the web.xml file of OFSAAI Application.

- You can select the Algorithm Type as Load-Balancing.

Figure 91. Select Targets

6. Select the **AdminServer** check box and click **Next**.

Figure 92. Select Data Source Type

7. Select the type of data source which will be added to new JDBC Multi Data Source. Click **Next**.

Figure 93. Add Data Sources

8. Map the required Data Source from the *Available* Data Sources. Click **Finish**.

The New JDBC Multi Data Source is created with added data sources.

Advanced Settings for Data Source

1. Click the new Data Source fromt the *Summary of JDBC Data Sources* window. The *Settings for <Data Source Name>* window is displayed.
2. Select the **Connection Pooling** tab given under Configuration.

3. Go to the **Advanced** option at the bottom of the page, and check the **Test Connection of Reserve** checkbox (Enables Weblogic Server to test a connection before giving it to a client).
4. To verify if the data source is valid, select "Data Source name". For example, FICMASTER.

Figure 94. Settings for <Data Source Name>

5. Select the server and click **Test Data Source.** A message is displayed indicating that the test was successful.
6. Once the "Data Source" is created successfully, the following messages are displayed

- All changes have been activated. No restart is necessary.
- Settings updated successfully.

If not, follow the steps given above to recreate the data source.

JDNC Connection Pooling

To define the JDBC connection pooling, ensure that you have created JDBC Provider and Data source to access the data from the database.

1. Click the newly created Data Source $DATA_SOURCE$ and navigate to the path Home >Summary of Services: JDBC >Summary of JDBC Data Sources >JDBC Data Source-<INFODDOM_NAME>
2. Set the values for Initial Capacity to 10, Maximum Capacity to 100, Capacity Increment by 1, Statement Cache Type to LRU, and Statement Cache Size to 10.
3. Click **Save**.

Configure Resource Reference in Tomcat Application Server

This section is applicable only when the Web Application Server is Tomcat.

This section includes the following topics:

- Create Data Source
- JDBC Connection Pooling
- Class loader configuration for Apache Tomcat

Copy the Oracle JDBC driver file, "ojdbc<version>.jar" from <Oracle Home>/jdbc/lib and place it in <Tomcat Home>/lib.

Note: Refer APPENDIX O for identifying the correct ojdbc<version>.jar version to be copied.

Create Data Source

To create "data source" for Infrastructure application, navigate to <Tomcat Home>/conf and edit the following block of text by replacing the actual values in server.xml.

Note: The User-IDs for configuration/ atomic schemas have the prefix of setupinfo depending on the value set for PREFIX_SCHEMA_NAME in <<APP Pack>>_SCHEMA_IN.XML file of Schema Creator Utility.

For example: if the value set for PREFIX_SCHEMA_NAME is DEV and the schema name was mentioned as ofsaaconf, then the actual schema created in the database would be DEV_ofsaaconf.

```
<Context path ="/<context name>" docBase="<Tomcat Installation
Directory>/webapps/<context name>" debug="0" reloadable="true" crossContext="true">
<Resource auth="Container"
name="jdbc/FICMASTER"
type="javax.sql.DataSource"
driverClassName="oracle.jdbc.driver.OracleDriver"
username="<user id for the configuration schema>"
username="<user id for the configuration schema database>"
password="<password for the above user id>"
url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>"
maxActive="100"
maxIdle="30"
maxWait="10000"/>
<Resource auth="Container"
name="jdbc/< INFORMATION DOMAIN NAME >"
type="javax.sql.DataSource"
```

```
driverClassName="oracle.jdbc.driver.OracleDriver"
username="<user id for the atomic schema>"
username="<user id for the database>"
password="<password for the above user id>"
url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>"
maxActive="100"
maxIdle="30"
maxWait="10000"/>
</Context>
```

Note:

- The <Resource> tag must be repeated for each Information Domain created.
- After the above configuration, the "WAR" file has to be created and deployed in Tomcat.

JDBC Connection Pooling

To define the JDBC connection pooling, do the following:

1. Copy $ORACLE_HOME/jdbc/lib/`ojdbc<version>.jar` to the path $TOMCAT_DIRECTORY/lib/.

   Note: Refer APPENDIX O for identifying the correct "ojdbc<version>.jar" version to be copied.

2. Edit the server.xml present under the path $TOMCAT_DIRECTORY/conf/ with the below changes, which is required for connection pooling.

```
<Context path="/ $CONTEXTNAME$" docBase=" $APP_DEPLOYED_PATH$ "
debug="0" reloadable="true" crossContext="true">
   <Resource auth="Container"
   name="jdbc/ $INFODOM_NAME$"
   type="javax.sql.DataSource"
   driverClassName="oracle.jdbc.driver.OracleDriver"
   username=" $ATOMICSCHEMA_USERNAME$"
   password="$ATOMICSCHEMA_PASSWORD$"
   url="$JDBC_CONNECTION_URL"
   maxActive="100"
   maxIdle="30"
   maxWait="10000"
   removeAbandoned="true" removeAbandonedTimeout="60"
   logAbandoned="true"/>
</Context>
```

Note the following:

- $APP_DEPLOYED_PATH$ should be replaced by OFSAAI application deployed path.
- $INFODOM_NAME$ should be replaced by Infodom Name.
- $ATOMICSCHEMA_USERNAME$ should be replaced by Atomic schema database user name.
- $ATOMICSCHEMA_PASSWORD$ should be replaced by Atomic schema database password.
- $JDBC_CONNECTION_URL should be replaced by JDBC connection string jdbc:Oracle:thin:<IP>:<PORT>:<SID>. For example, jdbc:oracle:thin 10.80.50.53:1521:soluint
- The User-IDs for configuration/ atomic schemas have the prefix of setupinfo depending on the value set for PREFIX_SCHEMA_NAME in <<APP Pack>>_SCHEMA_IN.XML file of Schema Creator Utility.

  For example: if the value set for PREFIX_SCHEMA_NAME is DEV and the schema name was mentioned as ofsaaconf, then the actual schema created in the database would be DEV_ofsaaconf.

Class loader configuration for Apache Tomcat

1. Edit the server.xml available in $TOMCAT_HOME/conf/ folder.
2. Add tag <Loader delegate="true" /> within the <Context> tag, above the <Resource> tag in server.xml file.

Note: This configuration is required if Apache Tomcat version is 8.

APPENDIX C Creating and Deploying EAR/WAR File

This appendix includes the following topics:

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 "Time taken" 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>
```

Figure 95. Creating EAR/ WAR File

4. The EAR/ WAR file - <contextname>.ear/<contextname>.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.In case of OFSAA configured onTomcat installation, <contextname>.war will be created.

Deploying EAR/WAR File

The OFSAA Application EAR/ WAR file is generated at $FIC_WEB_HOME on the OFSAA Installed server. Locate the <contextname>.ear/ .war file for deployment.

This section includes the following topics:

- Deploying EAR/WAR Files on WebSphere
- Deploying EAR/WAR File on WebLogic
- Deploying Tomcat 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). For more information, refer Clearing Application Cache section.

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.

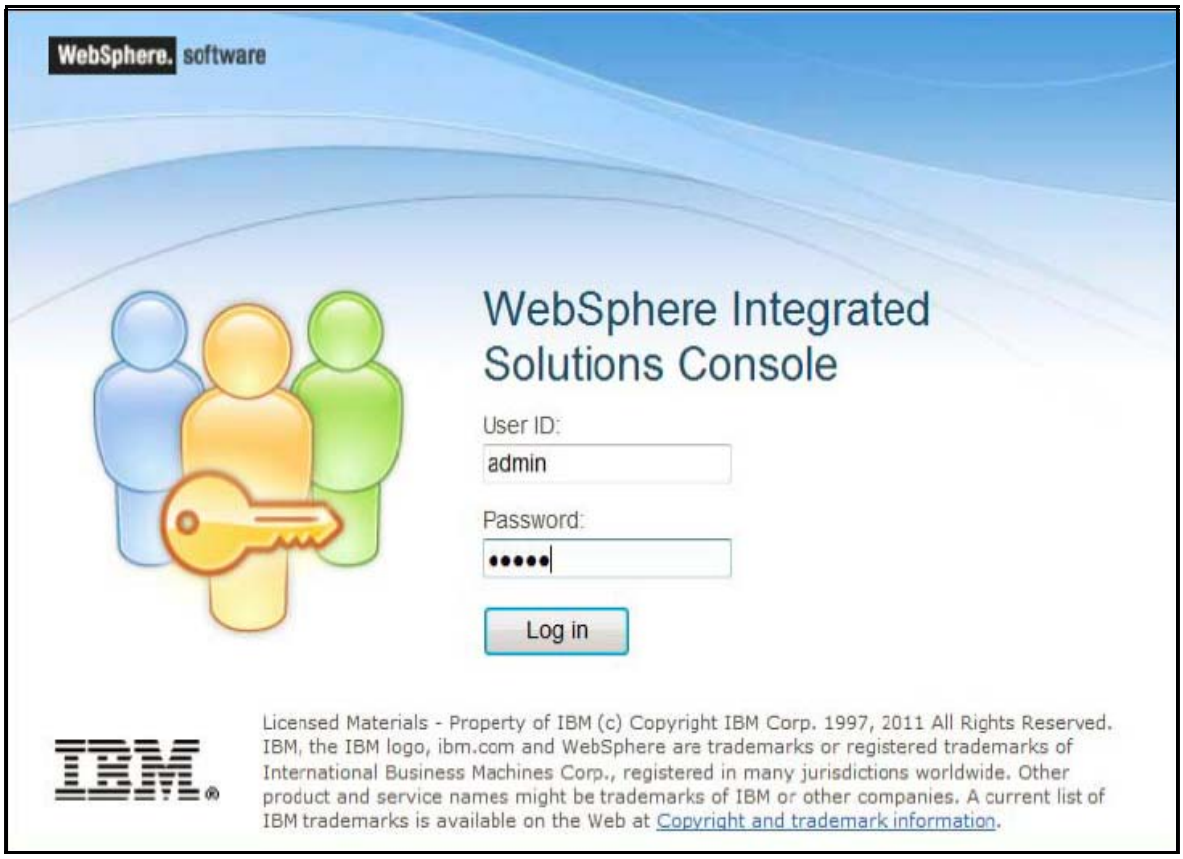

Figure 96. Login Window

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.

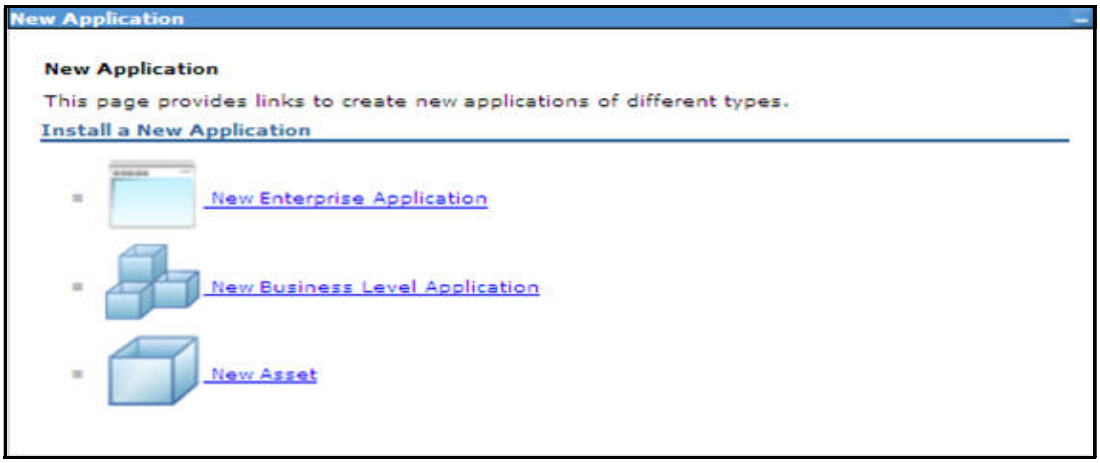

Figure 97. New Application

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

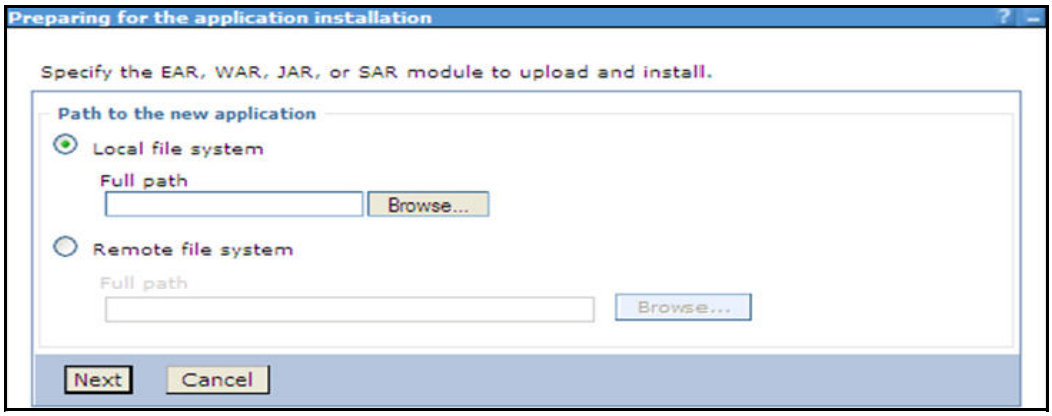

Figure 98. Preparing for the application installation

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

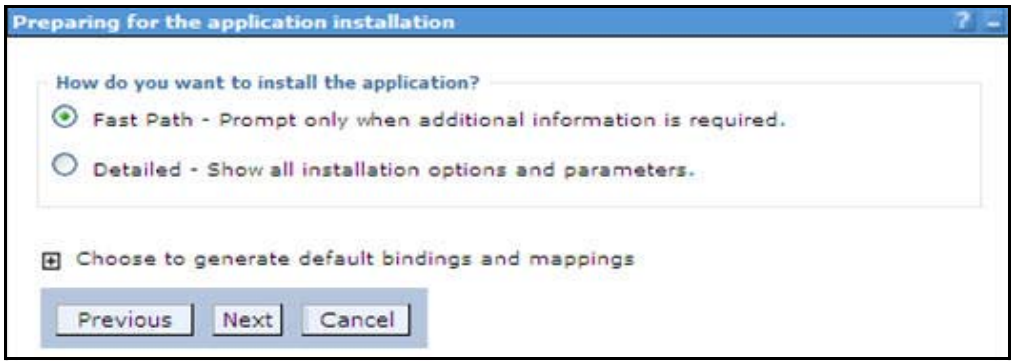

Figure 99. Installation Options

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

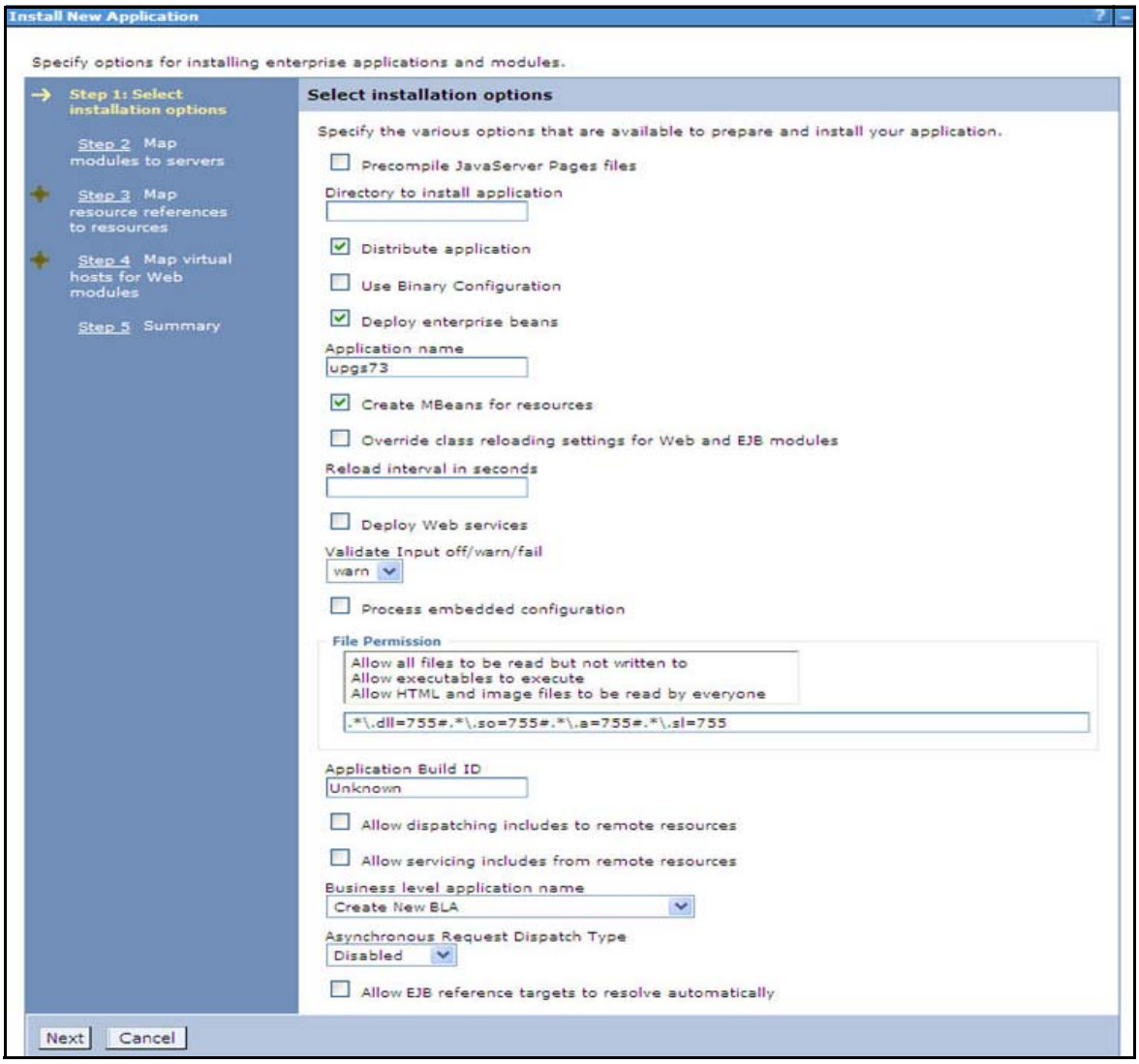

Figure 100. Install New Application

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

Figure 101. Map Modules to Servers

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

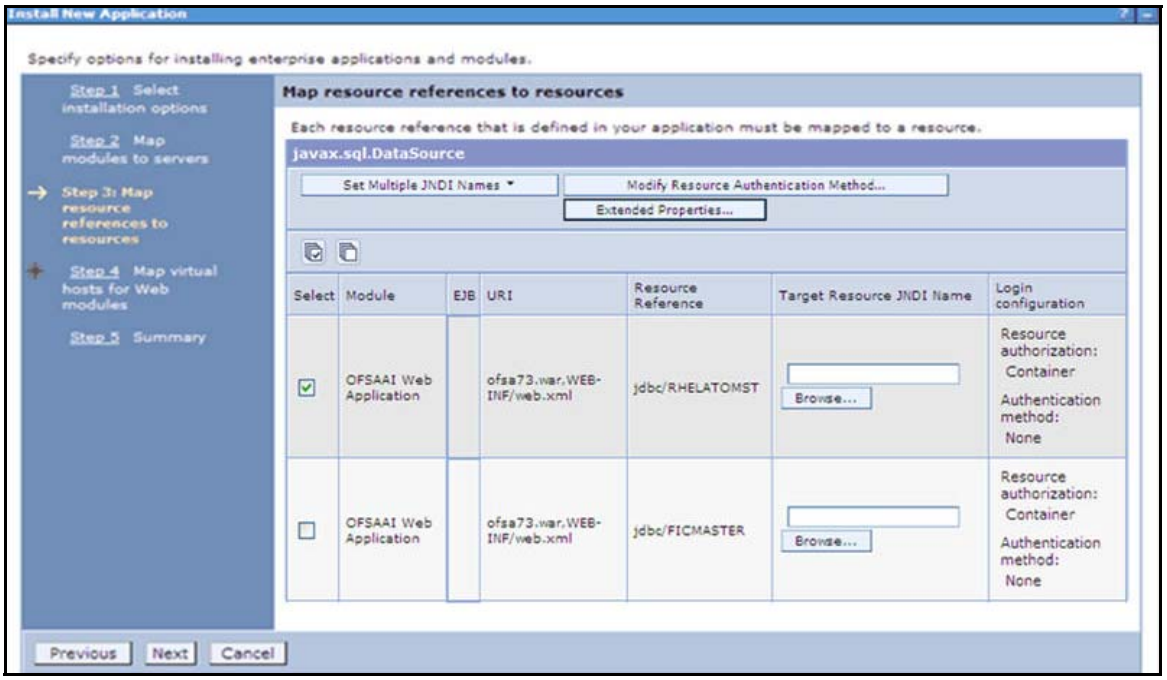

Figure 102. Map Resource References to Resources

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.

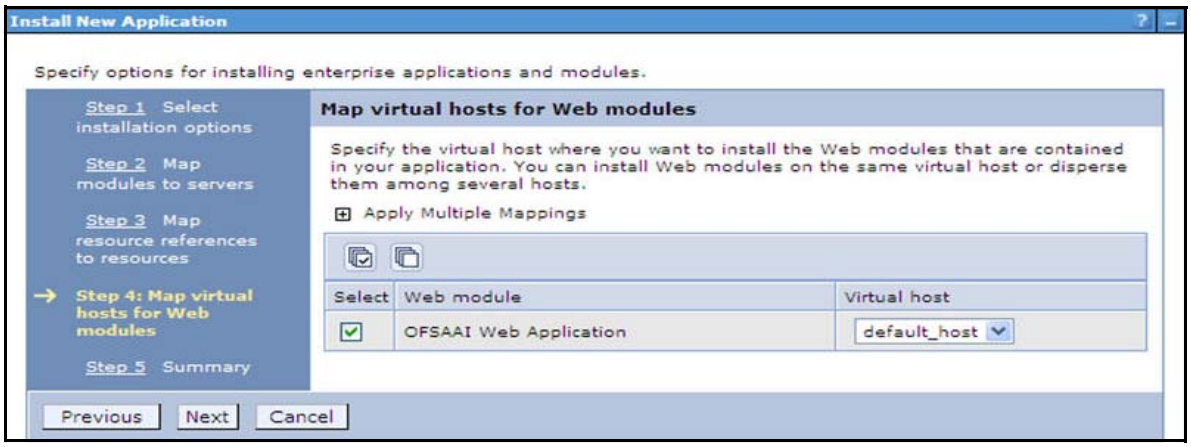

Figure 103. Map Virtual host for Web Modules

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

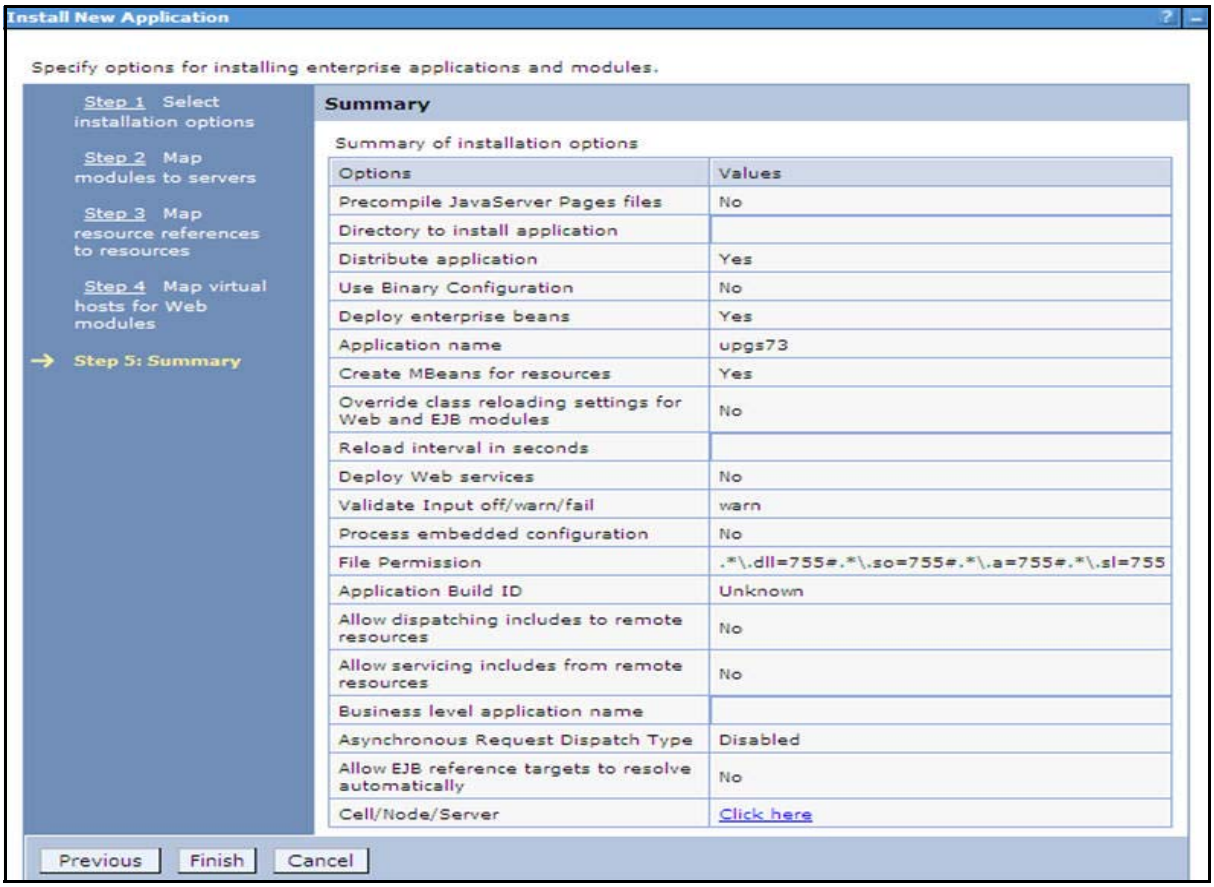

Figure 104. Summary

14. Click **Finish** and deploy the Infrastructure Application on WebSphere. On successful installation, a message is displayed.

15. Click **Save** and save the master file configuration. The details are displayed in the *Master File Configuration* window.

Start the Application

To start the application, follow these steps:

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

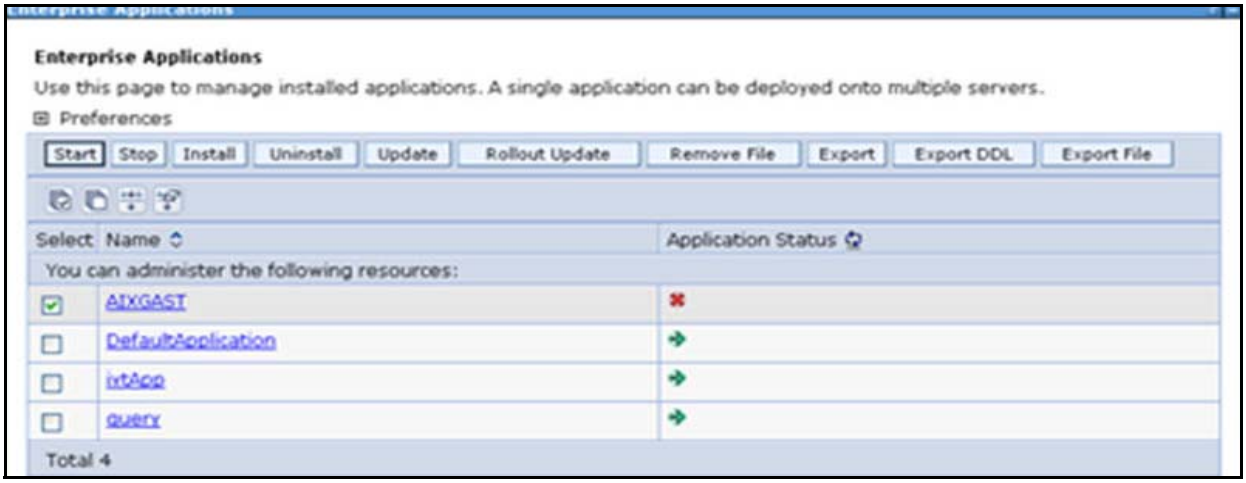

Figure 105. Enterprise Applications

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

Note:

- <profile name> is the profile name given while creating the WebSphere profile.
- <cell name > is the cell name given during profile creation
- <contextname> is the context name given during installation.

Deploying EAR/WAR File on WebLogic

Following are the steps for deploying Infrastructure application that would be created during installation:

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 Infrastructure Server by executing ".startofsaai.sh" as mentioned in Start Infrastructure section

4. Log on to the WebLogic Server by entering the user credentials having privileges to deploy the EAR file.

From the **Domain Structure** LHS menu, click **Deployments**. The *Summary of Deployments* window is displayed.

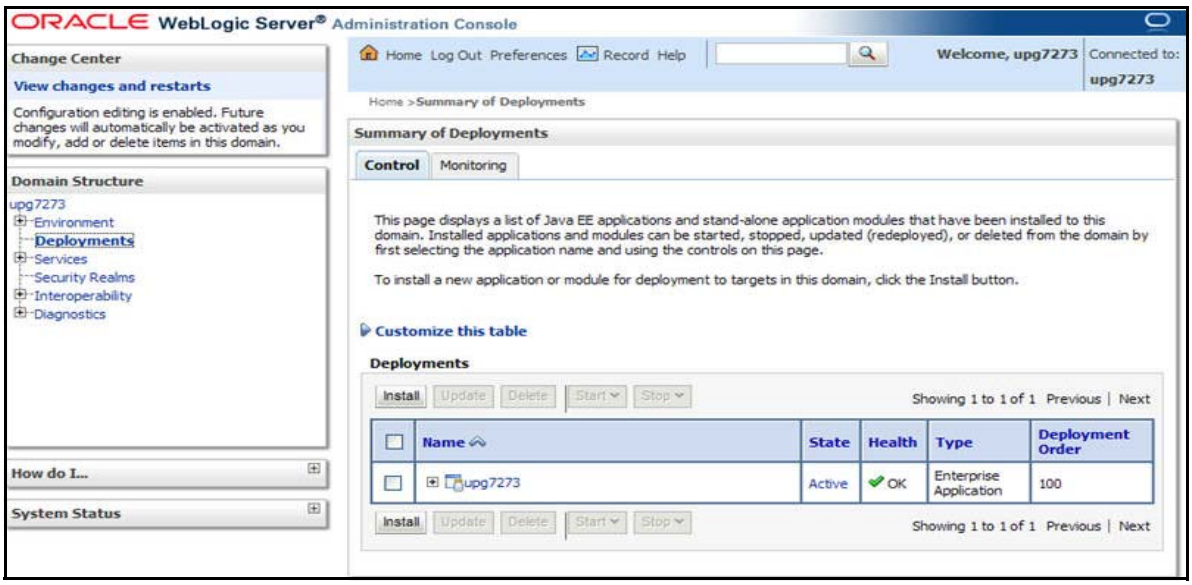

Figure 106. Summary of Deployments

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

Explode EAR File

To explode EAR, follow the below 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 Application:

1. Open the Install Application Assistant

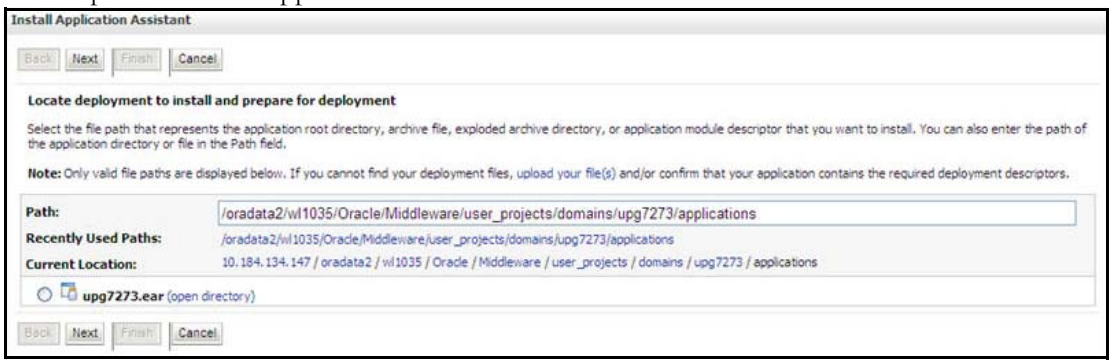

Figure 107. Install Application Assistant

2. Click **Next**

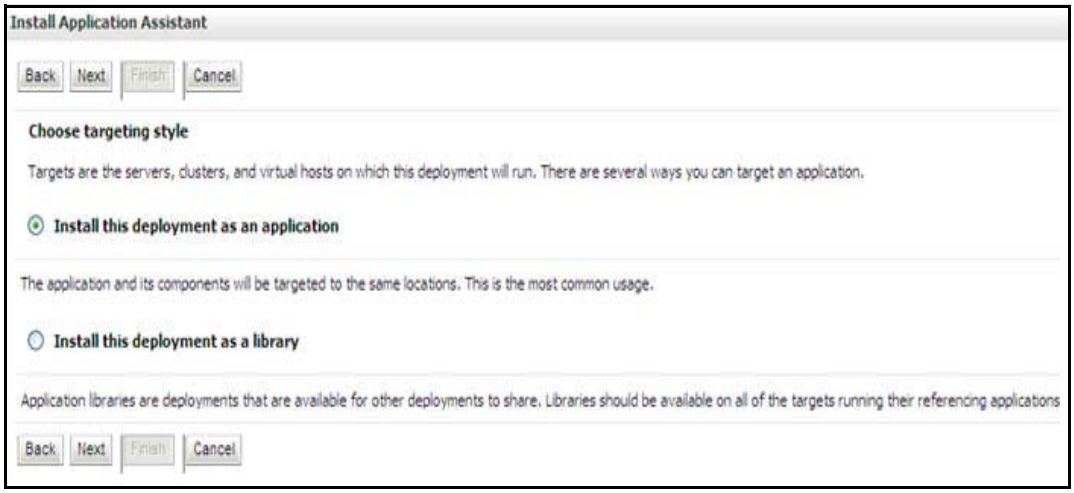

Figure 108. Install Application Assistant

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.

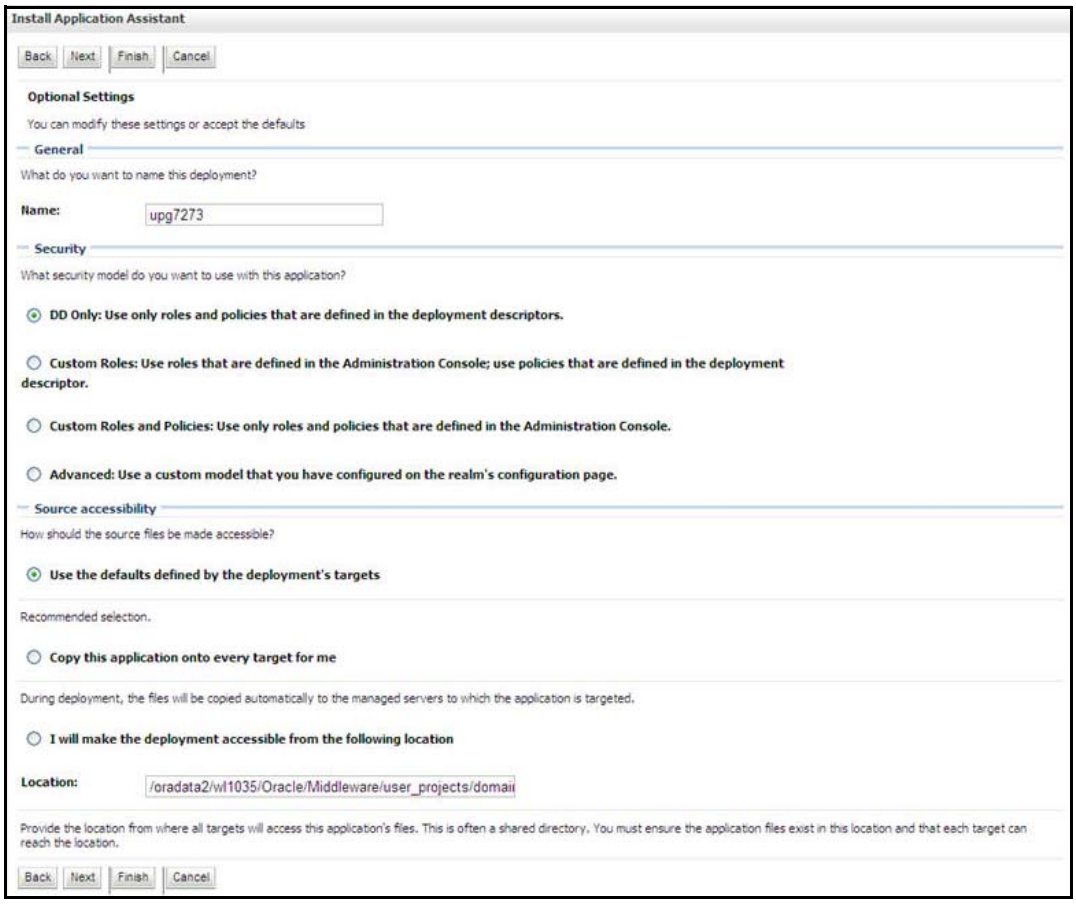

Figure 109. Optional Settings

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.

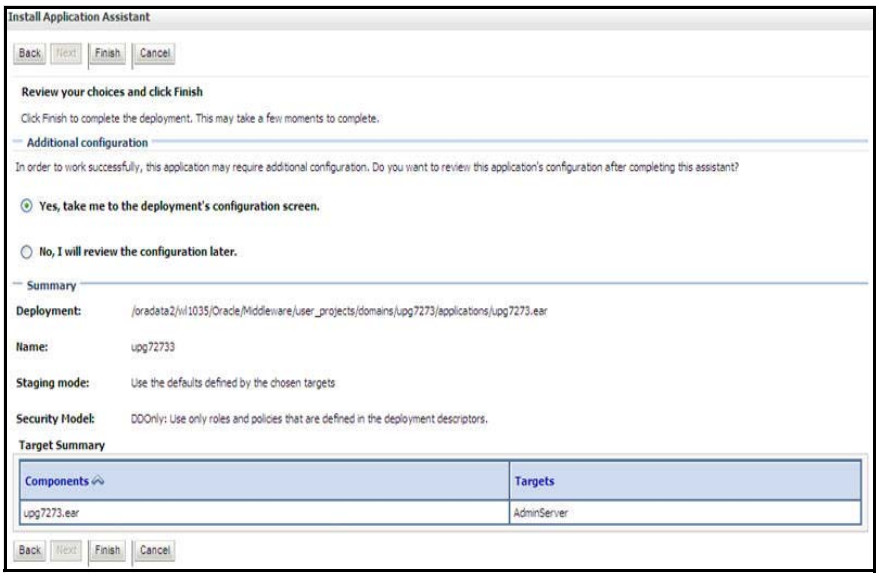

Figure 110. Deployment Summary

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

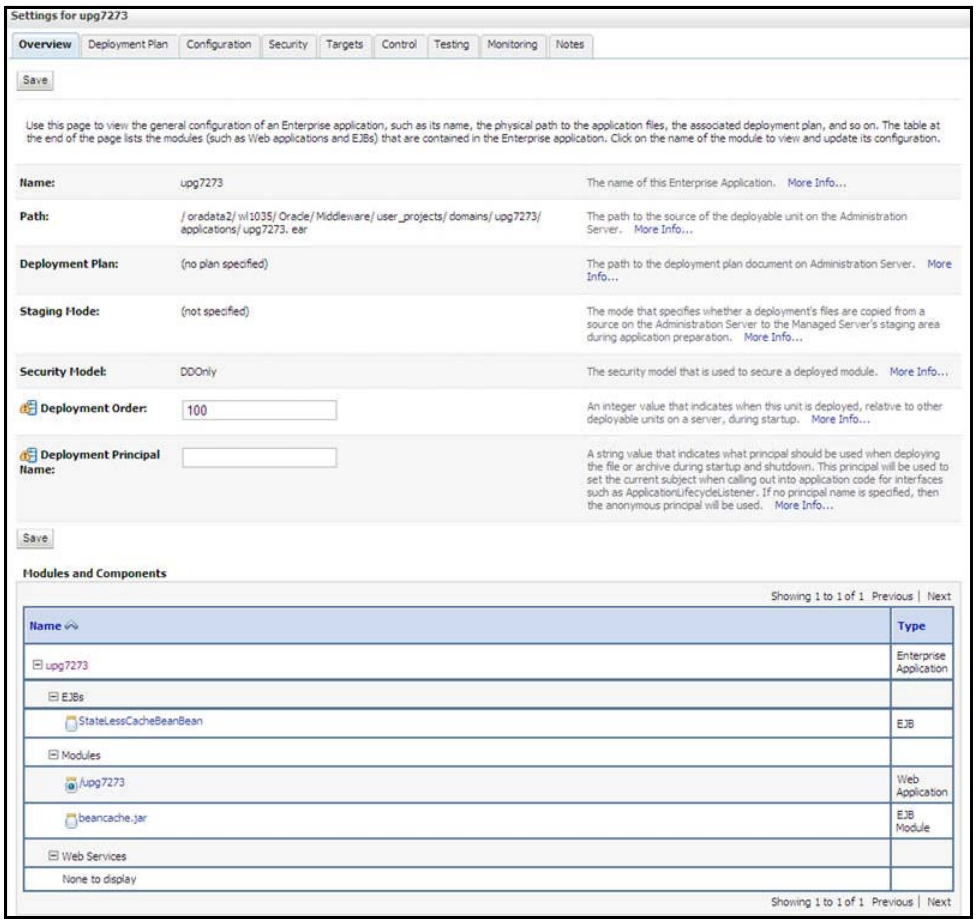

Figure 111. Settings for <Deployment Name>

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.

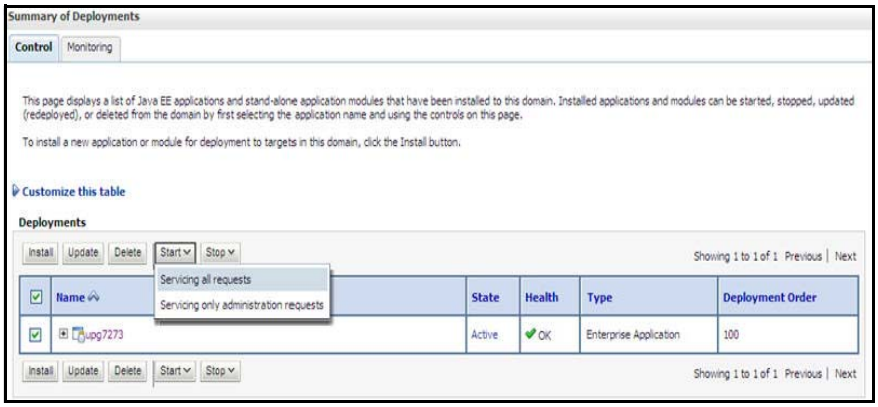

Figure 112. Summary of Deployments

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

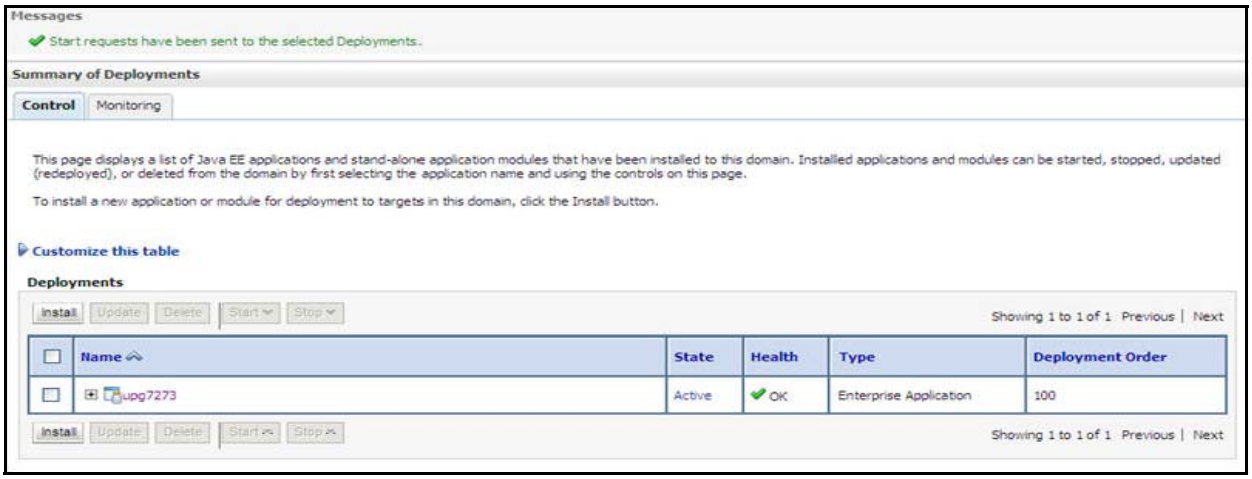

Figure 113. Summary of Deployments

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

Deploying Tomcat WAR Files on Tomcat

Before deploying the WAR files, ensure that the previously deployed applications of Infrastructure are uninstalled. See *Uninstalling Previously Deployed WAR Files in Tomcat* for the procedure to uninstall the previously deployed Infrastructure war files.

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

1. Open the URL in Browser window: http://<IP address>:<Tomcat server port>. (https if SSL is enabled). The *Tomcat home* window is displayed.

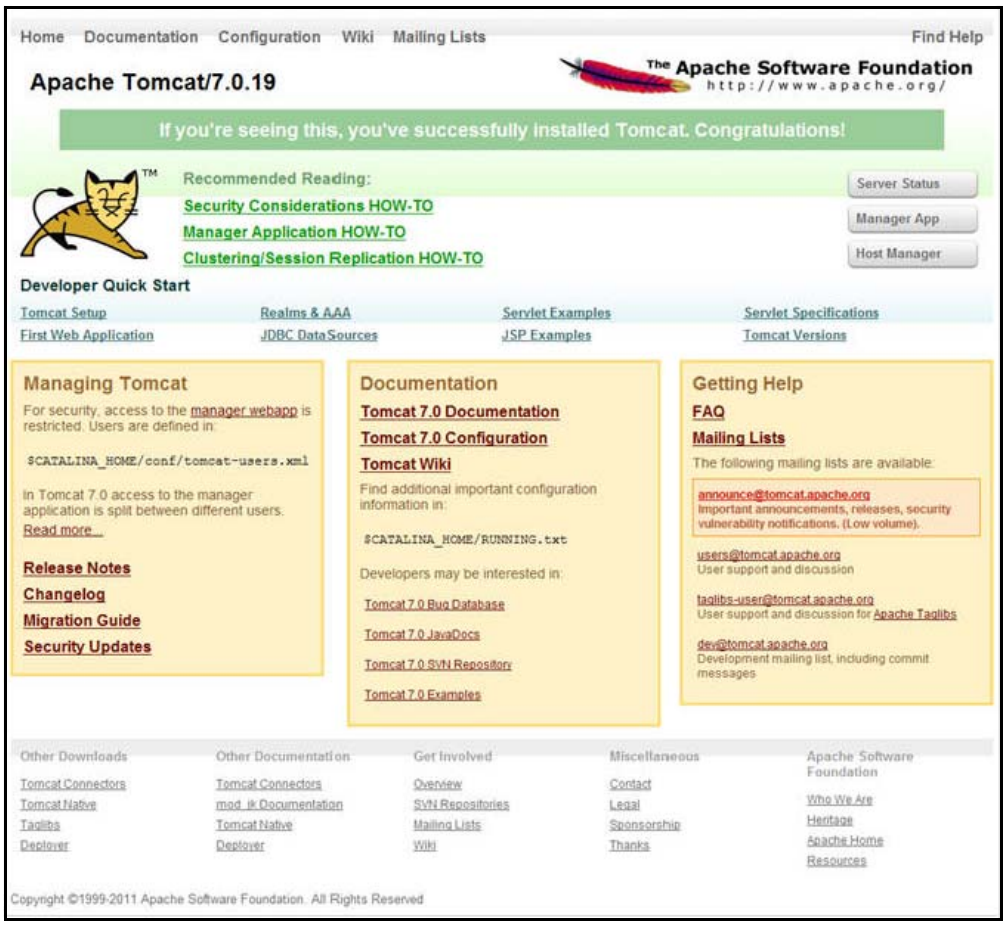

Figure 114. Tomcat home

2. Click **Manager App**. The *Connect to* dialog is displayed.
3. Enter the **User Id** and **Password** that has admin rights and click **OK**. (For user creation in tomcat, see Tomcat User Administration. The *Tomcat Web Application Manager* window is displayed with the list of all the applications deployed.)

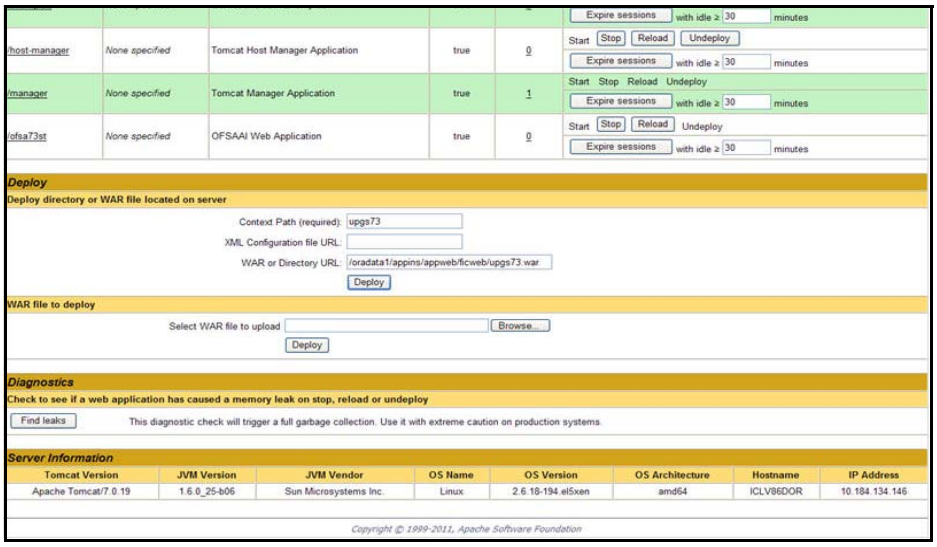

Figure 115. Tomcat Web Application Manager

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**.

On successful application deployment, a confirmation message is displayed.

For information on starting the Tomcat server, see *Tomcat User Administration*, on page 74, ''.

APPENDIX D Starting/Stopping Infrastructure Services

This chapter details on how to start and stop OFSAA Infrastructure services. This chapter includes the following sections:

Starting Infrastructure Services

Once the installation of Infrastructure has been completed successfully and the post-installation steps are completed, the servers must be started. Log on to each machine and run the .profile file. All servers mentioned must be started from the same shell encoding. The servers mentioned below are dependent on each other. It is mandatory to maintain the order in which the servers are started. Allow each of the servers to initialize completely before starting the next server.

1. On the machine in which Infrastructure Application components have been installed, navigate to $FIC_APP_HOME/common/FICServer/bin and execute the following command to start the Infrastructure Server../startofsaai.sh.

   Note: You can also start the Infrastructure Server by executing the command "nohup./startofsaai.sh &". Starting the process using "nohup" and "&" will return the command prompt without having to wait till the process completes. However, this command cannot be used when you are starting the server for the first time or starting after changing user password in the configuration database schema.You can also start the Infrastructure Server by executing the command "nohup ./ startofsaai.sh &". Starting the process using "nohup" and "&" will return the command prompt without having to wait till the process completes. However, this command cannot be used when you are starting the server for the first time or starting after changing user password in the configuration database schema.

2. Start ICC server.

- On the machine in which Infrastructure default Application components have been installed, navigate to $FIC_HOME/ficapp/icc/bin
- Execute the command:

  ```
  /iccserver.sh
  ```

  Note: Only Infrastructure Default Application Server would hold ICC component.

3. Start Back-end Services:

- On the machine on which Infrastructure Database components have been installed, navigate to $FIC_DB_HOME/bin and execute the command to start "Agent server":

  ```
  ./agentstartup.sh
  ```

  Or

- Start Back-end services using the command:

  ```
  nohup ./agentstartup.sh &
  ```

NOTE: This agent internally starts the Router, Message Server, OLAP data server and AM services.

Starting Web Application Servers

Start the Web Application Server depending on the type from the following table.

Table 8: Webserver start Up option

Start up Option	Description
Starting WebSphere profile	On the machine in which Web sphere is installed, navigate to [Webshpere_Install_Directory] /AppServer/<profiles>/<profile name>/bin and execute the command: ./startServer.sh server1.
Starting WebLogic Domain	On the machine in which WebLogic is installed navigate to <WebLogic Installation directory>/user_projects/domains/<domain name>/bin and execute the command: startWebLogic.sh -d64. **Note**: If WebLogic is already running, access the WebLogic Admin Console. Stop and start the application <context name>.ear.
Starting Tomcat Application	On the machine in which Tomcat is installed, navigate to <Tomcat_Install_ Directory>/bin and execute the command: ./catalina.sh run

Stopping Infrastructure Services

To stop Infrastructure services follow these steps:

1. On the machine in which Infrastructure Application components have been installed, navigate to $FIC_APP_HOME/common/FICServer/bin and execute the command:

   ```
   ./stopofsaai.sh
   ```

2. To stop ICC server, on the machine in which Infrastructure default Application components have been installed, navigate to $FIC_HOME/ficapp/icc/bin and execute the command:

   ```
   ./iccservershutdown.sh
   ```

   Note: Only Infrastructure Default Application Server would hold ICC component.

3. To stop Back-end server, on the machine in which Infrastructure database components have been installed, navigate to `$FIC_DB_HOME/bin` and execute the command:

   ```
   ./agentshutdown.sh
   ```

APPENDIX E Accessing OFSAA Application

This section gives details the steps to be performed to access OFSAA Application.

1. From your desktop, open the browser and enter the URL in below format:

`<scheme>://<IP address/ hostname>:<port>/<context-name>/login.jsp`

For example, https://111.222.333.444:5555/ofsaa/login.jsp

The OFSAA login screen is displayed as below:

Figure 1. OFSAA Login window

2. With installation of every OFSAA Application Pack, there are two seeded user profiles configured in the system:

- SYSADMN – System Administrator
- SYSAUTH – System Authorizer

3. Login to the application using the "SYSADMN" User ID. (Note that, there is no "I" in the SYSADMN login USER ID). Enter the password that was provided during installation. On the first login, you will be prompted to change the password.

APPENDIX F Post Deployment Configurations

This section provides detailed information about the Post Deployment Configurations.

This section lists the various configurations to be completed before you use the OFSAA Applications.

- Create Application Users
- Map Application User(s) to User Group
- Change ICC Batch Ownership

Create Application Users

Create the application users in the OFSAA setup prior to use.

NOTE: This step may not be required if you have already setup users in the OFSAA setup. For more information refer user creation section from the *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

Map Application User(s) to User Group

Starting the OFSAA 8.0 release, with installation of every OFSAA Application Pack, pre-configured application user groups are seeded. These user groups are unique to every OFSAA Application Pack and have application roles pre-configured.

User Groups seeded with the OFS AAAI Application Pack are listed in the table.

Table 1: Seeded User Groups

Name	Description
Modeler Group	User mapped to this group will have access to all the menu items for Enterprise modeling but will not have authorization rights for sandbox population, model deployment and modeling technique authorization.
Modeling Administrator Group	User mapped to this group will have access to all the menu items for Enterprise modeling and will be have authorization rights for sandbox population, model deployment and modeling technique authorization.
Inline Processing Admin Group	User mapped to this group will have access to all the menu items and actions for Inline Processing module.
Business Administrator	User mapped to this group will have access to all the menu items and actions for advanced operations of metadata objects.
Business Authorizer	User mapped to this group will have access to all the menu items and actions for authorization of changes to metadata objects.
Business Owner	User mapped to this group will have access to all the menu items and actions for read and write of metadata objects
Business User	User mapped to this group will have access to all the menu items and actions for access and read of metadata objects.
Identity Administrator	User mapped to this group will have access to all the menu items for managing User entitlements, User Group Entitlements and Access Management configurations.
Identity Authorizer	User mapped to this group will have access to all the menu items for authorizing User entitlements, User Group Entitlements and Access Management configurations.
System Administrator	User mapped to this group will have access to all menu items for managing the setup configurations.
Object Administrator	User mapped to this group will have access to all menu items for managing object migration and metadata traceability using metadata browser.
Guest Group	User mapped to this group will have access to certain menu items with only access privileges.

Map the application user(s) to the respective Application User Group(s) and subsequently authorize the entitlements by logging in as SYSAUTH (System Authorizer) user.

For more information refer *Mapping/Unmapping Users* section from the *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

Change ICC Batch Ownership

This section is not applicable for OFS GRC Application Pack.

APPENDIX G OFSAA Landing Page

This appendix includes the following topics:

OFSAA Landing Page

On successful authentication with ORM user id and password, the OFSAA 8.0 Landing Page is displayed. This is a common landing page for all users until a preferred application landing page is set by the user in his preferences.

The landing page includes multiple tabs and each tab has specific links to OFSAA Infrastructure and/or Application modules. The tabs and links are displayed based on the OFSAA Application accessed and the access roles mapped to the logged in user.

Each tab contains LHS Menu and RHS Menu. The LHS Menu holds link(s) to modules in a tree structure. The RHS Menu holds link(s) to modules in a navigational panel format.

The following tabs are available in the Landing Page:

Applications tab

This tab lists the various OFSAA Applications that are installed in the setup.

The "<Select Application>" drop-down lists the OFSAA Applications based on the user logged in and User Group(s) mapped to OFSAA Application. Selecting an Application from the drop-down refreshes the menus/ links.

Sandbox tab

This tab lists the various OFSAA Sandboxes created in the setup.

The "<Select Sandbox>" drop-down lists the OFSAA Sandboxes based on the user logged in and User Group(s) mapped to OFSAA Application.

Selecting a Sandbox from the drop-down would refresh the menus/ links.

Object Administration tab

This tab lists the various OFSAA Information Domains created in the setup.

The "<Select Information Domain>" drop-down lists the OFSAA Information Domains based on the user logged in and User Group(s) mapped to OFSAA Application.

Selecting an Information Domain from the drop-down refreshes the menus/ links.

System Configuration & Identity Management tab

This tab lists the OFSAA Infrastructure System Configuration and Identity Management modules. These modules work across Applications/ Information Domains and hence there are no Application/ Information Domain drop-down list in this tab.

NOTE: Refer the OFSAA User Manual for more details on how to operate on each tab

Enabling a Product within an Application Pack

You can also enable a product/ application within an application pack post installation at any point of time.

To enable a product through the application UI, follow these steps:

1. Login to the application as SYSADMN user or any user with System Administrator privileges.
2. Navigate to **System Configurations & Identity Management tab and expand** *Financial Services Analytical Applications Infrastructure >> Administration and Configuration >> System Configuration.*
3. Click **Manage OFSAA Product License(s)**
4. The **Manage OFSAA Product License(s)** page is displayed as below.

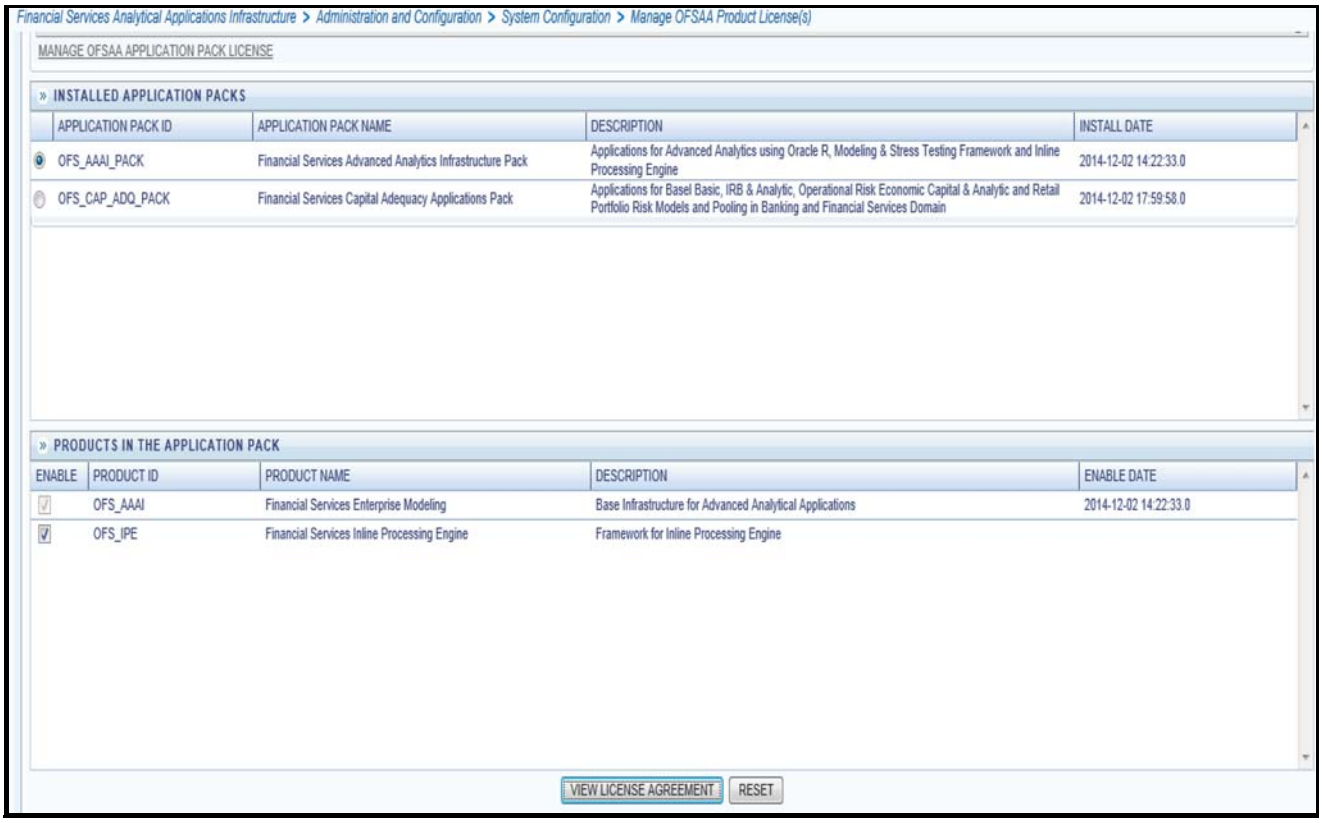

Figure 1. Manage OFSAA Product License

This page includes the following sections:

- INSTALLED APPLICATION PACKS
- PRODUCTS IN THE APPLICATION PACK

5. The following fields are displayed in the INSTALLED APPLICATION PACKS section

Table 1: Installed Application Pack

Field	Description
Application Pack ID	Displays a unique Application Pack ID related to the application pack. Select the appropriate Pack id using the radio button. The Products in the application pack will be displayed below in the *PRODUCTS IN THE APPLICATION PACKS* section.
Application Pack Name	Displays the name of the Application Pack.

Table 1: Installed Application Pack

Description	Displays the description of the Application Pack.
Install Date	Displays the date when the Application Pack was installed.

6. The following fields are displayed in the PRODUCTS IN THE APPLICATION PACK section:

Table 2: Products in the Application Pack

Field	Description
Enable	Select the checkbox to enable a product within an Application Pack.
Product ID	Displays a unique product id for the product.
Product Name	Displays the name of the Product
Description	Displays the description of the product.
Enable Date	Displays the date when the product was enabled.

7. Select an Application Pack by clicking the radio button next to the Application Pack ID field.
8. Selecting an Application Pack will display below the products within the Application Pack.
9. Products which were enabled at the time of installation will have the checkbox "**ENABLE**" disabled. You can enable any product within the selected Application Pack by clicking the "**ENABLE**" checkbox against the respective Product ID.
10. Click on **RESET** button to cancel the operation and refresh the screen.
11. Click **VIEW LICENSE AGREEMENT** button. The License Agreement section is displayed.

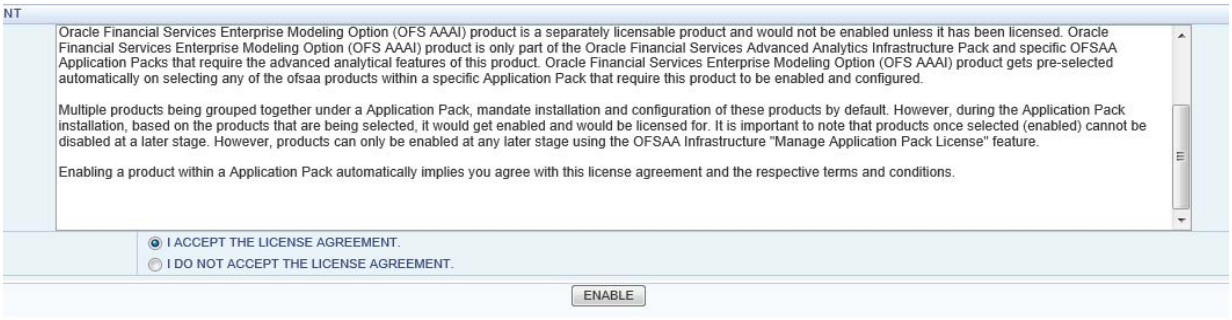

Figure 2. License Agreement

12. Select the option **I ACCEPT THE LICENSE AGREEMENT**.
13. Click **ENABLE**.
14. An appropriate pop-up message confirmation is displayed showing that the product is enabled for the pack.

NOTE: To use the newly enabled product, you need to map your application users to the appropriate product specific User_Group(s) and subsequently, authorize the actions by logging in as System Authorizer.

NOTE:

- For more information refer to *Mapping/Unmapping Users* section in the *Oracle Financial Services Analytical Applications Infrastructure User Guide 8.0*.
- To identify the newly enabled product specific UserGroups/ Application Pack specific User_Groups, refer to the respective Application Pack specific Installation and Configuration Guide/ User Manual.

APPENDIX H Additional Configuration

This Appendix gives detailed information about the Additional Configuration regarding OFSAA Installation.

This Appendix includes following topics:

FTP/ SFTP Configuration for File Transfer

In OFSAA, certain modules require transfer of files from the web application server to the OFSAA server over SSH.

Follow these steps to ensure the OFSAA server recognizes the web application server during file transfers.

1. Login to the web application server.
2. Type sftp <user>@<OFSAA Server>
3. Specify Yes when prompted for permission.
   Are you sure you want to continue connecting (Yes/No)?
4. This will add an entry into the "known_hosts" file.
5. A confirmation message is displayed:
   Permanently added <OFSAA Server> RSA) to the list of known hosts.

Configure Infrastructure Server Memory

The memory settings for Infrastructure Application Server, Tomcat, WebSphere, and WebLogic can be edited for customizing memory settings and garbage collector settings depending on the available hardware configuration as explained below. These settings are base minimum and has to be incremented considering the deployment metrics into account. The increments are usually handled in multiples of 128mb for heap and 64mb for stack.

Infrastructure Application Server Memory Settings

You can configure the Infrastructure Application Memory settings as follows:

1. Locate .profile file.
2. Edit X_ARGS field in this file for customizing memory settings and garbage collector settings depends on the hardware configuration.

   This has a default value X_ARGS="-Xms200m"

   ```
   X_ARGS=" "$X_ARGS" $DELIM -Xmx2048m"
   ```

   NOTE: This parameter is modified in 7.3.2 IR and you need to modify X_ARGS_APP variable in the .profile file to customize Java Memory Settings for Model Upload based on the Data Model size. For Run and Rule executions, the following value is recommended:

   ```
   X_ARGS_RNEXE="-Xms1g -Xmx1g -XX:+UseAdaptiveSizePolicy -XX:MaxPermSize=512M
   -XX:+UseParallelOldGC -XX:+DisableExplicitGC"

   X_ARGS_RLEXE="-Xms1g -Xmx1g -XX:+UseAdaptiveSizePolicy -XX:MaxPermSize=512M
   -XX:+UseParallelOldGC -XX:+DisableExplicitGC"
   ```

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.

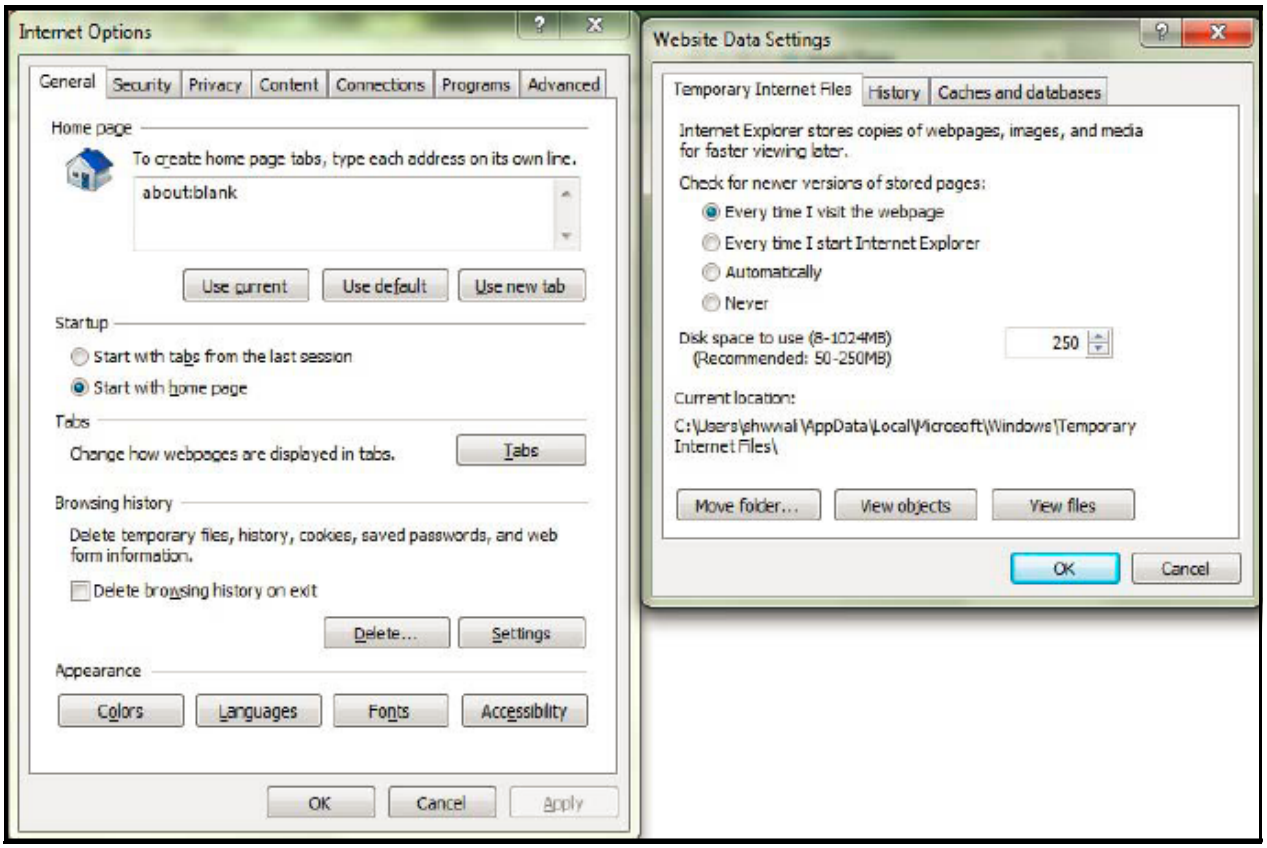

Figure 1. Internet Options

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**.

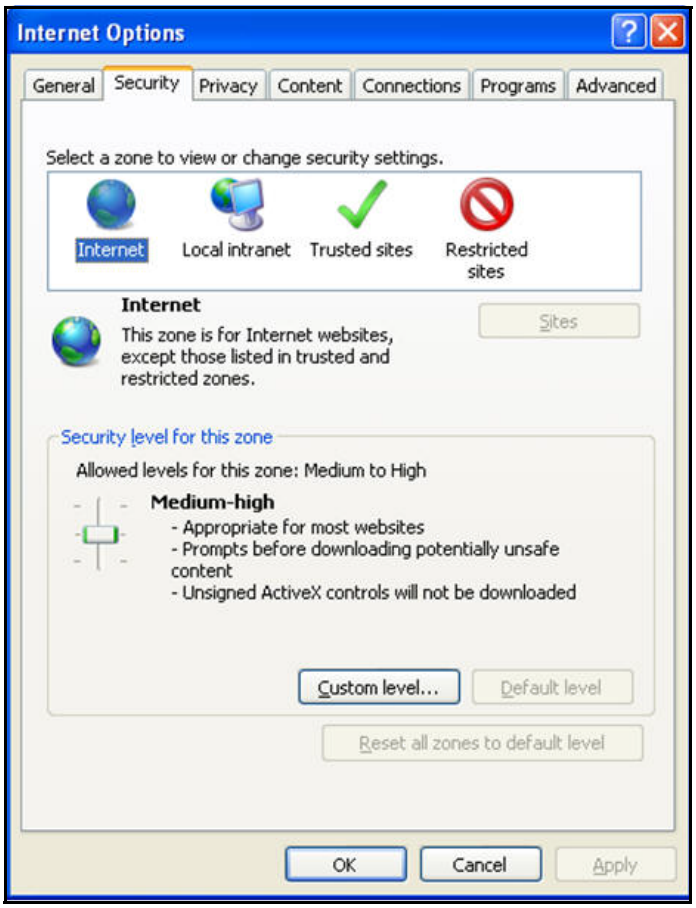

Figure 2. Internet Options

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.

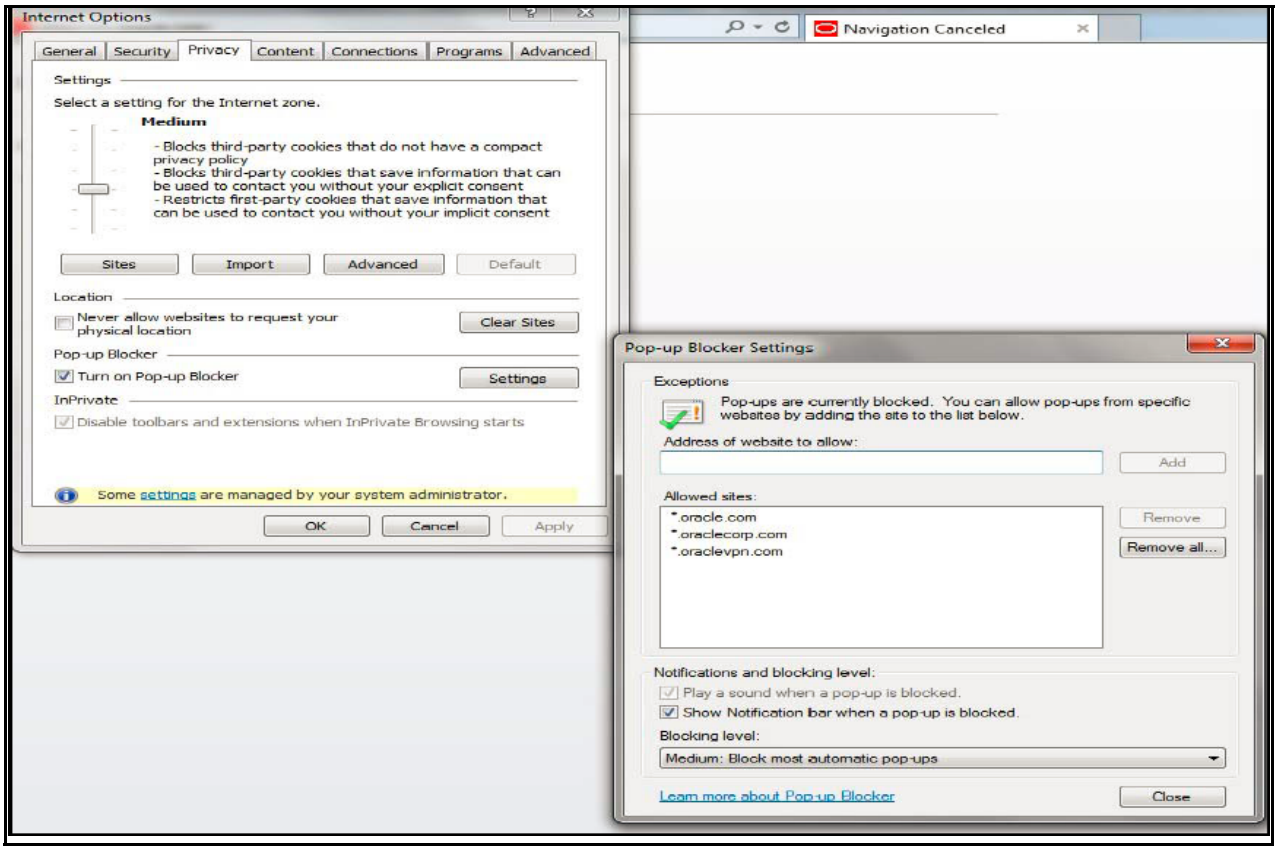

Figure 3. Internet Options- Popup Blocker Settings

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.

Retrieve Patch Information

To identify the list of patches installed on your OFSAA setup, follow these steps:

1. Login to the OFSAA application as a user with Object AdminAdvanced Role.
2. Navigate to Object Administration tab.
3. Click System Utilities.
4. Click Patch Information.
5. The page displays the list of patches installed on the OFSAA setup across Applications Platform.

OLAP Data Server Configuration

This section is applicable if you are using the OLAP feature of OFSAAI.

The following parameters must be set to ensure that the system limitations are not exceeded at any stage. The values for these OS parameters should be specified based on the expected load at each implementation site.

Example:

Process Memory Limit

Max Thread Stack Size

Max Number of Threads per Process

- **Sort Buffer settings**: This must be set at the Essbase application level appropriate to the anticipated load.
- **Shutdown and Restart:** During shutdown of OFSAAI Server that has an instance of Data Services that is communicating with an OLAP Data Server, it is imperative to ensure that the cleanup of the old instance is completed on the OLAP Data Server before restarting the OFSAAI Server. Pause for a period of time based on the load the system was subjected to, before restarting the Data Services subsystem.

Configure Infrastructure Ports

This step is applicable only in the event you wish to change any of the ports used by Infrastructure services after the installation process. The ports that are used by the Infrastructure application are distributed across the machines on which Infrastructure Web; Application, and Database components have been installed. Therefore you must perform the port changes on all the machines on which Infrastructure components have been installed.

"PortC.jar" can be executed in two modes.

- GUI
- CMD

To execute "PortC.jar" in GUI mode, ensure that the "Hummingbird Exceed" to be running and do the following:

1. Navigate to the path $FIC_HOME in each machine.
2. Enter the command

   ```
   java -jar PortC.jar GUI
   ```

The OFSAA Infrastructure Port Changer window is displayed.

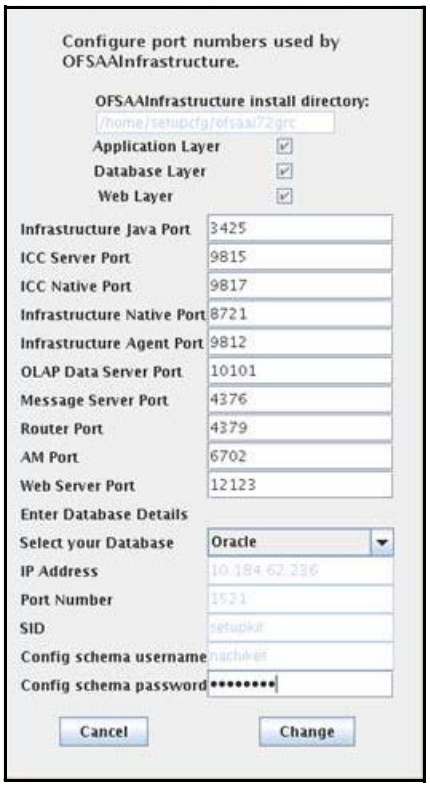

Figure 4. OFSAA Infrastructure Port Changer

The OFSAA Infrastructure Port Changer window displays the following:

- The path in which Infrastructure components have been installed.
- The check-boxes corresponding to Application Layer, Database Layer, or Web Layer are enabled based on:
  - In the event you have performed a single-tier installation on the current machine, the check-boxes for all three components will be enabled.

If you have installed more than one category of components on the current machine, the corresponding checkboxes for the respective components you have installed will be enabled.

To edit the port value, enter the new port value. User has the option to change the required ports and leave the other ports unchanged. Only the ports for which values are modified will change and the ports that are unchanged will retain its default value.

> **NOTE:** All ports on a machine must be unique. The range of port numbers that are given should preferably be between 1025 and 65535. The Servlet port can have 80 or 443 as port numbers if Default HTTP/HTTPS ports are being used.

- Select the **Database Type** as **Oracle** from the drop-down list.
- The **IP / Host Address** of the machine on which the corresponding database is installed will be populated.
- The **Port Number** on which the database is listening is displayed.
- The **SID** details are displayed.

- The **Configuration Schema username** is displayed.
- Enter the **Configuration schema password**.
- Click **Change** to initiate the port changes.

To execute PortC.jar in CMD mode:

1. Navigate to the path $FIC_HOME.
2. Enter the command:

   ```
   java -jar PortC.jar CMD
   ```

Then enter the requested information to change the ports. Once the port numbers are changed in the Infrastructure configuration, a message will be displayed confirming the changes. The log "Portchanger.log" in the Infrastructure installation path provides the status of port changes performed.

For above port changes to take effect, a re-start of all Infrastructure servers is required.

> **NOTE:** Do not execute the "PortC.jar" with CMD option in the "nohup" mode. The port changes are done only on Infrastructure web components where EAR/WAR files are deployed. After the port changes are done, you need to re-create the EAR/WAR files and re-deploy these files.

OFSAAI Setup Information Fetching Tool

Executing the SetupInfo.jar file available in the FIC_HOME path will help you retrieve the related information about the OFSAAI Set up such as Operating System Name and version, Database Type and Version, OFSAAI architecture, Log file locations and so on.

To execute "SetupInfo.jar" in console:

1. Navigate to the path $FIC_HOME.
2. Enter the command:

   ```
   java -jar SetupInfo.jar
   ```

After execution, the output file location is displayed in the console.

Encryption Changer

This utility helps you to regenerate the new AESCryptKey.ext file and encrypt all the encrypted values of the OFSAAI setup according to the new key.

To execute EncryptC.jar in console:

1. Navigate to the path $FIC_HOME.
2. Enter the command:

   ```
   java -jar EncryptC.jar
   ```

A confirmation message is displayed after execution.

Once executed, you need to create and deploy the EAR/WAR file depending on the configured Web Application Server. For more information, see APPENDIX C

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.

Table 1: Configuration Schema

PARAMNAME	Description	PARAM Value Example
AUTHENTICATIONTYPE	Authentication type	2 - AUTHENTICATIONTYPE value must be 2 for LDAP
ROOTCONTEXT	The Root Context for the LDAP Directory	dc=<OFSAA>, dc=<com>
ROOTDN	The Root dn for LDAP directory	cn=<Manager>, dc=<OFSAA>, 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

Table 1: Configuration Schema

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"

   This is for creating the entries for Users, User Groups, Functions, Profiles, Segments, Domains, Roles, and HolidayMaster in the Data information Tree of LDAP.
6. 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.

Figure 5. Select Source & Destination for Migration

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

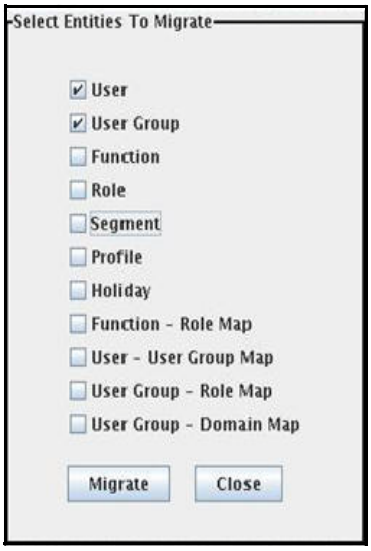

Figure 6. Select Entities to Migrate

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.

3. Select the entities that you wish to migrate and click Migrate. The data is migrated and a confirmation dialog is displayed.
4. 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.

Configure OFSAAI Web Services

Web Services in OFSAAI is meant for exposing a web service to "asynchronously" or "synchronously" execute requested tasks offered by OFSAAI. The configuration steps given below are to be done only if you are using the Web Services feature of OFSAAI.

Configure DynamicWSConfig.xml File

For each third party web service that needs to be accessed using the OFSAAI Web services framework and the operations to be invoked, corresponding entries are to be made in the DynamicWSConfig.xml template file.

The variable <WebServer> denotes any one of the application server, i.e. WebSphere, WebLogic, or Tomcat.

The DynamicWSConfig.xml file will be available in the <OFSAAI Installation Directory>/EXEWebService/<WebServer>/ROOT/conf directory. This file can be placed in any directory that is accessible by the application and this location must be specified in the web.xml file, as WSCONFIGFILE parameter.

The DynamicWSConfig.xml template file will be in <WebServer Deployment Path>/EXEWebService.ear/EXEWebService.war/conf directory.

This template is given below:

```
<XML>

<WEBSERVICES>

<WEBSERVICE CODE="$CODE"

ENDPOINT="$ENDPOINT" TARGETNAMESPACE="$TARGETNAMESPACE"

XMLNS_XSD="$XMLNS_XSD" ENCODINGSTYLE="$ENCODINGSTYLE"

SERVICENAME="$SERVICENAME" PORTTYPENAME="$PORTTYPENAME"

SESSION_MAINTAIN_PROPERTY="$SESSION_MAINTAIN_PROPERTY"

USERNAME="$USERNAME"

PASSWORD="$PASSWORD" STYLE="$WEBSERVICESTYLE"

STUBIMPLEMENTATION="$STUBIMPLEMENTATION">

<OPERATION CODE="$CODE"

NAME="$NAME"

SOAPACTION="$SOAPACTION"

STYLE="$STYLE"

PACKAGENAME="$PACKAGENAME">

<INPUT ORDER="$ORDER"

PARAMNAME="$PARAMNAME"
```

```
ARGTYPE="$ARGTYPE"

CLASSNAME="$CLASSNAME"/>

<OUTPUT PARAMNAME="$PARAMNAME"

RETURNTYPE="$RETURNTYPE"

CLASSNAME="$CLASSNAME"/>

</OPERATION>

</WEBSERVICE>

</WEBSERVICES>

</XML>
```

The DynamicWSConfig.xml has the placeholders as tabulated below. These have to be updated depending on the web service chosen and the mode of accessing it. For each Web service to be accessed, the entire webservice tag in the DynamicWSConfig.xml file must be repeated. The placeholders tabulated below should be set in accordance to the parameters published in the third party wsdl files (webservices) to be accessed. The stub class specified must implement the "com.iflex.Oracle Reveleus.execution.webservice.EXEWebIF" interface.

Attributes for WEBSERVICE tagh

Table 2: WEBSERVICE Tag

Placeholder	Description
$CODE	Unique number within the xml file and cannot be 999 or 0.
$ENDPOINT	soap: address location in the wsdl: service name tag of the wsdl file.
$TARGETNAMESPACE	The attribute value for the targetNamespace of the wsdl: definitions tag.
$XMLNS_XSD	The attribute value for the xmlns:s of the wsdl:definitions tag
$ENCODINGSTYLE	The attribute value for the xmlns:soapenc of the wsdl:definitions tag.
$SERVICENAME	Name of the service found under the wsdl:service name tag of the wsdl file.
$PORTTYPENAME	wsdl port type name as mentioned in the wsdl file.
$SESSION_MAINTAIN_PROPERTY	This could be given as "" also.
$USERNAME	User name to access the web services. Enter "" if no user name is required.
$PASSWORD	Password to access the web services. Enter "" if no password is required.

Table 2: WEBSERVICE Tag

$WEBSERVICESTYLE	This can take either "rpc" in case of DII mode of invoking web services or "stub" in case of static mode. This is a mandatory parameter.
$STUBIMPLEMENTATION	Fully qualified class name (package name.classname).

Attributes for OPERATION tag

Ensure that the "operation tag attributes" are repeated for each of the operation tags.

Table 3: OPERATION Tag

Placeholder	Description
$CODE	Should be unique within the Webservice tag.
$NAME	The name of the Function that is to be called by the wsdl file.
$SOAPACTION	The URL for the Operation to access. This is associated with the Operation tag of the wsdl file.
$STYLE	This can take "rpc" if the web services invoking is in DII mode or "stub" if it is in static mode. This is a mandatory parameter.
$PACKAGENAME	Represents the JAXB package of input object.

Attributes for INPUT tag

Table 4: INPUT Tag

Placeholder	Description
$ORDER	The sequential number of the INPUT tag. Should start from 0. This is in line with the input order of the arguments that the API accepts which is called by this operation.
$PARAMNAME	Input parameter name to be called by the wsdl file.
$ARGTYPE	Input Parameter Data Type. If the input argument type is complex object, specify $ARGTYPE as "xmlstring".
$CLASSNAME	Represents class name of input object parameter.

Attributes for OUTPUT tag

web.xml Entries

Table 5: OUTPUT Tag

Placeholder	Description
$PARAMNAME	Output parameter name to be returned by the web service.
$RETURNTYPE	Output parameter Data Type. If the web service response is a complex object, then specify $RETURNTYPE as "object".
$CLASSNAME	Represents class name of output object parameter.

Web.xml Entries

Navigate to <OFSAAI Installation Directory>/EXEWebService/<WebServer>/ROOT/WEB-INF/ and edit the web.xml file as explained below.

NOTE: In case of Java 7 when WebLogic is used as web application server replace following line of <OFSAAI Installation Directory>/EXEWebService/Weblogic/ROOT/WEB-INF/web.xml file that is:

```
<?xml version='1.0' encoding='UTF-8'?>
<web-app id="WebApp_ID" version="3.0"
xmlns="http://java.sun.com/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd" metadata-complete="true">
```

with

```
<?xml version='1.0' encoding='UTF-8'?>
<web-app xmlns="http://java.sun.com/xml/ns/j2ee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

Entry for WSConfig File

The WSCONFIG file (DynamicWSConfig.xml) is available in the <WebServer Deployment Path>/ EXEWebService.ear/EXEWebService.war/conf directory. This file can be placed in any directory that is accessible by the application.

The path where the WSCONFIG file is placed must be specified in place of $WSCONFIGFILELOCATION$ in the below block of text in web.xml.

```
<context-param>

<description>WebServices Configuration File</description>

<param-name>WSCONFIGFILE</param-name>

<param-value>$WSCONFIGFILELOCATION$</param-value>

<!--Specify the Location of DynamicWSConFig.xml-->

</context-param>
```

Proxy Settings

The following block of text in web.xml file, replace the <param-value> given in bold below with appropriate values.

If no values are required, leave the <param-value> blank.

```
<context-param>

<description>http Proxy Host</description>
```

```
<param-name>http.proxyHost</param-name>
<param-value>$PROXYHOST$</param-value>
<!-- Specify the IP address or hostname of the http proxy server-->
</context-param>
<context-param>
<description>http Proxy Port</description>
<param-name>http.proxyPort</param-name>
<param-value>$PROXYPORT$</param-value>
<!--Port Number for the Proxy Server-->
</context-param>
<context-param>
<description>http proxy UserName</description>
<param-name>http.proxyUserName</param-name>
<param-value>$PROXYUSERNAME$</param-value>
<!-- User ID To get authenticated by proxy server-->
</context-param>
<context-param>
<description>http proxy Password</description>
<param-name>http.proxyPassword</param-name>
<param-value>$PROXYPASSWORD$</param-value>
<!-- User Password To get authenticated by proxy server-->
</context-param>
<context-param>
<description>http non-ProxyHosts</description>
<param-name>http.nonProxyHosts</param-name>
<param-value>$NONPROXYHOST$</param-value>
```

```
<!--Hosts for which the proxy settings should get by-passed (Note: Separate them by "|" symbol) -->
</context-param>
```

OFSAAI Home Entry

This entry should point to the Application layer / Web layer of the OFSAAI installation and should be accessible.

Replace FIC_HOME in the following block of text in web.xml with `<WebServer Deployment Path>/EXEWebService.ear/EXEWebService.war`.

```
<context-param>
<description>OFSAAI Web Home</description>
<param-name>FIC_HOME</param-name>
<param-value>$FIC_HOME$</param-value>
<!--OFSAAI Installation Folder-->
</context-param>
<context-param>
<description>OFSAAI Web Home</description>
<param-name>FIC_PHYSICAL_HOME</param-name>
<param-value>$FIC_HOME$</param-value>
<!--OFSAAI Installation Folder-->
</context-param>
```

DynamicWSConfig.xml

For each third party web service that needs to be accessed using the OFSAAI Web services framework, and the operation to be invoked, make corresponding entries into this file. This file is to be placed in the location that is specified in the web.xml, as WSCONFIGFILE parameter.

Deploy OFSAAI Web Services

You can deploy OFSAAI Web Services separately if you had not configured OFSAAI Web Services as part of the installation.

1. Complete the manual configuration of OFSAAI Web Services.
2. Navigate to <OFSAAI Installation Directory>/EXEWebService/<WebServer> and execute the command:

   ./ant.sh

This will trigger the EAR/WAR file creation, which is required for the deployment.

3. Deploy the generated EXEWebService.EAR/EXEWebService.WAR file into the WebServer.

If you have already configured OFSAAI Web Services as part of the installation, deploy the generated EXEWebService.EAR/ EXEWebService.WAR file into the OFSAAI Deployment area in WebServer profile.

Configuration to Enable Parallel Execution of DML statements

A configuration file, OracleDB.conf has been introduced to accommodate any configurable parameter related to operations on oracle database. If you do not want to set a parameter to a specific value, then the respective parameter entry can be removed/commented off form the OracleDB.conf file which resides in the path $FIC_DB_HOME/conf.

As of now, the OracleDB.conf file has only one parameter namely CNF_DEGREE_OF_PARALLELISM. This parameter indicates the degree of parallelism to be used for a DML operation if parallel DML is explicitly enabled in the session with the ENABLE PARALLEL DML clause of the ALTER SESSION statement. The default mode of a session is DISABLE PARALLEL DML. If CNF_DEGREE_OF_PARALLELISM is not set, then the default degree, as decided by Oracle will be used.

Configure Message Details in Forms Designer

You can configure the Message Details in Forms Designer under Data Entry Forms and Queries module by updating the details of mail server in the "NotificationConfig.cfg" file which resides in the path $FIC_APP_HOME/common/FICServer/conf.

Ensure that the "authorized User details" for whom you need to configure the Message details are included in Administration > Security Management > User Administrator > User Maintenance window.

Update the following parameters in the "NotificationConfig.cfg" file:

Table 6: NotificationConfig.cfg File

Parameter	Description
SMTP_SERVER_IP	Specify the hostname or IP address of SMTP Server.
SMTP_DEBUG_MODE	To run SMTP service in Debug mode, set value to 'true', otherwise set value to 'false'.
SMTP_AUTHORIZATION	Set to 'true' if SMTP server requires the client to be authenticated, otherwise set to 'false'.
SMTP_USERNAME	Username required for logging into SMTP server, if authentication is not required use a dummy value.
SMTP_PASSWORD	Password required for logging into SMTP server, if authentication is not required use a dummy value.
SMTP_MAILID	If the Messages has to go from a Particular ID that ID need to be added. Exchange server forces you set a valid ID that is there in the exchange server. (Based on Security settings)

Ensure that the authorized User details are included in *Administration* > *Security Management* > *User Administrator* > *User Maintenance* window.

Clearing Application Cache

This is applicable to all Web Servers (i.e. WebSphere, WebLogic, and Tomcat).

Prior to the deployment of Infrastructure or Application Service Packs / One-off patches, navigate to the following path depending on the WebServer configured and clear the cache:

- **Tomcat**: <Tomcat installation folder>/work/Catalina/localhost/<Application name>/org/apache/jsp
- **WebLogic**: <Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>/qaelce/jsp_servlet
- **WebSphere**: <Websphere installation directory>/AppServer/profiles/<Profile name>/temp/<Node name>/server1/<Application name>/<.war file name>

Configuring Password Changes

This section explains about how to modify the OFSAA Infrastructure Config Schema and Atomic Schema passwords.

OFSAA Infrastructure Config Schema password modification

To change the Config Schema password, perform the following steps:

1. Change the Config schema User Password in the database.
2. Delete the $FIC_HOME/conf/Reveleus.SEC file.
3. Shutdown the OFSAAI App service:

   ```
   cd $FIC_APP_HOME/common/FICServer/bin

   ./reveleusshutdown.sh
   ```

4. Start the Infrastructure Server in foreground directly on the server or through X-Windows software using the command:

   ```
   ./reveleusstartup.sh
   ```

5. At the prompt, enter System Password. Enter the "new Config schema" password. The service will start and initialize itself if it is able to successfully connect to the DB.
6. Post successful startup of the service, if required, the Infrastructure server may be shut down and restarted in the background using nohup mode.

OFSAA Infrastructure Atomic Schema password modification

To change the Atomic Schema password, perform the following steps:

1. Change the Atomic schema User Password in the database.
2. Login to the application from the browser using SYSADMN account or any user id, which has System Administrator role mapped.
3. Navigate to System Configuration > Database Details window. Select the appropriate connection and edit the password.

4. Navigate to Unified Metadata Manager > Technical Metadata> Data Integrator > Define Sources window. Update the appropriate Source details.
5. If you are using Apache Tomcat as Web server, update the <Context> -> Resource tag details in Server.xml file from the $CATALINA_HOME/conf folder. (In case of Tomcat only Atomic <Resource> will exist).

If you are using WebSphere as Web server:

a. Login to the WebSphere Administration Console, from the left side menu.

b. Navigate to *Resources >JDBC >Data Sources*. A list of data sources will be populated on the right side.

c. Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources will need to be modified).

If you are using WebLogic as Web server:

a. Login to the WebLogic Administration Console, from the left side menu

b. Under Domain Structure list box, expand the appropriate Domain and navigate to *Services > JDBC >Data Sources*. A list of data sources will be populated on the right side.

c. Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources need to be modified).

6. Restart the OFSAAI services.

Configure Internal Service (Document Upload/ Download)

This step can be ignored if it has already been configured as part of any previous IR /ML installation.

The Document Upload /Download feature has undergone a change and can now be configured to use Internal service for document upload / download instead of the earlier ExeWebService.

To facilitate Internal service for document upload/ download, perform the following configurations:

1. Create the folders download, upload, TempDocument and Temp in the local path of Web application server and provide Read/Write permission.

- To find the exact location, execute the following query in CONFIG schema:

```
select localpath from web_server_info
```

- To create folders with Read/Write permission, execute the command:

```
mkdir -m 777 download upload TempDocument Temp
```

2. Create DocStorage folder in the FTPSHARE location of APP tier and provide Read/Write permission.

- To find the exact location, execute the query in CONFIG schema:

```
select ftpdrive from app_server_info
```

- To create folder with Read/Write permission, execute the command:

```
mkdir -m 777 DocStorage
```

By default, the parameter **DOCUMENT_SERVICE_TYPE_EXTERNAL** value is set to **FALSE** in the Configuration table in CONFIG schema and hence the application "ExeWebService" will not be used. It is recommended that the value to be set to **FALSE** and use the Internal service for document upload/ downloads. If you intend to continue using the External ExeWebService, set the value to **TRUE**.

Navigate to `$FIC_HOME/EXEWebService/<WEBSERVER_TYPE>` directory of WEB tier and type `./ant.sh`. This triggers the creation of EAR/WAR file `EXEWebService.ear/.war`. The EAR/WAR file `EXEWebService.ear/.war` will be created in $FIC_HOME/EXEWebService/<WEBSERVER_TYPE> directory of WEB tier. Redeploy the generated EAR/WAR file onto your configured web application server.

APPENDIX I Patching OFSAA Infrastructure Installation

Patching Your OFSAA Infrastructure Installation

Oracle strongly recommends installing the latest available patchset so as to be up to date with the various releases of the OFSAA products.

Refer http://support.oracle.com for more information on latest releases.

APPENDIX J Grants For Atomic/Config Schema

This section mentions about the various grants required for the CONFIG and ATOMIC schemas.

This appendix includes the following sections:

Grants for Atomic Schema

Atomic Schema creation requires certain grants for object creation. This can be located in $FIC_HOME/privileges_atomic_user.sql file

The following are the Grants for Atomic Schema:

```
grant create SESSION to &database_username
/
grant create PROCEDURE to &database_username
/
grant create SEQUENCE to &database_username
/
grant create TABLE to &database_username
/
grant create TRIGGER to &database_username
/
grant create VIEW to &database_username
/
grant create MATERIALIZED VIEW to &database_username
/
grant olap_user to &database_username
/
grant select on SYS.V_$PARAMETER to &database_username
/
grant create SYNONYM to &database_username
/
```

Note: If you intend to use Oracle OLAP feature, execute the below grant on all ATOMIC schema(s) grant olap_user to &database_username

Grants for Config Schema

Config Schema creation requires certain grants for object creation. This can be located in $FIC_HOME/privileges_config_user.sql file

The following are the Grants for Config Schema:

```
grant create SESSION to &database_username
/
grant create PROCEDURE to &database_username
/
grant create SEQUENCE to &database_username
/
grant create TABLE to &database_username
/
grant create TRIGGER to &database_username
/
grant create VIEW to &database_username
/
grant create MATERIALIZED VIEW to &database_username
/
grant olap_user to &database_username
/
grant select on SYS.V_$PARAMETER to &database_username
/
grant create SYNONYM to &database_username
/
```

Grants on Config Schema Entities for Atomic Users

Atomic Schema creation requires certain grants for config schema object acess. This can be located in $FIC_HOME/config_table_privileges_for_atomic_user.sql file.

The following are the Grants for Config Schema entities for Atomic Users:

```
grant select on CSSMS_USR_PROFILE to &database_username
/
grant select on CSSMS_ROLE_MAST to &database_username
/
grant select on CSSMS_GROUP_MAST to &database_username
/
grant select on CSSMS_FUNCTION_MAST to &database_username
/
grant select on CSSMS_USR_GROUP_MAP to &database_username
/
grant select on CSSMS_USR_GROUP_DSN_SEG_MAP to
&database_username
/
grant select on CSSMS_ROLE_FUNCTION_MAP to &database_username
/
grant select on CSSMS_GROUP_ROLE_MAP to &database_username
/
grant select on CSSMS_SEGMENT_MAST to &database_username
/
grant select on BATCH_TASK to &database_username
/
grant select on CSSMS_USR_DSN_SEG_MAP to &database_username
/
grant select on CSSMS_USR_ROLE_MAP to &database_username
/
grant select on CSSMS_METADATA_SEGMENT_MAP to
&database_username
/
grant select on BATCH_RUN to &database_username
/
grant select on PR2_FILTERS to &database_username
/
grant select on PR2_TASK_FILTER to &database_username
/
grant select on PR2_TASK_FILTER_DETAIL to &database_username
/
grant select on ST_STRESS_MASTER to &database_username
/
grant select on ST_SCENARIO_MASTER to &database_username
```

```
/
grant select on ST_SHOCK_MASTER to &database_username
/
grant select on BATCH_MASTER to &database_username
/
grant select on ICC_MESSAGELOG to &database_username
/
grant select on PR2_MASTER to &database_username
/
grant select on PR2_RUN_REQUEST to &database_username
/
grant select on MF_MODEL_SCRIPT_MASTER to &database_username
/
grant select on MF_INPUT_VALUES to &database_username
/
grant select on MF_MODEL_OUTPUT_VALUES to &database_username
/
grant select on DB_MASTER to &database_username
/
grant select on DSNMASTER to &database_username
/
grant select on pr2_rule_map to &database_username
/
grant delete on pr2_rule_map_pr to &database_username
/
grant insert on pr2_rule_map_pr to &database_username
/
grant update on pr2_rule_map_pr to &database_username
/
grant select on pr2_rule_map_pr to &database_username
/
grant delete on pr2_rule_map_pr_tmp to &database_username
/
grant insert on pr2_rule_map_pr_tmp to &database_username
/
grant update on pr2_rule_map_pr_tmp to &database_username
/
grant select on pr2_rule_map_pr_tmp to &database_username
/
grant select on pr2_rule_map_exclude to &database_username
/
grant delete on pr2_rule_map_exclude_pr to &database_username
/
grant insert on pr2_rule_map_exclude_pr to &database_username
/
```

```
grant update on pr2_rule_map_exclude_pr to &database_username
/
grant select on pr2_rule_map_exclude_pr to &database_username
/
grant delete on pr2_rule_map_exclude_pr_tmp to
&database_username
/
grant insert on pr2_rule_map_exclude_pr_tmp to
&database_username
/
grant update on pr2_rule_map_exclude_pr_tmp to
&database_username
/
grant select on pr2_rule_map_exclude_pr_tmp to
&database_username
/
grant select on pr2_run_object to &database_username
/
grant select on pr2_run_object_member to &database_username
/
grant select on pr2_run_map to &database_username
/
grant select on pr2_run_execution_b to &database_username
/
grant select on pr2_run_execution_filter to &database_username
/
grant select on pr2_firerun_filter to &database_username
/
grant select on pr2_filters to &database_username
/
grant select on configuration to &database_username
/
grant select on batch_parameter to &database_username
/
grant select on component_master to &database_username
/
grant select on MDB_OBJECT_TYPE_ATT_LAYOUT to
&database_username
/
grant select on REV_OBJECT_ATTRIBUTE_DTL to &database_username
/
grant select on FORMS_LOCALE_MASTER to &database_username
/
grant select on mdb_object_dependencies to &database_username
/
```

```
grant select on mdb_execution_details to &database_username
/
grant select on REV_STAT_DATA to &database_username
/
grant select on REV_OBJECT_REPOSITORY_B to &database_username
/
grant select on REV_OBJECT_REPOSITORY_TL to &database_username
/
grant select on REV_OBJECT_ATTRIBUTE_DTL_MLS to
&database_username
/
grant select on REV_OBJECT_APPLICATION_MAP to
&database_username
/
grant select on MDB_OBJ_EXPR_DETAILS to &database_username
/
grant select on MDB_EXECUTION_DETAILS to &database_username
/
grant select on REV_OBJECT_TYPES_CD to &database_username
/
grant select on REV_OBJECT_TYPES_MLS to &database_username
/
grant select on REV_APPLICATIONS_CD to &database_username
/
grant select on REV_APPLICATIONS_MLS to &database_username
/
grant select on METADATA_BROWSER_LOCALE to &database_username
/
grant select on MDB_STAT_DATA to &database_username
/
grant select on MDB_OBJECT_TYPE_LAYOUT to &database_username
/
grant select on ofsa_md_id_ref to &database_username
/
grant select on MDB_ETL_MAPPING to &database_username
/
grant select on setupinfo to &database_username
/
grant select on LOCALEREPOSITORY to &database_username
/
grant select on MF_MODEL_MASTER to &database_username
/
grant select on MF_SANDBOX_MASTER to &database_username
/
grant select on MF_VARIABLE_MASTER to &database_username
```

```
/
grant select on MF_TECHNIQUE_MASTER to &database_username
/
grant select on MDB_RULE_SOURCE_HEADER to &database_username
/
grant select on MDB_RULE_TARGET_HEADER to &database_username
/
grant select on MDB_RULE_TARGET_MEMBER_HEADER to
&database_username
/
grant select on MDB_RULE_GRID_DATA to &database_username
/
grant select on MDB_MODEL_MAPPING to &database_username
/
grant delete on AAI_MAP_MAPPER to &database_username
/
grant insert on AAI_MAP_MAPPER to &database_username
/
grant update on AAI_MAP_MAPPER to &database_username
/
grant select on AAI_MAP_MAPPER to &database_username
/
grant select on RTI_UI_EXCLUDE_PDM_LIST  to &database_username
/
grant select on RTI_VIR_PHY_TBL_NAME  to &database_username
/
grant select on infodom_patches to &database_username
              /
```

APPENDIX K Configuring OFS_BGRC_Pack.xml Files

This Appendix covers following topics:

Configuring OFS_BGRC_PACK.xml file

The OFS_BGRC_PACK.xml file holds details on the various GRC products that are packaged in a particular Application Pack.

Navigate to the file: OFS_BGRC_PACK/conf/OFS_BGRC_Pack.xml,and Select the applications to be enabled. This xml helps in enabling or disabling applications under GRC Pack.

- It is mandatory to enable OFS_AAI.
- OFS_OR is mandatory incase OFS_GCM is enabled.

Note: Enter **YES** in **ENABLE** tag to enable application.

Configuring OFS_BGRC_PACK.xml file

Table 1: Attribute Table

Tag Name/ Attribute Name	Description	Mandatory (Y/ N)	Default Value/ Permissible Value	Comments
APP_PACK_ID	Unique Application Pack Identifier	Y	Unique Seeded Value	DO NOT modify this value.
APP_PACK_NAME	Unique Application Pack Name	Y	Unique Seeded Value	DO NOT modify this value.
APP_PACK_DESCRIPTION	Unique Application Pack Description	Y	Unique Seeded Value	DO NOT modify this value.
VERSION	Unique release version	Y	Unique Seeded Value	DO NOT modify this value.
APP	Unique Application Entries	Y	Unique Seeded Value	DO NOT remove these tags.
APP_ID	Unique Application Identifier	Y	Unique Seeded Value	DO NOT modify this value.
APP_ID/ PREREQ	Prerequisite Application/ Product	Y	Unique Seeded Value	For most applications Infrastructure would be the prerequisite set. For certain other applications, an appropriate Application ID would be set. DO NOT modify this value.
APP_ID/ DEF_SEL_FLAG	Default Selected Flag	Y	Default - YES	In all Application Packs, Infrastructure would have this value set to “YES”. DO NOT modify this value.

Configuring OFS_BGRC_PACK.xml file

Table 1: Attribute Table

APP_ID/ ENABLE	Enable Application/ Product	YES if installing in SILENT mode.	Default – YES for Infrastructure NO for Others Permissible - YES or NO	Set this attribute-value to YES against every APP_ID which is licensed and should be enabled for use. **Note**: Application/ Product once enabled cannot be disabled. However, Application/ Product not enabled during installation can be enabled later through the Administration UI.
APP_NAME	Unique Application/ Product Name	Y	Unique Seeded Value	DO NOT modify this value.
APP_DESCRIPTION	Unique Application/ Product Name	Y	Unique Seeded Value	DO NOT modify this value.
VERSION	Unique release version	Y	Unique Seeded Value	DO NOT modify this value.

Configuring InstallConfig.xml

Navigate to the file: OFS_BGRC_PACK/OFS_GRC/conf/InstallConfig.xml and fill in the details mentioned under the tags (<!-- Start: User input required for silent installer. --> and <!-- End: User input required for silent installer. -->) as following.

Table 2: PlaceHolder Name

Place Holder Name	Details	Mandatory
##OFS_OR_SMTP_HOST##	This variable used for configuring SMTP HOST need to configure for sending e-mails. For ex.ofss222892.in.oracle.com	No
##OFS_OR_SMTP_PORT##	This variable used for configuring SMTP port number of SMTP Host for sending e-mails. For Ex.25	No
##OFS_OR_MAIL_SLEEPTIME##	This variable to configure e-mail thread sleep time (in Micro Seconds) For Ex:40000 (in Micro Seconds)	No
##OFS_OR_MAIL_STATUS##	This variable used to configure whether to send e-mail or not. Applicable values are Yes/No. For Ex: Yes	No
##OFS_OR_MAIL_SENDER##	This variable is used for capturing mail sender ID.	No
##OFS_OR_CONFIGURE_OBIEE##	This variable used to configure OBIEE or not. Applicable values are 0/1. For Ex:1	No
##OFS_OR_OBIEE_URL##	Applicable in case ##OFS_OR_CONFIGURE_OBIEE## mentioned as 1(Yes). For Ex: Mention the URL in format http://<ipaddress>:<port>)	No
##OFS_OR_SAVE_METADATA##	This variable used to do resave Meta data through Installer. Do mention as '1' in case like to do resave meta data through Installer otherwise mention as '0'.	No

Place Holder Name	Details	Mandatory
##OFS_ORA_ORA_SOURCE_USER##	This variable is used for capturing Operational Risk Analytics (ORA) Source User Name. The value to be provided is the User Name of GRC ATOMIC schema created using schema creator utility. For ATOMIC schema name, refer to OFS_BGRC_SCHEMA_OUTPUT.xml present inside OFS_BGRC_PACK/schema_creator folder.	No
##OFS_ORA_ORA_SOURCE_PW##	This variable is used for capturing Operational Risk Analytics (ORA) Source User Password. The value to be provided is password of ATOMIC schema mentioned in the above field **Note:**Password needs to be in normal text not encrypted format	No
##OFS_OR_UPLOAD_DM##	This attribute would be used by Installer to decide whether to upload Data model or not. Applicable values are 0(means no no data model upload through Installer) or 1(means do model upload through Installer) By default it should be mentioned as 1 unless data model upload was done outside before starting APP Pack Installations.	Yes

Configuring OFS_BGRC_SCHEMA_IN.xml file

Creating database schemas, object with schemas and assigning appropriate grants are the primary steps in the installation process of OFSAA Applications. The `OFS_BGRC_SCHEMA_IN.xml` contains details on the various application schemas that should be created prior to the Application Pack installation.

The following table gives details about the various tags/ parameters available in the file and the values that need to be updated. Prior to executing the schema creator utility, it is mandatory to update this file.

Table 3: OFS_BGRC_SCHEMA_IN.xml

Tag Name/ Attribute Name	Description	Mandatory/ Optional	Default Value/ Permissible Value	Comments
<APP_PACK_ID>	Unique Application Pack Identifier	Mandatory	Unique Seeded Value	DO NOT modify this value.
<JDBC_URL>	Enter the JDBC URL. **Note**: You can enter RAC and NON-RAC enabled database connectivity URL.	Mandatory	Example, jdbc:oracle:thin:@<HOST/IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOST][:PORT]/SERVICE or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(port=[PORT]))(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(PORT=[PORT]))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=[SERVICE]))) For example, jdbc:oracle:thin:@//dbhost.server.com:1521/service1 or jdbc:oracle:thin:@//dbshost.server.com:1521/scan-1 or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost1.server.com)(port=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost2.server.com)(PORT=1521))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=service1)))	
<JDBC_DRIVER>	By default this driver name is seeded. **Note**: Do not edit this attribute value.	Mandatory	Example, oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. DO NOT modify this value.

Tag Name/ Attribute Name	Description	Mandatory/ Optional	Default Value/ Permissible Value	Comments
<HOST>	Enter the Hostname/ IP Address of the system on which you are installing the OFSAA components.	Mandatory	Host Name/ IP Address	
<SETUPINFO>/ NAME	Enter the acronym for the type of implementation. This information will be displayed in the OFSAA Home Page. **Note**: On executing the schema creator utility, this value will be prefixed with each schema name. For example: dev_ofsaaconf, uat_ofsaaatm.	Mandatory	Accepts strings with a minimum length of two and maximum of four. Example, DEV, SIT, PROD	This name would appear in the OFSAA Landing Page as "Connected To: xxxx" The schemas being created would get this prefix. For E.g. dev_ofsaaconf, uat_ofsaaconf etc.
<SETUPINFO>/ PREFIX_ SCHEMA_NAME	Identifies if the value specified in <SETUPINFO>/ NAME attribute should be prefixed to the schema name	N	YES or No	Default Value is YES.
<PASSWORD>/ DEFAULT*	Enter the password if you want to set a default password for all schemas. **Note**: You also need to set APPLYSAMEFORALL attribute as Y to apply the default password for all the schemas.	Optional	The maximum length allowed is 30 characters. Special characters are not allowed.	

Tag Name/ Attribute Name	Description	Mandatory/ Optional	Default Value/ Permissible Value	Comments
<PASSWORD>/ APPLYSAMEFORALL	Enter as Y if you want to apply the password specified in DEFAULT attribute for all the schemas. If you enter as N, you need to provide individual passwords for all schemas. **Note**: In case you have entered Y in APPLYSAMEFORALL attribute and also have specified individual passwords for all the schemas, then the specified individual passwords will take precedence.	Mandatory	Default – N Permissible – Y or N	**Note**: Setting this attribute value is mandatory, If DEFAULT attribute is set.
<SCHEMA>/ TYPE	The different types of schemas that are supported in this release are ATOMIC, CONFIG, SANDBOX, and ADDON. By default, the schemas types are seeded based on the Application Pack. **Note**: Do not edit this attribute value.	Mandatory	ATOMIC/CONFIG/SANDBOX/ADDON **Note:** SANDBOX AND ADDON schemas are not applicable for OFS AAAI Application Pack.	Only One CONFIG schema can exist in the file. This schema identifies as the CONFIGURATION schema that holds the OFSAA setup details and other metadata information. Multiple ATOMIC/ SANDBOX/ ADDON schemas can exist in the file. ATOMIC schema refers to the Information Domain schema. SANDBOX schema refers to the SANDBOX schema. ADDON schema refers to other miscellaneous schema (not applicable for this Application Pack).

Tag Name/ Attribute Name	Description	Mandatory/ Optional	Default Value/ Permissible Value	Comments
<SCHEMA.>/ NAME	By default, the schemas names are seeded based on the Application Pack. You can edit the schema names if required. **Note**: The Schema Name will have a prefix of the SETUPINFO/ NAME attribute. SCHEMA NAME must be same for all the ATOMIC Schemas of applications within an Application Pack.	Mandatory	The permissible length is 15 characters and only alphanumeric characters allowed. No special characters allowed except underscore '_'.	SETUPINFO/ NAME attribute value would be prefixed to the schema name being created. For E.g. if name is set as 'ofsaaatm' and setupinfo as 'uat' then schema being created would be 'uat_ofsaaatm'. NAME should be same where APP_GRP=1 for all SCHEMA tags (Not applicable for this Application Pack).
<SCHEMA>/ PASSWORD*	Enter the password of the schema to be created. Note: If this attribute is left blank, then the password specified in the <PASSWORD>/DEFAULT attribute is applied as the Schema Password.	Optional	The maximum length allowed is 30 characters. Special characters are not allowed.	**Note**: You need to mandatorily enter the password if you have set the <PASSWORD>/ APPLYSAMEFORALL attribute as N.
<SCHEMA>/ APP_ID	By default, the Application ID is seeded based on the Application Pack. **Note**: Do not edit this attribute value.	Mandatory	Unique Seeded Value	Identifies the Application/ Product for which the schema is being created. DO NOT modify this value.
<SCHEMA>/ DEFAULTTABLESPACE	Enter the available default tablespace for DB User. **Note**: If this attribute is left blank, then USERS is set as the default tablespace.	Optional	Default – USERS Permissible – Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.

Tag Name/ Attribute Name	Description	Mandatory/ Optional	Default Value/ Permissible Value	Comments
<SCHEMA>/ TEMPTABLESPACE	Enter the available temporary tablespace for the DB User. **Note**: If this attribute is left blank, then TEMP is set as the default tablespace.	Optional	Default – TEMP Permissible – Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/ QUOTA	Enter the quota to be set on DEFAULTTABLESPACE attribute for the schema/ user. By default, the quota size is set to 500M. Minimum: 500M or Unlimited on default Tablespace	Optional	Example, 600M/m 20G/g UNLIMITED/unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.
<SCHEMA>/ INFODOM	Enter the name of the Information Domain to associate this schema. The schema creator utility automatically derives an Information Domain Name based on the Application Pack if no value is specified for this attribute.	Optional	Permissible length is 16 characters and only alphanumeric characters allowed. No special characters allowed.	

*On successful execution of the utility, the entered passwords in the `OFS_BGRC_SCHEMA_IN.xml` file are nullified.

APPENDIX L Configuring OFSAAI_InstallConfig.XML Files

This section gives details about the OFSAAI_InstallConfig.xml file.

Configuring OFSAAI_InstallConfig.xml file

To configure the OFSAAI_InstallConfig.xml file, follow these steps.

1. Navigate to be OFS_BGRC_PACK\OFS_AAI\conf
2. Open the file OFSAAI_InstallConfig.xml in text editor.
3. Configure the OFSAAI_InstallConfig.xml as mentioned in the below table:
4. You need to manually set the InteractionVariable parameter values as mentioned in the table.
5. If a value is not applicable, enter **NA** and ensure that the value is not entered as NULL.

Table 1: Interaction Variable Name

InteractionVariable Name	Significance and Expected Value	Mandator
<Layer name="GENERAL">		
WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA Infrastructure web components would be deployed. The below numeric value should be set depending on the type: ● Apache Tomcat = 1 ● IBM WebSphere Application Server = 2 ● Oracle WebLogic Server = 3 For example, `<InteractionVariable name="WEBAPPSERVERTYPE">3</Interaction-Vari able>`	Yes

DBSERVER_IP	Identifies the hostname or IP address of the system on which the Database Engine is hosted.
	Note: For RAC Database , the value should be NA.
	For example, `<InteractionVariable name="DBSERVER_ IP">14.15.16.17</Interac-tionVariable> or`
	`<InteractionVariable name="DBSERVER_ IP">dbhost.server.com</InteractionVari-able`
	`>`
		Yes

ORACLE_SID/SERVICE_ NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME Note: The Oracle_SID value should be exactly the same as it is mentioned in JDBC_URL. For example, <InteractionVariable name="ORACLE_SID/SERVICE_ NAME">ofsaser</InteractionVariable>	Yes

ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (`ojdbc<version>.jar`) exists. This would typically be the
	`$ORACLE_HOME/jdbc/lib`
	For example, `<InteractionVariable name="ABS_DRIVER_ PATH">">/oradata6/revwb7/oracle`
	`</InteractionVariable>`
	Note: Refer APPENDIX O for identifying the
	correct "ojdbc<version>.jar" version to be copied
		Yes

Table 1: Interaction Variable Name

OLAP_SERVER_ IMPLEMEN-TATION	Identifies if the OFSAA Infrastructure OLAP component needs to be configured depending on whether you intend to use the OLAP feature. The below numeric value should be set depending on the choice: ● YES - 1 ● NO - 0	No
Note: If value for OLAP_SERVER_IMPLEMENTATION is set to 1, it checks for following environment variables are set in .profile: ARBORPATH, HYPERION_HOME and ESSBASEPATH.		
SFTP_ENABLE	Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The below numeric value should be set depending on the choice: ● SFTP - 1 ● FTP - 0	Yes
Note: The default value set is 1 as this release of the OFSAA Infrastructure mandates the SFTP service be up and running on the system where OFSAA Infrastructure would be installed.		
FILE_TRANSFER_PORT	Identifies the port used for the file transfer service. The default value specified is 22 (SFTP). Specify value as 21 or any other PORT value if value for SFTP_ENABLE is 0. For example, `<InteractionVariable name="FILE_TRANSFER_ PORT">21</InteractionVariable>`	Yes
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English. For example, `<InteractionVariable name="LOCALE">en_US</InteractionVariable>`	Yes
Note: The below ports are used internally by the various OFSAA Infrastructure services. The default values mentioned below are set in the installation. If you intend to specify a different value, update the parameter value accordingly and ensure this port value is in the range of 1025 to 65535 the respective port is enabled.		
JAVAPORT	9999	Yes
NATIVEPORT	6666	Yes
AGENTPORT	6510	Yes
ICCPORT	6507	Yes
ICCNATIVEPORT	6509	Yes
OLAPPORT	10101	Yes

Table 1: Interaction Variable Name

MSGPORT	6501	Yes
ROUTERPORT	6500	Yes
AMPORT	6505	Yes
Note: If value for HTTPS_ENABLE is set to 1, ensure you have a valid certificate available from a trusted CA and the same is configured on your web application server.		
HTTPS_ENABLE	Identifies if the UI should be accessed using HTTP or HTTPS scheme. The default value set is 0. The below numeric value should be set depending on the choice: Yes -1 No - 0 For example, `<InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable>`	Yes
WEB_SERVER_IP	Identifies the HTTP Server IP/ Hostname or Web Application Server IP/ Hostname, to be used for accessing the UI. This IP would typically be the HTTP Server IP. If no separate HTTP Server is available, the value should be Web Application Server IP/Hostname. For example, `<InteractionVariable name="WEB_SERVER_ IP">10.11.12.13</InteractionVariable>` or `<InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable>`	No
WEB_SERVER_PORT	Identifies the Web Server Port. This would typically be 80 for non SSL and 443 for SSL. If no separate HTTP Server exists, the value should be the port configured for Web Server. Note: The port value will not be accepted as 80 if HTTPS_ENABLEis 1 and as 443, if HTTPS_ENABLEis 0. For example, `<InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>`	No

Table 1: Interaction Variable Name

CONTEXT_NAME	Identifies the web application context name which will be used to built the URL to access the OFSAA applications. The context name can be identified from a URL as below: `<scheme>://<host>:<port>/<context-name>/lo gin.jsp` Sample URL: https://myweb:443/ofsaadev/login.jsp For example, `<InteractionVariable name="CONTEXT_ NAME">ofsaadev</InteractionVariable>`	Yes

WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded .ear file on the web application server.
	For Tomcat, specify the Tomcat directory path till
	/webapps, such as
	`/oradata6/revwb7/tomcat/webapps/.`
	For WebSphere, enter the WebSphere path as
	`<WebSphere profile directory>/installedApps/`
	`<NodeCellName>. For example,`
	`/data2/test//WebSphere/AppServer/profiles/`
	`<Profile_`
	`Name>/installedApps/aix-imfNode01Cell`. Where aix-imf is Host name.
	For WebLogic, provide the WebLogic home directory path as /<WebLogic home directory path>/bea/wlserver_10.3
		Yes

WEB_LOCAL_PATH	Identifies the absolute path to any directory on the web application server that can hold temporary files being uploaded as part of the applications usage. Note: In case of a clustered deployment, ensure this path and directory is same on all the nodes.	Yes

Table 1: Interaction Variable Name

WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain Home. Specify the value only if WEBSERVERTYPE is set as 3 (WebLogic). For example, `<InteractionVariable name="WEBLOGIC_DOMAIN_ HOME">/home/weblogic/bea/user_ proj-ects/domains/mydomain </InteractionVariable>`	No
OFSAAI_FTPSHARE_ PAT H	Identifies the absolute path to the directory identified as file system stage area. **Note:** ● The directory should exist on the same system on which the OFSAA Infrastructure is being installed (can be on a separate mount). ● The user mentioned in APP_SFTP_USER_ID parameter below should have RWX permission on the directory. For example, `<InteractionVariable name="APP_FTPSHARE_ PATH">">/oradata6/revwb7/ftpshare</Int`	Yes
OFSAAI_SFTP_USER_ ID	Identifies the user who has RWX permissions on the directory identified under parameter APP_ FTPSHARE_PATH above.	Yes

APPENDIX M Deploying Operational Risk Dashboards Analytics

This Appendix covers following topics:

- Managing OBIEE Activities
- Deploying Operational Risk Report Analytics
- Security Settings for ORA

Managing OBIEE Activities

This section covers following topics:

- Installing OBIEE Server
- Installing OBIEE Windows Administration Client

Installing OBIEE Server

To install Oracle Business Intelligence Enterprise Edition (OBIEE) server, refer to Oracle Fusion Middleware Installation Guide for Oracle Business Intelligence11g Release 1 (11.1.1). After installing Oracle Business Intelligence Enterprise Edition (OBIEE) server, get the Enterprise Manager URL, username, password, and OBIEE installed directory from the System Administrator.

Note: Once the OBIEE server is installed, it should be upgraded to the version as mentioned in the Environment section.

Installing OBIEE Windows Administration Client

To install OBIEE repository administration client for Windows machine, refer to Oracle® Fusion Middleware Installation Guide for Oracle Business Intelligence11g Release 1 (11.1.1).

Disabling the Cache Feature in OBIEE Server

Login to Enterprise Manager, and perform the following steps:

1. Click **Business Intelligence** folder from left hand side menu and select **coreapplicaiton.**

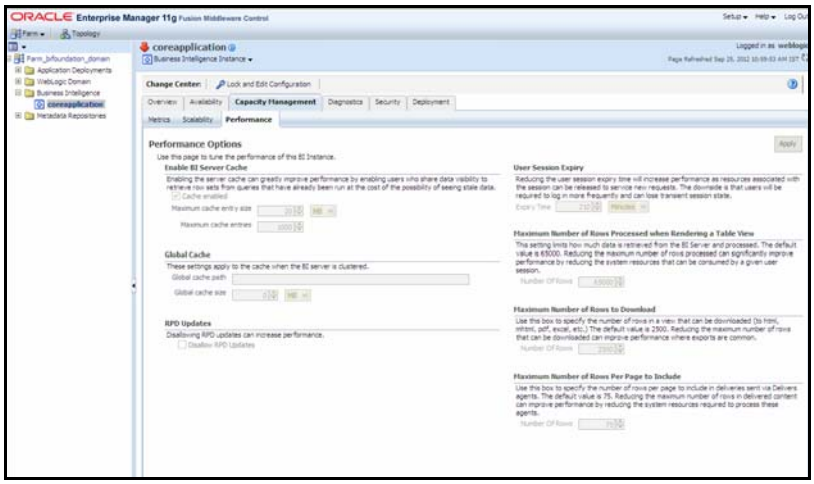

Figure 1. OBIEE Windows Administration Screen to Disable the Cache

2. Click on **Capacity Management** tab.
3. Select **Performance** tab.
4. Click **Lock** and **Edit** Configuration tab.
5. Uncheck the **Cache Enabled** option to disable the cache.

Deploying Operational Risk Report Analytics

To deploy Analytic Reports, follow these steps:

1. Stop Oracle Process Manager and Notification Server (OPMN) services by executing the following command:

   <OBIEE Installed Directory>/instances/instance1/bin

   ./opmnctl stopall

2. Copy GRC.rpdfrom $FIC_HOME/OBIEE/Repository of Web layer to windows machine where the OBIEE windows administration client is installed.
3. To change the default password for the repository, follow these steps:
   a. Open the repository using OBIEE Windows administration client.

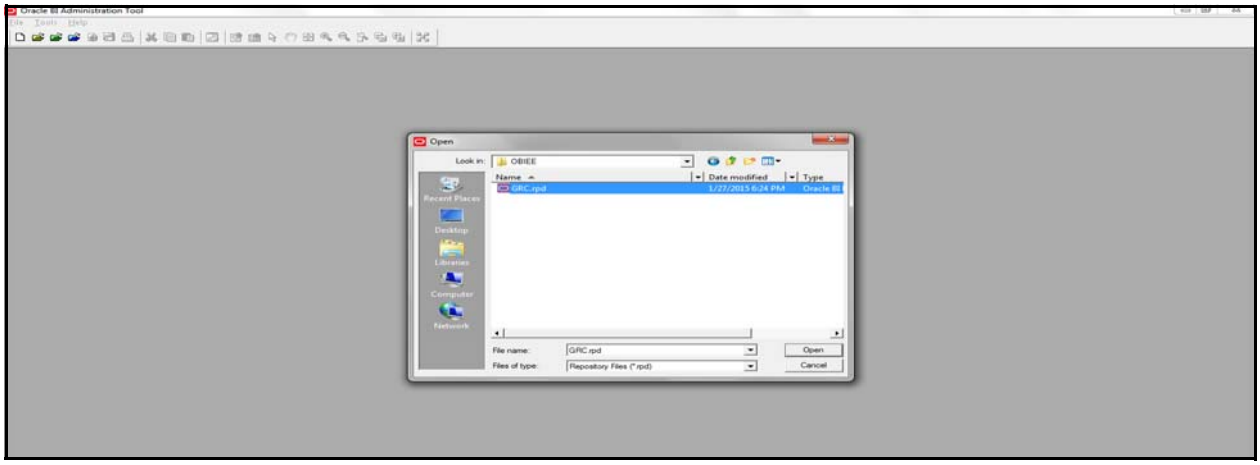

Figure 2. OBIEE Windows Administration Client to Open Repository

   b. Select GRC. rpd

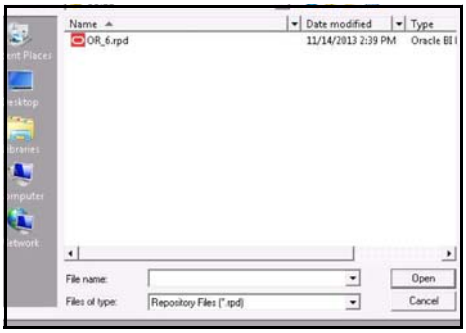

Figure 3. OBIEE Windows Administration Client to Select Repository from Windows Machine

   c. Select OR_rpd. OBIEE windows Administration Client to enter Repository Default Password is dsplayed.

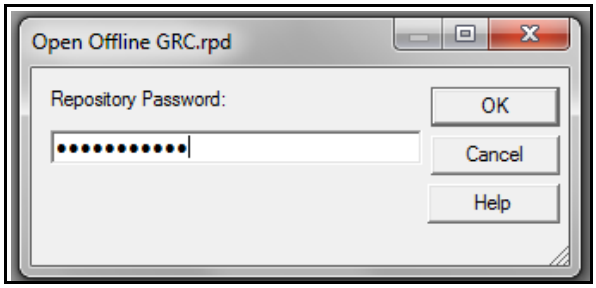

Figure 4. OBIEE Windows Administration Client to Select Repository from Windows Machine

d. Enter default repository password as password123**.** The Administration Console is displayed.

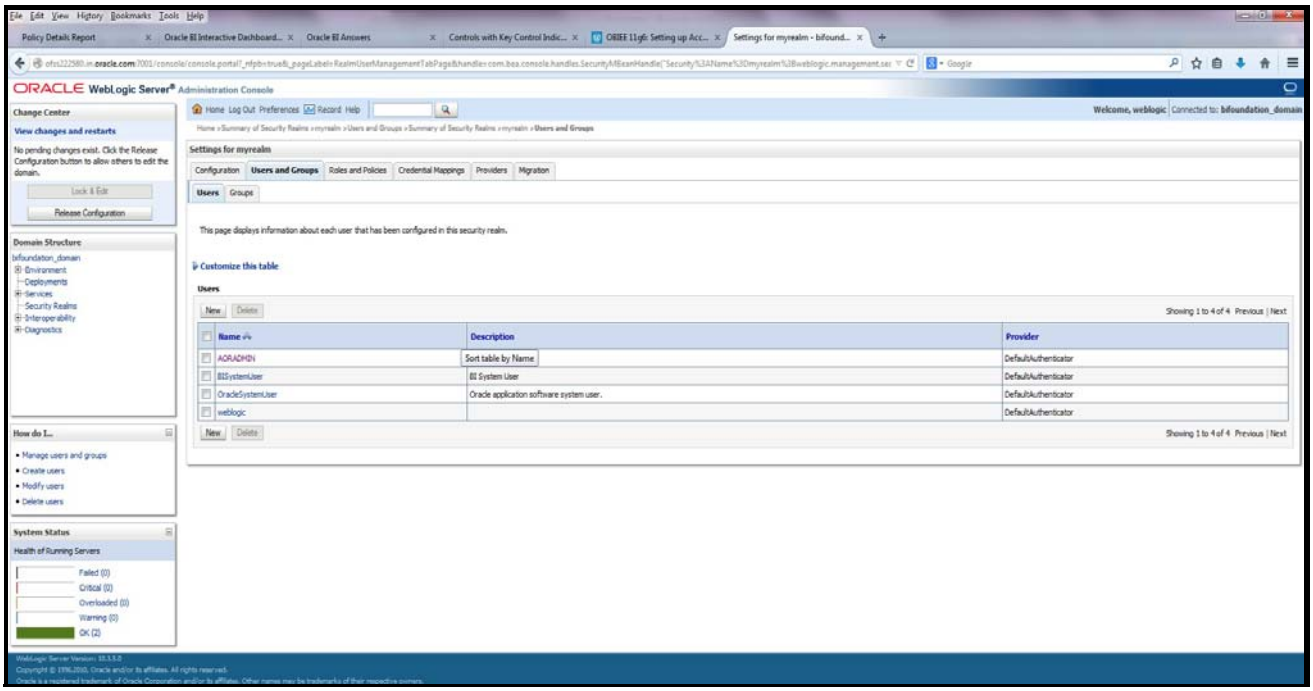

Figure 5. Administration Console

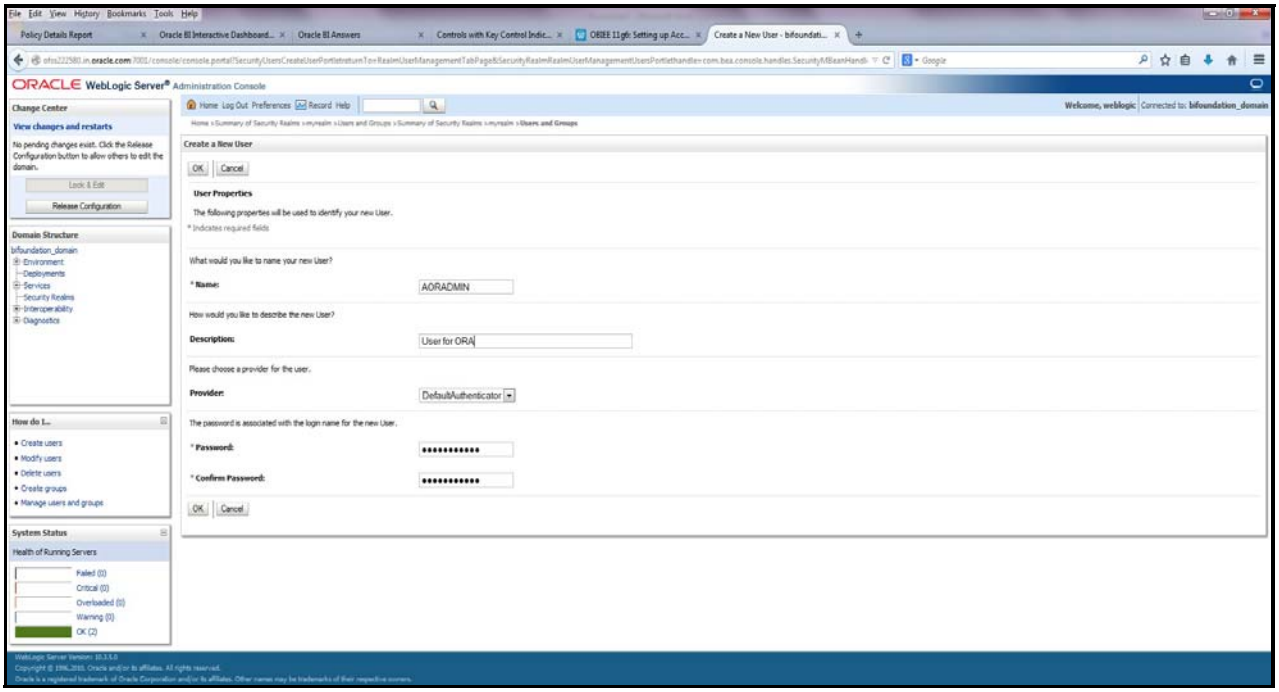

Figure 6. New User Creation Screen

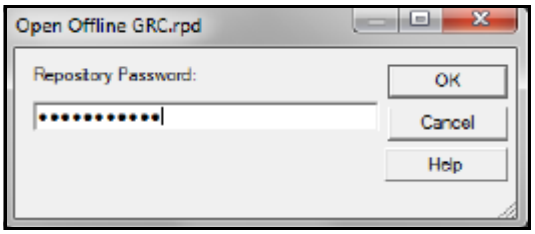

Figure 7. OBIEE windows Administration Client to enter Repository Default Password

e. Click **File** menu, select **Change Password**.

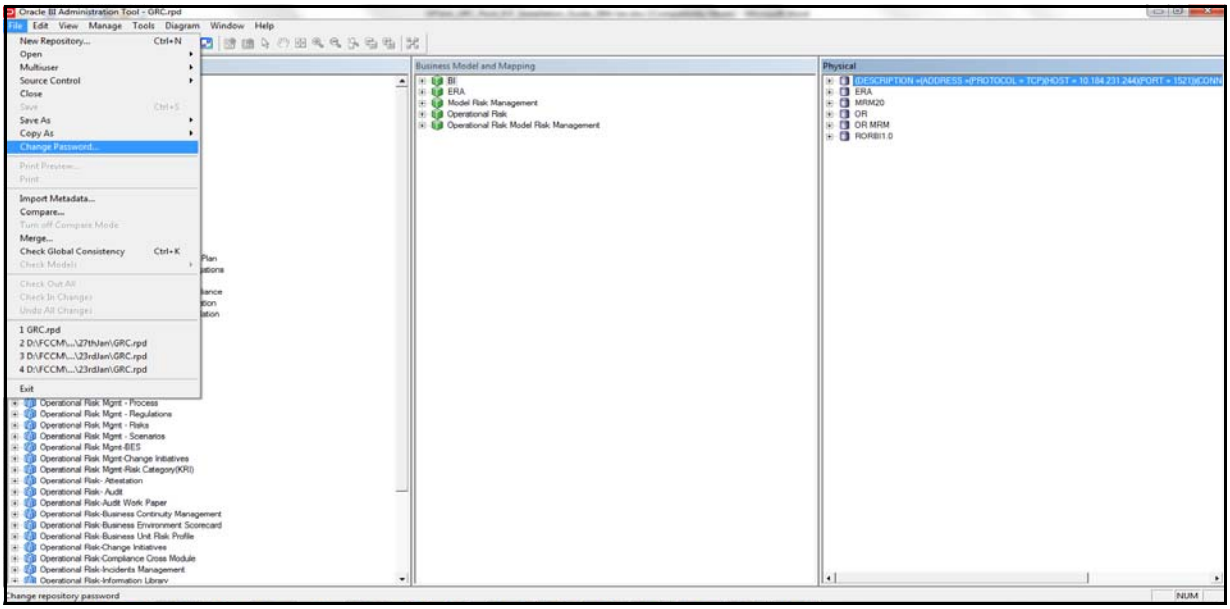

Figure 8. OBIEE Windows Administration Client to Change the Password of Repository

4. Enter the new password. Click **OK**.
5. To configure connection pool of repository, follow these steps:
    a. In the physical section, expand OR folder.

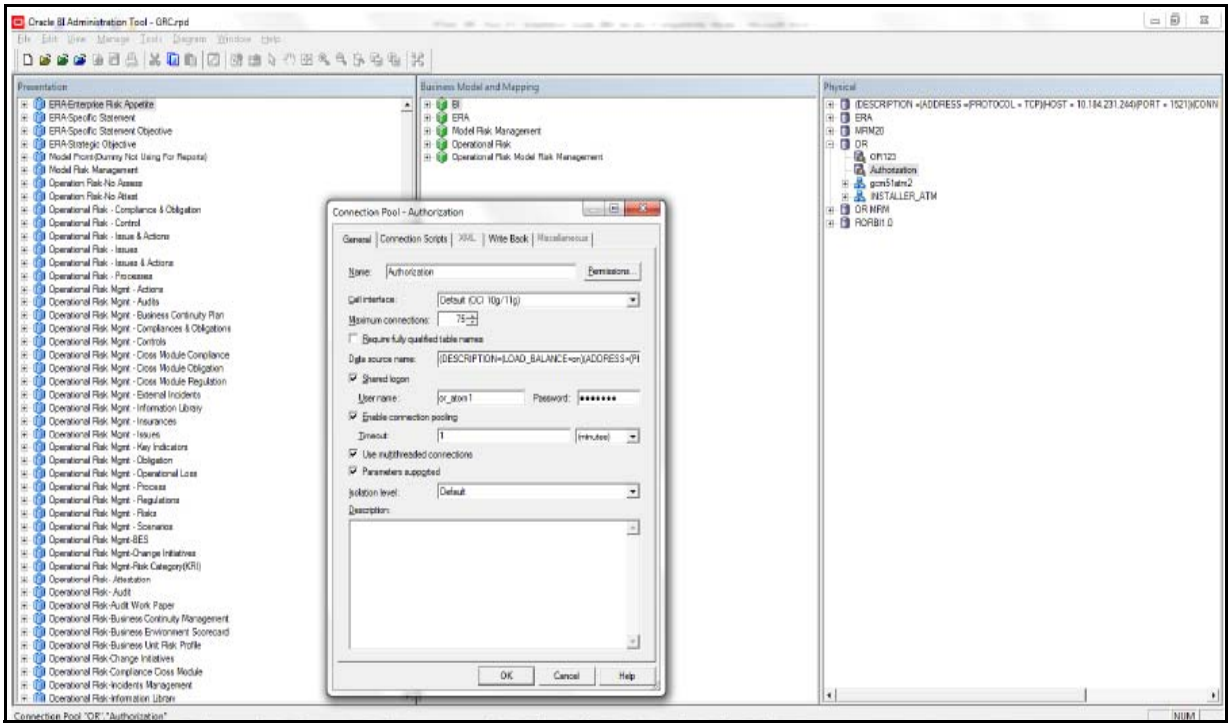

Figure 9. OBIEE Windows Administration Client to Open Connection Pool Window

b. Double-click **Authorization** *Connection Pool* to open the Connection Pool Properties window.

c. Enter the following in *Data Source Name* text box of Connection Pool Properties window after modifying <Database Server Host Name> and <Database Name>

```
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=<Database Server Host Name>)(PORT=1521))(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAME=<Database Name>)))
```

d. Enter atomic schema user in **User name** text box.

e. Enter atomic schema user password in **Password** text box.

f. Click **OK**.

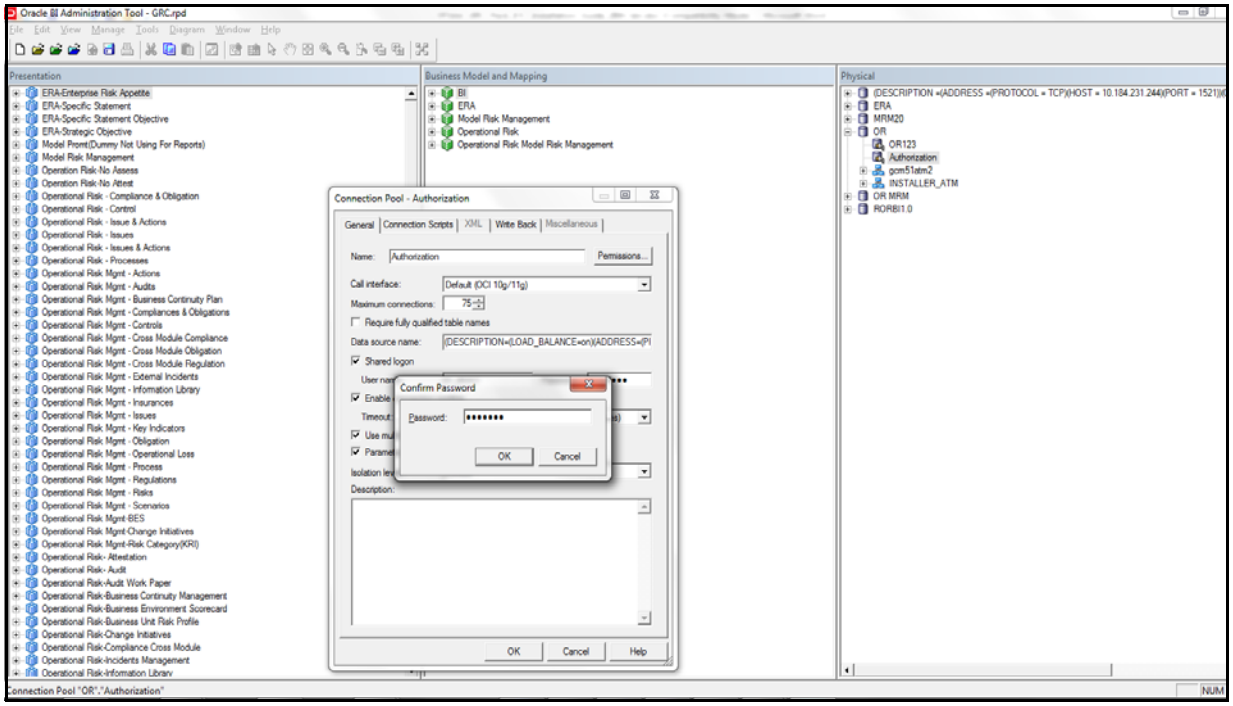

Figure 10. OBIEE Windows Administration Client to modify Connection Pool variables

g. Double-click **OR123** to open the Connection Pool window.

h. Enter the following in *Data Source Name* text box of Connection Pool-VAR_CONN_POOL properties window after modifying <Database Server Host Name> and <Database Name>

```
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=<Database Server Host Name>)(PORT=1521))(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAME=<Database Name>)))
```

i. Enter atomic schema user in **User name** text box.

j. Enter atomic schema password in **Password** text box.

k. Click **OK**.

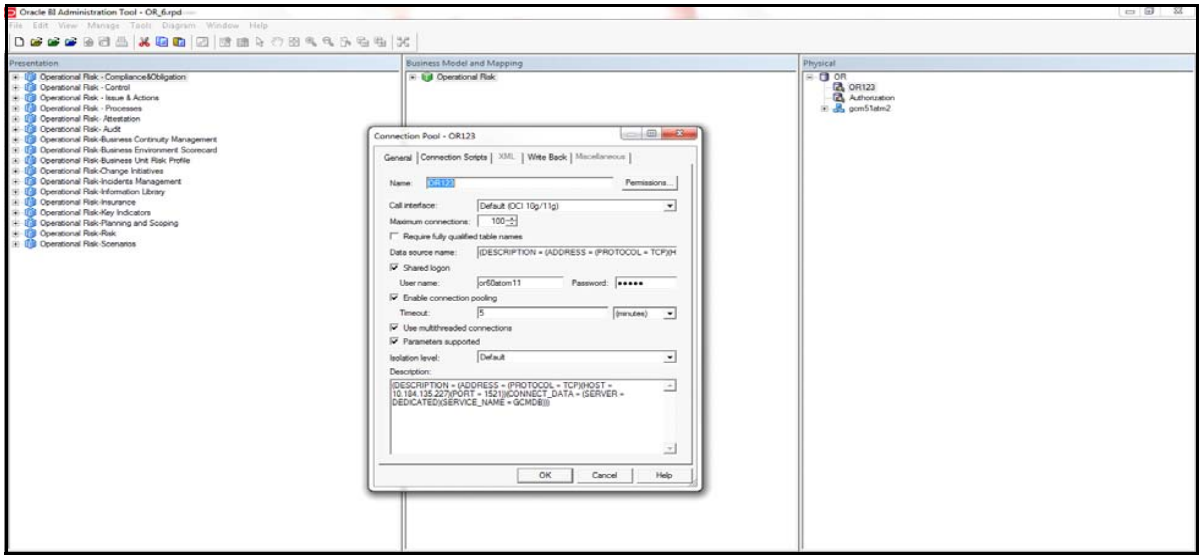

Figure 11. OBIEE Windows Administration Client to modify Connection Pool-VAR_CONN_POOL variables

6. Click **File** menu and then click **Save.**

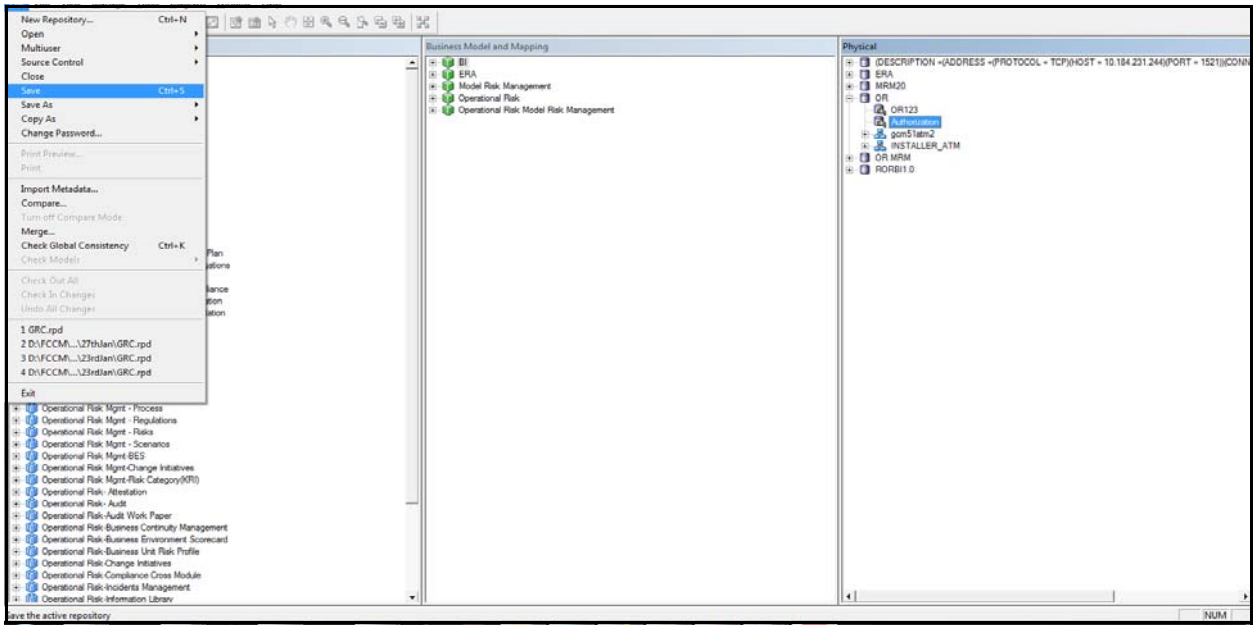

Figure 12. OBIEE Windows Administration Client to save Repository changes

7. Click **Yes** on the pop-up message, *Do you want to check global consistency?*

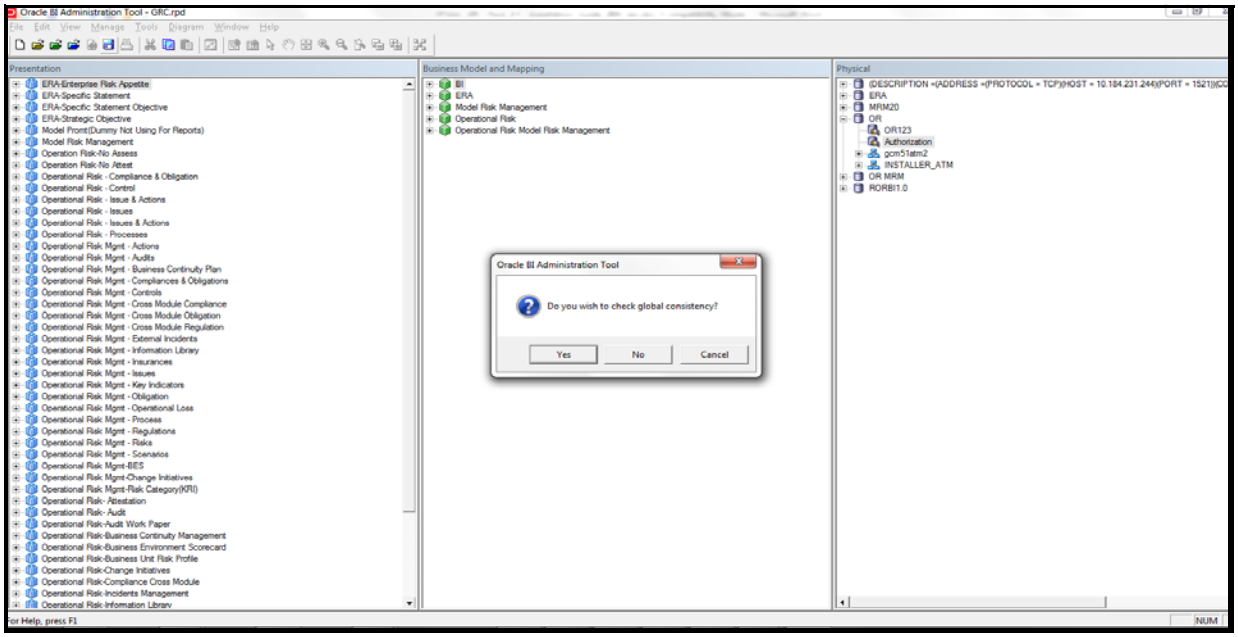

Figure 13. OBIEE Windows Administration Client to check global consistency

8. Click **OK**, on the pop-up message *Consistency check didn't find any errors, warning or best practices violations.*

   Note: Warnings on consistency check can be ignored.

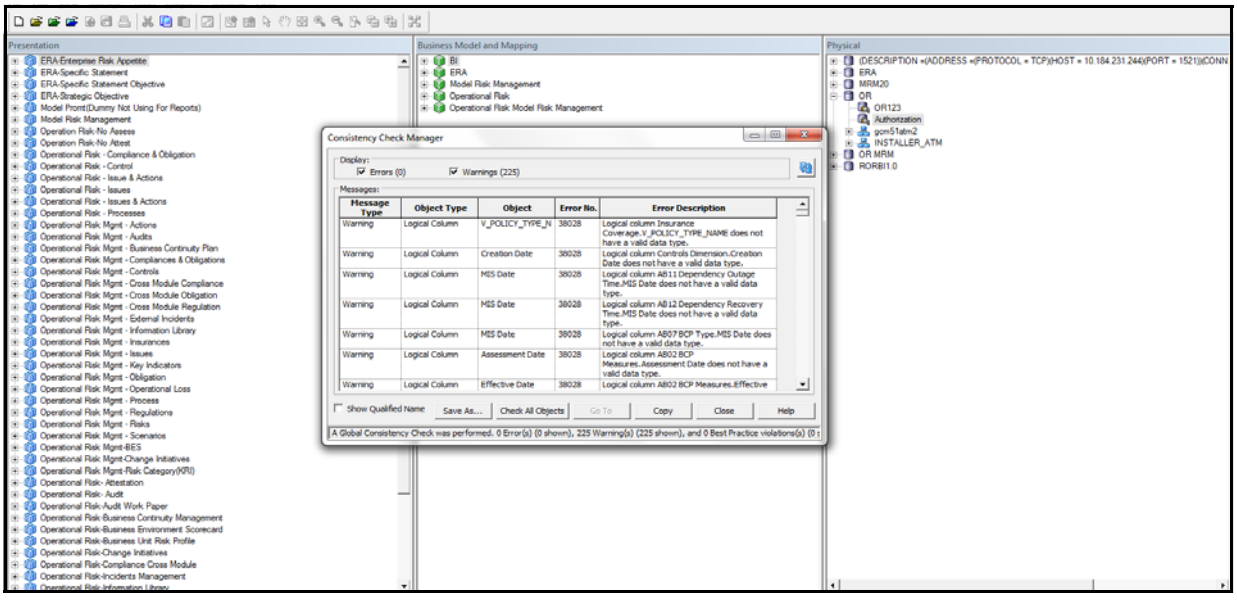

Figure 14. OBIEE Windows Administration Client with global consistency checking message

9. Copy GRC.zipfolder from <FIC_HOME>/OBIEE of Web layer and place under

<OBIEE Installed Directory>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog

10. Unzip the GRC.zipfolder.
11. Login to Enterprise Manager. Click Business Intelligence folder at left hand side. Select coreapplication and then click on **Deployment** tab.
12. Click **Repository** tab.

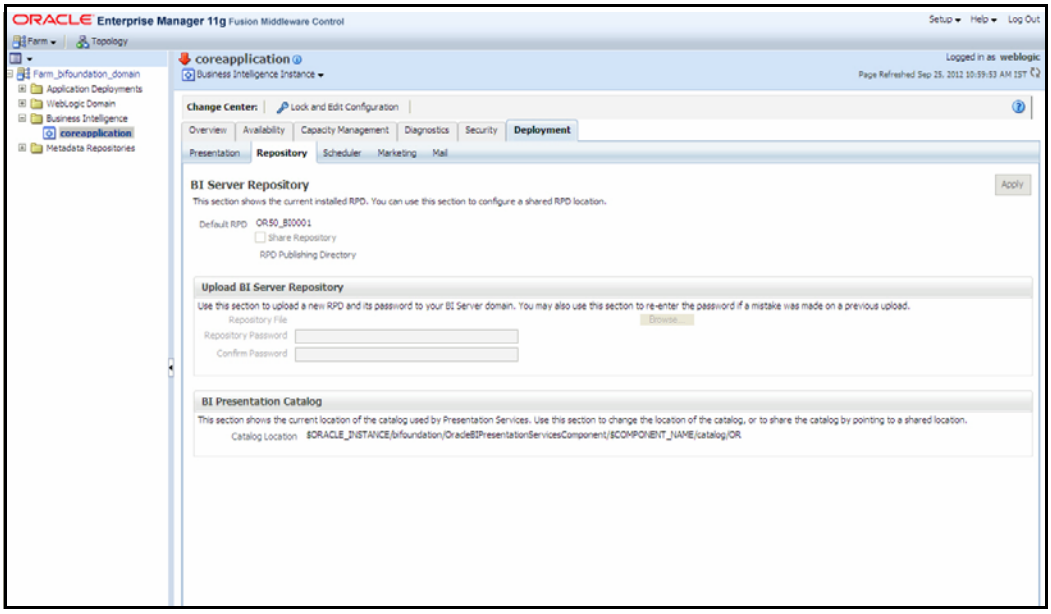

Figure 15. OBIEE Enterprise Manager to deploy Repository

13. Click **Lock and Edit** Configuration. The Lock and Edit Configuration Confirmation window is displayed.

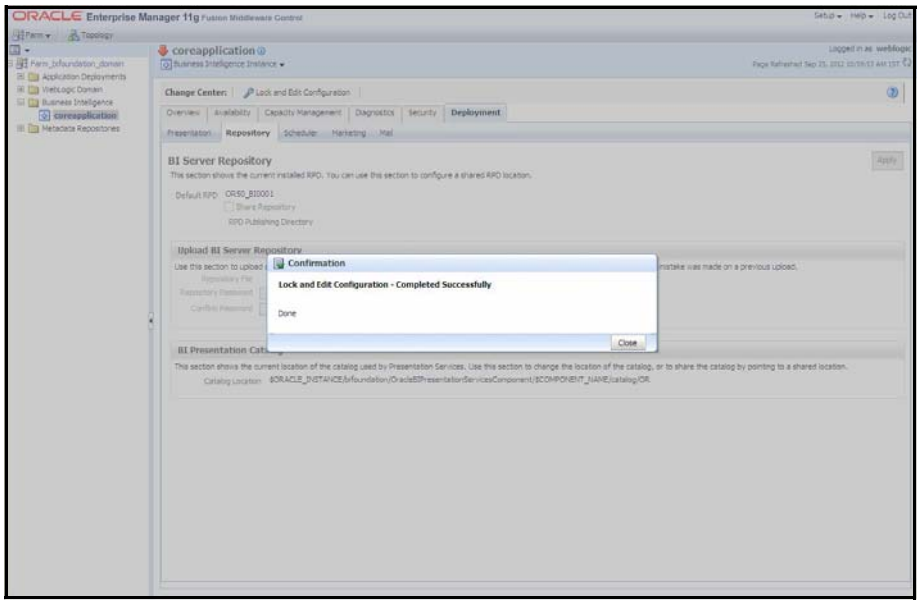

Figure 16. OBIEE Enterprise Lock and Edit Configuration Page

14. Click **Close**.
15. In Upload BI Server Repository section, browse the `0R_6.rpd` file from Windows machine.
16. Enter the new repository password in the text boxes repository password and confirm password.
17. In BI Presentation Catalog section, provide the Catalog Location as `<OBIEE Installed Directory>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog/OR_6`
18. Click **Apply**.
19. Click **Activate Changes**. An Activate Changes Confirmation window is displayed.

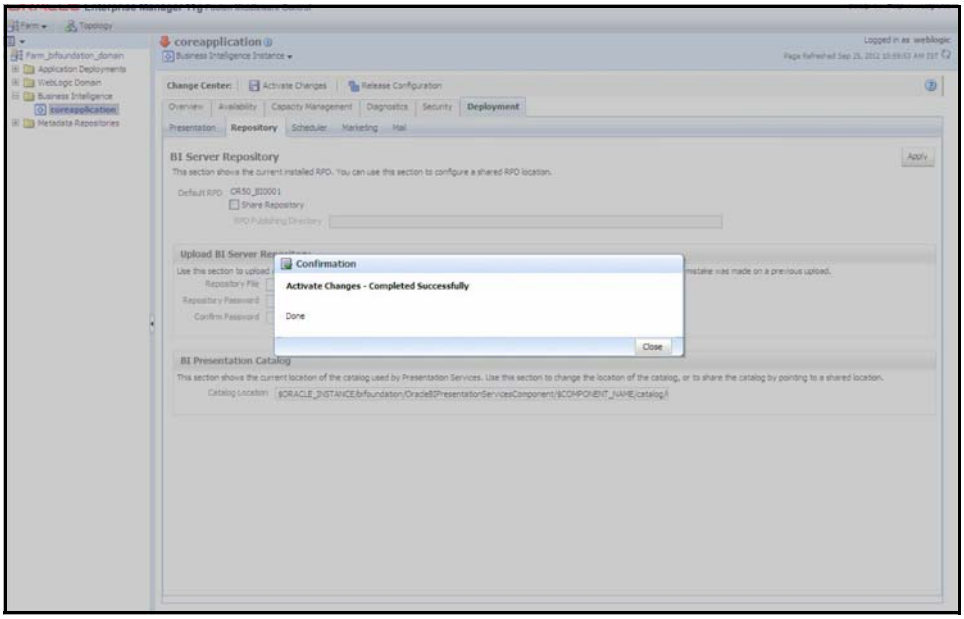

Figure 17. OBIEE Enterprise Activate Changes page

20. Click **Close**.

21. Modify `<OBIEE Installer Directory>/instances/instance1/config/OracleBIPresentationServicesComponent/coreapplication_obips1/instanceconfig.xml` as shown in the following

    From

```
<Security>
<!--This Configuration setting is managed by Oracle Enterprise Manager Fusion Middleware Control-->
<ClientSessionExpireMinutes>210</ClientSessionExpireMinutes>
</Security>
```

    To

```
<Security>
<!--This Configuration setting is managed by Oracle Enterprise Manager Fusion Middleware Control-->
<ClientSessionExpireMinutes>210</ClientSessionExpireMinutes>
<InIFrameRenderingMode>allow</InIFrameRenderingMode>
</Security>
```

22. Modify the<OBIEEInstalled Directory>/OracleBI1/bifoundation/web/app/WEB-INF/web.xml

    From

```
<servlet-mapping>
<servlet-name>RelatedContent</servlet-name>
<url-pattern>/RelatedContent</url-pattern>
```

```
</servlet-mapping>
<login-config>
<auth-method>CLIENT-CERT</auth-method>
</login-config>
```

To

```
<servlet-mapping>
<servlet-name>RelatedContent</servlet-name>
<url-pattern>/RelatedContent</url-pattern>
</servlet-mapping>
<context-param> <param-name>oracle.adf.view.rich.security.FRAME_BUSTING</
param-name>
<param-value>never</param-value>
</context-param>
<login-config>
<auth-method>CLIENT-CERT</auth-method>
</login-config>
Re-start Weblogic
```

23. Start Oracle Process Manager and Notification Server (OPMN) services by executing the following command:
`./opmnctl startall.`
`from <OBIEE Installed Directory>/instances/instance1/bin directory.`

Security Settings for ORA

This section covers following topics:

- Creating New User
- Creating New Group
- Creating Application Roles
- Deleting Group
- Editing Application Role

To set security for ORA, follow these steps:

1. Open http://localhsot:7001/console WebLogic Server 11g.

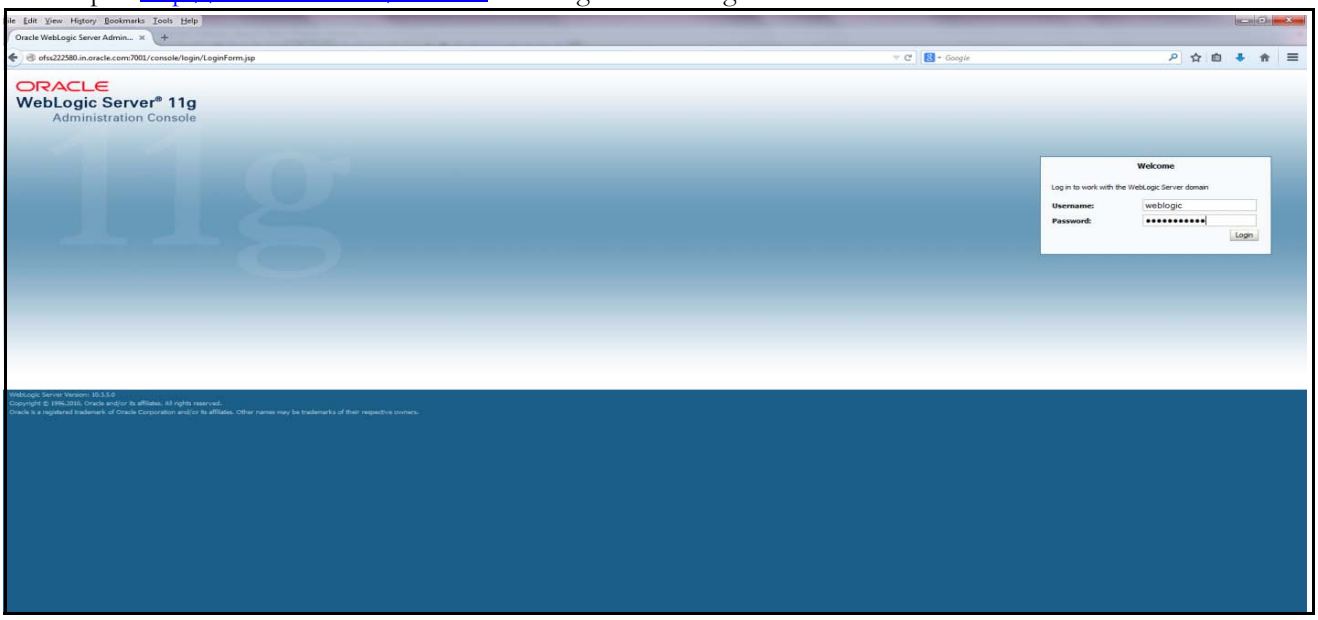

Figure 18. WebLogic Sever Administration Console

2. Login with admin user **weblogic** and password.

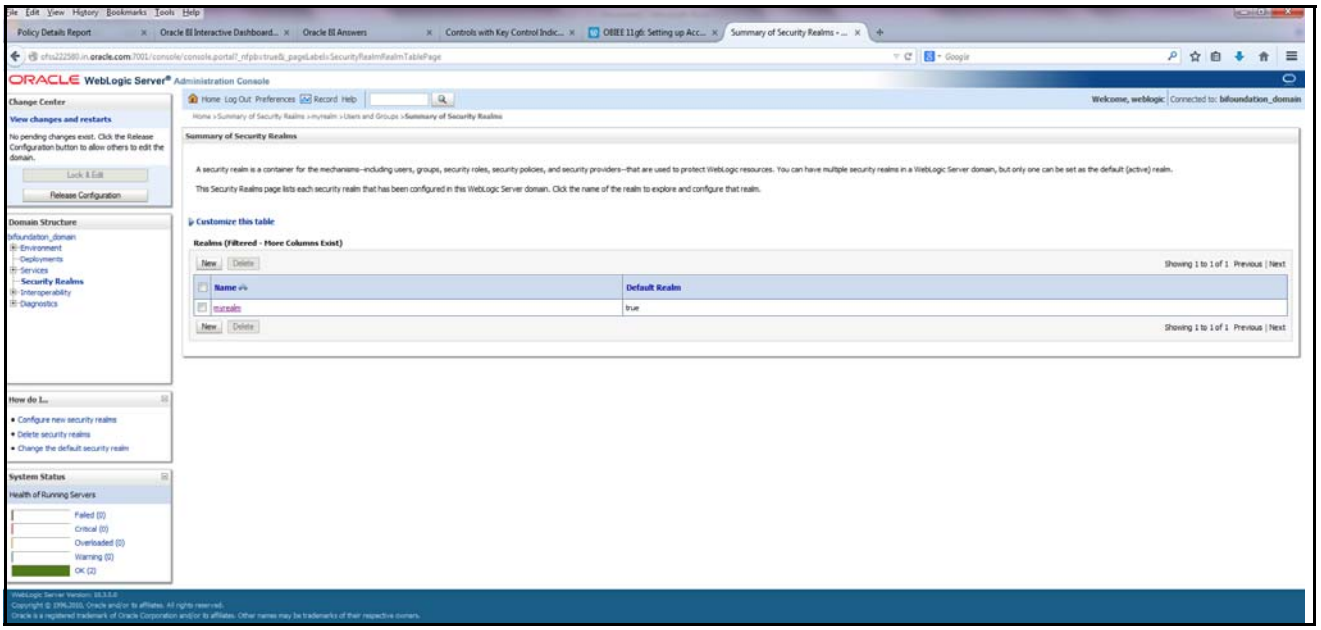

Figure 19. Security Realm Summary Page

3. Go to the **Domain Structure** Pane on the left and select **Security Realms**. The summary of the Security realm details are displayed.

Creating New User

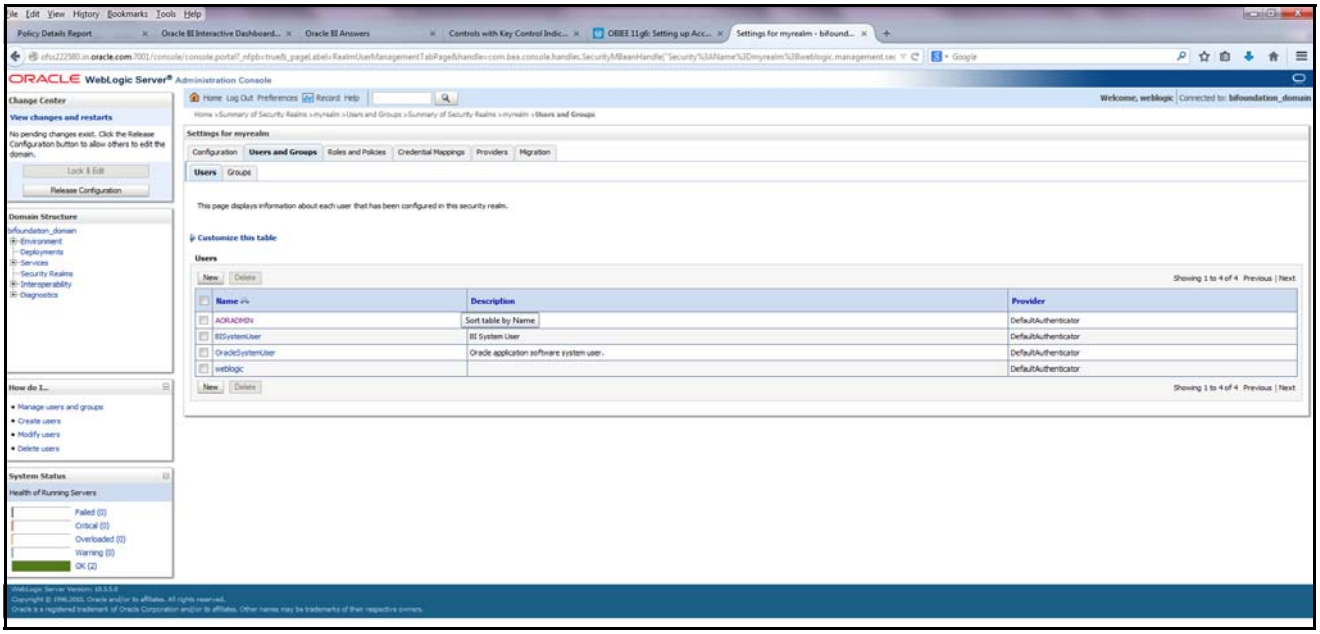

Figure 20. Myrealm Setting

1. Select the **Users and Groups** tab and click the **New** button to create a new user.

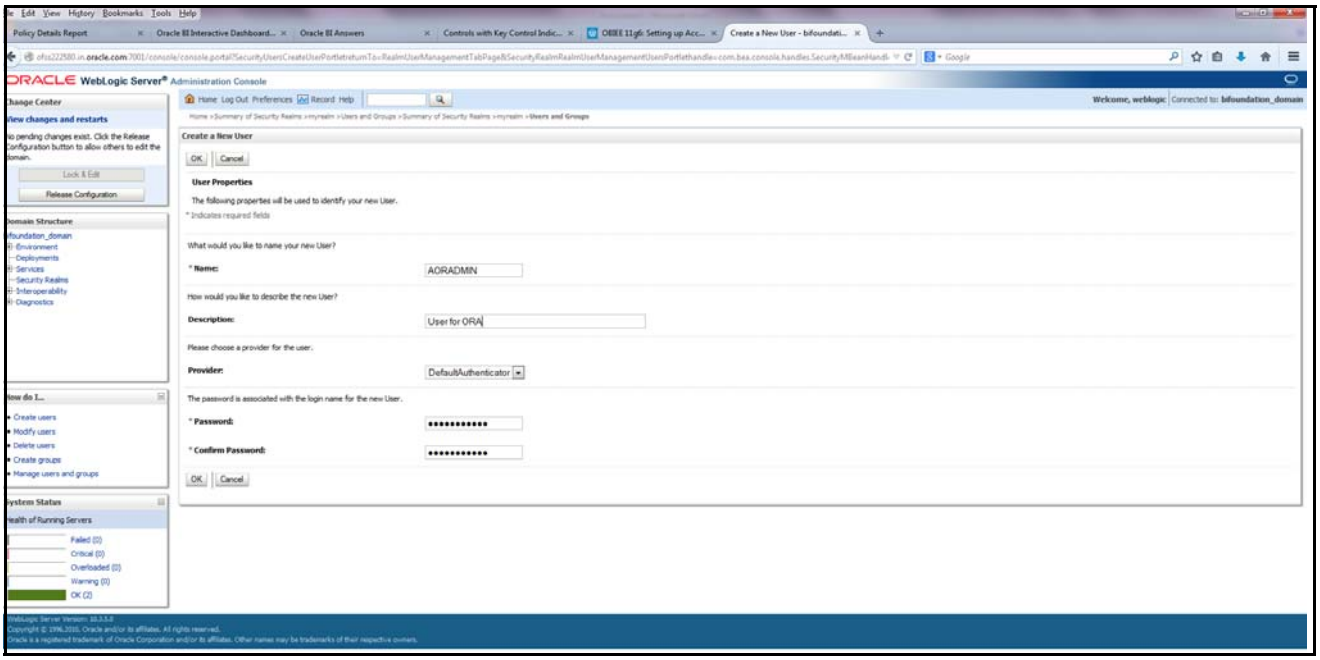

Figure 21. New User Creation Page

2. Enter the following information:

Field	Description
Name	##AOR_USER##
Description	##AOR_USER_DESCRIPTION##
Provider	DefaultAuthenticator
Password	##PASSWORD##
Confirm Password	##PASSWORD##

3. Click **OK** button.

Creating New Group

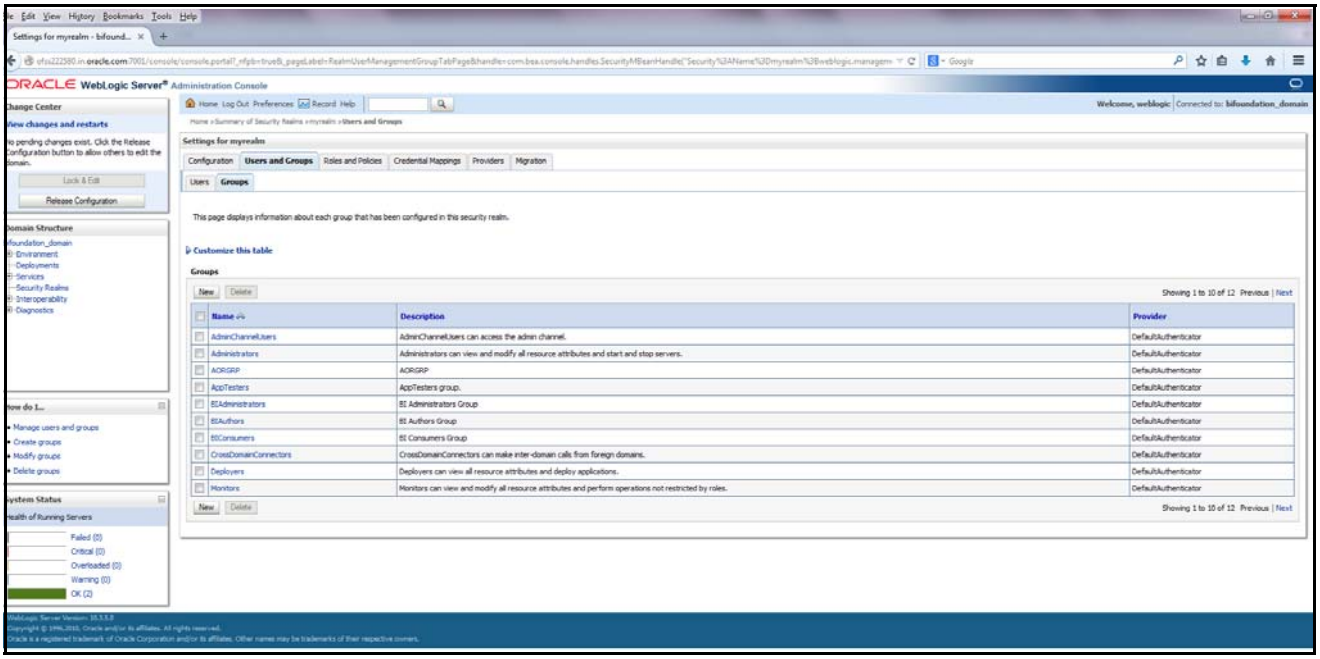

Figure 22. New Group Creation Page

1. Click **Groups** tab, click on the **New** button to create a new group.

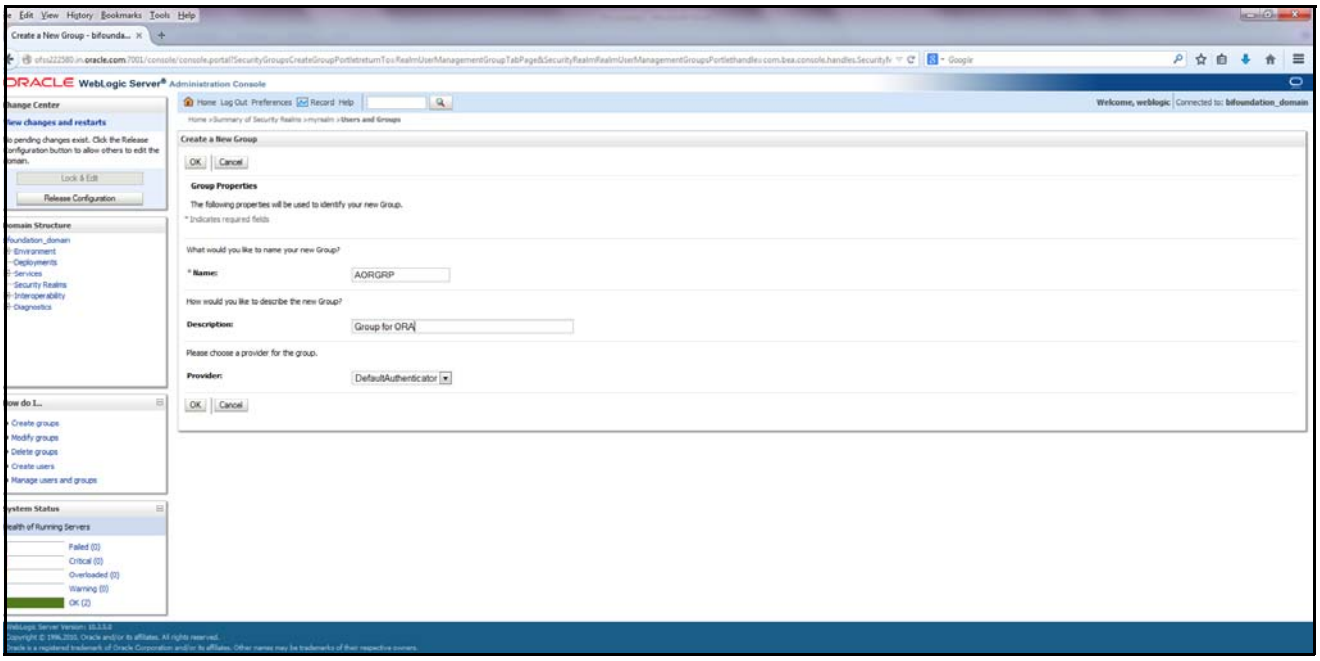

Figure 23. Group Properties

2. Enter the following information:

Field	Description
Name	##AOR_GROUP##
Description	##AOR_GROUP_DESCRIPTION##
Provider	DefaultAuthenticator

3. Click **OK** button.

Creating Application Roles

1. Open the URL: http://localhost:7001/em Enterprise Manager 11g Fusion Middleware Control.

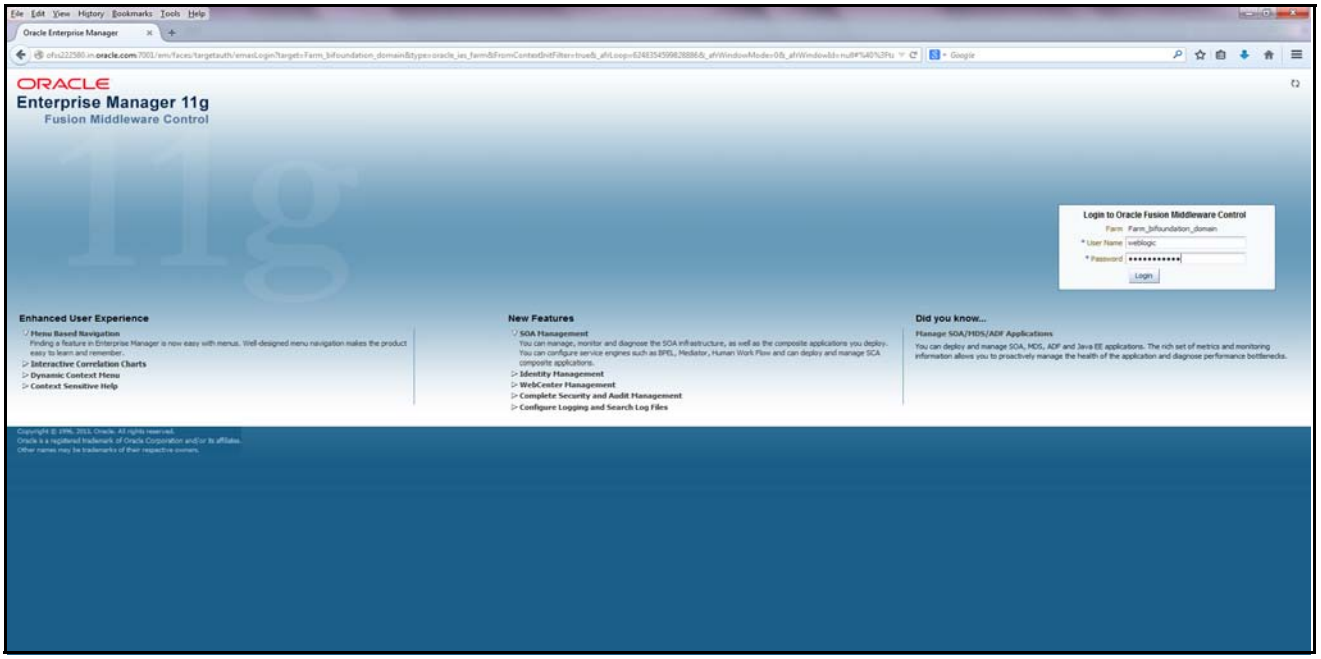

Figure 24. Enterprise Manager Fusion Middleware Control

2. Login with admin user **weblogic** and password.

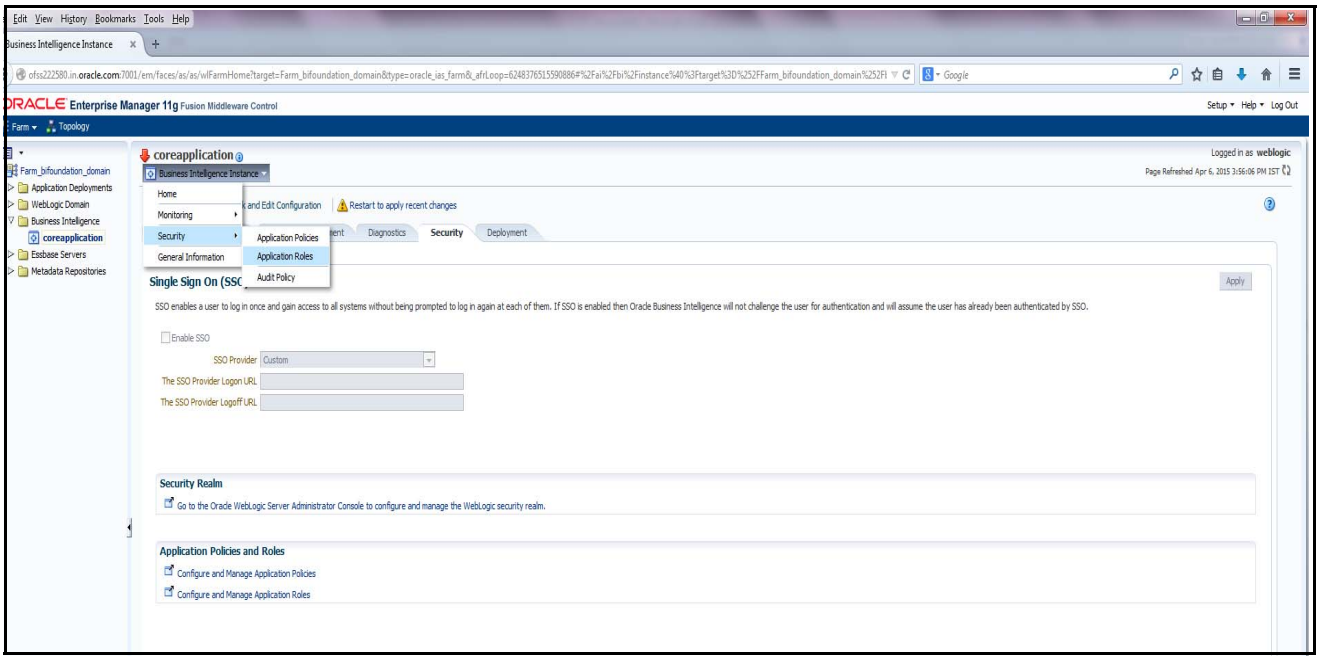

Figure 25. Coreapplication Page

3. In the left pane select Farm_bifoundation_domain, then select **Weblogic Domain**, then select `bifoundation_domain`, right click on **bifoundation_domain** and select **Security**, then click **Application Roles**.

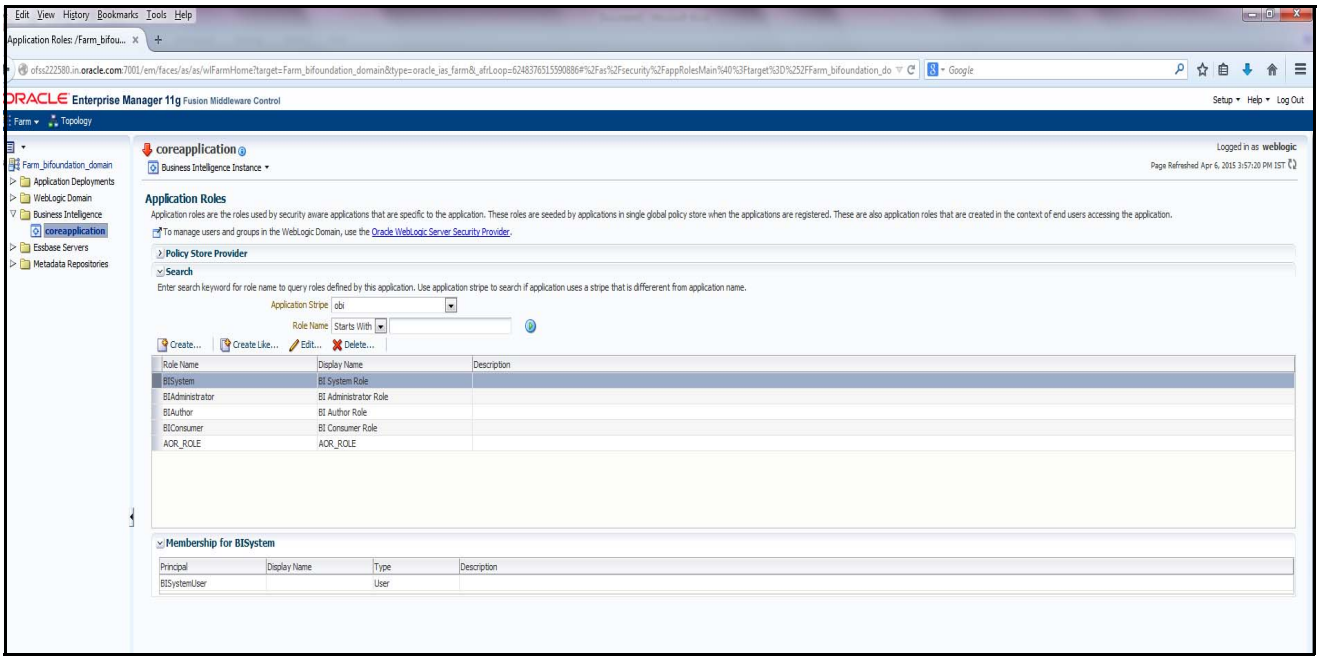

Figure 26. Application Roles Page

4. **Search** section, select **obi** for the **Application Stripe** and click on the blue arrow button to list the Application Roles.

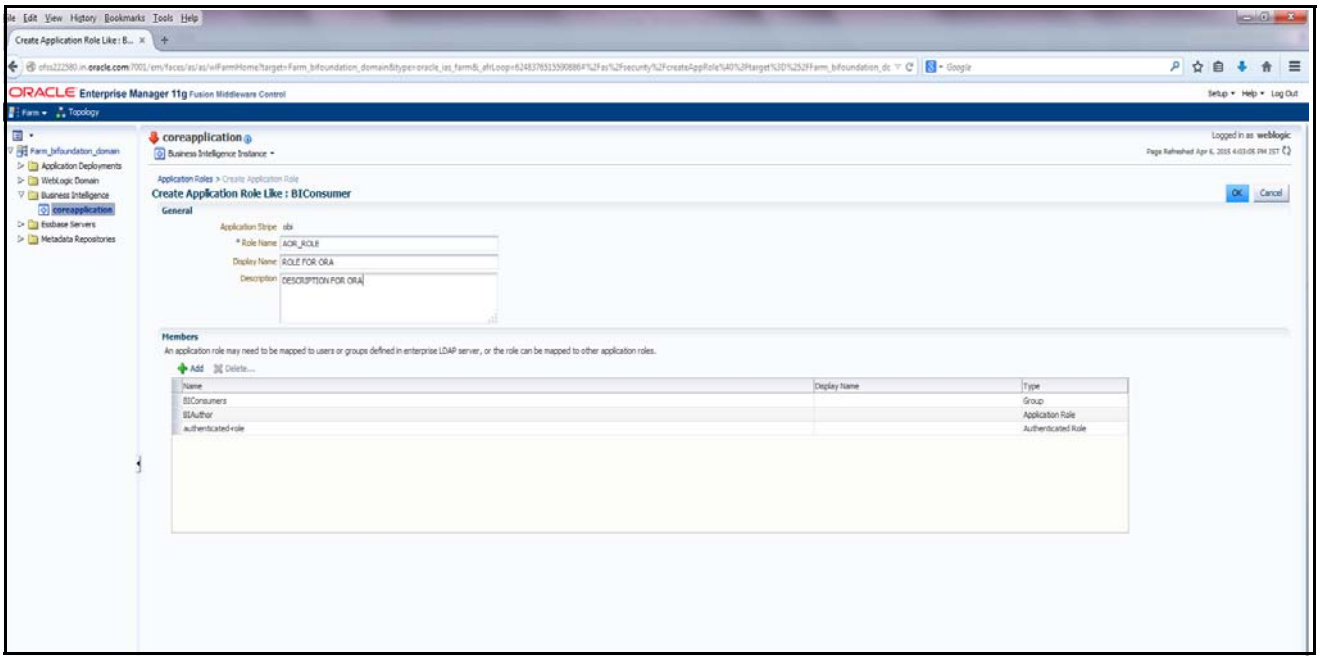

Figure 27. Application Role Creation Page

5. Select the **BIConsumer** Role and click on the **Create Like** link , enter `AOR_ROLE` for the **Role Name**
6. Select `##AOR_ROLE_DISPLAY##` for the **Display Name** field.
7. Click the **OK** button.
8. In the left pane select the Farm_bifoundation_domain select **Weblogic Domain**, then select **bifoundation_domain**, right click on bifoundation_domain and select **Security**, then click **Application Roles**.
9. Navigate to **Search** section select **obi** for the **Application Stripe** and click on the blue arrow button to list the Application Roles.
10. Select the `AOR_ROLE` Application Role and click the **Edit** link.
11. Click the **Add** icon and select **Group** for the **Type** field and click the blue button to list all the groups.
12. Select the `##AOR_GROUP##` group and click the **OK** button to add the group to the **Members**.

Deleting Group

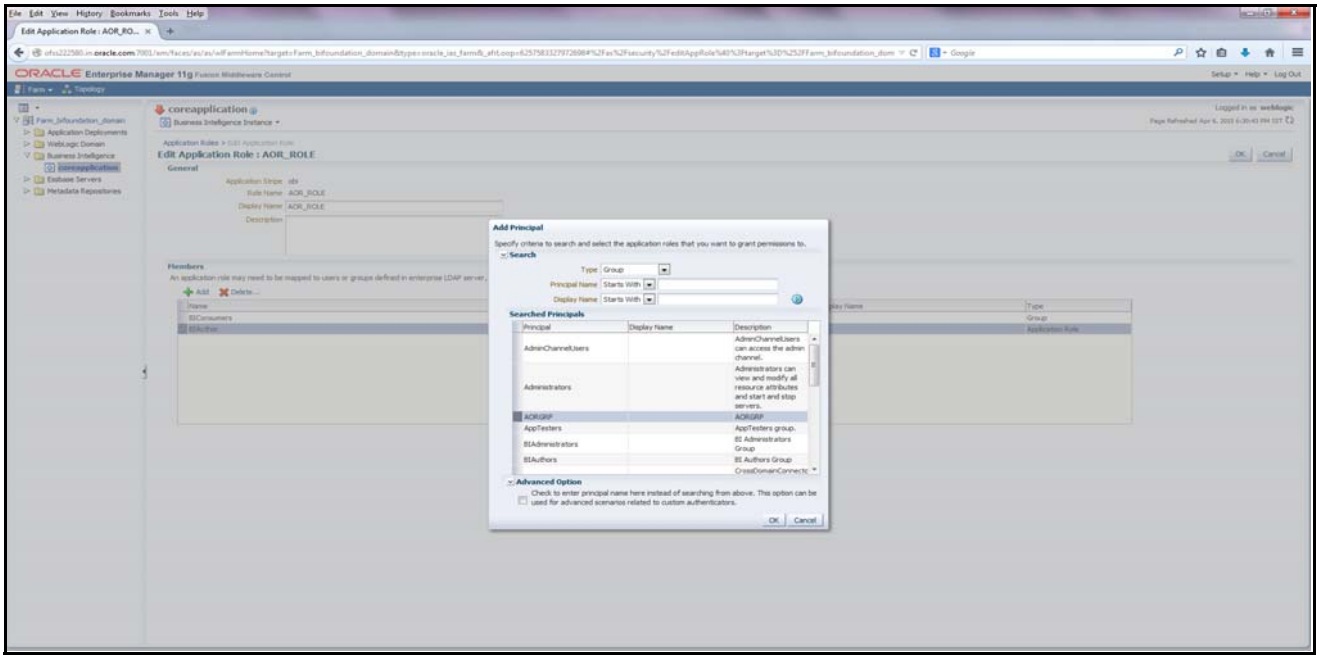

Figure 28. Add Principal Window

Select the authenticated-role and click Delete icon to delete the group from the Members section.

Editing Application Role

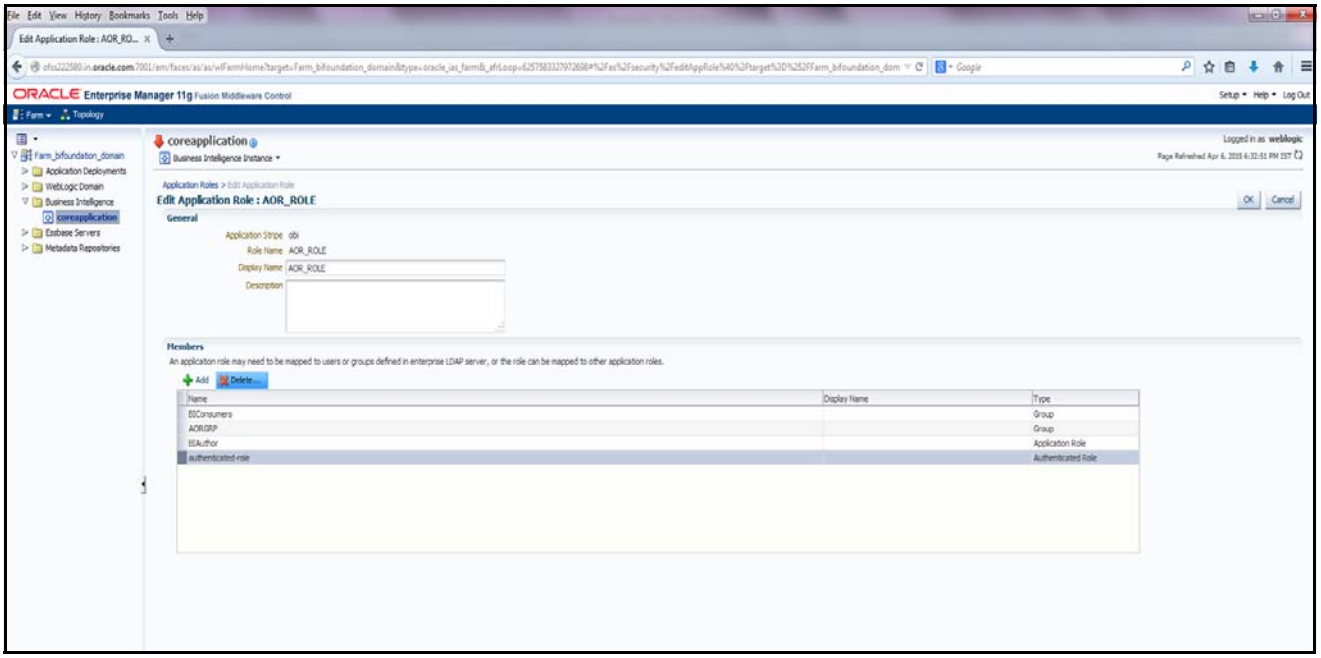

Figure 29. Application Role Edit Page

1. Application role is edited in this page as required.

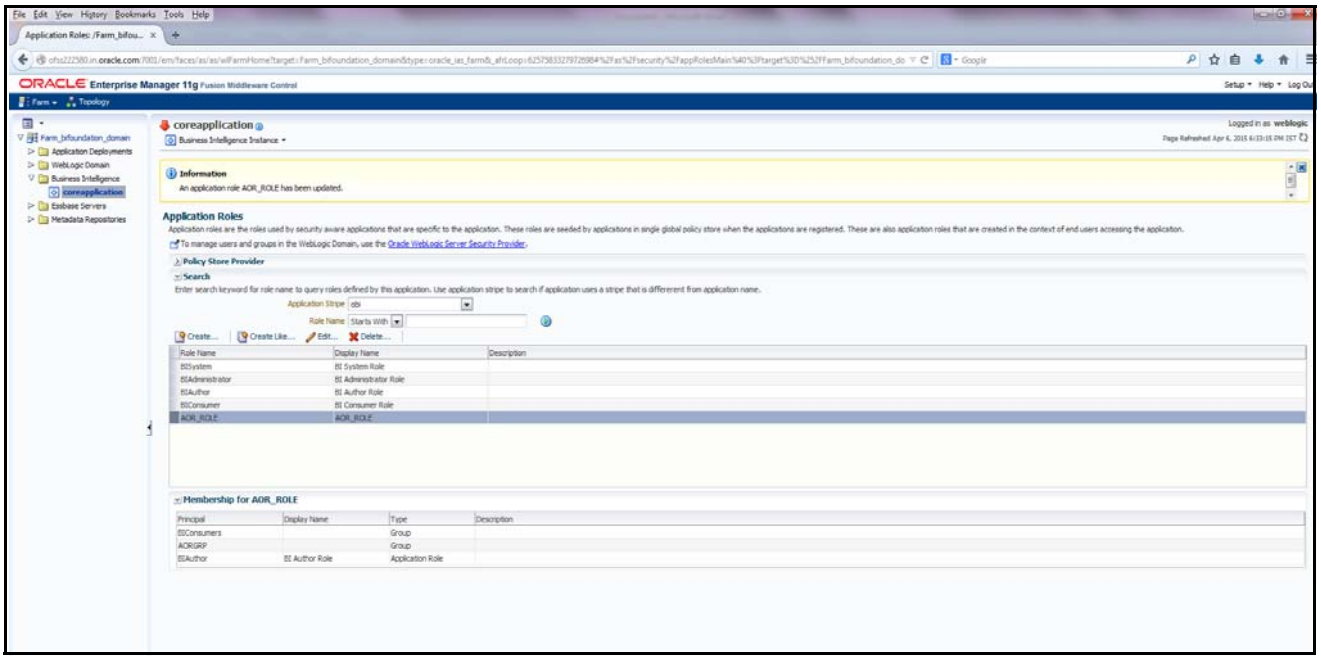

Figure 30. Updated Application Role Page

2. The Application Role page is updated accordingly.
3. Go to the URL : http://localhost:7001/console and login as admin user **weblogic**.
4. Open the **Security Realms** on the left pane and on the right pane select **myrealm**, then select the **Users and Groups** tab.
5. Then select the **Users** tab, click on the user ##AOR_USER## to open the **Setting for ##AOR_USER##** window.
6. Select the **Groups** tab for ##AOR_USER##.
7. Goto the **Parent Group** and select ##AOR_GROUP## and move it to the **Chosen** section.
8. Click the **Save** button.

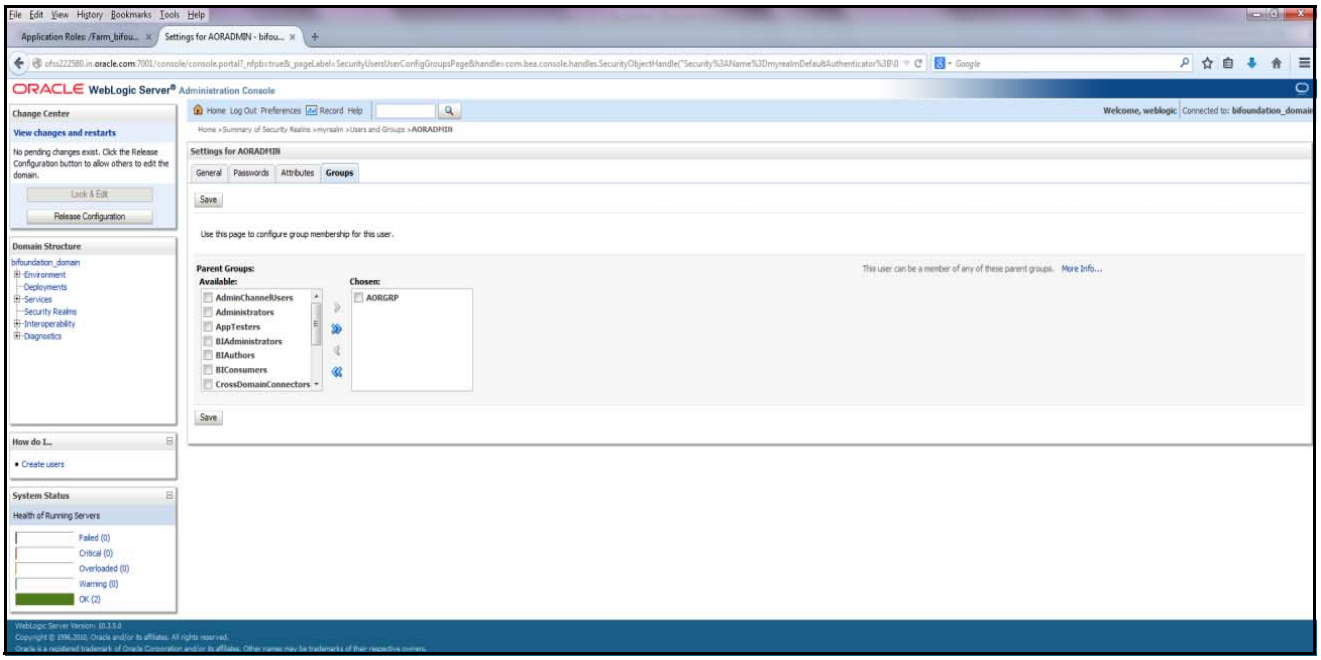

Figure 31. Group Setting Page

9. Use **##AOR_USER##** as User and **##PASSWORD##** as password to login to the analytics link.

Note: All the entries with preceding and trailing '##' are user-defined values.

APPENDIX N Migration To Excel Upload

This appendix provides detailed instructions to migrate for excel upload. This section discusses the following topics:

Pre-requisites

The following are the pre-requistes for migration.

- Data model in ATOMIC schemas should be same on the source and target setups.
- OFS AAI (platform) patch level version should be same on the source and target setups.
- PL/SQL Developer to connect and query the database.
- WinSCP to connect and access server file system.

Migration for Excel Upload

To migrate for excel upload, follow these steps:

1. Open PL/SQL Developer and logon to the source setup's configuration (CONFIG) schema by entering the appropriate username and password.
2. In a new SQL window query the data of table EXCEL_MAPPING_MASTER.
3. Open a new session in PL/SQL developer and logon to the target setup's configuration (CONFIG) schema by entering the appropriate username and password.
4. Insert the records from Step 1 above in to this table.
5. In V_INFODOM column of EXCEL_MAPPING_MASTER table update the infodom name with the target infodom name.

   Note: If all the mappings can work out of the single target Infodom, update same Infodom value across all rows. If only few mappings will work out of the target infodom, update the infodom value for selective records. Kindly note, excel upload mappings will work only if the target infodom has same data model entities as used in the mappings defined on source setup.
6. Update V_CREATED_BY column with the name of any user present in the target setup that has appropriate roles to perform Excel Upload tasks.

   Note: It is mandatory to update values for `V_INFODOM` and `V_CREATED_BY` columns.
7. Open WinSCP and login a new session by entering the host name, port number, user name and password to access the source setup.
8. Navigate to the folder referred as FTPSHARE.
9. Copy the excel-entity mapping xml file(s) which are located in this folder according to their folder structure on to your desktop. For example: /ftpshare /STAGE/ExcelUpload/$SOURCE_INFODOM_NAME/$EXCEL_FILE_NAME.xml

   Note: Actual file name of Excel Sheet is mentioned in the `V_EXCEL_NAME` column of `EXCEL_MAPPING_MASTER table.`

10. Copy the excel templates (.xls/ .xlsx) file(s) which are located in this folder according to their folder structure on to your desktop. For example: `/ftpshare/STAGE/ExcelUpload/TEMPLATE/*.xls or *.xlsx`

    Note: Ignore this step if files are not present at the location.

11. Login a new session in WinSCP by entering the host name, port number, user name and password to access the target setup.

12. Copy the xml file(s) from Step3 to the below location in the target setup. For example:

    `/ftpshare/STAGE/ExcelUpload/$TARGET_INFODOM_NAME/$EXCEL_FILE_NAME.xml`

    Note: `$TARGET_INFODOM_NAME` should be target setup infodom in which you have uploaded the appropriate data model and the name should be same as the `V_INFODOM` column value updated in `EXCEL_MAPPING_MASTER` table.

13. Copy the xls/ xlsx file(s) from Step 3 to the below location in target setup. For example:

    `/ftpshare/STAGE/ExcelUpload/TEMPLATE/*.xls or *.xlsx`

    Note: Ignore this step if files are not present at the location.

APPENDIX O JDBC Jar Files

The `ojdbc<version>.jar` file should be copied based on Database & Java version. Refer to the following table for details.

Table 1: Data base and JAVA Version

Oracle Database version	JDK Version supported	JDBC Jar files specific to the release
12.1 or 12cR1	JDK 7 & JDK 6	ojdbc7.jar for JDK 7 ojdbc6.jar for JDK 6
11.2 or 11gR2	JDK 6 & JDK 5 JDK 7 supported in 11.2.0.3 and 11.2.0.4	ojdbc6.jar for JDK 7 ojdbc6.jar for JDK 6 ojdbc5.jar for JDK 5

APPENDIX P Upgrading an Existing OFSAA 8.0.x Java 7 Instance to Java 8

This Appendix covers following topics:

Prerequisites

The following are the prerequisites for upgrading OFSAA 8.0.x Java 7 instance to Java 8:

- Java 8 should be installed on the OFSAA server and Web Application Server.
- Oracle WebLogic Server should be 12.1.3.0 or above.

Note: IBM WebSphere 8.5.x (Full Profile) on Java 8 is not available.

Upgrading OFSAA 8.0.x Java 7 instance to Java 8

To upgrade OFSAA 8.0.x Java 7 instance to Java 8, follow these steps:

1. Configure Web Application Server to Java 8. For more information, refer Web Application Server Configurations.
2. Configure the OFSAA instance to Java 8. For more information, refer OFSAA Generic Configurations. For a newly installed Web Application Server, refer OFSAA Configurations for New Web Application Server Installation.
3. Restart the OFSAA services. For more information, refer the Start/Stop Infrastructure Services section in APPENDIX D.
4. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, refer APPENDIX C.

Web Application Server Configurations

This section describes the changes to be made in the Web Application Server. Following are the two options to perform Web Application Server Configurations which are listed as follows:

- Upgrade the existing Web Application Server installation to Java 8
- Install a new instance of the Web Application Server with Java 8

This section consists of the following topics:

Oracle WebLogic Server Updates

Perform the following configurations to upgrade the existing WebLogic server instance to Java 8:

1. Navigate to `<WLS_HOME>/Middleware/Oracle_Home/wlserver`.

2. .Edit the `product.properties` file. Set `JAVA_HOME, WLS_JAVA_HOME, JAVAHOME` properties to the new Java path and java.vm.version to the new Java version. For example,

   ```
   JAVA_HOME=/usr/java/jdk1.8.0_45
   WLS_JAVA_HOME=/usr/java/jdk1.8.0_45
   JAVAHOME=/usr/java/jdk1.8.0_45
   java.vm.version=1.8.0_45
   ```

3. Navigate to `<WLS_HOME>/Middleware/Oracle_Home/user_projects/domains/<domain>/bin. Update SUN_JAVA_HOME, DEFAULT_JAVA_HOME, JAVA_HOME in the setDomainEnv.sh` file to point to the new Java path. For example,

   ```
   SUN_JAVA_HOME="/usr/java/jdk1.8.0_45"
   DEFAULT_SUN_JAVA_HOME="/usr/java/jdk1.8.0_45"
   JAVA_HOME="/usr/java/jdk1.8.0_45"
   ```

4. Clear the Application cache. Navigate to the following path and delete the files:

   ```
   <Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>/qaelce/jsp_servlet
   ```

If you wish to install a new instance of the Oracle WebLogic Server, follow these steps:

1. Install Oracle WebLogic Server 12.1.3.x on Java 8.
2. Perform the configurations for the newly installed WebLogic server. For more information refer Configure Resource Reference in WebLogic Application Server.

   Note:

   - While creating WebLogic Domain, the Listen Port should be set same as that of the existing Domain.
   - Note down the new Domain path to perform OFSAA Configurations.

Apache Tomcat Server Updates

Perform the following configurations to upgrade the existing Apache Tomcat Server from Java 7 to Java 8:

1. Login to the Apache Tomcat Server as a non-root user.
2. Edit the user `.profile`. Update the value for JAVA_HOME from JRE 1.7 to JRE 1.8. For Example,

   ```
   JAVA_HOME=/usr/java/jre1.8.0_45
   ```

3. Clear the Application cache. Navigate to the following path and delete the files:

   ```
   <Tomcat installation folder>/work/Catalina/localhost/<Application name>/org/apache/jsp
   ```

If you wish to install a new instance of the Apache Tomcat Server, follow these steps:

1. Install Apache Tomcat Server 8 with Java 8.
2. Perform the configurations for the newly installed Tomcat server. For more information refer Configure Resource Reference in Tomcat Application Server.

   Note:

   - Update the Connector Port in `/apache-tomcat-8.0.21/conf/server.xml` file to that of the existing Tomcat instance.

- Note down the new deployment path to perform OFSAA Configurations.

OFSAA Generic Configurations

This section consists of the following topics:

User .profile Settings

Perform the following configurations:

1. Login to the OFSAA Server as a non-root user.
2. Edit the user `.profile`. Update the value for PATH variable from JRE 1.7 to JRE 1.8. For Example,

```
PATH=/usr/java/jdk1.8.0_45/jre
JAVA_BIN=/usr/java/jdk1.8.0_45/jre/bin
LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/java/jdk1.8.0_45/jre/lib/amd64/server
```

Configurations for Java 8

Perform the configurations explained in the section Configurations for Java 8.

OFSAA Configurations for New Web Application Server Installation

This configuration is required only if you have freshly installed Oracle WebLogic 12.1.3 or Apache Tomcat Server 8.0. Follow these steps:

1. Modify the following parameters in the Configuration table present in the Config Schema with the new Domain Path in case of WebLogic or with the new deployment path in case of Tomcat:

- `DeFiHome`
- `REV_IMG_PATH`
- `EMBEDDED_JSP_JS_PATH`

2. Login to the OFSAA Server as a non-root user.
3. Navigate to `$FIC_HOME/ficweb/webroot/WEB_INF` and update the following parameters in the web.xml file with the new Domain path in case of WebLogic or with the new deployment path in case of Tomcat:

- `FIC_PHYSICAL_HOME_LOC`
- `FIC_HOME`
- `ICC_SERVLET_LOG_FILE`

4. Navigate to `$FIC_HOME/ficweb/webroot/conf` and update the Domain path in case of WebLogic or with the new deployment path in case of Tomcat:

- `OFSAALogger.xml`
- `MDBLogger.xml`
- `RevLog4jConfig.xml`
- `RFDLogger.xml`

- ExportLog4jConfig.xml
- RFDLogger.xml
- PR2Logger.xml

APPENDIX Q Removing OFSAA

This chapter includes the following sections:

Uninstalling OFSAA Infrastructure

This section will guide you through the necessary steps to uninstall the OFSAA Infrastructure product.

Before you start the uninstallation process, ensure that no open connections exist to the OFSAA Infrastructure Config and Atomic Schemas and Infrastructure services are brought down.

To uninstall OFSAA Infrastructure:

1. Log in to the system as non-root user.
2. Navigate to the $FIC_HOME directory and execute the command:

./Uninstall.sh

3. Enter the password for OFSAAI Configuration Schema when prompted as shown in the following figure.

```
/scratch/ofsaadb/OFSAAI>./Uninstall.sh
Uninstallation Started  [time : Tue Jun 10 14:20:27 IST 2014 ]
***********************************************************
*** Driver loaded with Driver oracle.jdbc.driver.OracleDriver

 Please enter Configuration schema Password :
Connected to Config Schema
Cleaning config schema ....
config schema cleaned ...
Cleaning up Infrastructure Home Dir !
Please wait ..
Uninstallation Completed ! Thank You  [time : Tue Jun 10 14:21:59 IST 2014 ]
***************************************************************************
/scratch/ofsaadb/OFSAAI>
```

Figure 1. Uninstalling OFSAA Infrastructure

Note:

- Uninstallation does not remove the Infrastructure application from the Web Application Server. This has to be done manually.
- The entries in the .profile file will have to be removed manually.
- The files/ folders under the file system staging area (ftpshare) have to be deleted manually.
- All the Database objects from Atomic Schemas have to be dropped manually.

Uninstalling EAR Files in WebSphere

Following are the steps to uninstall any previously deployed application:

1. Open the URL in the browser window: http://<ipaddress>:<Administrative Console Port>/ibm/console (https if SSL is enabled). The Login window is displayed.
2. Login with the user id that has admin rights.
3. Expand Applications > Application Types > WebSphere enterprise applications from the LHS. The Enterprise Applications window is displayed with all the deployed applications.

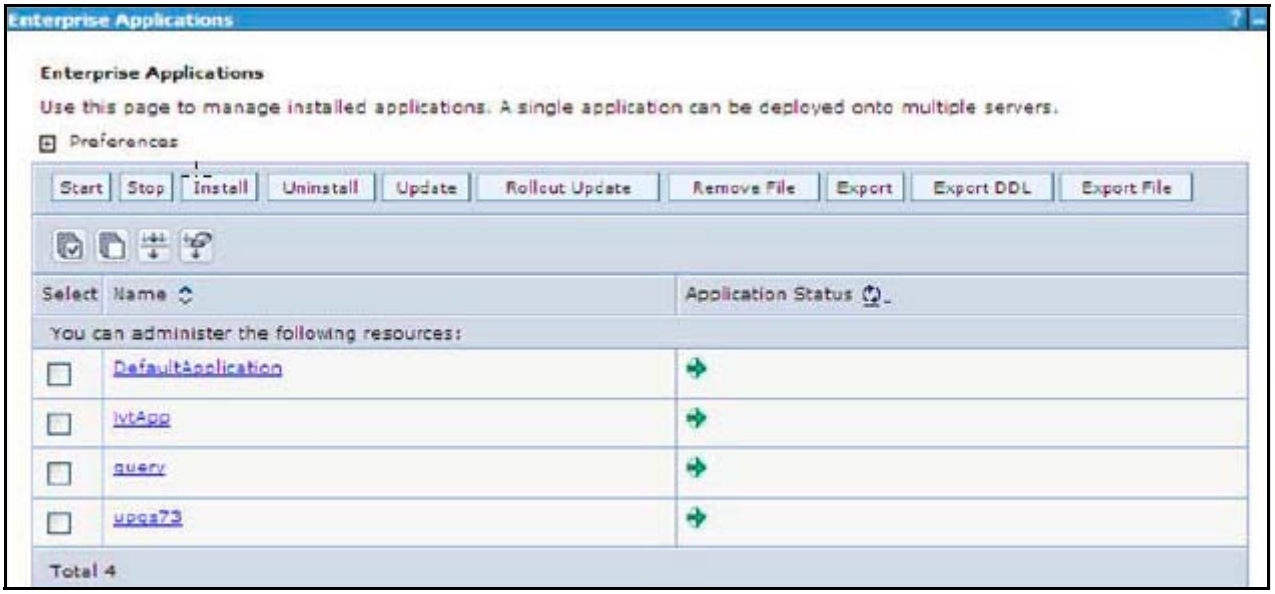

Figure 1. Enterprise Applications

4. Select the checkbox adjacent to the application to be uninstalled and click Stop.
5. Click Uninstall. The Uninstall Application window is displayed.

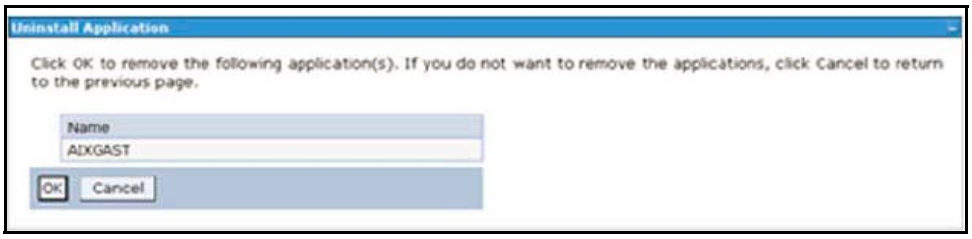

Figure 2. Uninstall Application

6. Click OK to confirm.
7. Click Save to save the master file configuration.

Uninstalling EAR Files in WebLogic

On the machine that hosts WebLogic, perform the following steps to uninstall any previously deployed application:

1. Open the URL in the browser window: http://<ipaddress>:<admin server port>/console (https if SSL is enabled). The Login window of the WebLogic Server Administration Console is displayed.
2. Login with the WebLogic user credentials having administrator privileges.
3. From the Domain Structure LHS menu, click Deployments. The Summary of Deployments screen is displayed.

Figure 3. Summary of Deployments

4. Select the checkbox adjacent to the application to be uninstalled and click Stop> Force Stop Now.
5. Click Yes in the confirmation dialog to stop the selected deployment.

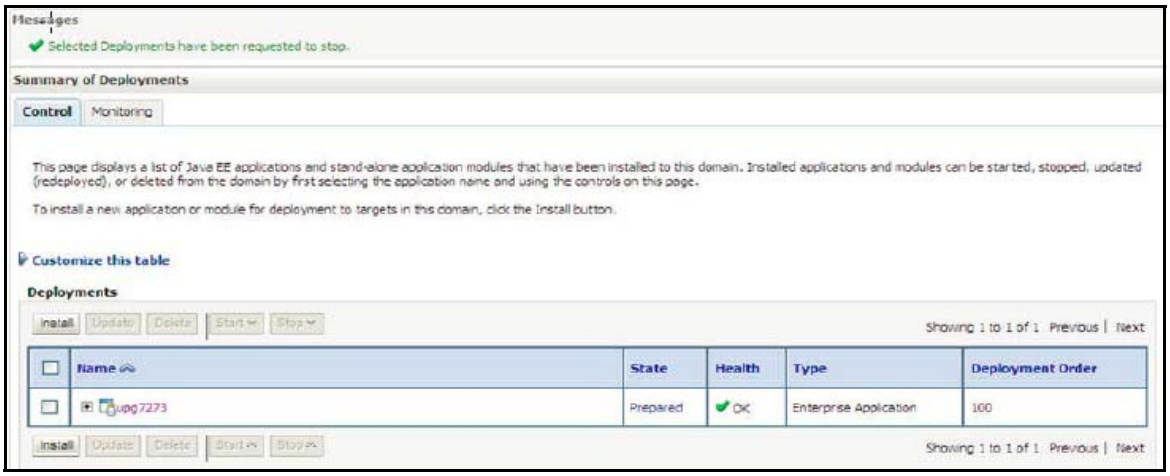

Figure 4. Summary of Deployments- Messages

6. Select the checkbox adjacent to the application and click Delete to delete the selected deployment.
7. Click Yes in the confirmation dialog to remove the selected deployment from the domain configuration.

Uninstalling WAR Files in Tomcat

On the machine that hosts Tomcat, perform the following steps to uninstall any previously deployed application:

1. Comment out Context path section from server.xml file in $CATALINA_HOME/conf directory to avoid conflict during undeploy and re-deploy of the WAR file.

Place comment <!-- --> in between the context path section. For example:

```
<!--
<Context path ="/pr2test" docBase="/home/perfuser/tomcat-7.0.19/webapps/pr2test"
debug="0" reloadable="true" crossContext="true">
<Resource auth="Container"
name="jdbc/PR2ATM"
type="javax.sql.DataSource"
driverClassName="oracle.jdbc.driver.OracleDriver"
username="pr2atm"
password="pr2atm"
url="jdbc:oracle:thin:@10.184.74.99:1521:PERFTEST"
maxActive="100"
maxIdle="30"
maxWait="10000"/>
</Context>
-->
```

Restart the Tomcat service by doing the following:

a. Login to the "Unix server" through a terminal emulator.

b. Navigate to $catalina_home/bin directory.

c.. Stop the tomcat services using the command ./shutdown.sh

d. Start the tomcat services using the command ./startup.sh

2. Open the URL in a browser window: http://<IP address>:<Tomcat server port>. (https if SSL is enabled). The Tomcat home window is displayed.
3. Click the Manager App. The Connect to window is displayed.
4. Login with the user credentials having admin rights. The Tomcat Web Application Manager window is displayed with the list of all applications deployed in Tomcat.

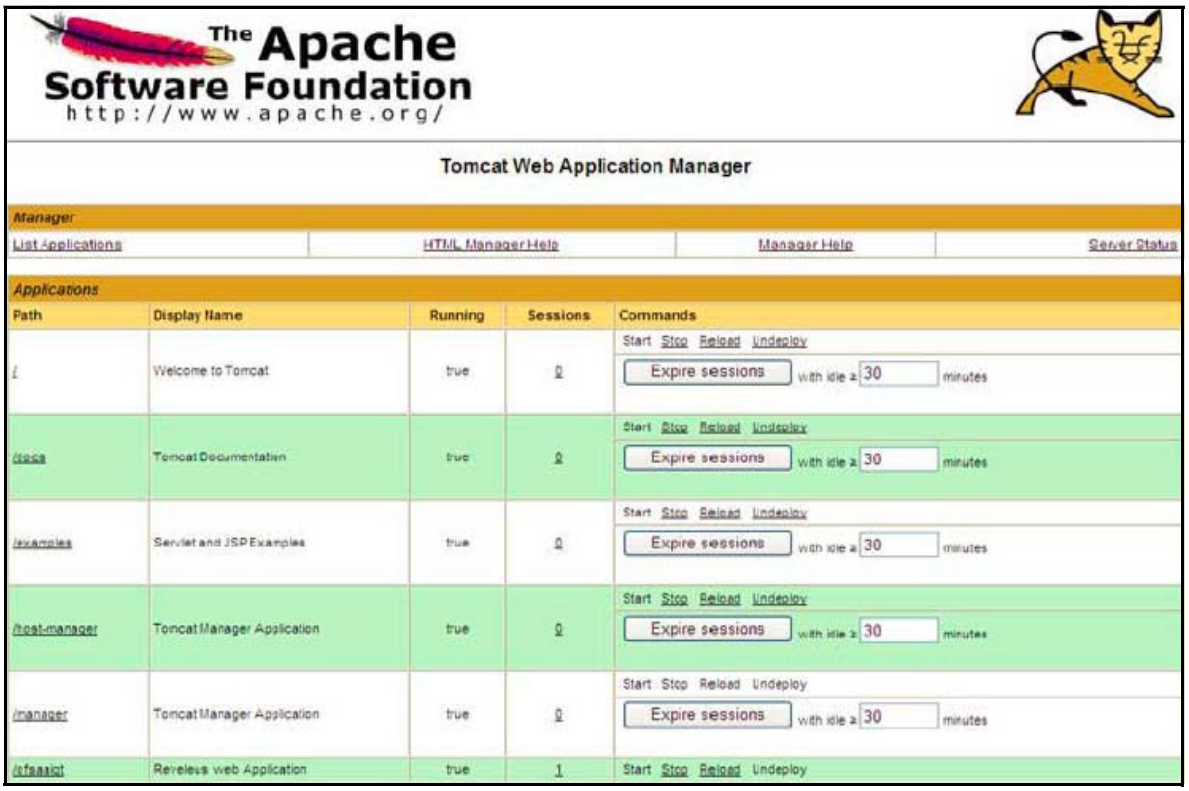

Figure 5. Tomcat Web Application Manager

5. Click the Undeploy link against the deployed Infrastructure application. A confirmation message is displayed on the application /Infrastructure being uninstalled.

APPENDIX Q Removing OFSAA

This chapter includes the following sections:

Uninstalling OFSAA Infrastructure

This section will guide you through the necessary steps to uninstall the OFSAA Infrastructure product.

Before you start the uninstallation process, ensure that no open connections exist to the OFSAA Infrastructure Config and Atomic Schemas and Infrastructure services are brought down.

To uninstall OFSAA Infrastructure:

1. Log in to the system as non-root user.
2. Navigate to the $FIC_HOME directory and execute the command:

./Uninstall.sh

3. Enter the password for OFSAAI Configuration Schema when prompted as shown in the following figure.

```
/scratch/ofsaadb/OFSAAI>./Uninstall.sh
Uninstallation Started  [time : Tue Jun 10 14:20:27 IST 2014 ]
***********************************************************
*** Driver loaded with Driver oracle.jdbc.driver.OracleDriver

 Please enter Configuration schema Password :
Connected to Config Schema
Cleaning config schema ....
config schema cleaned ...
Cleaning up Infrastructure Home Dir !
Please wait ..
Uninstallation Completed ! Thank You  [time : Tue Jun 10 14:21:59 IST 2014 ]
***************************************************************************
/scratch/ofsaadb/OFSAAI>
```

Figure 1. Uninstalling OFSAA Infrastructure

Note:

- Uninstallation does not remove the Infrastructure application from the Web Application Server. This has to be done manually.
- The entries in the .profile file will have to be removed manually.
- The files/ folders under the file system staging area (ftpshare) have to be deleted manually.
- All the Database objects from Atomic Schemas have to be dropped manually.

Uninstalling EAR Files in WebSphere

Following are the steps to uninstall any previously deployed application:

1. Open the URL in the browser window: http://<ipaddress>:<Administrative Console Port>/ibm/console (https if SSL is enabled). The Login window is displayed.
2. Login with the user id that has admin rights.
3. Expand Applications > Application Types > WebSphere enterprise applications from the LHS. The Enterprise Applications window is displayed with all the deployed applications.

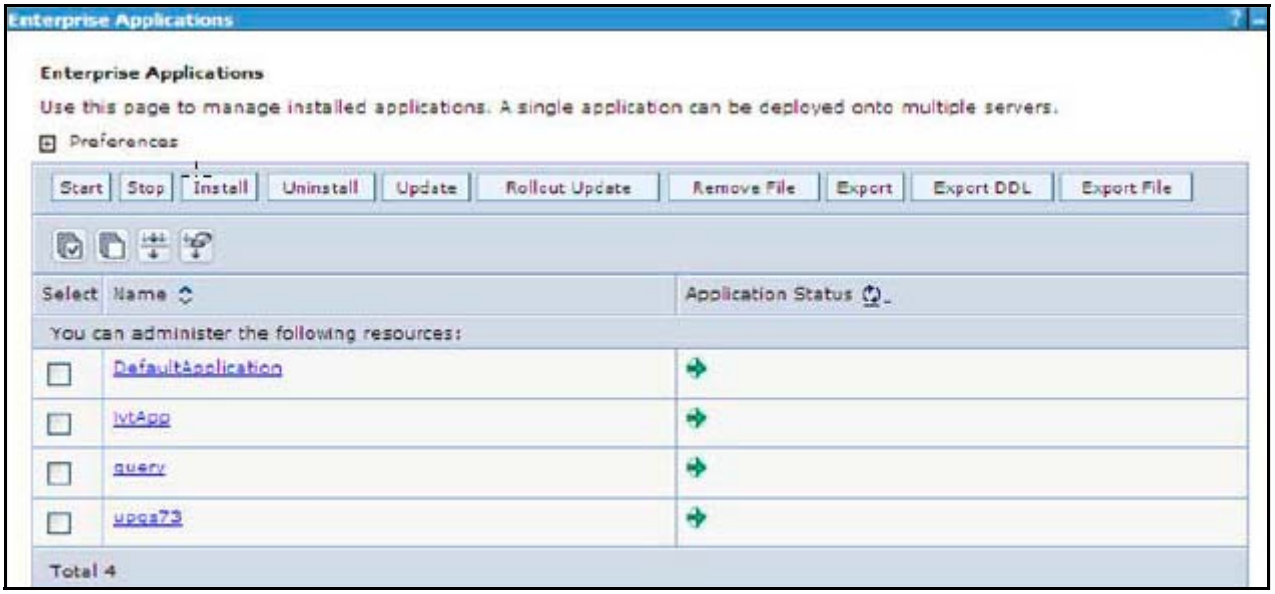

Figure 1. Enterprise Applications

4. Select the checkbox adjacent to the application to be uninstalled and click Stop.
5. Click Uninstall. The Uninstall Application window is displayed.

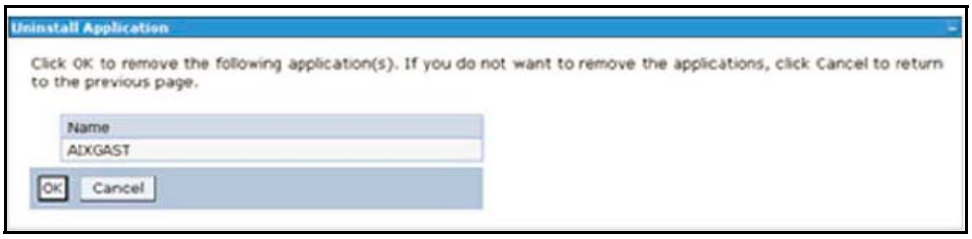

Figure 2. Uninstall Application

6. Click OK to confirm.
7. Click Save to save the master file configuration.

Uninstalling EAR Files in WebLogic

On the machine that hosts WebLogic, perform the following steps to uninstall any previously deployed application:

1. Open the URL in the browser window: http://<ipaddress>:<admin server port>/console (https if SSL is enabled). The Login window of the WebLogic Server Administration Console is displayed.
2. Login with the WebLogic user credentials having administrator privileges.
3. From the Domain Structure LHS menu, click Deployments. The Summary of Deployments screen is displayed.

Figure 3. Summary of Deployments

4. Select the checkbox adjacent to the application to be uninstalled and click Stop> Force Stop Now.
5. Click Yes in the confirmation dialog to stop the selected deployment.

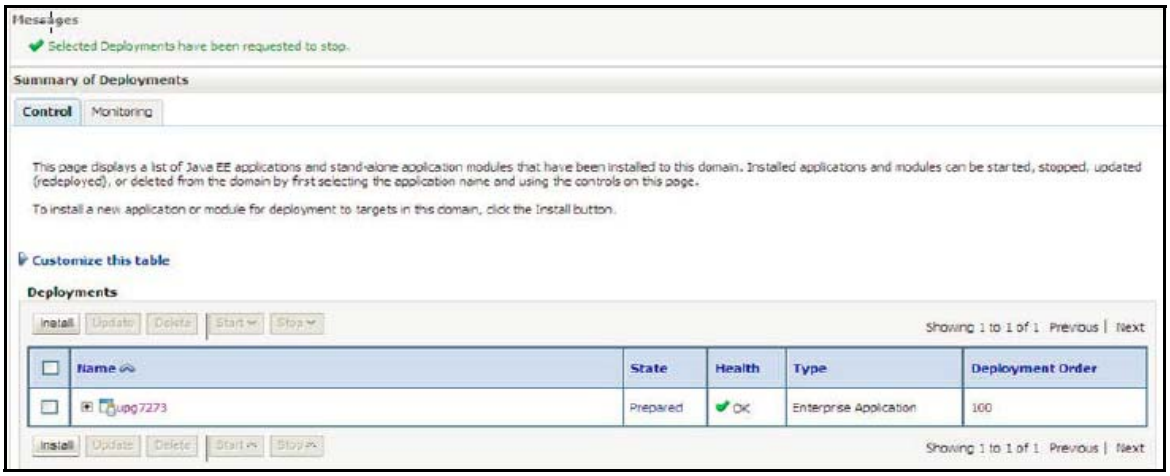

Figure 4. Summary of Deployments- Messages

6. Select the checkbox adjacent to the application and click Delete to delete the selected deployment.
7. Click Yes in the confirmation dialog to remove the selected deployment from the domain configuration.

Uninstalling WAR Files in Tomcat

On the machine that hosts Tomcat, perform the following steps to uninstall any previously deployed application:

1. Comment out Context path section from server.xml file in $CATALINA_HOME/conf directory to avoid conflict during undeploy and re-deploy of the WAR file.

Place comment <!-- --> in between the context path section. For example:

```
<!--
<Context path ="/pr2test" docBase="/home/perfuser/tomcat-7.0.19/webapps/pr2test"
debug="0" reloadable="true" crossContext="true">
<Resource auth="Container"
name="jdbc/PR2ATM"
type="javax.sql.DataSource"
driverClassName="oracle.jdbc.driver.OracleDriver"
username="pr2atm"
password="pr2atm"
url="jdbc:oracle:thin:@10.184.74.99:1521:PERFTEST"
maxActive="100"
maxIdle="30"
maxWait="10000"/>
</Context>
-->
```

Restart the Tomcat service by doing the following:

a. Login to the "Unix server" through a terminal emulator.

b. Navigate to $catalina_home/bin directory.

c.. Stop the tomcat services using the command ./shutdown.sh

d. Start the tomcat services using the command ./startup.sh

2. Open the URL in a browser window: http://<IP address>:<Tomcat server port>. (https if SSL is enabled). The Tomcat home window is displayed.
3. Click the Manager App. The Connect to window is displayed.
4. Login with the user credentials having admin rights. The Tomcat Web Application Manager window is displayed with the list of all applications deployed in Tomcat.

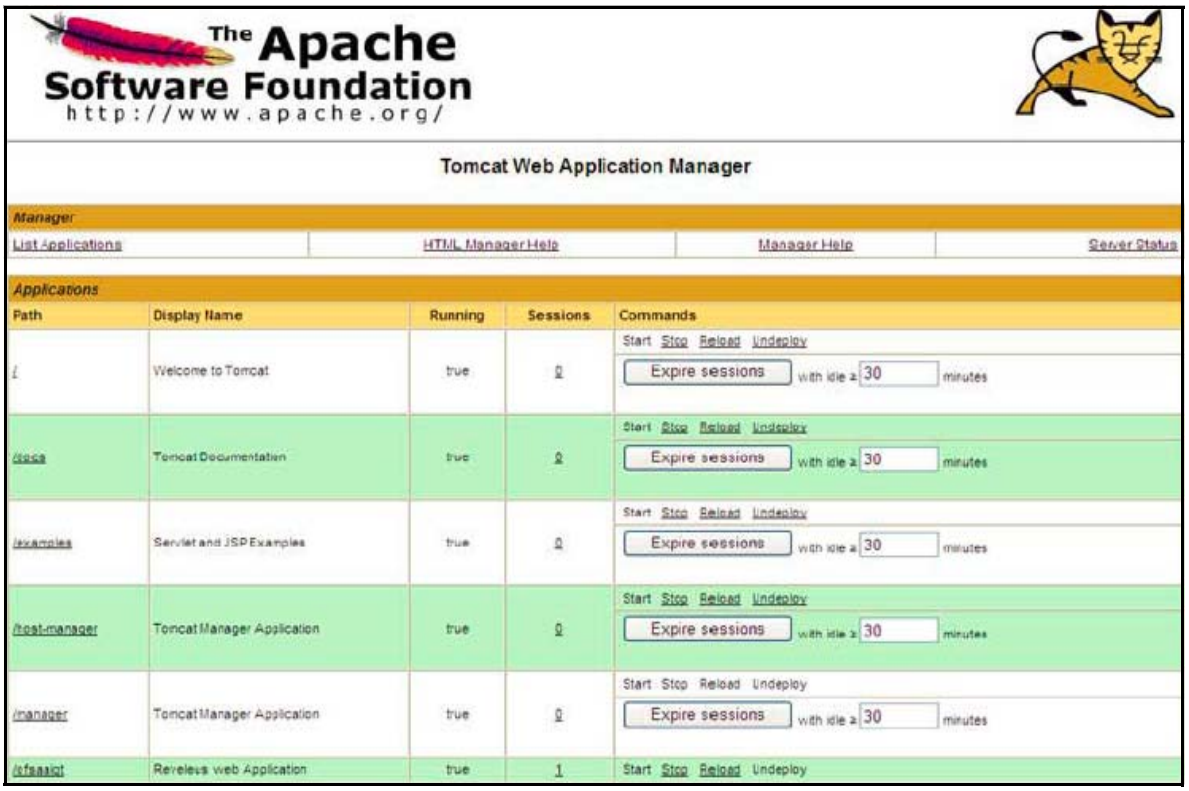

Figure 5. Tomcat Web Application Manager

5. Click the Undeploy link against the deployed Infrastructure application. A confirmation message is displayed on the application /Infrastructure being uninstalled.

APPENDIX R FAQs and Error Dictionary

This section of the document consists of resolution to the frequently asked questions and error codes noticed during OFSAAI installation.

- Frequently Asked Questions
- *Error Dictionary*

OFSAAI installer performs all the pre-requisite validation check during installation. Any errors encountered in the process are displayed with an appropriate Error Code. You can refer to the Error Dictionary to find the exact cause and resolution to rectify the error.

Frequently Asked Questions

You can refer to the Frequently Asked Questions which has been developed with the interest to help you resolve some of the OFSAAI Installation and configuration issues. This intends to share the knowledge of problem resolution to a few of the known issues. This is not an official support document and just attempts to share the knowledge of problem resolution to a few of the known issues.

This section includes the following topics:

- OFSAAI FAQs
- Application Pack 8.0.0.0.0 FAQs
- Forms Framework FAQs

OFSAAI FAQs

What are the different components that get installed during OFSAAI?

The different components of OFSAAI are illustrated in Figure 1–1, "OFSAA Infrastructure Framework".

If OFS AAI/ AAAI needs to be installed on different versions of an Operating System, which installer needs to be downloaded?

OFS AAI/AAAI installer downloaded for a specific Operating System can be used to install on all its supported versions.

For Solaris OS, only one installer OFSAAI_73300_Solaris is available and it can be used to install OFSAAI on both versions of Solaris, that is, v5.10 or v5.11. Similarly, the installer OFSAAI_73300_Linux can be used to install OFSAAI on all supported versions of Oracle Linux, that is, v 5.3 up to 5.10 and v6.0 and above. The installer OFSAAI_73300_AIX can be used to install OFSAAI on all supported versions of AIX, that is, v5.3 and v6.1.

Same is applicable for OFSAAAI installers available for specific Operating Systems.

What are the different modes of OFSAAI installation?

OFSAAI can be installed in two modes, Silent Mode, and GUI mode.

What deployment options does OFSAAI recommend?

OFSAAI recommends you to install all OFSAAI components namely FICAPP, FICWEB, and FICDB on a single machine (Single Tier).

Does the 8.0.0.0.0 release of OFSAA Infrastructure support multi-tier installation?

No, the 8.0.0.0.0 release of OFSAA Infrastructure does not support multi-tier installation.

OFSAA Infrastructure components namely FICAPP, FICWEB, FICDB can only be installed on single-tier.

However, OFSAA Infrastructure can be deployed within the n-Tier architecture where the Database and Web Server or Web Application Server is installed on separate tiers.

For more details please contact Oracle Support.

Is JDK (Java Development Kit) required during installation of OFSAA? Can it be uninstalled after OFSAA installation?

JDK is not required during installation of OFSAA and only a run time is needed for details. Refer, Hardware and Software Requirements, Java Runtime Environment section.

Is JRE required during installation of OFSAA? Can it be uninstalled after OFSAAI installation?

Only JRE (Java Runtime Environment) is required during installation of OFSAA and cannot be uninstalled as the JRE is used by the OFSAA system to work.

How do I know what is the Operating system, webservers and other software versions that OFSAA supports?

Refer to OFSAA Technology Stack Matrices.

What are the different files required to install OFSAAI?

The following files are required:

- setup.sh.
- envCheck.sh

- preinstallcheck.sh
- VerInfo.txt
- OFSAAInfrastructure.bin
- validatedXMLinputs.jar
- MyResources_en_US.properties
- log4j.xml
- OFSAAI_PostInstallConfig.xml
- OFSAAI_InstallConfig.xml
- privileges_config_user.sql
- privileges_atomic_user.sql
- XML_Utility.jar

Is OFSAAI license specific to Applications?

No, OFSAAI license is not specific to any application.

Where can I reach out for the license key for installations?

OFSAAI 7.3.3.0.0 installer does not need a license code or a license file. With the license agreement acceptance, one could proceed with the installation.

During installation, when one gets an error message, "Execute Permission denied", what is to be done?

Please check whether all the files provided for OFSAAI installation has execute permissions.

To give execute permissions,

- Navigate to the path OFSAAI_73300 and execute the command

  chmod 755

  "*Graphical installers are not***."**

  If error resembles "Graphical installers are not supported by the VM. The console mode will be used instead..." then check whether any of the X-windows software has been installed.

  Example: Hummingbird Exceed is started and configured to Graphical mode installation.

  NOTE: Type 'xclock' from prompt and this should display clock in graphical mode.

  "*No Java virtual machine could be…*"

  If the error message reads "No Java virtual machine could be found from your PATH environment variable. You must install a VM prior to running this program", then

- Check whether "java path" is set in PATH variable. See the Table 3–1, " Prerequisite Information"section in this document.
- Check whether sufficient temporary space is available.

- Ensure that the movement of OFSAAI Installer text files to the target system is done in the Text mode so that setup.sh file does not contain control line feed characters (^M).

During the installation, what should one do if the error message shows "OracleDriver Files Not Found, Please Choose the Right Path To Continue"?

Check whether the provided path for Oracle Driver files is correct and whether the user has permissions to access the files.

During installation, what is to be done if the error always reads "User must have CREATE TABLE, CREATE VIEW, CREATE TRIGGER, CREATE INDEX, CREATE SEQUENCE, CREATE PROCEDURE" even though the oracle schema user created has the mentioned privileges?

OFSAAI installer validates the database details provided during installation, so ensure:

- Whether the oracle schema user has the required set of privileges for successful installation.
- Whether the oracle schema user has been created with quota privileges on tablespace to create database objects.

See the, " Prerequisite Information"section for more information.

Installation of OFSAAI was completed successfully! What next?

Post the successful completion of OFSAAI installation, one has to perform the Post Installation steps. See "Post Installation Configuration", for more information.

What is to be done when OFSAAI Installation is unsuccessful?

OFSAAI installer generates log file OFSAAInfrastructure_Install.log in the Infrastructure Installation Directory. There is also another log file created in the path configured in Log4j.xml. The logs of any of these reported, Warnings/Non Fatal Errors/Fatal Errors/Exceptions should be brought to the notice of the OFSAAI Customer Support. It is recommended not to proceed, until the reported problems are adequately addressed.

How do I completely uninstall OFSAAI?

OFSAAI can be completely uninstalled by performing the steps provided in, Uninstalling OFSAA Installation.

How to grant privileges if a new information domain is created?

If you are creating a new information domain, provide a set of privileges (database permissions) to the new Atomic schema.

- Log into the database as sys and connect as sysdba user.
- Execute the file privileges_config_user.sql available under $FIC_HOME directory
- Enter the database schema for which you want to grant privileges.

When should I run the MLS utility?

See the Multiple Language Support (MLS) Utility section in OFSAAI Administration Guide in the section.

Does OFSAAI support Oracle Linux versions other than 5.5?

OFSAAI supports the Oracle Linux versions from 5.5 up to 5.10.

On the UNIX System terminal, error message shows "Insert New Media. Please insert Disk1 or type it's location"while executing ./setup.sh, what should be done?

1. Login as root user on the Unix machine where OFSAAI is getting installed.

2. Navigate to the path /etc/security/.
3. Edit the file limits.conf to add/edit a row for the unix user installing OFSAA:

<Unix User> soft nofile 9216

4. After saving the changes, log in as unix user with which OFSAAI is getting installed and execute the command:
   `ulimit -n`

The command should return the value 9216.

How does one verify if the system environment is ready for OFSAAI installation?

To verify the system environment meets the minimum requirements for the installation, a Pre-Install Check utility is available within the Install Kit archive file. This utility can also be obtained separately by contacting Oracle Support.

See Verifying the System Environment section for additional information.

How does one know if the installation is completed successfully?

The OFSAA Infrastructure installation performs a post install health check automatically on successful installation of the product. To rerun the post install verification at a later time, perform the following steps:

1. Navigate to the path $FIC_HOME (Product Installation Directory).
2. Execute the command:

./piverify.sh

What should one do if the installation in GUI mode is not invoked?

There are set of configuration steps required to be performed during the installation in GUI mode. Verify whether the steps mentioned under Configuration for GUI Mode Installation section are done correctly.

What should one do if there are any exceptions or errors in installation and how to proceed?

1. Please backup the installation logs.
2. Share the backup logs with Oracle support.

On Solaris 11 system, if one gets the following error message during OFSAAI installation, what should be done:

"Error: OFSAAI-1108

ORA-00604: error occurred at recursive SQL level 1

ORA-01882: timezone region not found"

Or

"Time zone cannot be set as null or 'localtime' "

This happens if the time zone is not set, that is NULL or it is set as 'localtime'. Set the environment variable TZ to a valid time zone region in the .profile file. For example,

TZ=Asia/Calcutta

export TZ

What happens if the installation process is abruptly terminated or aborted? What should one do?

If the installation is abruptly terminated, then the installation process will be incomplete. To recover from this, follow the below steps:

1. Drop the DB objects in the config schema created by OFSAAI installation.
2. Open the .profile and remove the entries made by the OFSAAI installation which are made between the comment statements, #Beginning of entries by OFSAA Infrastructure installation and #End of entries by OFSAA Infrastructure installation.
3. Delete the OFSAA install directory created by the OFSAAI installer.
4. Perform the OFSAAI installation again.

Would OFSAA support any other web server types, other than the ones stated in tech matrix and installation guide?

No, all the supported software and versions are stated in the OFSAA Technology Stack Matrices.

What should one do if the database connection from connection pool throws an error "java.sql.SQLRecoverableException: IO Error: Connection reset"?

This happens while running several database intensive tasks in parallel. To correct this error, add the line securerandom.source=file:/dev/./urandom in the java.security configuration file available in $JAVA_HOME/jre/lib/security/ path.

NOTE: This needs to be configured on all the machines or VMs where the OFSAAI components are installed.

If the issue is not resolved even with the above settings, check the MTU(Maximum Transmission Unit) settings on the linux box. For details on MTU settings and updating them, contact your system Administrator.

When I invoke setup.sh file from my install archive, it throws syntax errors/file not found error messages, what should I do?

This could mostly happen:

- When installer was not unzipped rightly or corrupted during unzip.
- setup.sh file which resides within the install archive was not transferred in ASCII or text mode, which could have corrupted the file.

To correct this, follow the steps:

1. Copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.
2. Unzip the installer using the command:

   ```
   unzip <OFSAAI_Installer>.zip
   ```

3. The corrupted `setup.sh` file would have introduced certain ^M characters into the file. You can remove ^M characters from `setup.sh` file by following the below steps:

   a. Login to the server where the installer is copied.

   b. Navigate to the directory `OFSAAI_73300`.

   c. Open the setup.sh file in the vi editor using the command: vi setup.sh.

d. Inside vi editor in Esc mode, type: **%s/^M//g**

NOTE: To enter ^M, hold the CTRL key then press V and M in succesion.

e. Save the setup.sh file by typing: **wq!**

Does OFSAA support Oracle DB 11g Standard edition?

The OCI client and the jdbc driver does not change depending on whether it is a standard or enterprise edition. So, OFSAAI will work with standard edition as well.

We do not recommend standard edition because it will not scale and does not support partition pack, database security vault, or advanced analytics.

On the UNIX System terminal, Error message shows "./reveleusstartup.sh: /java: Execute permission denied" while executing ./reveleusstartup.sh file. What is to be done?

- Ensure JAVA_BIN environment variable path is set on the "unix user" terminal from where the reveleusstartup.sh file is invoked.
- Ensure the .profile where the environment/ path settings are made has been executed successfully.

OFSAAI Login page does not come up, error message "Could not retrieve list of locales" is displayed. What should one do?

This could be due to 2 reasons:

- System is unable to resolve the hostname configured.
- Conflict with the ports configured.

To correct them, follow the below steps:

A. Steps to replace the hostnames with IP address:

1. Stop all the OFSAA services. See Stopping Infrastructure section on how to stop the services.
2. Replace all the hostnames with the IP address in all the places mentioned in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 7.2 Installation (DOC ID 1500479.1)).
3. Restart all the OFSAAI services. See Starting Infrastructure section.

B. Steps to correct the port number conflicts

1. Stop all the OFSAA services.
2. Refer to the port numbers stated in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 8.0 Installation)) and check on the discrepancy in the port numbers and correct them.
3. Restart all the OFSAAI services.

What happens when the OFSAAI Application Server does not proceed even after providing the system password?

Ensure that, the System Password provided when prompted should match with the "Oracle Configuration password" provided during installation. Also check whether the connection to the "configuration schema" can be established through sqlplus.

Although the OFSAAI installation has completed successfully, when OFSAAI servers are started, and the application URL is accessed, it gives an error message "the page cannot be found or displayed" or "Could not retrieve list of languages from Server. Please contact the system administrator". What should one do?

Ensure OFSAAI servers have been started and are running successfully. On the server start up parameters options, see Starting Infrastructure section.

For more details on the issue, refer on to the Revappserver log in $FIC_APP_ HOME/common/FICServer/logs directory or the Web Server log files.

Is it necessary to provide the specified grants to the Oracle schema user before installation? If yes, can it be revoked after completion of installation?

The "Oracle schema" user requires the necessary grants specified before, during, and after the installation process. Grants provided should never be revoked as the application makes use of these grants all the time.

Can we have distributed OFSAAI Application Server for load balancing?

OFSAAI Application server can be scaled out/distributed across different JVM's (machines) based on the various services and Information Domains, in other words, Load balancing could be achieved with distribution of services.

Why do we need FTPSHARE 777? Why is it needed on all the layers? Can we have FTPSHARE 777 on another machine other than the machines where OFSAAI is installed?

FTPSHARE 777 is a Metadata Repository directory. All the metadata related files used in Infrastructure are stored in the FTPSHARE 777 directory. The FTPSHARE 777 contains folders for each Information Domain, with each Information Domain folders holding Erwin, log, and scripts folder. The transfer of data among the Web, Application, and Database servers in Infrastructure takes place through FTP/SFTP.

You need to configure FTP/SFTP and enable communication between the servers by providing App server's FTP/SFTP credentials to the Web server and DB server users.

Yes, we can have FTPSHARE 777 on another machine other than the machines where OFSAAI is installed.

Is it mandatory to provide the ftp/sftp password?

Yes, OFSAAI needs credentials of the user which has complete permissions on FTPSHARE 777 directory, and should be able to independently login to the unix server.

What are the permissions required for FTPSHARE 777 and when should I give them?

It is recommended to provide 777 permissions on FTPSHARE 777 in case of installations done across different machines or VMs (multitier installation).

In case of single tier installation, 770 permissions can be provided if the unix users of OFSAAI and web server belong to the same unix group.

And on any new file that is created in the 'FTPSHARE 777' folder of any installation layer should be granted specific/explicit permission.

Port Change utility could be used to have the Port number modified, which are currently being used by the Infrastructure application. For more information, refer Configure Infrastructure Ports section.

Are there any in-built system administration users within OFSAAI Application?

The three in-built system administration users are provided to configure and setup OFSAAI.

- SYSADMN
- SYSAUTH

- GUEST

Does OFSAAI Application support both FTP and SFTP?

OFSAAI supports both FTP and SFTP configuration.

Is it necessary to enable the FTP/SFTP services to use the OFSAAI?

Yes, enabling of FTP/SFTP services and its ports is a pre-requisite step towards using the OFSAAI.

OFSAAI Configuration: Unable to save the server details?

- Ensure the input User ID, Password, and Share Name are correct.
- Ensure FTP/SFTP services are enabled.
- Have a test FTP/SFTP connection made and confirm if they are successful.

During Information Domain creation, the message "Please create a database and then create the information domain" appears. What should be done?

Information Domain is mapped to only one Database; and thus before the creation of Information Domain, at least one database details would need to exist.

The message "ConnectToDatabase: FatalError, could not connect to the DB server" appears during startup of backend engine message server. What does one need to do?

- Verify whether connection to the "configuration schema" can be established through sqlplus.
- Verify "configuration schema" password is modified post installation.
- Ensure oracle database alias name created for oracle instance and oracle service name are same.
- On a multi tier Installation mode, ensure TNSNAME and SID are the same in both the Application and Database Layers.

The message "Fatal Error, failed to get user ID from LibSmsConnect" appears during the startup of backend engine message server. What has to be done?

Ensure Reveleus.sec file exist under the $FIC_HOME/conf directory where the Database components are installed.

Does OFSAAI Application support LDAP authentication?

OFSAAI supports LDAP configuration and authentication.

Does OFSAAI support multiple languages?

Yes, OFSAAI supports multiple languages.

Does OFSAAI provide any data back-up features?

OFSAAI does not have built-in back up facility. External Storage Infrastructure is recommended for back-up.

What kind of security features does the OFSAAI provides?

OFSAAI provides security at:

- Segment Level - Users can access only the segment they are mapped to.
- Application Level - Users can perform an operation only if mapped to appropriate role and functions.

Does OFSAAI have the ability to enforce periodic password change?

OFSAAI provides configurable parameters to define number of days after which the user password would expire and then the user is forced to change the password after expiration period.

What is the password policy followed in OFSAAI?

OFSAAI enforces a minimum password length with a combination of Upper and Lower case characters and alpha-numeric strings.

Which version of Erwin Data Modeller does OFSAAI support?

OFSAAI now supports ERwin version 9.2 and 9.5 generated xmls in addition to ERwin 4.1, ERwin 7.1, ERwin 7.3 and ERwin 9.0 formats.

Does OFSAAI provide the mechanism to upload Business Data model?

OFSAAI provides two mechanisms for business data model upload:

- Easy to use GUI based Model upload mechanism to upload the Business Data Model through Unified Metadata Manager --> Import Model.
- OFSAAI also provides a model upload utility "upload.sh" for uploading the business data model through the command line parameter by executing this shell script file under the path <FIC_HOME>/ficapp/common/FICServer/bin.

Refer the section Run Model Upload Utilityof the Oracle Financial Services Analytical Applications Infrastructure User Guidefor details.

The Business Data model undergoes changes; how does this incremental change get applied to the existing model?

Modified data model can be uploaded into the system and OFSAAI has the ability to compare the changes within the data model with respect to the one already present in the system and enables propagation of incremental changes in a consistent manner.

What are the different types of uploading a business data Model?

OFSAAI supports uploading of business data model from client desktop and also by picking up the data model from the server location.

Can the OFSAAI "Configuration Schema" password be modified post installation?

The OFSAAI "configuration schema" password can be modified post installation. OFSAAI application stores the password in the database and few configuration files, thus any changes to the "configuration schema" password would necessitate updating in these. Contact OFSAAI support for more details.

Can the OFSAAI "Atomic Schema" password be modified?

The OFSAAI "Atomic Schema" password can be modified. OFSAAI application stores the atomic schema password in the database and few configuration files , thus any change to the atomic schema password would necessitate updating the password.

To change the Atomic Schema password, follow the steps:

1. Login to OFSAA.
2. Navigate to System Configuration > Database Details window. Select the appropriate connection, provide the modified password and save.
3. Navigate to Unified Metadata Manager > Technical Metadata> Data Integrator > Define Sources window. Update the appropriate Source details.

a. If you are using Apache Tomcat as Web server:

*Update the <Context> -> Resource tag details in server.xml file from the $CATALINA_HOME/conf folder. (In case of Tomcat only Atomic <Resource> will exist).

b. If you are using WebSphere as Web server:

*Login to the WebSphere Administration Console from the left side menu.

*Navigate to Resources >JDBC >Data Sources. A list of data sources will be populated on the right side.

*Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources need to be modified).

c. If you are using WebLogic as Web server:

*Login to the WebLogic Administration Console from the left side menu.

*Under Domain Structure list box, expand the appropriate Domain and navigate to Services > JDBC >Data Sources. A list of data sources will be populated on the right side.

.*Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources need to be modified).

4. Restart the OFSAAI services.

NOTE: If the modified passwords are not updated, OFSAAI logs displays the message ORA-28000: the account is locked.

Does the upload of Business Data model depend on Java Memory?

Business data model upload through OFSAAI depends on the Java memory settings on the client and server machines. Java memory setting varies with the data model size and the available RAM. Contact OFSAAI support for more details.

Why do the Business Metadata Management screens (Business Processors screen) in User Interface, takes longer time to load?

The Log file in DynamicServices.xml which resides in $FIC_HOME/conf is continuously being updated/refreshed to cache metadata. This can be observed when you are starting reveleusstartup.sh and if any of the log file (Ex: SMSService.log) in DynamicServices.xml is being continuously refreshed for longer time.

By default, the Metadata Log file cache size is set to 1000. If in case the log is being updated beyond this limit, retrospectively the preceding entries are overwritten. For example, the 1001th entry is overwritten by deleting the first entry. This results in the application screen taking a longer time to load.

Increase the cache size limit in Dynamicservices.xml located at <FIC_HOME>/conf, depending on the currently logged count for the specific metadata.

- Generate the Log report by executing the below query in config schema.

select count(1), t.metadata_name, m.dsn_id

from metadata_master m, metadata_type_master t

where m.metadata_type = t.metadata_type

group by t.metadata_name, m.dsn_id.

- The above query returns a list of codes with their respective metadata count. You can refer to "metadata_type_master" table to identify the metadata name.
- View the log report to identify the metadata which is being updated/refreshed beyond the specified cache size limit. Accordingly increase the cache size limit in Dynamicservices.xml depending on the currently logged count for the specific metadata.

  For example, if the "MEASURE_CACHE_SIZE" is set to 1000 and total measure reported in log is 1022, increase the limit to 2000 (approximately).

- Restart Reveleus/OFSAAI servers (Web and APP) and check the issue.

What should I do if I get OutOfMemoryError while deploying EAR file in WebSphere application server?

The Java memory needs to be increased in ejbdeploy.sh file which is present under <WebSphere Install directory>/AppServer/deploytool/itp. For example,

$JAVA_CMD \

-Xbootclasspath/a:$ejbd_bootpath \

Xms256m -Xmx1024m \

What configurations should I ensure if my data model size is greater than 2GB?

In order to upload data model of size greater than 2GB in OFSAAI Unified Metadata Manager- Import Model, you need to configure the required model size in struts.xml file available in the path $FIC_WEB_HOME/webroot/WEB-INF/classes.

NOTE: The size requirements have to be always specified in bytes.

For example, if you need to configure for model size of 2.5GB, then you can approximately set the max size to 3GB (3221225472 bytes) as indicated below, in order to avoid size constraints during model upload.

<constant name="struts.multipart.maxSize" value="3221225472"/>

After configuring struts.xml file, generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, see Configuring Web Application Servers.

What should I do if my Hierarchy filter is not reflecting correctly after I make changes to the underlying Hierarchy?

In some cases, the Hierarchy Filters do not save the edits correctly if the underlying Hierarchy has been changed. This can occur in hierarchy maintenance, where you have moved a member to another hierarchy branch, and that member was explicitly selected in the Filter and is now a child of a node which is already selected in the Filter.

Please refer to Support Note for the workaround.

What should I do to change context name for a cloned environment?

Refer to Support Note.

What should I do if my Hierarchy filter is not reflecting correctly after I make changes to the underlying Hierarchy?

In some cases, the Hierarchy Filters do not save the edits correctly if the underlying Hierarchy has been changed. This can occur in hierarchy maintenance, where you have moved a member to another hierarchy branch, and that member was explicitly selected in the Filter and is now a child of a node which is already selected in the Filter.

Please refer to Support Note for the workaround.

How do you turn off unused information domains (infodoms) from cache?

Follow the below steps to turn off unused infodoms from cache:

Navigate to $FIC_HOME/conf in the APP layer of your OFSAAI installation.

1.In the DynamicServices.xml file, identify the section for <Service code="20">.

2.Modify the value of parameter CACHE_ON_STARTUP to 0 (default is 1).

3.Repeat the same in the WEB layer too. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, see Configuring Web Application Servers.

4.Restart the OFSAAI Services (APP and WEB). For more information, see Start / Stop Infrastructure Services chapter.

NOTE: This setting will cache the Infodom metadata only for the infodoms that get accessed upon user login. Infodoms which do not get accessed, will not be cached.

Sample code is pasted below:

```
<SERVICE CODE="20"

CLASS="com.iflex.fic.metadata.services.MetadataServiceProvider"
NAME="BMD"

SERVERID="DEFAULT" PATH=" " LOGGERNAME="UMMLOGGER" LOGGERLEVEL="10">

<PARAMETERS>

<PARAMETER NAME="CACHE_ON_STARTUP" VALUE="0" />

<PARAMETER NAME="BACKUP_XML" VALUE="1" />

<PARAMETER NAME="MAX_BACKUP_XML" VALUE="2" />

<PARAMETER NAME="PC_NONBI_BI_SWITCH" VALUE="2048" />

<PARAMETER NAME="HIERARCHY_NODE_LIMIT" VALUE="2000" />

<PARAMETER NAME="ALIAS_CACHE_SIZE" VALUE="1000" />
```

<PARAMETER NAME="DATASET_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="MEASURE_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="HIERARCHY_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="DIMENSION_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="HIERARCHYATTRIBUTE_CACHE_SIZE" VALUE="1000" />

<PARAMETER NAME="CUBE_CACHE_SIZE" VALUE="1000" />

<PARAMETER NAME="RDM_CACHE_SIZE" VALUE="1000" />

<PARAMETER NAME="BUSINESSPROCESSOR_CACHE_SIZE" VALUE="2000" />

<PARAMETER NAME="DERIVEDENTITY_CACHE_SIZE" VALUE="1000" />

<PARAMETER NAME="LOG_GET_METADATA" VALUE="false" />

<PARAMETER NAME="METADATA_PARALLEL_CACHING" VALUE="0" />

</PARAMETERS>

</SERVICE>

Can I install an Application Pack on an existing Atomic schema/ Information Domain created manually?

No, you cannot install an Application Pack on existing Atomic schema/Information Domain created manually. Application Packs can be installed only on Atomic Schemas/Information Domain created using schema creator utility and/ or the Application Pack installer.

When trying to view the model outputs in Model Outputs screen, I get "Exception ->Local Path/STAGE/Output file name (No such file or directory)".

Ensure you have created a folder "STAGE" under the path mentioned as "Local Path" in the web server details screen. This folder needs to be created under the local path on every node ,in case of web application server clustering.

During OFSAA services startup, I get Exception in thread "main" java.lang.UnsatisfiedLinkError: net (Not a directory)?

Ensure the JRE referred in .profile is not a symbolic link. Correct the path reference to point to a physical JRE installed.

What is the optimized memory settings required for "New" model upload?

The following table lists the optimized memory settings required for "New" model upload.

Table 1: Optimized Memory Settings for New Model Upload

Model Upload Options	Size of Data Model XML File	X_ARGS_APP ENV Variable in OFSAAI APP Layer
Pick from Server	106 MB	"-Xms1024m -Xmx1024m
	36 MB	"-Xms2048m -Xmx2048m
	815 MB	"-Xms4096m -Xmx4096m
	1243	"-Xms6144m -Xmx6144m
Model Upload Utility	106 MB	"-Xms1024m -Xmx1024m"-Xms2048m -Xmx2048m
	336 MB	"-Xms4096m -Xmx4096m
	815 MB	"-Xms4096m -Xmx4096m
	1243	"-Xms6144m -Xmx6144m
Save New Erwin File In Server	106 MB	"-Xms1024m -Xmx1024m
	336 MB	"-Xms2048m -Xmx2048m
		"-Xms4096m -Xmx4096m
		"-Xms6144m -Xmx6144m

What is the resolution if I get the error - ORA 01792 maximum number of columns in a table or view is 1000 during T2T execution?

You should apply the below patch set from Oracle. Applicable only for 12c.

https://support.oracle.com/epmos/faces/DocumentDisplay?id=1937782.1

I did not enable OFS Inline Processing Engine Application license during the installation. However, I have enabled it post installation, using the Manage OFSAA Product License(s) in the Admin UI. Are there any other additional configurations that I need to do?

Yes. Follow the instructions explained in the OFS Inline Processing Engine Configuration Guide.

I get an error when I try to build an Oracle OLAP cube. What should I do?

Execute the below grant on the appropriate ATOMIC schema

grant olap_user to &database_username

How do you turn off unused Information Domains (Infodoms) from caching?

Follow these steps to turn off unused infodoms from caching:

1. Navigate to $FIC_HOME/conf in the APP layer of your OFSAAI installation.
2. In the DynamicServices.xml file, identify the section for <Service code="20">.
3. Modify the value of parameter CACHE_ON_STARTUP to 0 (default is 1).

4. Repeat the same in the WEB layer too. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, refer to the Post Installation Configuration section.
5. Restart the OFSAAI Services (APP and WEB). For more information, refer to the Start OFSAA Infrastructure Services section.

NOTE: This setting will cache the Infodom metadata only for the infodoms that get accessed upon user login. Infodoms which do not get accessed, will not be cached.

Sample code is pasted below:

```
<SERVICE CODE="20"
CLASS="com.iflex.fic.metadata.services.MetadataServiceProvider" NAME="BMD"
SERVERID="DEFAULT" PATH=" " LOGGERNAME="UMMLOGGER" LOGGERLEVEL="10">
<PARAMETERS>
<PARAMETER NAME="CACHE_ON_STARTUP" VALUE="0" />
<PARAMETER NAME="BACKUP_XML" VALUE="1" />
<PARAMETER NAME="MAX_BACKUP_XML" VALUE="2" />
<PARAMETER NAME="PC_NONBI_BI_SWITCH" VALUE="2048" />
<PARAMETER NAME="HIERARCHY_NODE_LIMIT" VALUE="2000" />
<PARAMETER NAME="ALIAS_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="DATASET_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="MEASURE_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="HIERARCHY_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="DIMENSION_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="HIERARCHYATTRIBUTE_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="CUBE_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="RDM_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="BUSINESSPROCESSOR_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="DERIVEDENTITY_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="LOG_GET_METADATA" VALUE="false" />
<PARAMETER NAME="METADATA_PARALLEL_CACHING" VALUE="0" />
</PARAMETERS>
</SERVICE>
```

"While creating an Excel Mapping, after specifying the excel worksheet, the target table, and mapping each column in the worksheet to a target table, I click SAVE and nothing happens. But when I click CANCEL, a message pops up informing me that all changes will be discarded", what is to be done.

Check if the excel mapping creation is done using I.E 8 with JRE 1.4 plug in enabled on machine. If so, upgrade the JRE plug in to 1.7+.

Application Pack 8.0.0.0.0 FAQs

What is an Application pack?

An Application Pack is suite of products. For more information, refer Application Packs.

Can I get a standalone installer for OFSAA 8.0?

No. AAI is part of every application pack and installs automatically.

How does OFSAA 8.0 Application pack relate to OFSAA 7.x series?

8.0 is a new major release consolidating all products from OFSAA product suite.

Can existing OFSAA 7.x customers upgrade to OFSAA 8.0 Application Pack? There is no upgrade path available. However, we will have migration kit / path for every product to 8.0 application pack. Further details will be available with Oracle Support.

Does OFSAA 8.0 Application pack UPGRADE's automatically existing environments?

No. Refer Point 5. OFSAA 8.0 application pack has to be installed in an new environment and subsequently migration path / migration kit needs to be run to migrate from 7.x to 8.0. Please note we will have migration path only from the previously released version of OFSAA products.

Where can I download OFSAA 8.0 Application Pack?

OSDC

What are the minimum system and software requirements for OFSAA 8.0 Application Pack?

Refer installation guide section Hardware and Software Requirements section.

Is my environment compatible with OFSAA 8.0 Application Pack?

Environment Check utility performs the task. It is part of install and can also be run separately.

Has OFSAA 8.0 Application Pack is supports all Operating systems?

LINUX, AIX, SOLARIS 10, 11. Refer to Technology Matrix for the technology matrix that OFSAA suite products are/ will be qualified on.

How can I install OFSAA 8.0 Application Pack?

Refer to I&C guide published in OTN (<<link to be provided>>) for the application pack installers.

Do we need any License Key to install?

No, you do not need any License Key to install.

Does this installation require any Third party Software's?

Installation Guide lists the third party software that needs to be installed.

What languages are supported during OFSAA 8.0 Application Pack installation?

US English is the language supported.

What mode of installations OFSAA Application Pack supports? [i.e., Silent , GUI]

OFSAA Application Packs supports both, GUI and Silent Mode.

Does OFSAA 8.0 Application Pack support Multi tier Installations?

OFSAA 8.0 does single tier installation. For more information refer to OFSAAI FAQ<XREF> section.

Does this Application Pack validate all Pre-requisites required for this installation i.e., Memory, Disk Space etc.?

Yes. The pre-requisite checks are done by the respective application pack installer.

What happens if it aborts during installation of any application with in Application pack?

Customer needs to restore the system and retrigger the installation

Does this Application pack 'Rolls Back' if any of application installation fails due to errors?

Rollback of installation is not supported.

Does the Application pack installs all applications bundled?

All application pack file system files are installed but there is an option to enable the licensed products.

How can I re-install any of the Application Pack?

You can retrigger in case of failure.

Does Application pack allow enabling / disabling any of the applications installed?

Yes. You cannot disable once the product is enabled in an environment.

I have installed one application in a Application pack and can I install any of new applications within the Application pack later point of time?

No, installation is not required. Enabling the application is an option to use it later.

Is it possible to Install OFSAA 8.0 Application pack on any one of the existing 'Infodom' where another OFSAA 8.0 application is installed?

Yes. But Behavioral Detection Pack and Compliance Regulatory Reporting pack are the exceptions. They need to be installed in a different INFODOM.

Is there any option in Application pack for the user to select Infodom during installations?

Yes. You can select or change the required infodom.

Can I install all Application Packs in a 'Single Infodom'?

Yes. But **Behavioural Detection Pack** and **Compliance Regulatory Reporting Pack** are the exceptions. They need to be installed in a different INFODOM.

Is it possible to install applications on different Infodom within the Application pack? (That is if you want to install LRM & MR in two infodoms)

Applications within application pack have to be installed in the same information domain in the same environment.

Does 'Data Model' bundled is Application pack Specific or Specific to individual application?

A merged data model for all applications within the application pack is bundled and uploaded.

Is it possible to install OFS Enterprise Modeling in later point of time?

OFS Enterprise Modeling as separate product and can be enabled as on option at later point of time from any application pack that bundles Enterprise Modeling.

Does OFS Enterprise Modeling is required for all applications?

This product is enabled depending on the applications that use the features of OFS Enterprise Modeling.

Will Application pack creates sandbox automatically for the required applications?

Yes, Sandbox creation is part of application install process.

Do we have upgrade Kits for individual applications or it's a Application Pack Upgrade?

ML/ IR releases / upgrades will be across Packs.

Can I upgrade AAI only?

Yes, you can upgrade AAI alone.

Can I upgrade one application within the Application Pack? i.e., LRM will be upgraded in Treasury Application pack, but MR won't be upgraded.

No. Not possible Upgrade is applied across packs.

Is it possible to uninstall any Application from the Application pack?

No, it is not possible to uninstall any Application from the Application Pack.

Can I uninstall entire Application Pack?

No, you cannot uninstall the Application Pack.

Is it possible to uninstall only application and retain AAI in the installed environment?

No, you cannot uninstall only the application and retain AAI in the installed environment.

Does Application Pack contain all Language Packs supported?

Language Packs are installed on top of 8.0 application pack. Releases are planned post the 8.0 availability.

Can I install an Application Pack over another Application Pack (that is same infodom or different information)

Yes, you can install an Application Pack over another Application Pack in the same information domain or different information domain.

Can I use an existing manually created schema as information domain for application pack installation?

No. Schemas required by OFSAA applications have to be created using **Schema Creator Utility**.

Does OFSAA 8.0 support on WebLogic 10.3.6 with Oracle 12c?

Yes, OFSAA 8.0 will support on WebLogic 10.3.6 with Oracle 12c. WebLogic 10.3.6 supports oracle 12c with some additional configurations. Refer the link http://docs.oracle.com/cd/E28280_01/web.1111/e13737/ds_12cdriver.htm#JDBCA655 for additional configurations.

While running the schema creator utility, I get an error "HostName in input xml is not matching with the local hostname"?

One possible reason could be the machine is configured for zonal partitioning. Ensure all the known IP Addresses of the machine are present in the /etc/hosts file.

"*While creating an Excel Mapping, after specifying the excel worksheet, the target table, and mapping each column in the worksheet to a target table, I click SAVE and nothing happens. But when I click CANCEL, a message pops up informing me that all changes will be discarded*", what is to be done.

Check if the excel mapping creation is done using I.E 8 with JRE 1.4 plug in enabled on machine. If so, upgrade the JRE plug in to 1.6.

What are the Java versions supported in OFS AAAI Application Pack version 8.0.0.0.0?

OFS AAAI Application Pack supports Java 1.7.x and 1.8.x.

Is this release of the OFS AAAI Application Pack version 8.0.0.0.0 supported on Java 8?

Yes. To install this release of the OFS AAAI Application Pack version 8.0.0.0.0 on Java 8. For more information, refer to specific notes mentioned in the sections *Installer and Installation Prerequisites*, *Configuring and Executing the Schema Creator Utility*,*GUI Mode Installation* and, *Silent Mode Installation* .

Forms Framework FAQs

What should I do when I have large volume of data to be exported?

It is recommended to use BIP reports or OBIEE reports if you have to export large volume of data.

How do I export the columns added to the grid using Field Chooser option?

Perform Grid Export operation to export the columns added to the grid by Field Chooser option.

Forms Framework FAQs

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Error Dictionary

The content of this section has been created with the interest to help you resolve the installation issues if any. There is a compilation of all the possible errors that might arise during the installation process with the possible cause and the resolution to quickly fix the issue and proceed further with the installation.

This section includes the following topics:

- *Accessing Error Dictionary*
- *Error Code Dictionary*

Accessing Error Dictionary

Instead of scrolling through the document to find the error code, you can use the pdf search functionality. In the "Find" dialog available in any of the Adobe Acrobat version that you are using to view the pdf document, follow the below instructions to quickly find the error resolution.

1. With the Installation pdf open, press Ctrl+F or select Edit > Find.
2. The Find dialog is displayed as indicated.
3. Enter the error code that is displayed on screen during Infrastructure installation.

4. Press Enter. The search results are displayed and highlighted as indicated below.

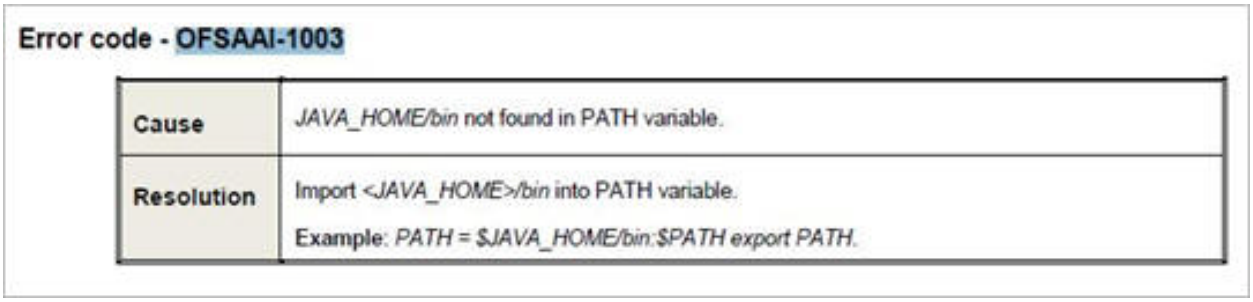

Figure 6. Error Dictionary

View the details of the issues, its cause, and resolution specific to the error code. Repeat the step to find an answer to any other errors that you notice during installation. If you are not able to resolve the issue even after following the steps provided in resolution, you can contact support.oracle.com along with log files and appropriate screen shots.

Error Code Dictionary

Table 2: Error Code - OFSAAI-1001

Cause	Unix shell is not "korn" shell.
Resolution	Change the shell type to "korn". Use chsh unix command to change SHELL type. Shell type can also be changed by specifying shell path for the Unix user in /etc/passwd file. **Note**: chsh command is not available in Solaris OS.Cause

Table 3: Error Code - OFSAAI-1002

Cause	No proper arguments are available.
Resolution	Provide proper arguments. Invoke Setup.sh using either SILENT or GUI mode. Example: ./Setup.sh SILENT or ./Setup.sh GUICause

Table 4: Error Code - OFSAAI-1004

Cause	File .profile is not present in $HOME.
Resolution	Create .profile in $HOME, i.e. in the home directory of user.

Table 5: Error Code - OFSAAI-1005

Cause	File OFSAAInfrastructure.bin is not present in current folder.
Resolution	Copy OFSAAInfrastructure.bin into installation kit directory.

Table 6: Error Code - OFSAAI-1006

Cause	File CustReg.DAT is not present in current folder.
Resolution	Copy CustReg.DAT into installation kit directory.

Table 7: Error Code - OFSAAI-1007

Cause	File OFSAAI_InstallConfig.xml is not present in current folder.
Resolution	Copy OFSAAI_InstallConfig.xml into installation kit directory.

Table 8: Error Code - OFSAAI-1008

Cause	File validateXMLInputs.jar is not present in current folder.
Resolution	Copy validateXMLInputs.jar into installation kit directory.

Table 9: Error Code - OFSAAI-1009

Cause	File log4j.xml is not present in current folder.
Resolution	Copy log4j.xml into installation kit directory.

Table 10: Error Code - OFSAAI-1010

Cause	Unknown error occurred.
Resolution	Make sure to provide proper argument (SILENT or GUI) to the Setup.sh file.

Table 11: Error Code - OFSAAI-1011

Cause	XML validation failed.
Resolution	Check InfrastructurePreValidations.Log for more details.

Table 12: Error Code - OFSAAI-1012

Cause	Property file with locale name does not exist.
Resolution	Copy MyResources_en_US.properties to the setup kit directory and keep en_US in LOCALE tag of OFSAAI_InstallConfig.xml.

Table 13: Error Code - OFSAAI-1013

Cause	File OFSAAI_InstallConfig.xml/OFSAAI_PostInstallConfig.xml not found.
Resolution	Copy OFSAAI_InstallConfig.xml/OFSAAI_PostInstallConfig.xml to the setup kit directory.

Table 14: Error Code - OFSAAI-1014

Cause	XML node value is blank.
Resolution	Make sure all node values except SMTPSERVER,PROXYHOST, PROXYPORT, PROXYUSERNAME, PROXYPASSWORD, NONPROXYHOST, or RAC_URL are not blank.

Table 15: Error Code - OFSAAI-1015

Cause	XML is not well formed.
Resolution	Execute the command dos2unix OFSAAI_InstallConfig.xml to convert plain text file from DOS/MAC format to UNIX format. OR Make sure that OFSAAI_InstallConfig.xml is valid. Try to open the file through Internet Explorer for a quick way to check validity. If it is not getting opened, create new OFSAAI_InstallConfig.xml using the XML_Utility.jar.

Table 16: Error Code - OFSAAI-1015

Cause	User installation directory contain blank spaces.
Resolution	Provide an installation path that does not contain spaces. Check the tag USER_INSTALL_DIR in OFSAAI_InstallConfig.xml file. This path should not contain any spaces.

Table 17: Error Code - OFSAAI-1016

Cause	User installation directory is invalid.
Resolution	Provide a valid installation path. Check if you are able to create the directory mentioned in USER_INSTALL_DIR tag value of OFSAAI_InstallConfig.xml file.

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