Oracle® Financial Services Behavior Detection Applications Pack

Installation Guide

Release 8.0.4.0.0

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Installation Guide, Release 8.0.4.0.0

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Primary Author: Vibha Nag M S

Contributing Author: Anil M S and Akhilesh Murthy

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Document Control

This section provides the revision details of the document.

Version Number	Revision Date	Changes Done
1.0	Created: March 2017	Captured installation and configuration steps for 8.0.4.0.0 Release.
2.0	Modified: April 2017	Added Solaris OS related changes.
3.0	Modified: April 2017	Added details of consolidated one-off patch 25777667.

This document includes the necessary instructions to install the OFS BD Applications Pack 8.0.4.0.0 and perform the required post installation configurations. The latest copy of this guide can be accessed from OTN Library.

Preface

This section provides supporting information for the Oracle Financial Services Behavior Detection Applications Pack (OFS BD) Installation Guide and 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 access to the Oracle Support Services 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 Services.

Audience

Oracle Financial Services Behavior Detection Pack Installation Guide is intended for administrators and implementation consultants who are responsible for installing and maintaining the Applications Pack components.

Prerequisites for the Audience

The following are the prerequisites from the administrators installing OFS BD:

This document assumes that you have experience in installing Enterprise components and basic knowledge about the following:

- OFS BD pack components
- OFSAA Architecture
- UNIX Commands
- Database Concepts
- Web server/ Web application server

Related Documents

This section identifies additional documents related to OFS BD.

OFSAAI Related Documents

Following documents are available in OTN.

- *Oracle Financial Services Advanced Analytical Applications Infrastructure Applications Pack Installation and Configuration Guide*
- *Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide*
- *Oracle Financial Services Analytical Applications Infrastructure Administration Guide*
- *Oracle Financial Services Analytical Applications Infrastructure User Guide*

OFS BD Application Related Documents

Following documents are available in OTN.

- *Oracle Financial Services Behavior Detection Administration Guide*
- *Oracle Financial Services Scenario Manager User Guide*
- *Oracle Financial Services Behavior Detection Configuration Guide*
- *Oracle Financial Services Know Your Customer Administration Guide*
- *Oracle Financial Services Foreign Account Tax Compliance Act Administration and Configuration Guide*
- *Oracle Financial Services Currency Transaction Reporting Administration Guide*
- *Oracle Financial Services Scenario Wizard Configuration Guide*
- *Oracle Financial Services Know Your Customer Risk Assessment Guide*
- *Oracle Financial Services Administration Tools User Guide*
- *Oracle Financial Services FATCA Administration and Configuration Guide*
- *Oracle Financial Services FATCA Assessment Guide*
- *Oracle Financial Services FATCA RR User Guide*
- *Oracle Financial Services FATCA RR Administration and Configuration Guide*
- *Oracle Financial Services Alert Management User Guide*
- *Oracle Financial Services Enterprise Case Management User Guide*
- *Oracle Financial Services Common Reporting Standard User Guide*
- *Oracle Financial Services Common Reporting Standard Administration Configuration Guide*
- *Oracle Financial Services Behavior Detection Release Notes*

The following documents are available in My Oracle Support (MOS). You should have SSO credentials to access MOS.

- *Oracle Financial Services Analytical Applications Infrastructure Security Guide*
- *Oracle Financial Services Common Reporting Standard Data Model Reference Guide*
- *Oracle Financial Services Know Your Customer Data Model Reference Guide*
- *Financial Services Data Model Reference Guide Volume 1: Business Data*
- *Financial Services Data Model Reference Guide Volume 2: Oracle Financial Services Data*
- *Financial Services Data Model Reference Guide Volume 3: Case Management Data*

- *Data Interface Specification*
- *Oracle Financial Services Anti-Money Laundering Technical Scenario Description*
- *Oracle Financial Services Broker Compliance Technical Scenario Description*
- *Oracle Financial Services Energy and Commodity Trading Compliance Technical Scenario Description*
- *Oracle Financial Services Fraud Technical Scenario Description*
- *Oracle Financial Services Trading Compliance Technical Scenario Description*

Conventions

The following text conventions are used in this document:

Table 0–1 Conventions used in this guide

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Abbreviations

The following table lists the abbreviations used in this document:

Table 0–2 Abbreviations and their meaning

Abbreviation	Meaning
BD	Behavior Detection
GUI	Graphical User Interface
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JDBC	Java Database Connectivity
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MOS	My Oracle Support
OFSAA	Oracle Financial Services Analytical Application
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OLAP	On-Line Analytical Processing
OS	Operating System
SFTP	Secure File Transfer Protocol
URL	Uniform Resource Locator
Web Archive	WAR

Table 0–2 Abbreviations and their meaning

Abbreviation	Meaning
XML	Extensible Markup Language

1

About OFSAA and OFSAA Applications Packs

This chapter provides complete details about Behavior Detection (BD) Applications Pack.

This chapter includes the following topics:

About 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.

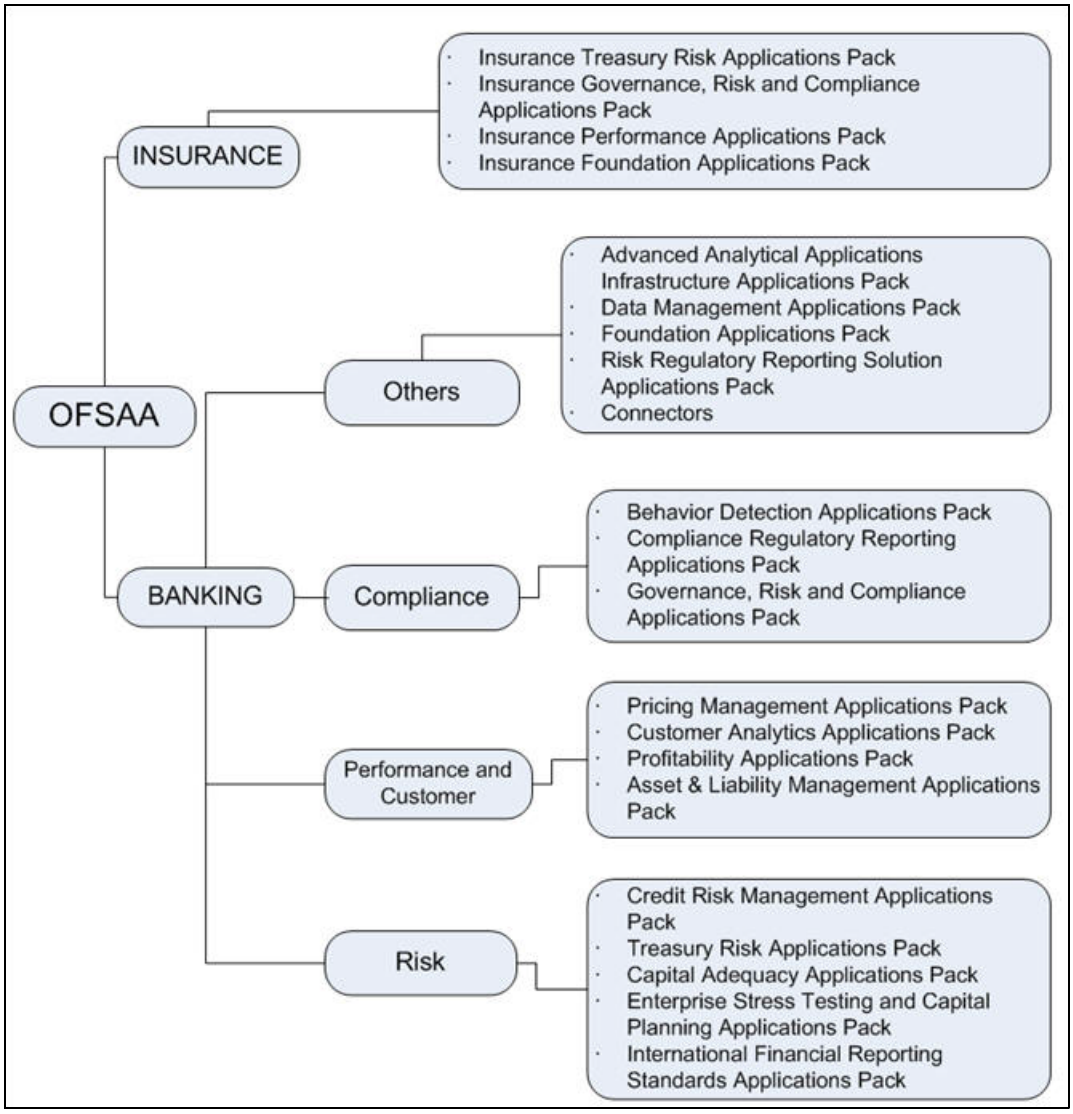
OFSAA uses industry-leading analytical methods, shared data model and applications architecture to enable integrated risk management, performance management, customer insight, and compliance management. OFSAA actively incorporates risk into decision making, enables to achieve a consistent view of performance,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

With the help of OFSAA, the financial services organizations can achieve, management excellence with a lower total cost of ownership, due to our integrated, architecture, combining performance and risk applications into a single, seamlessly integrated framework.

OFSAA delivers a comprehensive and integrated suite of financial services analytical applications for both banking and insurance domain.

The Figure 1–1 depicts the various Applications Pack that are available across the OFSAA Banking and Insurance domains:

Figure 1–1 OFSAA Applications Packs



Introduction to OFS BD Application

OFS BD Applications Pack includes the following applications:

- **Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)** powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection and manipulation of data and information required 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.
- **Oracle Financial Services Inline Processing Engine (OFS IPE)** provides real-time monitoring, detection and interdiction of single and complex fraud events across multiple channels and lines of business.
- **Oracle Financial Services Anti-Money Laundering (OFS AML)** monitors transactions to identify possible money-laundering activities. These scenarios consider whether the geographical location or entities involved warrant enhanced scrutiny; monitor activity

between accounts, customers, correspondents, and other entities to reveal relationships that could indicate efforts to launder funds; address sudden, significant changes in transaction activity that could indicate money laundering or fraud; and detect other types of activities that are considered potentially suspicious or indicative of money laundering.

For example, the Journals Between Unrelated Accounts scenario detects accounts that conduct journal transactions, within a specified period, to one or more accounts that do not share tax identifiers, do not share a customer, are not in the same household, and are not known to have a formal relationship. This behavior might indicate that money launderers have established a number of accounts using aliases or slightly different identifying information, and then moving money between accounts as part of a layering strategy, often consolidating the funds in a single account before removing them from the institution.

- **Oracle Financial Services Fraud Enterprise Edition (OFS FEE)** detects behaviors and patterns that evolve over time and are indicative of sophisticated, complex fraud activity. These scenarios monitor check and deposit / withdrawal activity, electronic payments, such as funds transfer and payments completed through clearing house (ACH) mechanisms, and ATM and Bank Card to identify patterns of activities that could be indicate fraud, counterfeiting or kiting schemes, identity theft or account takeover schemes. Fraud scenarios also monitor employee transactions to identify situations in which employees, acting as insiders, take advantage of access to proprietary customer and account information to defraud the financial institution's customers.
  For example, the Excessive Withdrawals at Multiple Locations scenario monitors a sudden increase in a customer's withdrawals at ATMs that may indicate money laundering, terrorist financing, or an account takeover.
- **Oracle Financial Services Trading Compliance (OFS TC)** examines prices and timing of orders and executions by comparing them to market conditions and detect behaviors or situations that violate exchange, market center, and individual broker or dealer policies and procedures, including behaviors that violate the Chinese Wall policies and procedures established by the Firm or those with confidential information held by the Firm about a security.

  For example, the Trading Ahead of Material Events scenario detects possible insider trading by analyzing trades which occur prior to “events”, which can be defined by the Oracle client. The type and volume of trades which occur prior to an event may indicate that an employee, customer, trader, or trading desk was in possession of material non-public information. As there may also be non-fraudulent reasons for this trading activity, this scenario minimizes false alerts by excluding accepted hedging or trading strategies.
- **Oracle Financial Services Trade Blotter (OFS TB)** allows trades to be viewed and reviewed, primarily for suitability issues within the wealth management sector, by compliance analysts and business supervisors after a trade has been executed. The Trade Blotter is a list of trades returned after a search based on specified criteria. Users can view trade details, view related trade documents, enter a comment on a specific trade, and then mark the trade as reviewed or requiring follow-up.
- **Oracle Financial Services Personal Trading Approval (OFS PTA)** monitors employee investment accounts and trades. Employees of the financial institution submit trade requests to be made from their approved investment accounts. Compliance officers can then review, approve, or reject the trade requests to ensure that their employees are acting in compliance with regulations. Financial institutions can also use this solution to maintain employee attestations.
- **Oracle Financial Services Broker Compliance (OFS BC)** identifies activities or situations in customer accounts that involve either a significant amount of risk-and therefore may be unsuitable for the customer-or may violate trading rules set by the exchanges or regulators; trades in mutual fund securities that may violate regulatory

trading guidelines, Commission policies, or are unsuitable for a particular customer; and activities performed by employees that may violate regulatory conduct rules or may be prohibited by firm policies. These scenarios also detect instances in which an investment advisor may be managing client accounts in a manner that is unsuitable for their customers, giving preferential treatment to particular customers, or manipulating transactions between accounts; and instances in which a portfolio manager may be placing orders on material, non-public information, misrepresenting portfolio performance, or unfairly allocating orders to accounts that they manage.
For example, the Reps Concentrating Solicitations in Too Few Securities scenario verifies that Registered Representatives are not exposing their clients to undue risk by recommending a significant percentage of buy solicitations in a single security, which can result in an unbalanced and volatile portfolio.

- **Oracle Financial Services Energy and Commodity Trading Compliance (OFS ECTC)** monitors trading activities that involve the financial institution as the buyer or seller on energy and commodity related trades, including commodities, options, futures, and swaps.

  For example, the Energy Trading Limits scenario monitors trading of energy instruments to detect excessive hourly amounts of energy traded, based on internal limits which consider physical and financial power as well as Financial Transmission Rights (FTR). The scenario generates alerts when the amount of energy approaches or exceeds these internal limits. This behavior may indicate an attempt to manipulate the market by knowingly creating congestion with the purpose of benefiting from the creation of that congestion.

- **Oracle Financial Services Enterprise Case Management (OFS ECM)** manages and tracks the investigation and resolution of cases related to one or more business entities involved in potentially suspicious behavior. Cases can be manually created within Enterprise Case Management or your firm may integrate other Oracle Financial Services solutions, such as Alert Management, Know Your Customer, and FATCA Management, which can be used to create cases.

- **Oracle Financial Services Know Your Customer (OFS KYC)** assesses the risk associated with a customer by considering different attributes of the customer and enables financial institutions to perform Due Diligence, Enhanced Due Diligence, and continuous monitoring of customers. Cases generated in Know Your Customer can be managed within Enterprise Case Management to track investigations until they have been resolved or reported to the appropriate regulatory authorities.

- **Oracle Financial Services Currency Transaction Reporting (OFS CTR)** analyzes transaction data from the organization and identifies any suspicious activities within the institution that may lead to fraud or money laundering and must be reported to the regulatory authorities. Currency Transaction Reports (CTRs) are created either at the branches or through the end of day files, where the CTR application aggregates multiple transactions performed at the branch, ATMs and Vaults. Oracle Financial Services Currency Transaction Reporting then helps the organization file the CTR online with the U.S. Financial Crimes Enforcement Network (FinCEN) using a discreet form or uploaded in a batch form in a specific text file format.

  Unlike alerts for other Oracle Financial Services products such as Anti-Money Laundering, Fraud, Trading Compliance, Broker Compliance, or Energy and Commodity Trading Compliance which appear in an Alert Management user interface, CTR alerts are automatically processed and converted into CTR reports or Monetary Instrument Log reports which can be worked through the CTR user interface.
  For example, the Bank Secrecy Act Currency Transaction Report scenario detects activity meeting the requirements for filing a Bank Secrecy Act Currency Transaction Report (CTR) and reconciles alerts generated by this scenario which are considered batch CTRs with Branch CTRs. The resulting CTRs are prepared for electronic filing in accordance

with FinCEN's BSA Electronic Filing Requirements for Bank Secrecy Act Currency Transaction Report (BSA CTR).

- **Oracle Financial Services Foreign Account Tax Compliance Act (OFS FATCA) Management** allows financial institutions to comply with FATCA regulations from the Internal Revenue Service and the US Treasury Department which prevent US taxpayers who hold financial assets in non-US financial institutions and other offshore vehicles from avoiding their US tax obligations. The FATCA Management solution integrates with Enterprise Case Management to track investigations until they have been resolved or reported to the appropriate regulatory authorities.
- **Oracle Financial Services Common Reporting Standard (OFS CRS)** is developed in response to the G20 request and approved by the OECD Council on 15 July 2014, calls on jurisdictions to obtain information from their financial institutions and automatically exchange that information with other jurisdictions on an annual basis. It sets out the financial account information to be exchanged, the financial institutions required to report, the different types of accounts and taxpayers covered, as well as common due diligence procedures to be followed by financial institutions.

About OFSAA Infrastructure

Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection and manipulation of data and information required 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.

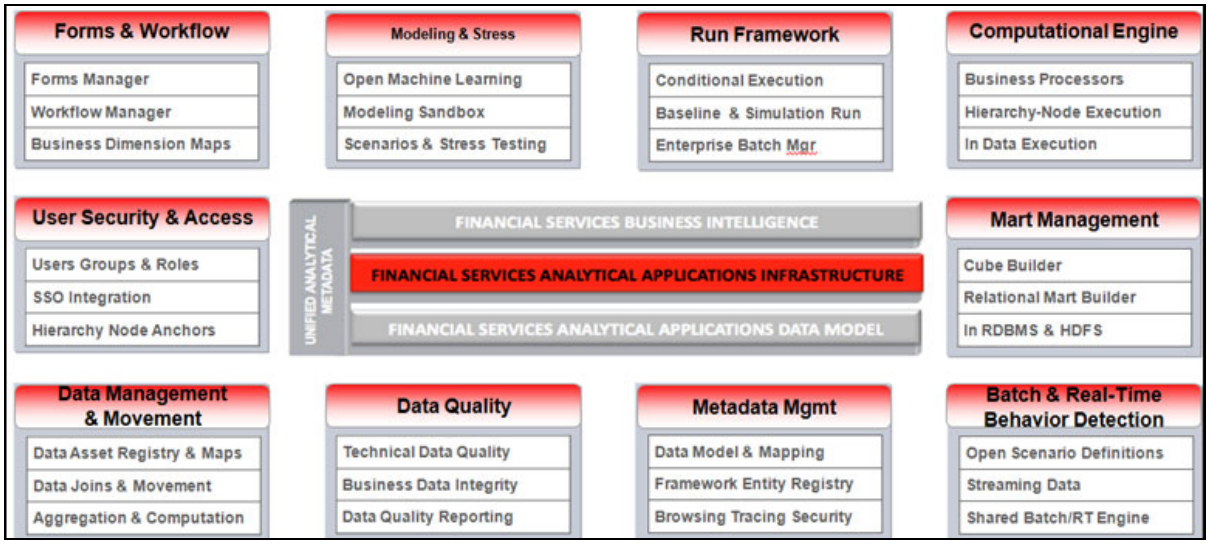
Components of OFSAAI

The OFSAA Infrastructure includes frameworks that operate on and with the Oracle Financial Services Analytical Applications Data Model and form the array of components within the Infrastructure.

The OFSAA Infrastructure components/ frameworks are installed as 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 Figure 1–2 depicts the various frameworks and capabilities that make up the OFSAA Infrastructure:

Figure 1–2 Components of OFSAAI



OFSAA Infrastructure High Availability

The current release of the OFSAA Infrastructure supports only "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for the Database Server and/or the Web application server clustering and deployment are supported in this release.

This release supports Active-Passive model of implementation for OFSAAI components. For more information, see Oracle Financial Services Analytical Applications Configuration for High Availability- Best Practices Guide.

2

Understanding OFS BD Applications Pack Installation

This chapter includes the following topics:

Installation Overview

This release (8.0.4.0.0) of the OFS BD Applications Pack bundles the upgrade patch set along with the base installer. Users/ Administrators who wish to install a new OFS BD Applications Pack 8.0.4.0.0 instance or upgrade an existing OFS BD Applications Pack 8.0.x instance to 8.0.4.0.0 should download this installer. Figure 2–1 shows the order of procedures required to follow to install a new OFS BD Applications Pack 8.0.4.0.0 instance. To upgrade an existing OFS BD Applications Pack 8.0.x.x.x instance to 8.0.4.0.0 release, see Upgrading the OFS BD Applications Pack.

Figure 2–1 **Installation Overview**

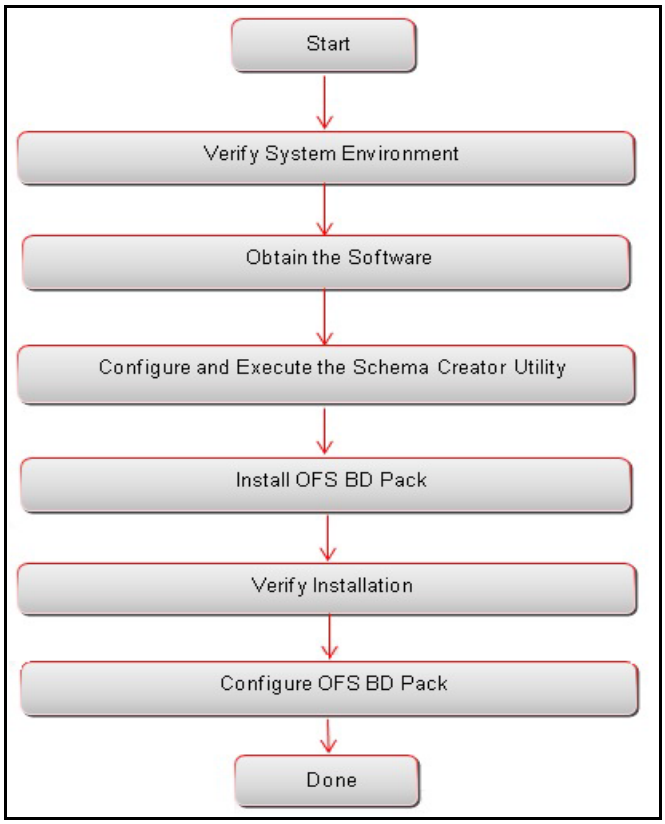


Table 2–1 provides additional information and links to specific documentation for each task in the flowchart.

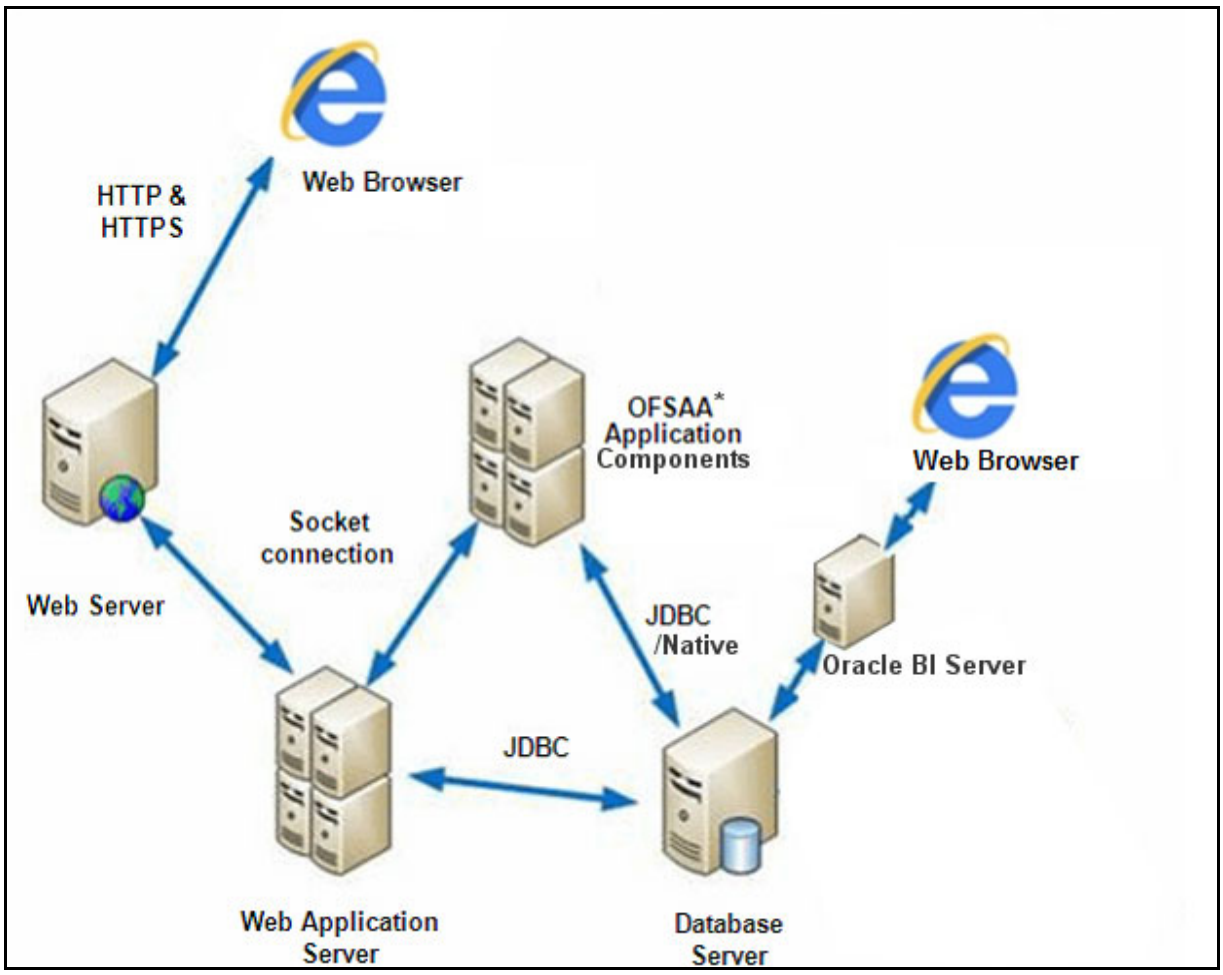
Table 2–1 OFSBD Applications Pack Installation Tasks and Descriptions

Tasks	Details and Documentation
Verify Systems Environment	To verify that your system meets the minimum necessary requirements for installing and hosting the OFSBD Applications Pack, see Verifying System Environment.
Obtain the software	To access and download the OFSBD Applications Pack, see Obtaining Software.
Configure and Execute the Schema Creator Utility	To create the database schemas, see Configuring and Executing Schema Creator Utility.
Install OFS BD Pack	To install the OFS BD Applications Pack, see Installing the OFS BD Applications Pack.
Configure OFS BD Pack after installation	To configure the OFS BD Applications Pack post installation, see Post Installation Configuration.

Deployment Topology

The Figure 2–2 shows the logical architecture implemented for OFS BD Applications Pack.

Figure 2–2 Deployment Topology



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 BD Applications Pack has been qualified.

Note:

OFS BD Applications Pack installation can be performed on both Virtual and Physical servers.

The following tables show the minimum hardware and software requirements for installing OFS BD Applications Pack.

Configurations supported for Java 7

Table 2–2 Configurations Supported for Java 7

Operating System

Table 2–2 (Cont.) Configurations Supported for Java 7

Oracle Linux / Red Hat Enterprise Linux (x86-64)	? Oracle Linux Server release 6.1 and above - 64 bit ? Oracle Linux Server release 7.1 and above - 64 bit **Note**: Same version of RHEL is supported
Oracle Solaris (SPARC)	? Oracle Solaris v5.10 Update 11 and above - 64 bit ? Oracle Solaris v5.11 update 3 and above - 64 bit
Shell	? KORN Shell (KSH)
Note: ? If the operating system is RHEL, install the package lsb_release with 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
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 R Distribution 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 - 20698050 ? Also for latest information, see 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) ? Oracle R Enterprise 1.4 requires Oracle Database Enterprise Edition 11.2.0.3/ 11.2.0.4/ 12.1.0.1	
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 and 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	

Table 2–2 (Cont.) Configurations Supported for Java 7

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.x and 12.2.x - 64 bit ? IBM WebSphere Application Server 8.5.5.9+ (Full Profile) with 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.	
BIG DATA	
Cloudera Distribution Hadoop 5.3.3	? CDH Version 5.3.3 ? Hadoop-2.5.0+cdh5.3.3+844 ? Hive-0.13.1+cdh5.3.3+350 ? Sqoop1 V 1.4.4+cdh5.3.3+67 ? Sqoop2 V 1.99.4+cdh5.3.3+23 ? Oracle Loader For Hadoop (OLH) V 3.2
Cloudera Distribution Hadoop –5.4.4	? CDH Version –5.4 ? Hadoop-2.6.0+cdh5.4.4+597 ? Hive V 1.1.0+cdh5.4.4+152 ? Sqoop1 V 1.4.5+cdh5.4.4+101 ? Sqoop2 V 1.99.5+cdh5.4.4+36
Cloudera Hive Connectors	Hive JDBC Connectors V 2.5.15
Oracle R Advanced Analytics for Hadoop	Oracle R Advanced Analytics for Hadoop (ORAAH) 2.4.0
Hadoop Security Protocol	? Kerberos R release 1.6.1 ? Sentry-1.4.0
Hortonworks Data Platform (HDP 2.5)	? CDH Version 2.5 ? Hadoop-2.7.3+hdp2.5+844 ? Hive-1.2.1+hdp2.5+350 ? Sqoop1 V 1.4.4+hdp2.5+67 ? Sqoop2 V 1.99.4+hdp2.5+23 ? Oracle Loader For Hadoop (OLH) V 3.2
Hortonworks Hive Connectors	Hive JDBC Connectors V 2.5.15
Oracle R Advanced Analytics for Hadoop	Oracle R Advanced Analytics for Hadoop (ORAAH) 2.4.0
Hadoop Security Protocol	? Kerberos 5 release 1.6.1 ? Sentry-1.4.0
Desktop Requirements	
Operating System	MS Windows 7/ Windows 8/ Windows 8.1

Table 2–2 (Cont.) Configurations Supported for Java 7

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, see Configuring Internet Explorer Settings
Office Tools	? MS Office 2007/2010/2013 ? Adobe Acrobat Reader 8 or above
Screen Resolution	1024*768 or 1280*1024
Other Software	
Directory Services	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software such as MS Active Directory.
Note: ? Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Setting Infrastructure LDAP Configuration. ? Open LDAP must be installed on MS Windows Server machine.	

Configurations supported for Java 8

Table 2–3 Configurations Supported for Java 8

Operating System	
Oracle Linux / Red Hat Enterprise Linux (x86-64)	? Oracle Linux Server release 6.1 and above - 64 bit ? Oracle Linux Server release 7.1 and above - 64 bit **Note**: Same version of RHEL is supported
Oracle Solaris (SPARC)	? Oracle Solaris v5.10 Update 11 and above - 64 bit ? Oracle Solaris v5.11 update 3 and above - 64 bit
Shell	? KORN Shell (KSH)
Note: ? If the operating system is RHEL, install the package lsb_release with 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) 1.8.x - 64 bit
Oracle Database Server and Client	

Table 2–3 (Cont.) Configurations Supported for Java 8

? 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 R Distribution 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 - 20698050 ? Also for latest information, see 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) ? Oracle R Enterprise 1.4 requires Oracle Database Enterprise Edition 11.2.0.3/ 11.2.0.4/ 12.1.0.1	
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 and 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.x and 12.2.x - 64 bit ? IBM WebSphere Application Server 8.5.5.9+ 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. ? For deployment on Oracle WebLogic Server 12.1.3+ (64 bit) with Java 8, download and install patch 18729264 from http://support.oracle.com/.	
BIG DATA	

Table 2–3 (Cont.) Configurations Supported for Java 8

Cloudera Distribution Hadoop 5.3.3	? CDH Version 5.3.3 ? Hadoop-2.5.0+cdh5.3.3+844 ? Hive-0.13.1+cdh5.3.3+350 ? Sqoop1 V 1.4.5+cdh5.3.3+67 ? Sqoop2 V 1.99.4+cdh5.3.3+23 ? Oracle Loader For Hadoop (OLH) V 3.2
Cloudera Distribution Hadoop –5.4.4	? CDH Version –5.4 ? Hadoop-2.6.0+hdp5.4.4+597 ? Hive V 1.1.0+hdp5.4.4+152 ? Sqoop1 V 1.4.4+hdp5.4.4+101 ? Sqoop2 V 1.99.5+hdp5.4.4+36
Cloudera Hive Connectors	Hive JDBC Connectors V 2.5.15
Oracle R Advanced Analytics for Hadoop	Oracle R Advanced Analytics for Hadoop (ORAAH) 2.4.0
Hadoop Security Protocol	? Kerberos R release 1.6.1 ? Sentry-1.4.0
Hortonworks Data Platform (HDP 2.5)	? CDH Version 2.5 ? Hadoop-2.7.3+cdh2.5+844 ? Hive-1.2.1+cdh2.5+350 ? Sqoop1 V 1.4.5+cdh2.5+67 ? Sqoop2 V 1.99.4+cdh2.5+23 ? Oracle Loader For Hadoop (OLH) V 3.2
Horton Hive Connectors	Hive JDBC Connectors V 2.5.15
Oracle R Advanced Analytics for Hadoop	Oracle R Advanced Analytics for Hadoop (ORAAH) 2.4.0
Hadoop Security Protocol	? Kerberos 5 release 1.6.1 ? Sentry-1.4.0
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, see Configuring Internet Explorer Settings
Office Tools	? MS Office 2007/2010/2013 ? Adobe Acrobat Reader 8 or above
Screen Resolution	1024*768 or 1280*1024
Other Software	
Directory Services	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software such as MS Active Directory.

Table 2–3 (Cont.) Configurations Supported for Java 8

Note:
? Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Setting Infrastructure LDAP Configuration. ? Open LDAP must be installed on MS Windows Server machine.

Note: To upgrade an existing OFSAA 8.0.x Java 7 instance to Java 8, see Appendix O.

Table 2–4 provides the recommended software combinations for OFS BD Applications Pack deployment.

Table 2–4 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

Verifying 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 Services.

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, see Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide given in the <$elemtext section.

Understanding the Installation Mode

The following modes of installation are available for the OFS BD Applications Pack.

? Installing in GUI Mode

? Installing in Silent Mode

Installing in GUI Mode

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

Note: For more information on configuration required for GUI mode installation, see Configuring for GUI Mode Installation.

Installing in Silent Mode

This mode mandates updating the installation configuration files with required details and performs installation in a "Silent" non user interactive format.

3

Preparing for Installation

This chapter provides necessary information to review before installing the Oracle Financial Services Behavior Detection (OFS BD) Applications Pack v8.0.4.0.0.

This chapter includes the following topics:

Installer and Installation Prerequisites

Table 3–1 provides the list of prerequisites required before beginning the installation for OFS BD application. The Environment Check utility notifies you if any requirements are not met.

Table 3–1 Prerequisite Information

Category	Sub-Category	Expected Value
Environment Settings	User Permission	User to have 755 permission on the directory identified for installation (FIC_HOME). **Note**: User to have 755 permission on the `.profile` file Provide BDF_HOME in `.profile` pointing to Installation Directory (FIC_HOME)
	Java Settings	? PATH in `.profile` file must be set to include the Java Runtime Environment absolute path. The path should include Java version (7 or 8) based on the configuration. **Note:** ? Ensure that 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 that no SYMBOLIC links to JAVA installation are not set in the PATH variable
	Oracle Database Settings	? TNS_ADMIN must be set in.`profile` file pointing to appropriate `tnsnames.ora` file. ? ORACLE_HOME must be set in `.profile` file pointing to appropriate Oracle Client installation. ? PATH in .profile file must be set to include appropriate $ORACLE_HOME/bin path. ? Ensure that an entry (with SID/ SERVICE NAME) is added in the tnsnames.ora file on the OFSAA server.

Table 3–1 (Cont.) Prerequisite Information

Category	Sub-Category	Expected Value
OS/File System Settings	OS Level Settings	You must set your locale to UTF-8 locale (LANG, NLS_LANG to be set in.profile). Specifying a locale depends on your data and the operating system installed on your system. For example, ? For Linux OS: export LANG=en_US.utf8 You can determine the locale on your system using the locale -a command export NLS_LANG=AMERICAN_AMERICA.AL32UTF8
	File Descriptor Settings	Greater than 15000
	Total Number of Process Settings	Greater than 4096
	tmp space	Prior to installation, ensure that sufficient free temp space (minimum 1 GB free) is available in /tmp directory of unix server hosting OFSBD.
	Port Settings	Default port numbers to be enabled on the system are 6500, 6501, 6505, 6507, 6509, 6510, 6666, 9999, and 10101.
	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 Infrastructure (can be configured on different mount). However, the owner of the installation directory mentioned above should have RWX permissions on this folder. Set 775 permission on this folder. **Note:** This directory is also referred as FTPSHARE folder.
	Installation Directory	A directory where the product files will be installed. Assign User permission to 755 on the installation directory.
	Download Directory	A directory where the product installer file will be downloaded/ copied. Ensure user permission is set to 755 on the Download directory.
	OS Locale	? `Linux: en_US.utf8` ? `AIX: EN_US.UTF-8` ? `Solaris: en_US.UTF-8` To check the locale installed, execute the following command: `locale -a | grep -i 'en_US.utf'`

Table 3–1 (Cont.) Prerequisite Information

Category	Sub-Category	Expected Value
Database Settings	Database Instance Settings	? NLS_CHARACTERSET to be AL32UTF8 ? NLS_LENGTH_SEMANTICS to be BYTE ? AVAILABLE OPEN CURSORS limit to be greater than 4096 For an Oracle Database installation, set your Oracle NLS_LANG environment variable to an appropriate UTF-8 character set. For example, setenv NLS_LANG AMERICAN_AMERICA.AL32UTF8 **Note**: For other database tunable parameters required for OFS BD, see Appendix Q, "Tunable Database Parameters". Ensure that the OLAP_USER role is available in the database.
Web application server	WebSphere/ WebLogic/ Tomcat	Web application server should be installed and profile/domain created. You are prompted to enter the WebSphere Profile path, WebLogic Domain path, or Tomcat Deployment path during OFSAAI installation. **Note:** ? See Appendix A for WebSphere Profile and WebLogic Domain creation. ? For deployment on Oracle WebLogic Server 12.1.3+ (64 bit) with Java 8, download and install 18729264 from http://support.oracle.com/.
Web server	Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server.	This is an optional requirement. HTTP Server Installation to be present. You are prompted to enter the Web server IP/Hostname and Port details during installation. **Note:** See Appendix A for Web server installation.
Operating System	Solaris 11	Upgrade to Oracle Solaris 11.3 with SRU09 or higher. See https://docs.oracle.com/cd/E53394_01/html/E54845/index.html to upgrade to SRU09 if you have a lower SRU version. Additionally, install the required runtime libraries. For more information, see Installing Only the Runtime Libraries on Oracle Solaris 11.
	Solaris 10	Install the required OS patches. For more information, see Installing the Required Oracle Solaris 10 Patches. Additionally, install the required runtime libraries. For more information, see Installing Only the Runtime Libraries on Oracle Solaris 10. **Note:** In an OFSAA instance where multiple OFSAA application packs have been installed/ deployed, it is mandatory to upgrade all OFSAA application packs to 8.0.4.0.0 release. You should start the upgrade of OFS BD Applications pack, only after confirming that all of the application packs in your OFSAA instance are available for upgrade to 8.0.4.0.0 version. For information on availability of the required OFSAA Application Packs, see 2246606.1.

Note: You must also download and apply patch 25777667 from https://support.oracle.com/.

Obtaining Software

The 8.0.4.0.0 release of OFS BD Applications Pack can be downloaded from the Oracle Software Delivery Cloud (https://edelivery.oracle.com). You must have a valid Oracle account to download the software.

Performing Common Pre-Installation Tasks

The common pre-installation activities that you must carry out before installing the OFS BD Applications Pack are:

- Identifying the Installation, Download and Metadata Repository
- Downloading and copying the OFS BD Applications Pack Installer
- Configuring for GUI Mode Installation
- Extracting the Software
- Setting Up Web application server

Identifying the Installation, Download and Metadata Repository

To install OFSAA Application packs, create the following directories:

- **OFS BD Download Directory** (Optional) - Create a download directory and copy the OFS BD Applications Pack Installer File (archive). This is the directory where the downloaded installer/patches can be copied.
- **OFS BD Installation Directory** (Mandatory) - Create an installation directory and copy the installation files. Perform the installation from this directory. Set the variable `FIC_HOME` variable in the `.profile` file to point to the OFS BD Installation Directory.
- **OFS BD Staging/Metadata Directory (Mandatory)** - Create a Staging/Metadata Directory to copy data loading files, save data extracts and so on. Additionally, this directory also maintains the OFSAA metadata artifacts. This directory is also referred to as "FTPSHARE".

Note:

Assign 755 user permission to the Installation and Download Directory.

Assign 755 user permission to the Staging Directory.

Downloading and copying the OFS BD Applications Pack Installer

To download and copy the OFS BD Applications Pack Installer, follow these steps:

1. To download the OFS BD Applications Pack, log in to the Oracle Software Delivery Cloud (https://edelivery.oracle.com) with a valid Oracle account.
2. Copy the downloaded installer archive into the Download Directory (in Binary mode) in the setup identified for OFS BD installation.

Configuring for GUI Mode Installation

To install OFS BD Applications Pack in GUI mode, ensure that the following software and configurations are available:

1. 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.

2. Configure the **DISPLAY** variable.

   Ensure to set the DISPLAY variable on the system on which the OFS BD will be installed, to point to the user desktop system where the PC X Server software is 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

Extracting the Software

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 this step.
2. Uncompress the unzip installer file with the command:

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

   Note:

   If an error message "uncompress: not found [No such file or directory]" is displayed when the package is not installed, contact your UNIX administrator.

   ---

3. Assign EXECUTE permission to the file with the command:

   ```
   chmod 751 unzip_<OS>
   ```

   For example, `chmod 751 unzip_sparc`

4. Extract the contents of the OFS BD Applications Pack 8.0.4.0.0 installer archive file in the download directory with the following command:

   ```
   unzip OFS_BD_PACK.zip
   ```

   Note

   Do not rename the Applications Pack installer folder name on extraction from the archive.

   ---

5. Navigate to the download directory and assign execute permission to the installer directory with the following command:

   ```
   chmod -R 755 OFS_BD_PACK
   ```

Setting Up Web application server

For setting up the environment based on your selected Web application server, see Configuring Web application servers.

4

Installing OFS BD Applications Pack

This chapter describes the steps to be followed to install the OFS BD Applications pack depending on the offline and online modes of installation.

Note: If you are installing an Applications Pack on an environment, where another Applications Pack is already installed, you may sometimes get a warning message such as *Object Already Exists*. This message can be ignored.

This chapter includes the following sections:

About Schema Creator Utility

Creating database users/schemas is one of the primary steps in the complete OFS BD installation. This release of OFSAA provides a utility to quickly get started with the OFSAA 8.0.4.0.0 installation by allowing easier and faster creation of database User(s)/ Schema(s), assign the necessary GRANT(s), and so on. Additionally, it also creates the required entities in the schemas and so on.

The schema creator utility must be configured and executed before installation of any OFSAA Application Pack.

This section includes the following topics:

Configuring Schema Creator Utility

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

The types of schemas that can be configured are:

- **CONFIG** - This schema holds the entities and other objects required for OFSAA setup configuration information.

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

- **ATOMIC** - This schema holds the data model entities. One ATOMIC schema is attached to one Information Domain.

Note: There can be multiple ATOMIC schemas per OFSAA Instance and an Information Domain can have only one ATOMIC schema.

Selecting Execution Modes in Schema Creator Utility

Schema creator utility supports the following modes of execution:

- **Online Mode**: In this mode, the utility connects to the database and executes the Data Definition Language (DDL) for User, Entities, and GRANTS.

Note: To execute the utility in Online mode, you need to connect as "<User> AS SYSDBA".

- **Offline Mode**: In this mode, the utility generates an SQL script with all the required DDLs for User, Entities and GRANTS. This script must be executed by the DBA on the appropriate database identified for OFSAA usage.

Note: For running the sql script generated in offline mode, the script should reside in the same directory where the 'SQLScripts' directory is available.

Note:

1. To execute the utility in Offline mode, you must connect as a 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
2. Do not modify the `OFS_BD_SCHEMA_OUT.XML` file generated after the execution of this utility
3. If there are any errors during the SQL script execution, reconfigure the `OFS_BD_SCHEMA_IN.xml` file and execute the utility. This regenerates the scripts with corrected information. See Configuring OFS_BD_SCHEMA_IN.xml File.
4. Do not keep any backup files of xml's in the download directory.

Selecting Execution Options in Schema Creator Utility

Depending on the option selected to run the OFSAA Applications Pack installer, you must select the appropriate schema creator utility execution option. To run the OFSAA Applications 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 Applications Pack Installer in GUI mode.

Configuring and Executing Schema Creator Utility

This section includes the following topics:

- Prerequisites
- Configuring Schema Creator Utility
- Executing the Schema Creator Utility
- Verifying the Schema Creator Log Files

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

Prerequisites

The prerequisites you must have before configuring the Schema Creator Utility are:

- Oracle User ID/Password with SYSDBA privileges
- JDBC Connection URL for RAC/Non RAC database
- HOSTNAME/IP of the server on which OFSAA is being installed.
- TNSNames.ora should have entry for the database planning to install the Database objects.

Configuring Schema Creator Utility

This section explains the steps to configure the Schema Creator Utility.

Note: The extracted media pack folder name must not be changed.

To configure the Schema Creator Utility, follow these steps:

1. Log in to the system as non-root user.
2. Navigate to the following path: `OFS_BD_PACK/schema_creator/conf` directory.
3. Edit the `OFS_BD_SCHEMA_IN.xml` file in a text editor.
4. Configure the following elements as described in the section Configuring OFS_BD_SCHEMA_IN.xml File:
5. Save the `OFS_BD_SCHEMA_IN.xml` file.

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

Note: While editing the `OFS_BD_SCHEMA_IN.xml`, ensure only the values/tag attributes mentioned in must be modified and none of other tags should be modified.

Do not modify the following list of attributes:

- APP_PACK_ID
- ROLE.NAME
- DIRECTORY. ID
- DIRECTORY.NAME
- SCHEMA. APP_ID
- SCHEMA. DEFAULTTABLESPACE
- SCHEMA.TYPE
- TABLESPACE.NAME

Executing the Schema Creator Utility

You can execute the schema creator utility in Online mode or Offline mode. This section includes the following topics:

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

Executing the Schema Creator Utility in Online Mode

In Online mode, the Schema Creator Utility creates all the Schemas, Schema Objects, and GRANTS 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 path: `OFS_BD_PACK/schema_creator/bin/`
3. Execute the `osc.sh` file using the following command:

   ```
   ./osc.sh
   ```
4. 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).*
5. Enter Y/ y to proceed with the script generation.
6. Enter the DB Username with SYSDBA Privileges. For example: SYS as SYSDBA.
7. Enter the User Password.

Figure 4–1 Schema Creation - Online Mode

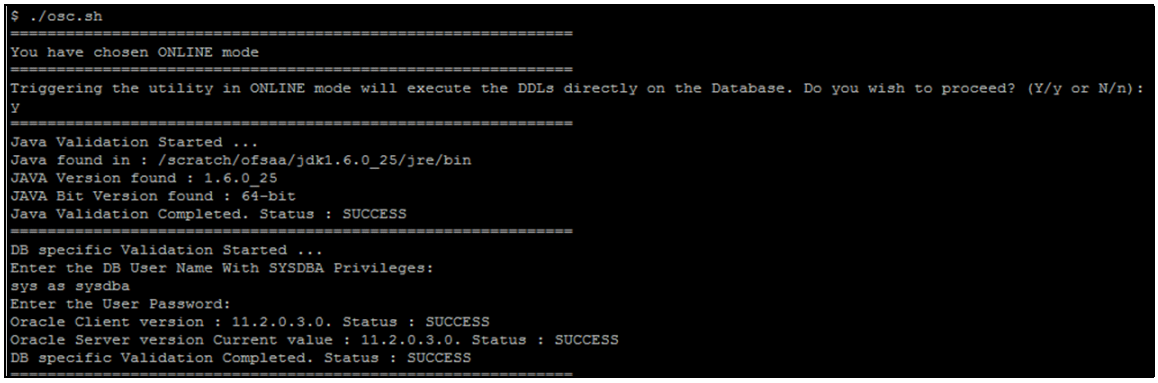
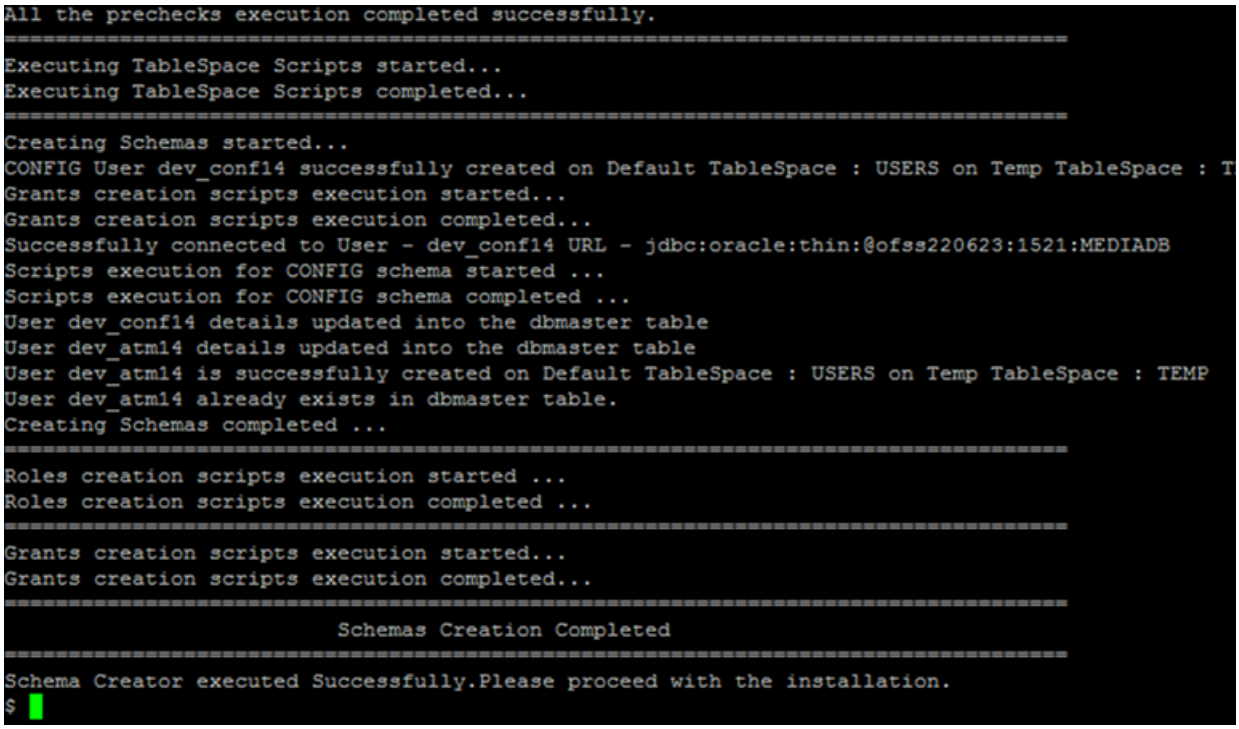


Figure 4–2 Schema Creation - Online Mode



Note: On successful execution of Schema Creator utility, the console displays the following status message:

Schema Creator executed successfully. Please proceed with the installation.

See log file in `OFS_BD_PACK/schema_creator/logs` directory for execution status. If there are any errors, contact Oracle Suport Services.

Executing the Schema Creator Utility in Offline Mode

In Offline Mode, the Schema Creator Utility creates an output in the SQL file format. This script must be executed manually by logging as database user with SYSDBA privileges. The SQL file contains the creation of Schemas, Schema Objects, and Roles.

Prerequisites:

To execute the utility in Offline mode, you must connect a database 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

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

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

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

   `./osc.sh -o`
4. Enter Y /y to generate the script.
5. 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).*
6. Enter the DB Username with SELECT privileges.
7. Enter the User Password.

Figure 4–3 Schema Creation - Offline Mode

```
$ ./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
```

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

9. Enter Y/y to start the script generation. The following message is displayed. *You have chosen to install this Applications Pack on <Name of the Infodom>. Do you want to proceed? (Y/N))*.

> **Note:** On successful execution of schema creator utility, the console displays the following status message:
>
> *Success. Please execute* `OFS_BD_PACK/schema_creator/sysdba_output_scripts.sql` *before proceeding with the installation.*

Figure 4–4 Schema Creation - Offline Mode

```
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
================================================================================
```

10. Navigate to the directory:

    `OFS_BD_PACK/schema_creator`

11. Open the `sysdba_output_scripts.sql` file and modify `SET PAGESIZE 0 FEEDBACK OFF VERIFY OFF HEADING OFF ECHO OFF` to `SET PAGESIZE 0 FEEDBACK OFF VERIFY OFF HEADING OFF ECHO OFF SQLBLANKLINES ON.`

12. Login to SQLPLUS with a user having SYSDBA Privileges.

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

    `SQL>@sysdba_output_scripts.sql`

Figure 4–5 Schema Creator - Offline Mode

```
Enter user-name: sys/[redacted] as sysdba

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> @sysdba_output_scripts.sql

Warning: Package Body created with compilation errors.

Disconnected from Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options
$
```

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

Note: See log sysdba_output_scripts.log file for execution status. If there are any errors, contact Oracle Support Services. SQL Scripts folder and SQl file should reside in the same folder.

14. Once the above file gets executed, a warning is displayed as shown in the above screen.
15. Run the following scripts in config schema:
    1. Navigate to the <OFS_BD_PACK>/schema_creator/SQLScripts/oracle folder.
    2. Connect to the config schema through sqlplus
    3. Execute the @compile_objects.sql command.
    4. Commit the change.

Executing the Schema Creator Utility with -s Option

If you want to run the OFS BD Applications Pack Installer in Silent mode, it is mandatory to execute the schema creator utility with -s option.

To execute the utility with -s option, follow these steps:

1. Edit the file OFS_BD_PACK/schema_creator/conf/OFS_BD_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 derives the Information Domain name. If the attribute value is set, the utility/ installer configures the Information Domain against this <SCHEMA>.

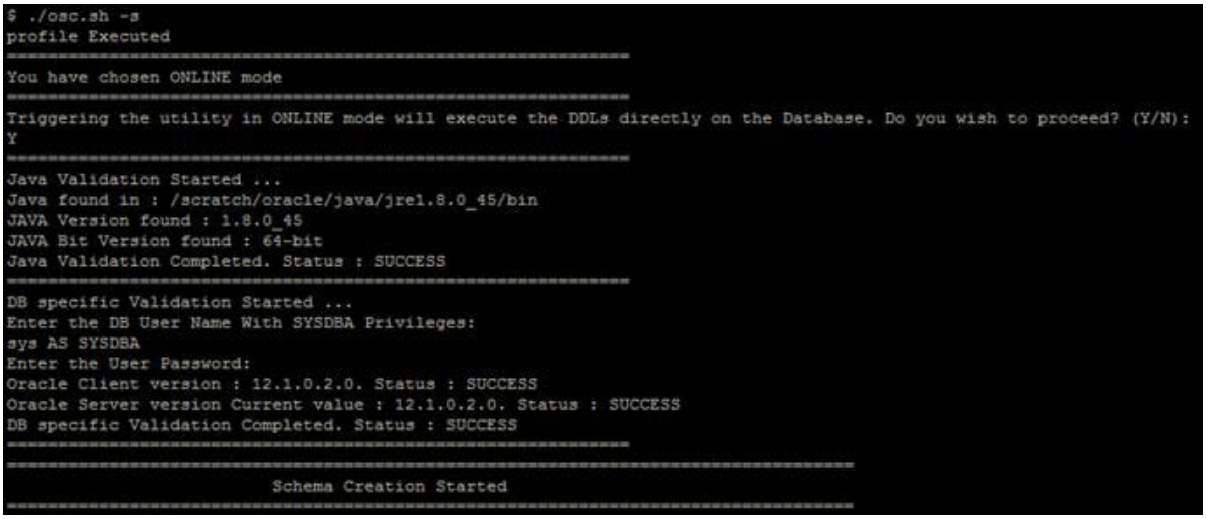
Note: The infodom name and schema name should be same for all the below APP_ID:

- OFS_KYC
- OFS_CTR
- OFS_ECM
- OFS_FSDF
- OFS_FATCA
- OFS_FRAUD
- OFS_AML
- OFS_TC
- OFS_ECTC
- OFS_PTA
- OFS_TB
- OFS_BC
- OFS_IPE
- OFS_FRAUD_EE
- OFS_CRSR

3. Execute the utility with `-s` option.

   For example `./osc.sh -s`

Figure 4–6 Schema Creator with - s option



> **Note:** If the utility is executed without the `-s` option, it is mandatory to launch the OFSAA Applications Pack Installer in GUI mode.

> **Note: T**o execute the utility in OFFLINE mode with Silent option, type `./osc.sh -o -s`

Executing the Schema Creator Utility while Installing Subsequent Applications Pack

While executing the schema creator utility for subsequent Applications 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 BD Applications Pack needs to be installed on a separate information domain.

To execute the schema creator utility while installing OFS BD Pack over an existing Applications Pack, follow these steps:

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

Note: On successful execution of Schema Creator utility, the console displays the following status message:

Success. Please proceed with the installation.

See the log file in `OFS_BD_PACK/schema_creator/logs` directory for execution status, if scripts are executed in online mode.

See the `log sysdba_output_scripts.log` for execution status, if executed in offline mode.

If there are any errors, contact Oracle Support Services.

Verifying the Schema Creator Log Files

You can verify the log files for any errors faced during the schema creation process in the following location: `OFS_BD_PACK/schema_creator/logs`.

Installing the OFS BD Applications Pack

This section prvides instructions to install the OFS BD Applications Pack depending on the mode of installation.

- Installing in Silent Mode
- Installing in GUI Mode

Installing in Silent Mode

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

Configuring OFSAAI_InstallConfig.xml

Follow these instructions to configure `OFSAA_InstallConfig.xml file`:

1. Log in to the system as non-root user.
2. Identify a directory for installation and set the same in the user .profile file as the following:

   ```
   FIC_HOME=< OFSAA Installation Directory >
   export FIC_HOME
   ```

3. Execute the user `.profile`.
4. Navigate to the file: `OFS_BD_PACK/OFS_AAI/conf/OFSAAI_InstallConfig.xml`
5. Configure the `OFSAAI_InstallConfig.xml` as mentioned in the section Configuring OFSAAI_InstallConfig.xml file. Set the InteractionVariable parameter values manually as mentioned in the table. If a value is not applicable, enter NA and ensure that the value is not entered as NULL.
6. Navigate to the file: `OFS_BD_PACK/conf/OFS_BD_PACK.xml` and select the applications to be enabled.

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

Configuring InstallConfig.xml

To configure the InstallConfig.xml file, follow these steps:

1. Navigate to the file: `OFS_BD_PACK/OFS_BD/conf/InstallConfig.xml`
2. Enter the details mentioned in the tags (<!-- Start: User input required for silent installer. --> and <!-- End: User input required for silent installer. -->) as mentioned in the following table.

Table 4–1 InstallConfig.xml Parameters

Placeholder Name	Significance and Expected Value	Mandatory
##OFS_AML_BASE_ COUNTRY##	ISO country code to use during data ingestion to record institution-derived geography risk on parties on transactions that are internal to the OFSBD client. For example: `base_country=US` `base_country=US`	Yes
##OFS_AML_ DEFAULT_ JURISDICTION##	Jurisdiction to assign the derived entities and derived addresses. For example: `default_jurisdiction=AMEA`	Yes
##OFS_AML_SMTP_ HOST##	Hostname of the e-mail gateway to be used by the application for e-mail notifications. For example: `smtp_host=mailhost.domain.com` `smtp_host=mailhost.domain.com`	Yes
##OFS_AML_ PARTITION_DATE_ FORMAT##	Format of the date used in specifying partition dates. Allowed values are DD-MON-YYYY/DD-MM-YYYY	Yes
##OFS_AML_WEEK_ END_HOLIDAY_ PATTERN##	? Flag used to derive partition dates based on Week end holiday pattern. ? Allowed values are: Saturday, Sunday/Friday	Yes
##OFS_AML_ DataDumpDt_minus_0##	Enter the date of the business day for which the data to be loaded. It should be in dd/mm/yyyy format. For Example: 10/12/2015	Yes
##OFS_AML_ EndThisWeek_minus_ 00##	Enter the date of the Saturday of the next business week with respect to the date for which the data is loaded. It should be in dd/mm/yyyy format. For Example: 19/12/2015	Yes
##OFS_AML_ StartNxtMnth_minus_ 00##	Enter the first business day of the next month with respect to the data load date. It should be in dd/mm/yyyy format. For Example:01/01/2015	Yes
##OFS_AML_ ANALYST_DATA_ SOURCE##	Name of the Analyst Data source used for Admin Tools Configurations. For example: Create a data source with name `ANALYST`	Yes
##OFS_AML_MINER_ DATA_SOURCE##	Name of the Miner Data source used for Admin Tools Configurations For example: Create a data source with name `MINER`	Yes
##OFS_AML_WEB_ SERVICE_USER##	Web service user for Post Alert Services.	Yes

Table 4–1 (Cont.) InstallConfig.xml Parameters

Placeholder Name	Significance and Expected Value	Mandatory
##OFS_AML_WEB_SERVICE_PASSWORD##	Web service password for Post Alert Services.	Yes
##OFS_AML_NLS_LENGTH_SEMANTICS##	##OFS_AML_NLS_LENGTH_SEMANTICS##NLS_LENGTH_SEMANTICS database variable for executing the DDL scripts. Applicable values are CHAR/BYTE. **Note**: Recommendation to go with CHAR.	Yes
##OFS_AML_CONFIGURE_OBIEE##	Mention flag as '1" to configure OBIEE URL. Otherwise mention as '0'	Yes
##OFS_AML_OBIEE_URL##	In case ##OFS_AML_CONFIGURE_OBIEE_URL## mentioned as '1'…provide the URL in the pattern	Yes
##OFS_AML_SW_RMIPORT##	Placeholder to provide scenario wizard RMI port.	Yes

3. In order to use the golden data for demonstrations and trainings, you must provide the following partition dates before the installation:
   - DATADUMPDT_MINUS_0## 10/12/2015
   - ENDTHISWEEK_MINUS_00## 19/12/2015
   - STARTNEXTMNTH_MINUS_00## 01/01/2016

Running the installer in Silent Mode

To install the OFSAA Infrastructure in Silent mode for java 7 and java 8, follow these steps:

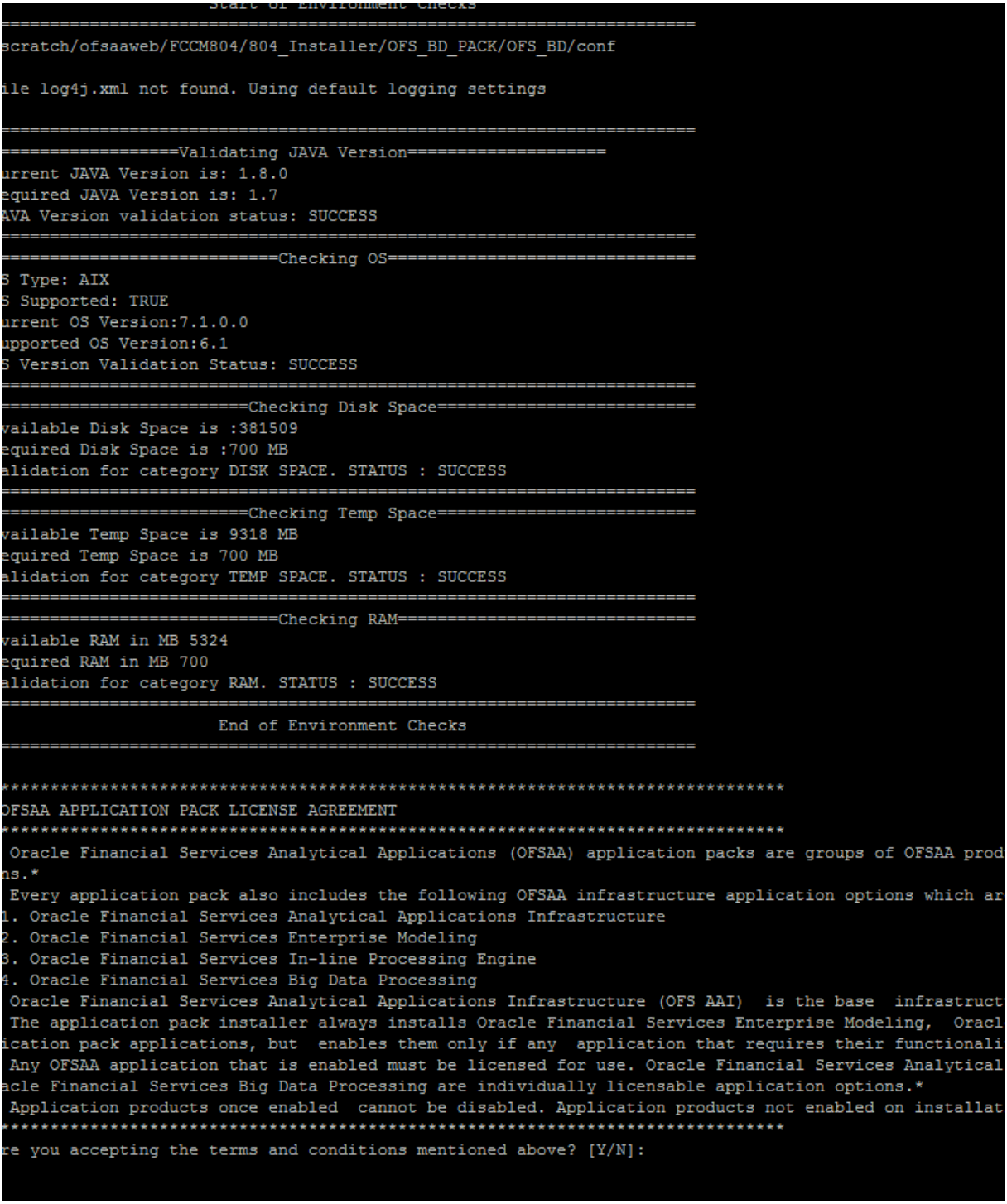
1. Navigate to the `OFS_BD_PACK/bin` folder.
2. Execute the command in the console:

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

Completing the installation in Silent Mode

On launching the installer in silent mode, the environment check utility is executed. Enter the required information to execute the utility as explained:

Note: The above table item is asked if environment check utility is executed in the standalone mode.



Note:

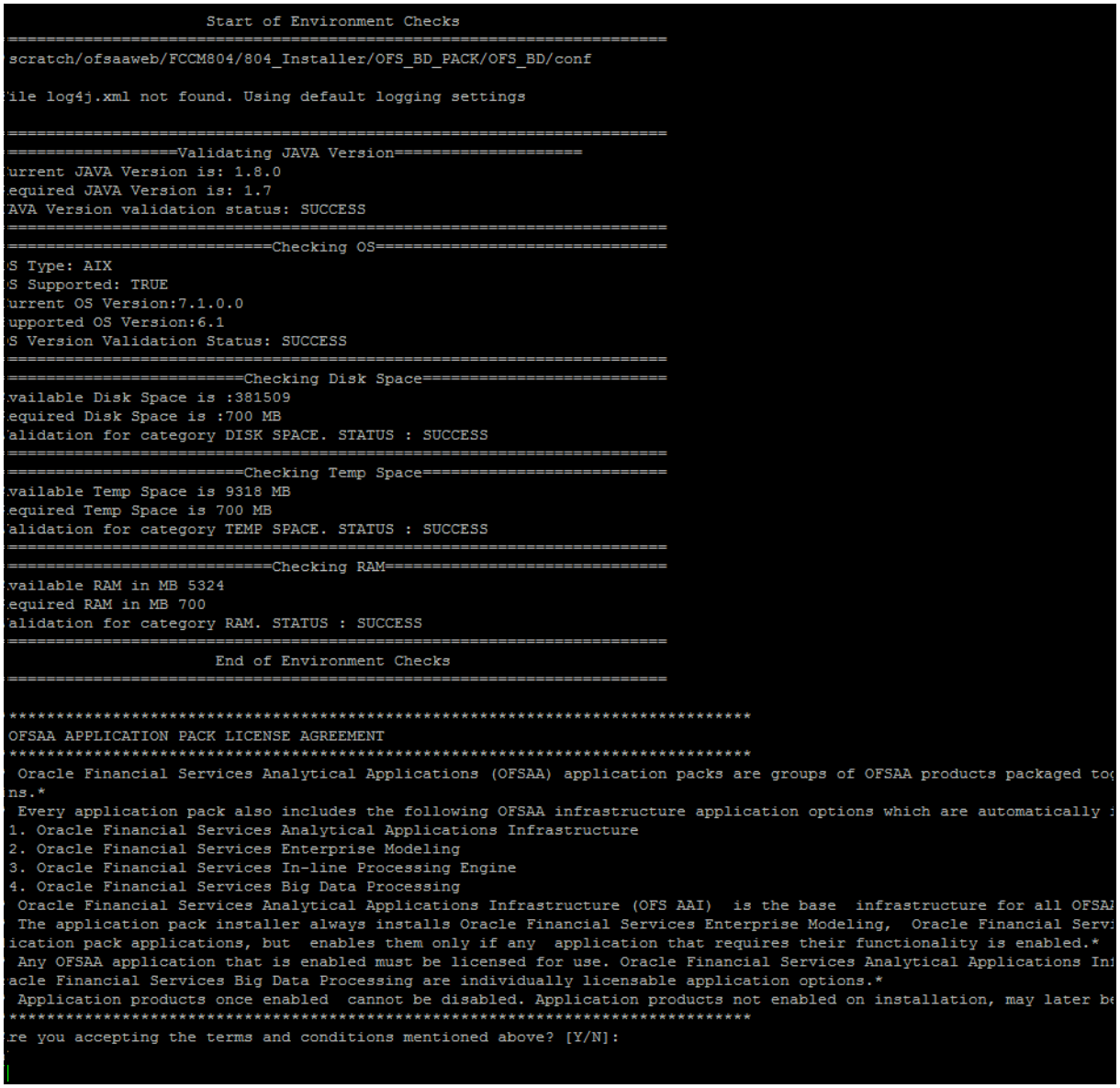
- Enter the Infrastructure FTP/SFTP password value, when prompted at the command prompt.
- Enter **Always**, when prompted to add host key fingerprint.

Table 4–2 Webserver start up options

Console Prompts	User Inputs
Enter Infrastructure FTP/SFTP password	Enter the password to access Product Staging/Metadata repository directory in the application server.

1. The OFSAAI License Agreement is displayed as shown in the figure:

Figure 4–7 OFSAAI License Agreement Page



2. Enter Y/y to accept the License Agreement.

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

```
********************************************************************************
re you accepting the terms and conditions mentioned above? [Y/N]:

tarting installation...
reparing to install...
xtracting the installation resources from the installer archive...
onfiguring the installer for this system's environment...

aunching installer...

reparing SILENT Mode Installation...

===============================================================================
FSAAInfrastructure                          (created with InstallAnywhere)
-------------------------------------------------------------------------------




===============================================================================
nstalling...
------------

[==================|==================|==================|==================]
[------------------|------------------|------------------|------------------]

nstallation Complete.
profile executed
scratch/ofsaaweb/FCCM804/FCCM804
profile executed
scratch/ofsaaweb/FCCM804/FCCM804

********************************************************************************
Welcome to OFS_BD PACK Installation
********************************************************************************
tarting OFSAA Service...
FSAA Service - OK
reparing to install...
xtracting the installation resources from the installer archive...
onfiguring the installer for this system's environment...

aunching installer...

reparing SILENT Mode Installation...

===============================================================================
ack_installsilent                           (created with InstallAnywhere)
-------------------------------------------------------------------------------




===============================================================================
nstalling...
------------

[==================|==================|==================|==================]
[------------------|------------------|------------------|------------------]

nstallation Complete.
```

```
/scratch/ofsaaweb/FCCM804/FCCM804
**************************************************
CTRL characters removal started ...
CTRL characters removal over ...
Windows executable files removal started ...
Windows executable files removal over ...
We are now in /scratch/ofsaaweb/FCCM804 ...
**************************************************
.profile executed
/scratch/ofsaaweb/FCCM804/FCCM804
.profile executed
/scratch/ofsaaweb/FCCM804/FCCM804
executing "ant"
Buildfile: /scratch/ofsaaweb/FCCM804/FCCM804/ficweb/build.xml

createwar:
      [war] Building war: /scratch/ofsaaweb/FCCM804/FCCM804/ficweb/FCCM804.war

createear:
      [ear] Building ear: /scratch/ofsaaweb/FCCM804/FCCM804/ficweb/FCCM804.ear

BUILD SUCCESSFUL
Total time: 24 minutes 19 seconds
OFSAA App Layer Services start-up check started...
Starting startofsaai.sh service...
OFSAA Service - OK
Starting icc service...
ICC service - OK
Shutting down icc service...
Shutting down OFSAA service...
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI DB Layer Services check started...
Calling agentshutdown.sh to check and kill, if any of the server is running...
OLAP Data Server service is not running.
MESSAGE Server service is not running.
AM service is not running.
ROUTER service is not running.
Starting ROUTER Service
ROUTER service started in background mode.
Starting AM Service
AM service started in background mode.
Starting MESSAGE SERVER Service
MESSAGE SERVER service started in background mode.
Starting OLAP DATA SERVER Service
OLAP DATA SERVER service started in background mode.
OLAP Data Server service is not running.
Stop MESSAGE Server service with Proces ID : 15728804
Stop AM service with Proces ID : 9502826
Stop ROUTER service with Proces ID : 10420298
OFSAAI DB Layer File Services check Status: SUCCESSFUL.
**************************************************
Installation completed...
**************************************************
/scratch/ofsaaweb/FCCM804/804_Installer/OFS_BD_PACK/bin>
```

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

Execute `.profile` from user home directory after the installation is completed.

3. Perform steps mentioned in the <$elemtext section.

Installing in GUI Mode

> **Note:** Ensure that you have followed the steps as mentioned in the Configuring for GUI Mode Installation section prior to proceeding with the next steps.

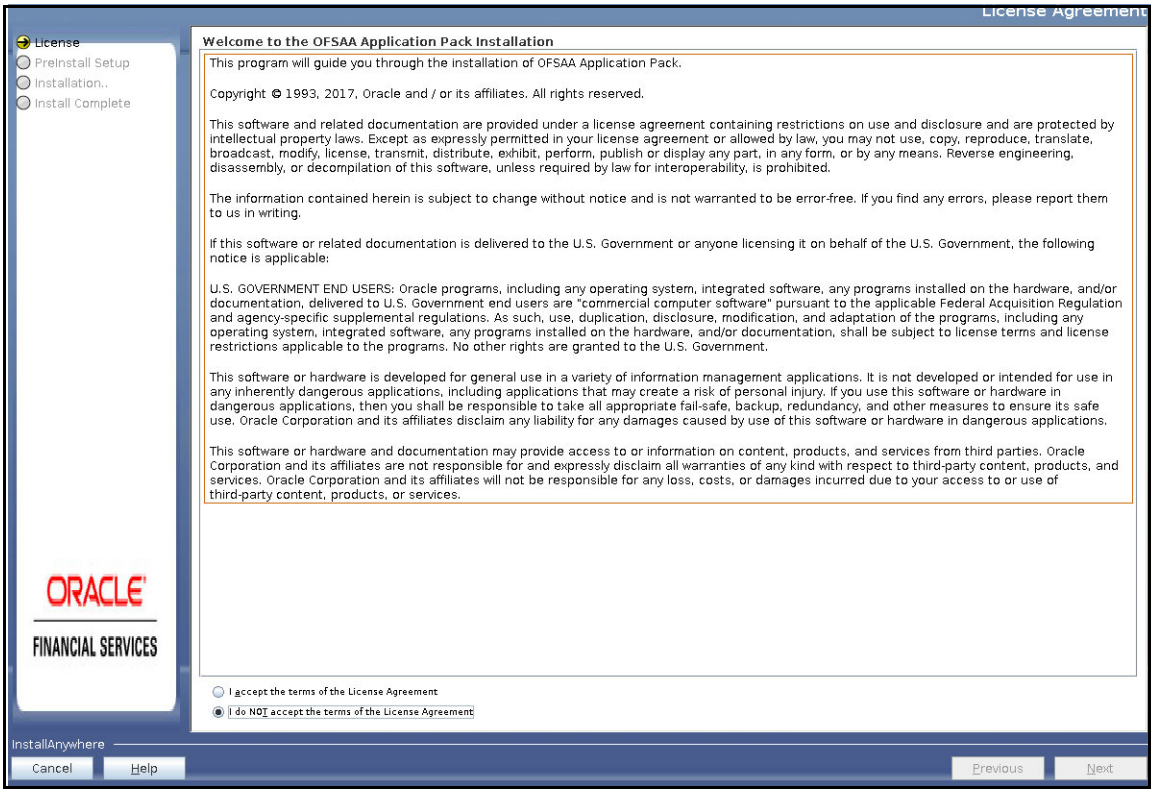
1. Log in to the system as non-root user.
2. Identify a directory for installation and set the same in the user .profile file as the following:

   ```
   FIC_HOME=<OFSBD Installation Directory>
   export FIC_HOME
   ```

3. Execute the user `.profile` file.
4. Navigate to the `OFS_BD_PACK/bin` folder.
5. Execute `./setup.sh GUI` in the console.

> **Note:** If the Precheck is successful, the installation begins. Else the installation aborts.

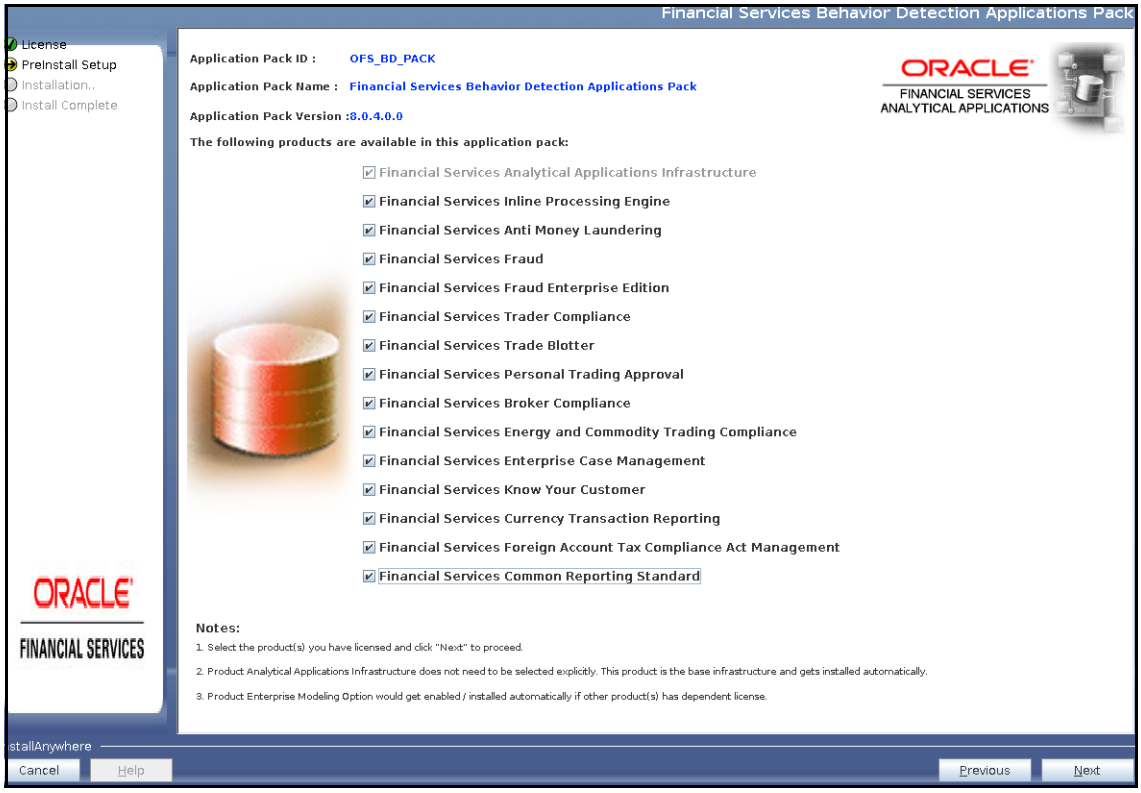
Figure 4–8 License Agreement



6. Select **I accept the terms if the License Agreement** option.
7. Click **Next.**

   The Financial Services Behavior Detection Applications Pack details window is displayed.

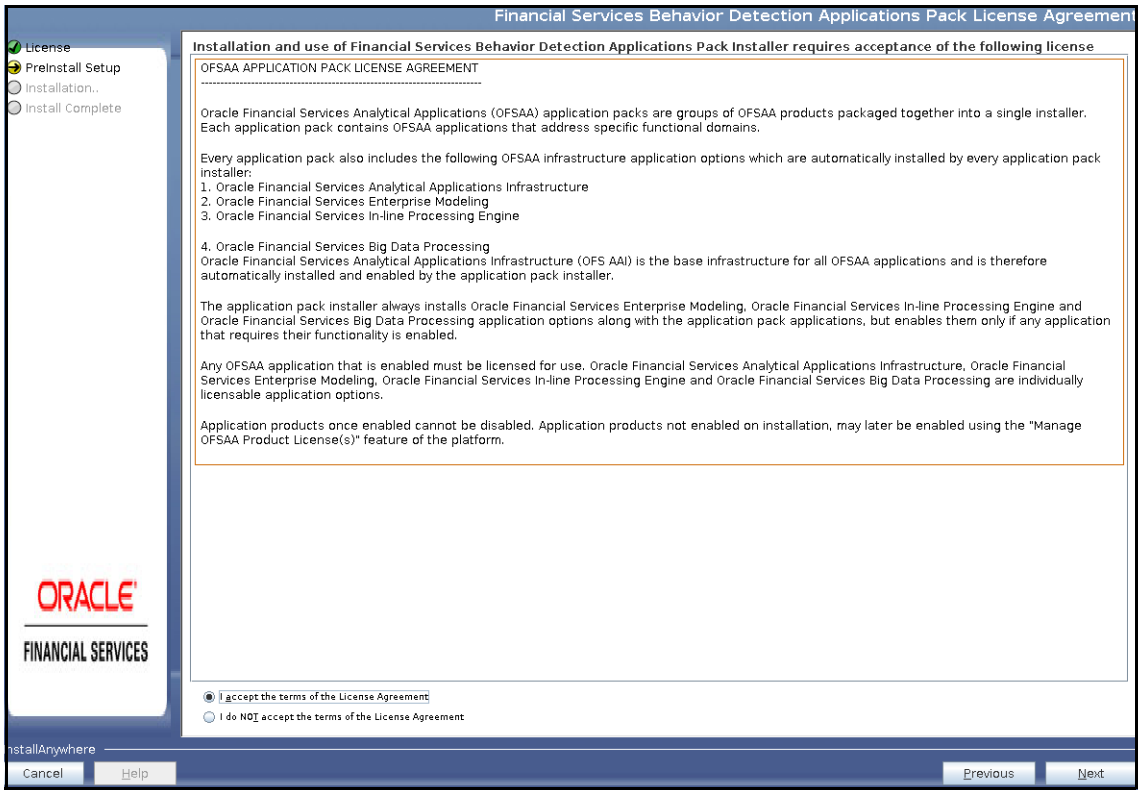
Figure 4–9 Financial Services Behavior Detection Applications Pack Details



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

8. Select the product for which you have already obtained the license(s).
9. Click **Next**. The License Agreement page is displayed.

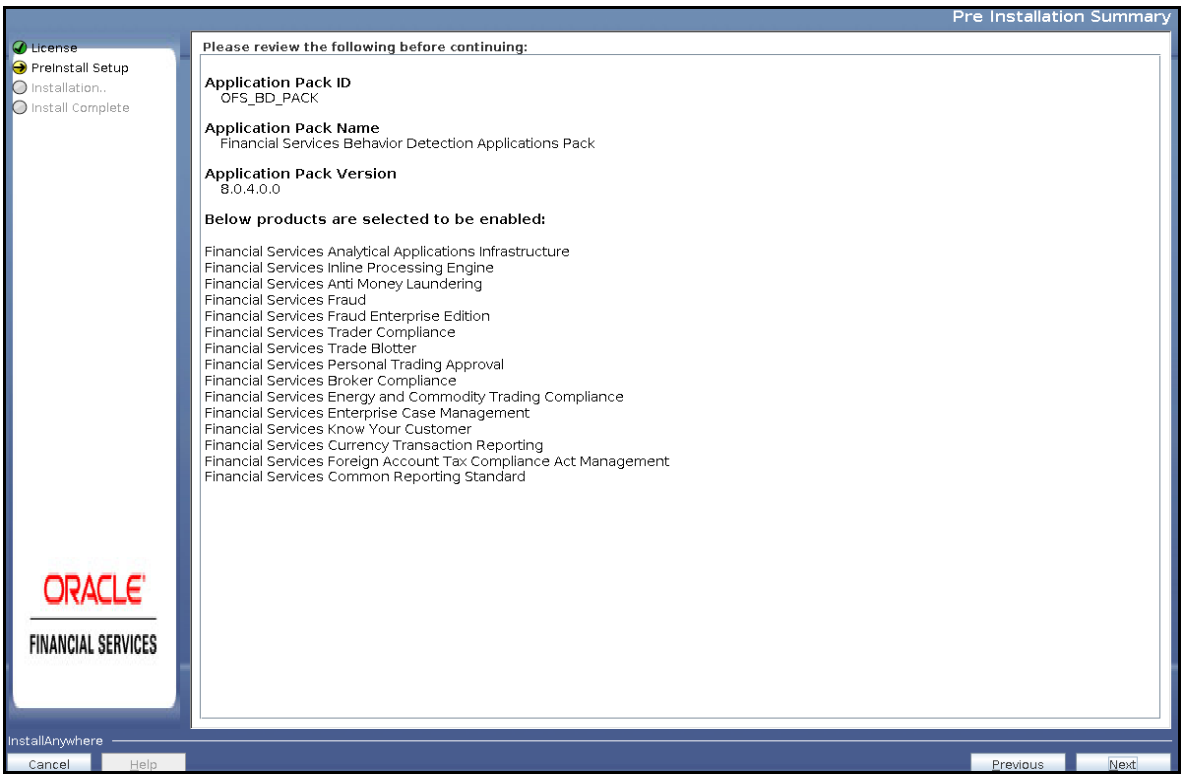
Figure 4–10 Financial Servcies Behavior Detection Applications Pack License Agreement Window



10. Select **I accept the terms of the License Agreement** option.
11. Click **Next**.

    The Pre Installation Summary window is displayed.

Figure 4–11 Pre Installation Summary

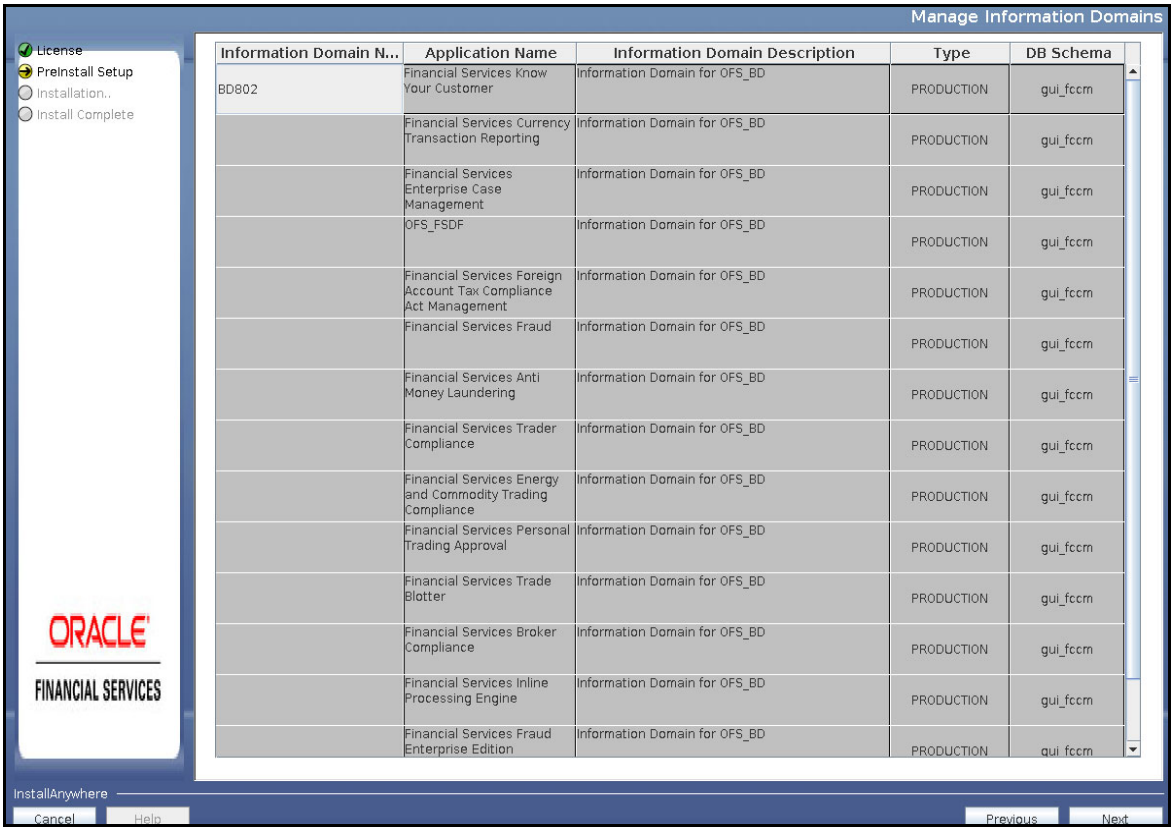


12. Click **Next**.

The Manage Information Domains window is displayed.

Note: See Table 4–1 and provide appropriate values in the screen. All fields are mandatory.

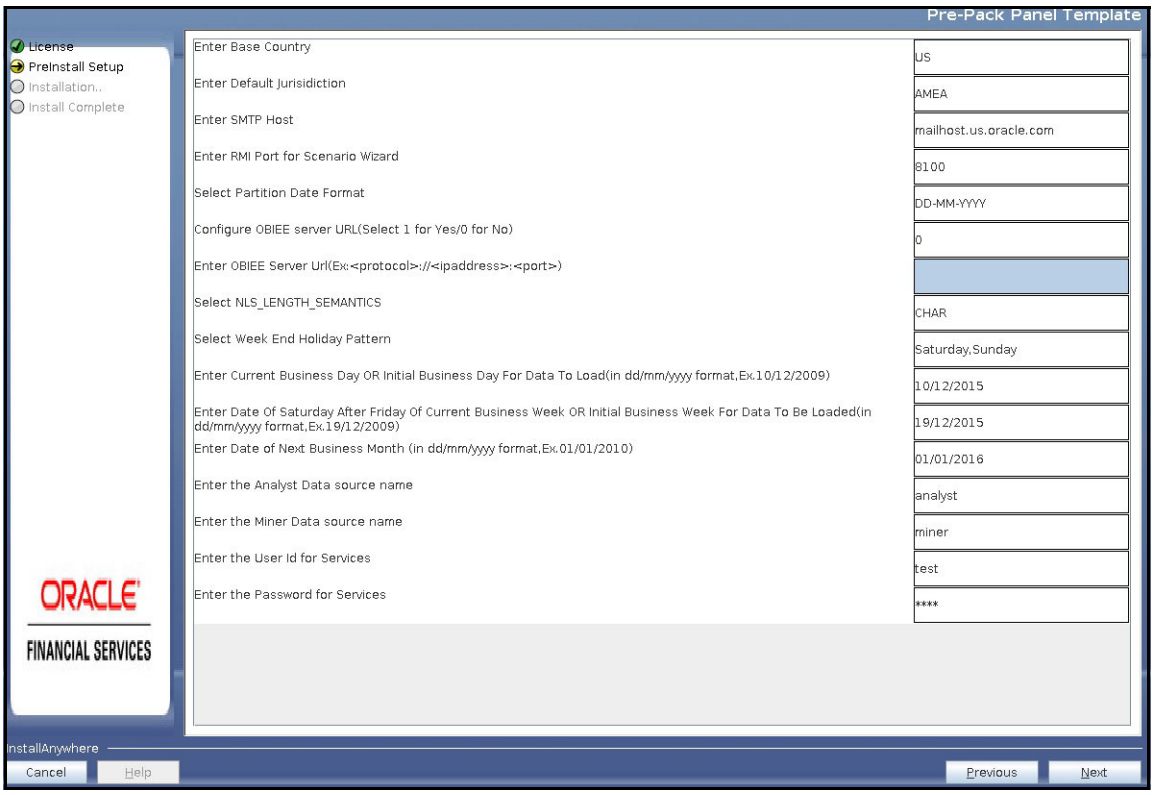
Figure 4–12 Manage Infodoms



13. Edit the Information Domain Name if it is a new Information domain or if you want to change the name of the information domain name.

Note: In case of subsequent Applications Pack installation on the same Information Domain, you cannot edit the name Permissible length is 16 characters and only alphanumeric characters allowed. No special characters allowed.

Figure 4–13 Pre-Pack Panel Template



14. Click **Next**. The License Agreement window is displayed.

Figure 4–14 License Agreement Window

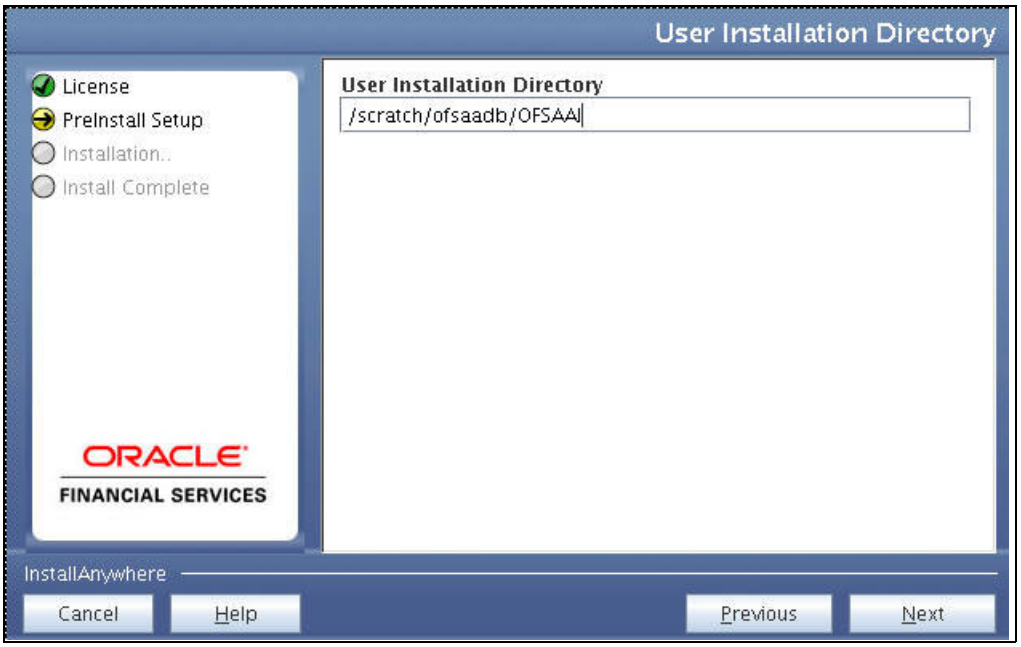
15. Select **I accept the terms of the License Agreement** option.

16. Click **Next**. The License Details page is displayed.

Figure 4–15 License Details Page

17. Click **Next**. The User Installation Directory window is displayed.

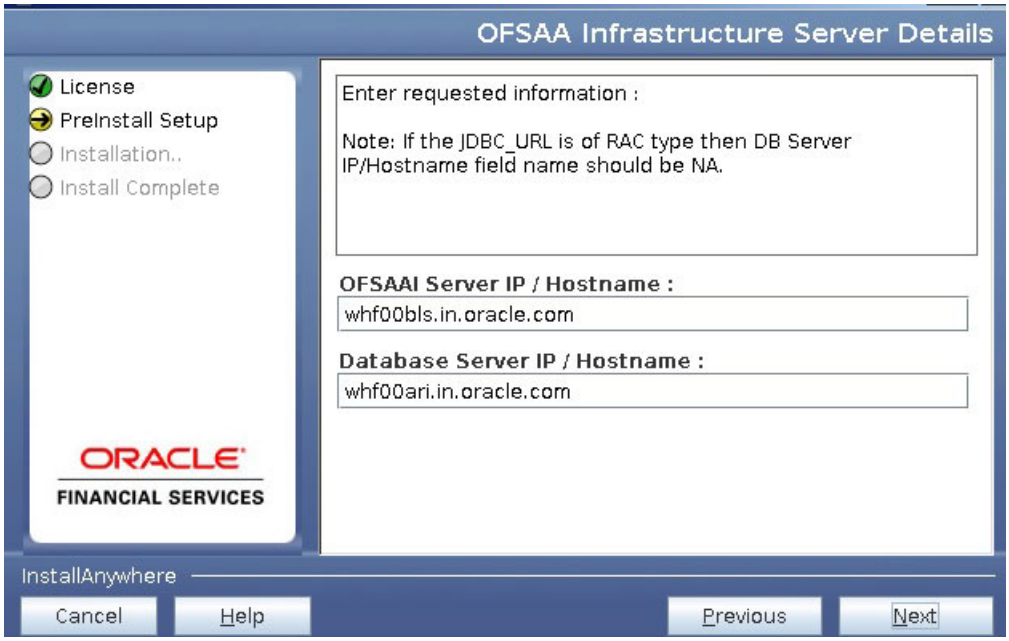
Figure 4–16 User Installation Directory



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

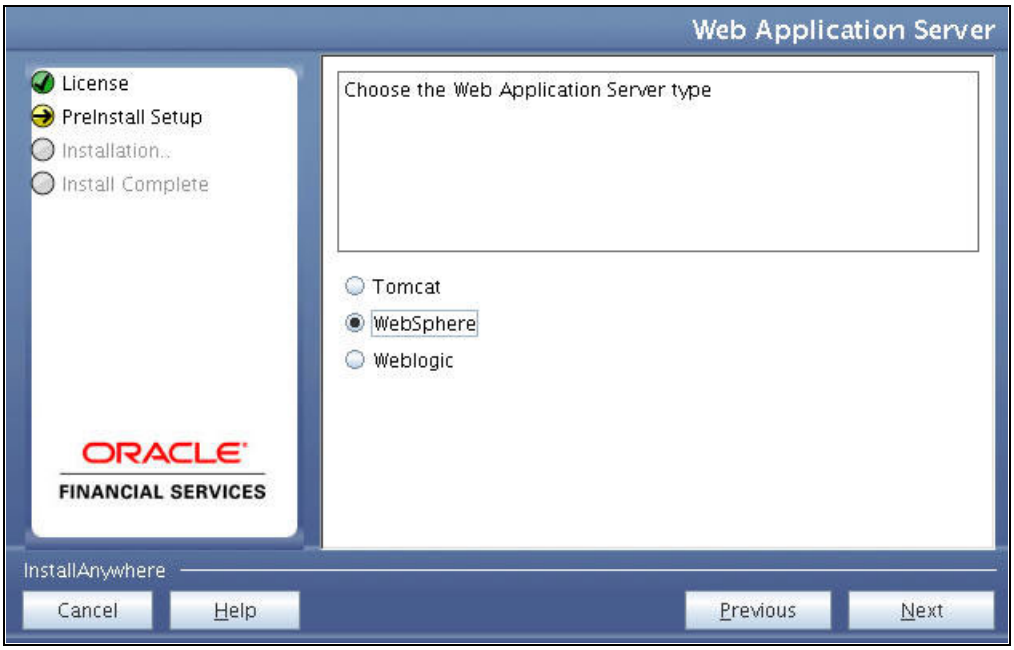
18. Click **Next**. The OFSAA Infrastructure Server Details window is displayed.

Figure 4–17 OFSAA Infrastructure Server Details



19. Enter the IP address or hostname of the OFSAAI server and Database server.
20. Click **Next.** The *Web application server* window is displayed.

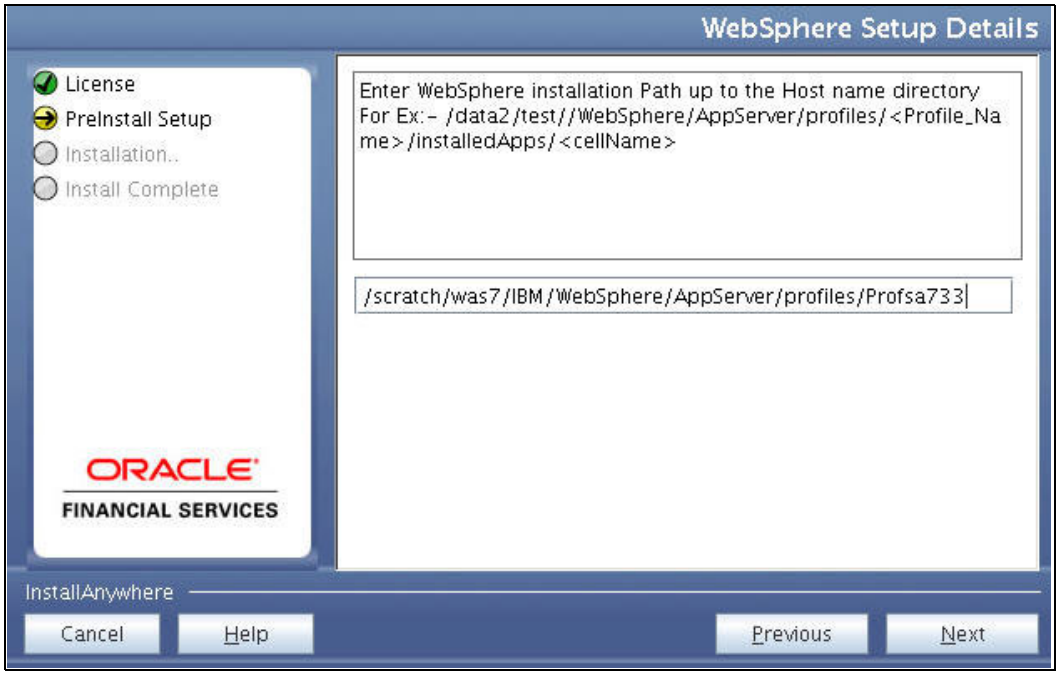
Figure 4–18 Web application server



21. Select the appropriate Web Application server type. The options are Tomcat, WebSphere, and WebLogic.
22. Click **Next**. Based on the selection, corresponding screens are displayed.

    For WebSphere: The WebSphere Setup Details window is displayed.

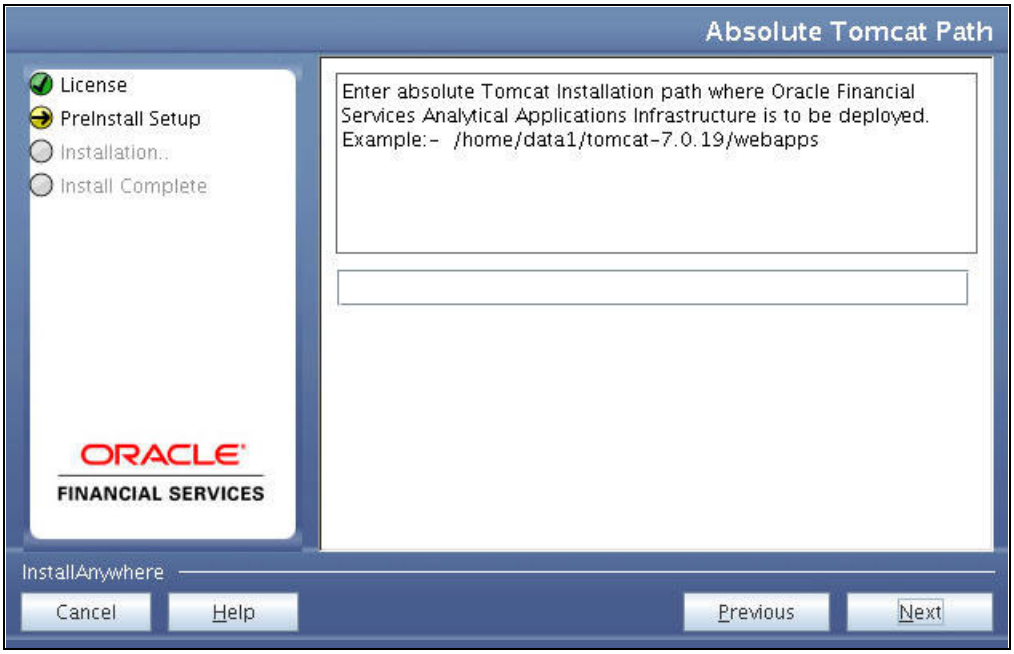
Figure 4–19 WebSphere Setup Details



23. Enter the installation path (up to the host name directory) of the WebSphere. The format is `<WebSphere profile directory>/installedApps/<NodeCellName>`.

For Tomcat: The Absolute Tomcat Path window is displayed.

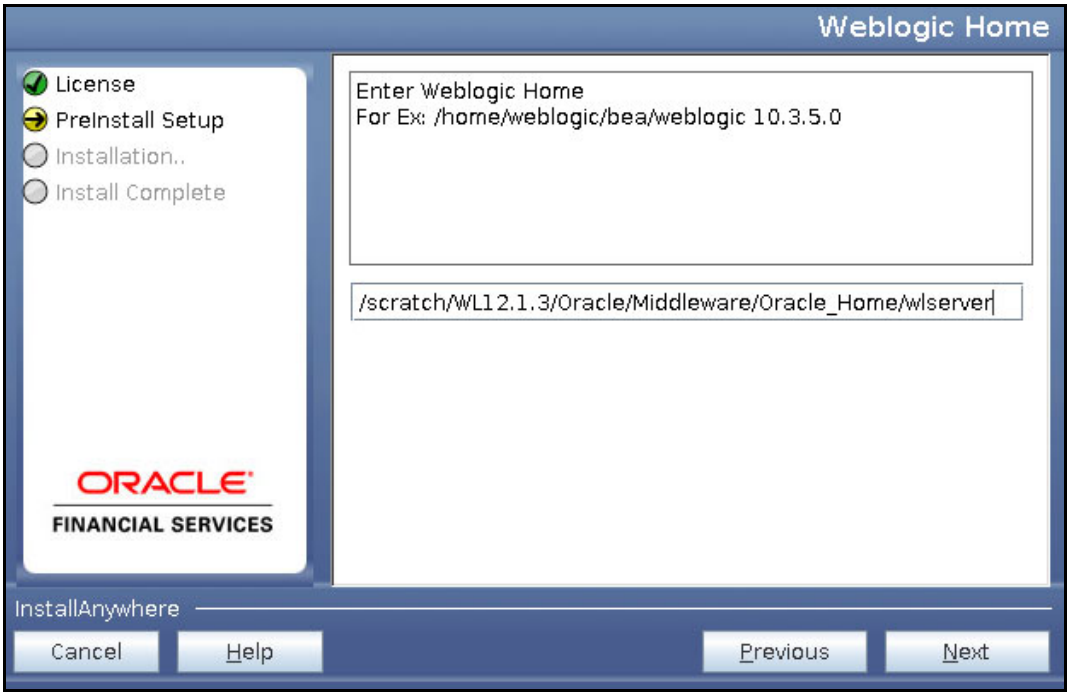
Figure 4–20 Absolute Tomcat Path



24. Enter the Tomcat installation path (till/webapps) where OFSAAI will be deployed.

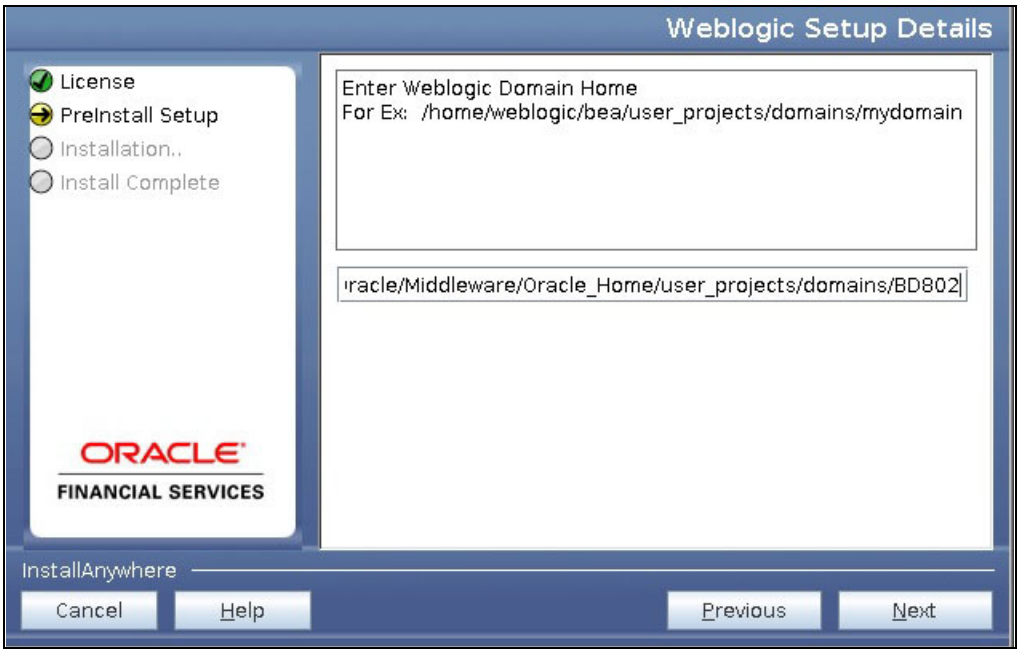
For WebLogic: The WebLogic Home window is displayed.

Figure 4–21 WebLogic Home



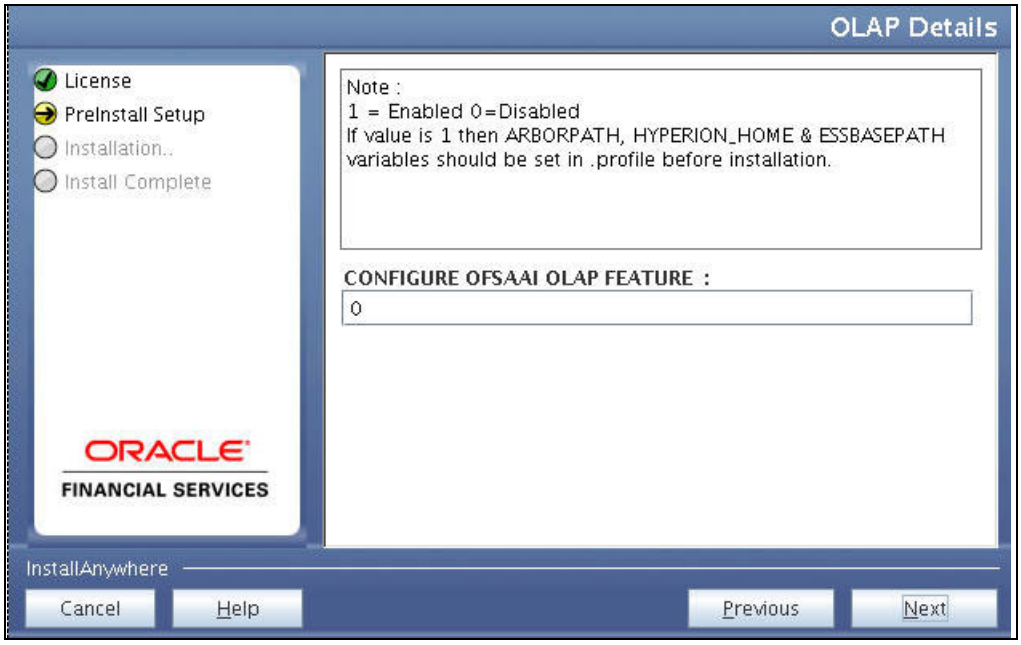
25. Enter the WebLogic home directory path.

Figure 4–22 WebLogic Setup Details



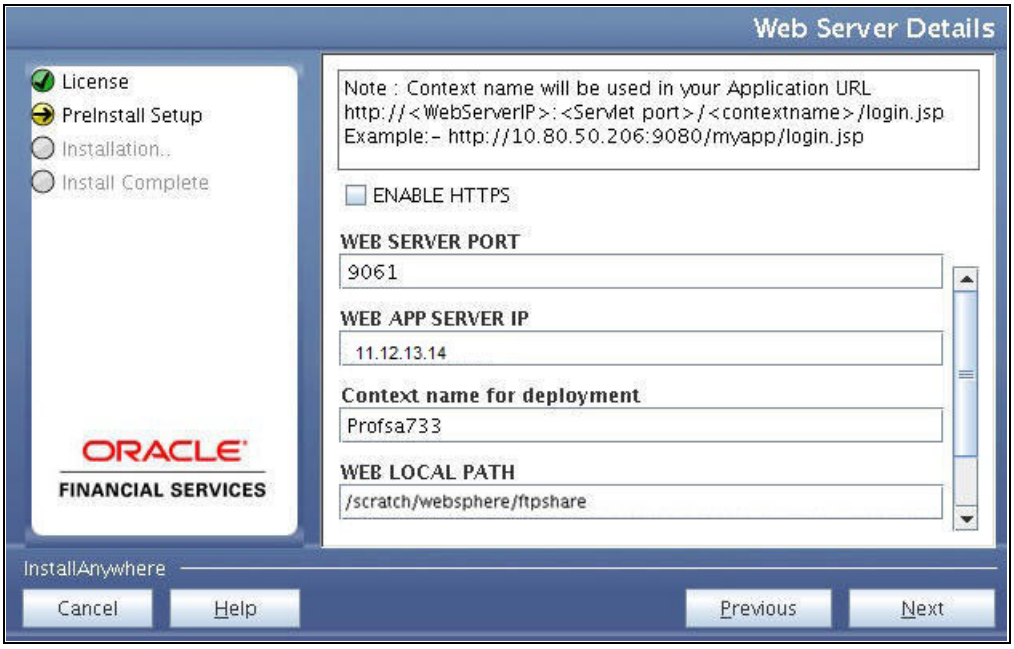
26. Enter the path of the WebLogic domain home directory and click **Next**. The OLAP Details window is displayed.

Figure 4–23 OLAP Details



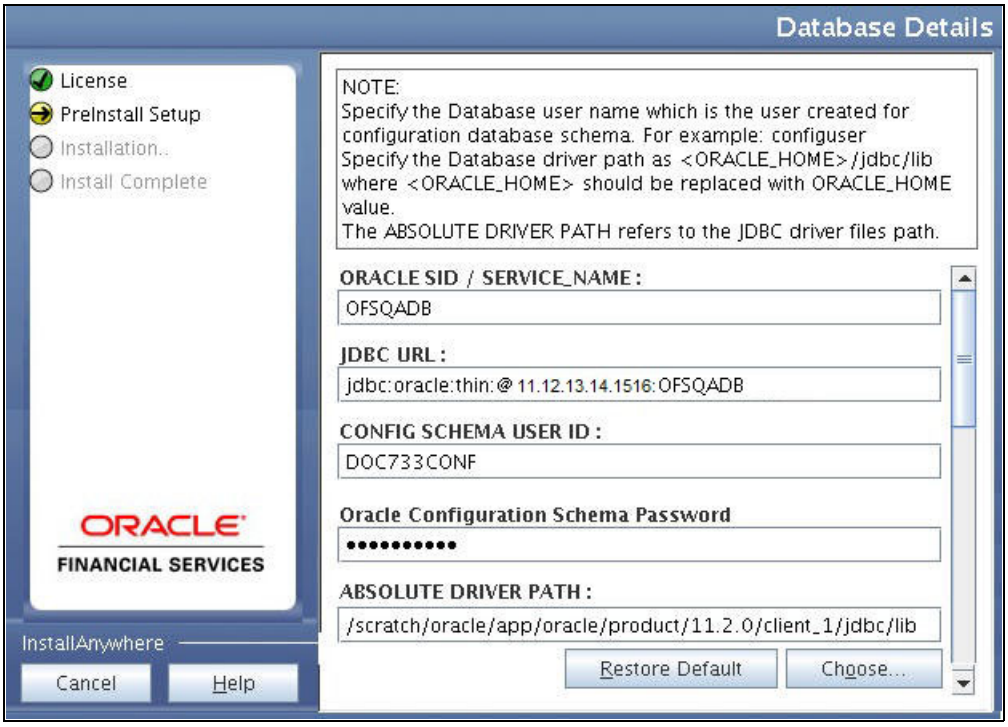
27. OFSAAI OLAP feature should be set to 0.
28. Click **Next**. The Web server Details window is displayed.

Figure 4–24 Web server Details



29. Select **ENABLE HTTPS** checkbox to configure HTTPS, if required, and enter the WEB SERVER (HTTP Server) PORT, Context name for deployment and WEB LOCAL PATH to any folder on the Web application server (Tomcat/WebSphere/WebLogic).
30. Click **Next**. The Database Details window is displayed.

Figure 4–25 Database Details



31. Enter Oracle SID/Service Name.

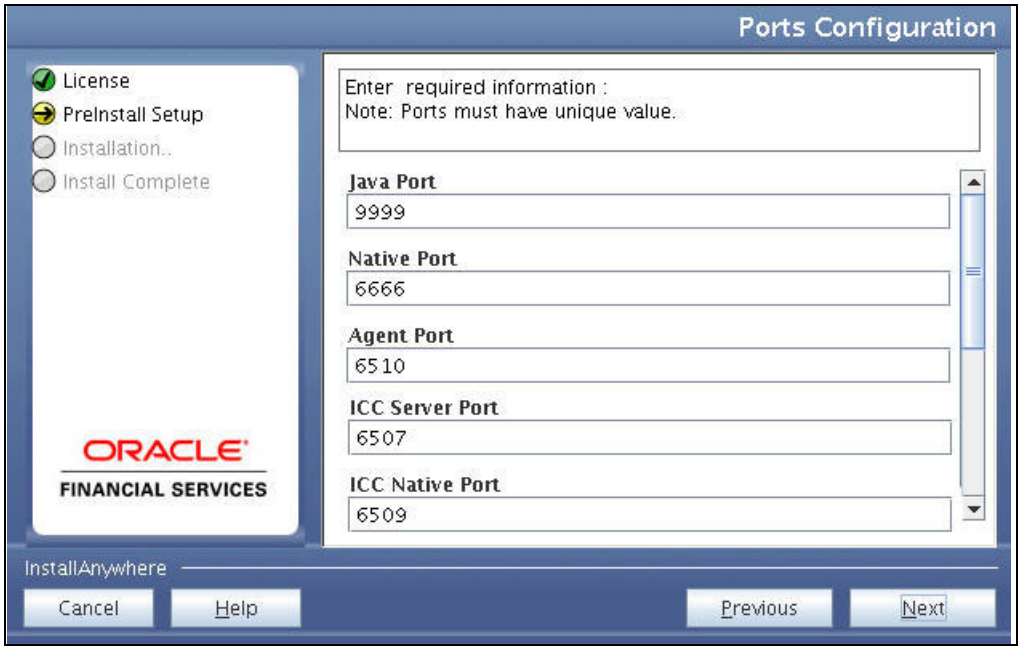
Note:

- The JDBC URL, CONFIG 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`

---

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

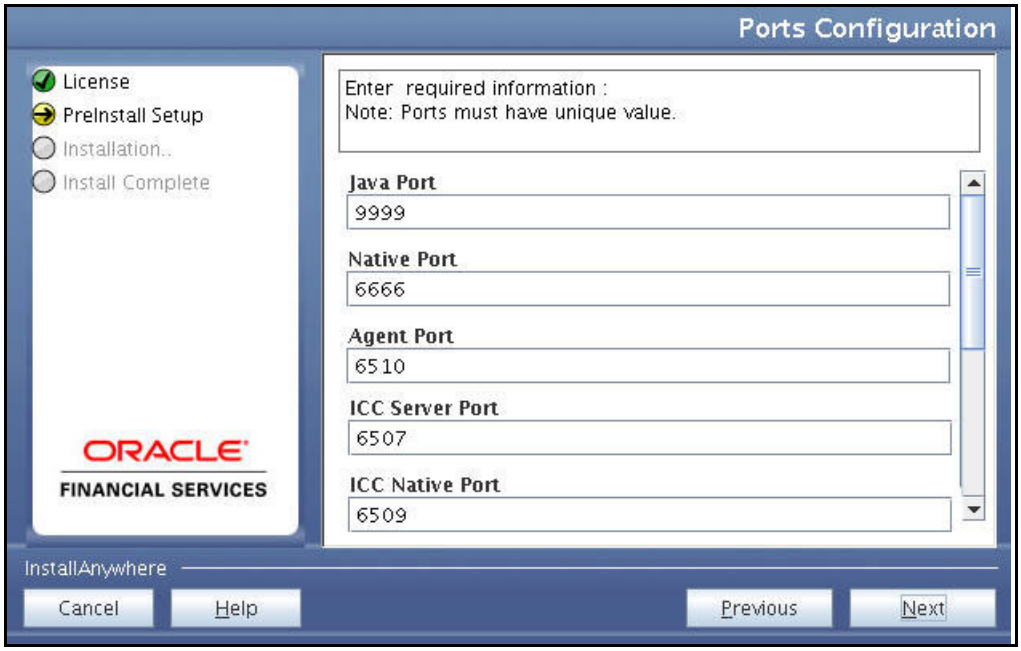
Figure 4–26 Ports Configuration



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

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

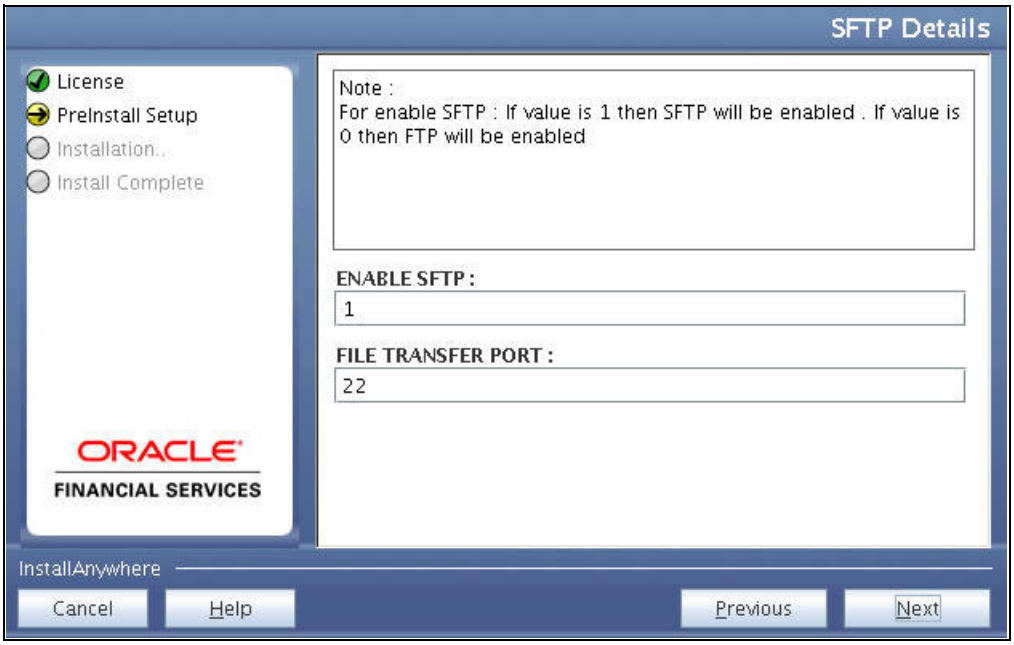
Figure 4–27 Ports Configuration



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

34. Click **Next**. The SFTP Details window is displayed.

Figure 4–28 SFTP Details



Note:

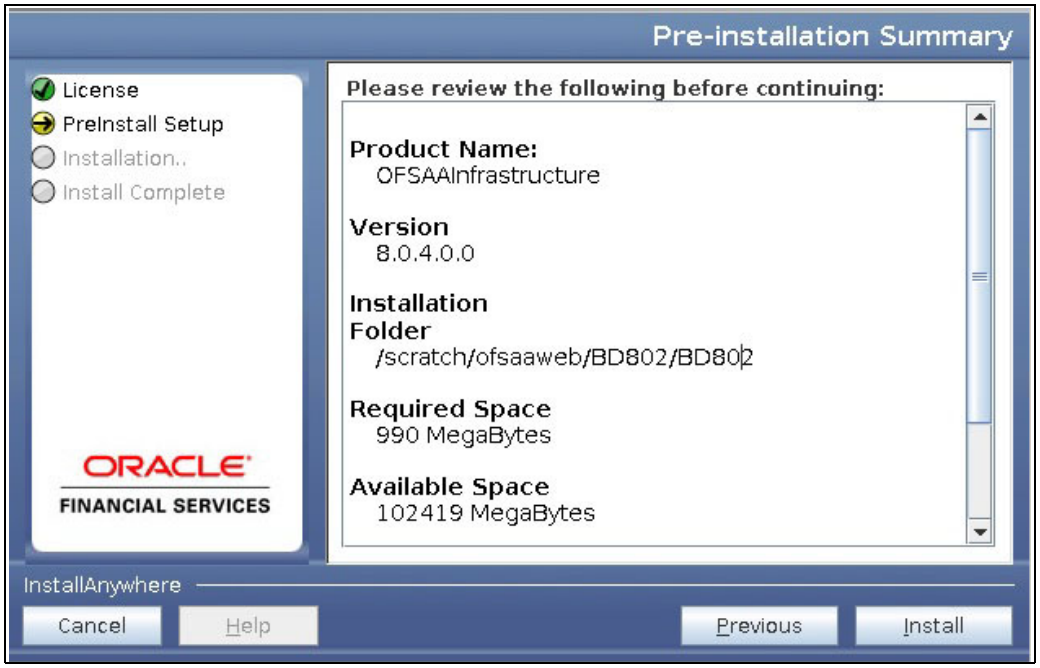
- ENABLE SFTP and FILE TRANSFER PORT details are auto-populated.
- Ensure that the system, on which the OFSAA Infrastructure is installed, has FTP or SFTP enabled.

35. Click **Next**. The OFSAAI Post Install Details window is displayed.
36. Enter the FTPSHARE path. This is same as the OFSAA Staging/ Metadata directory.
37. 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 through FTP/SFTP. Ensure the necessary host configurations are made for a successful handshake.

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

Figure 4–29 Pre Installation Summary

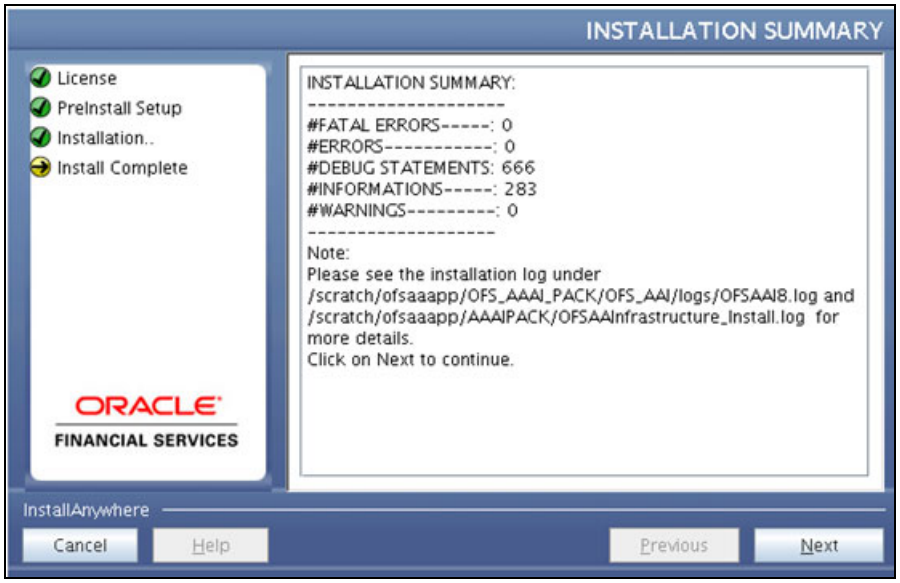


39. Click **Install**. The Installing OFSAA Infrastructure window is displayed.

Figure 4–30 Installing OFSAA Infrastructure

Anytime during the installation you can click **Cancel** to stop the installation. Once completed, the INSTALLATION SUMMARY window is displayed.

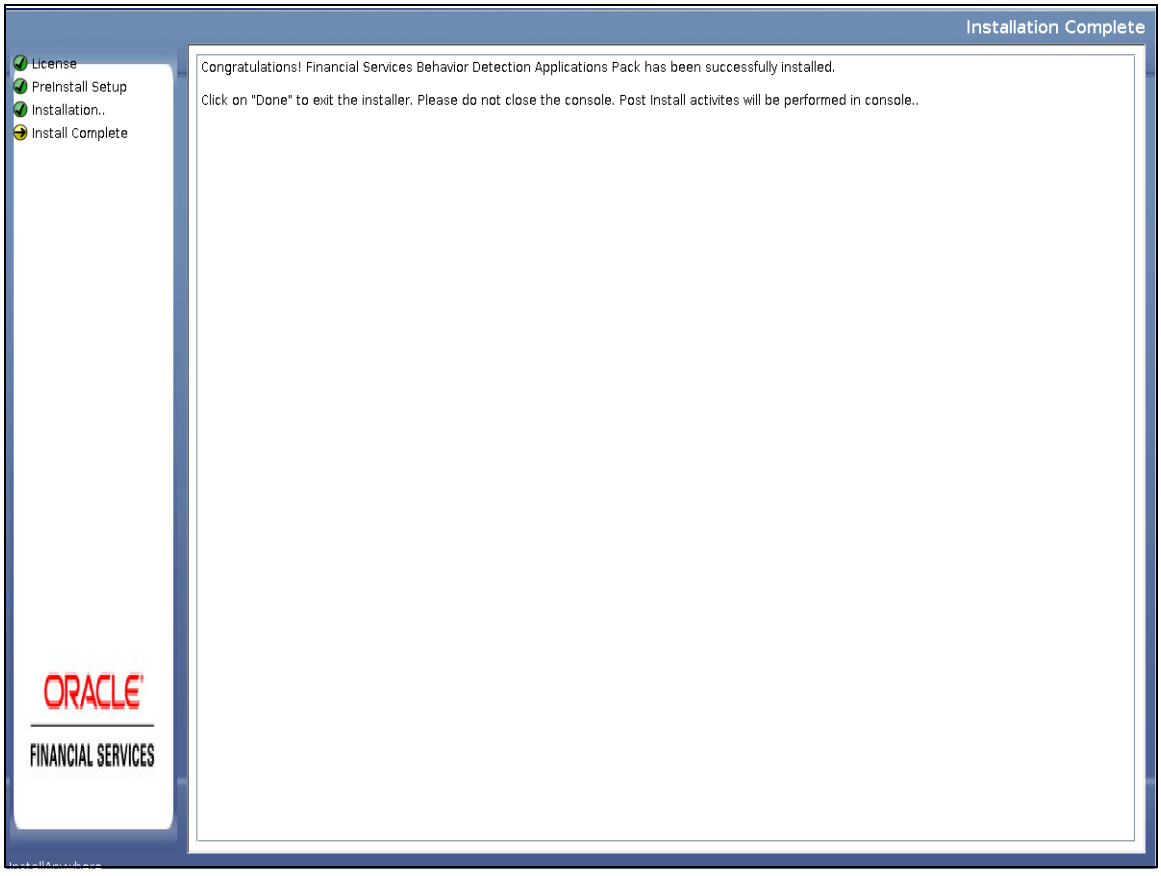
Figure 4–31 INSTALLATION SUMMARY



The Summary window displays the number of Fatal Errors, Errors, Debug Statements, Informations, and Warnings along with the location of log files.

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

Figure 4–32 Installation Complete



Note: If the installation is successful with some warnings, you can navigate to the installation log for more details and address them.

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

Figure 4–33 Checking OFSAAI Services

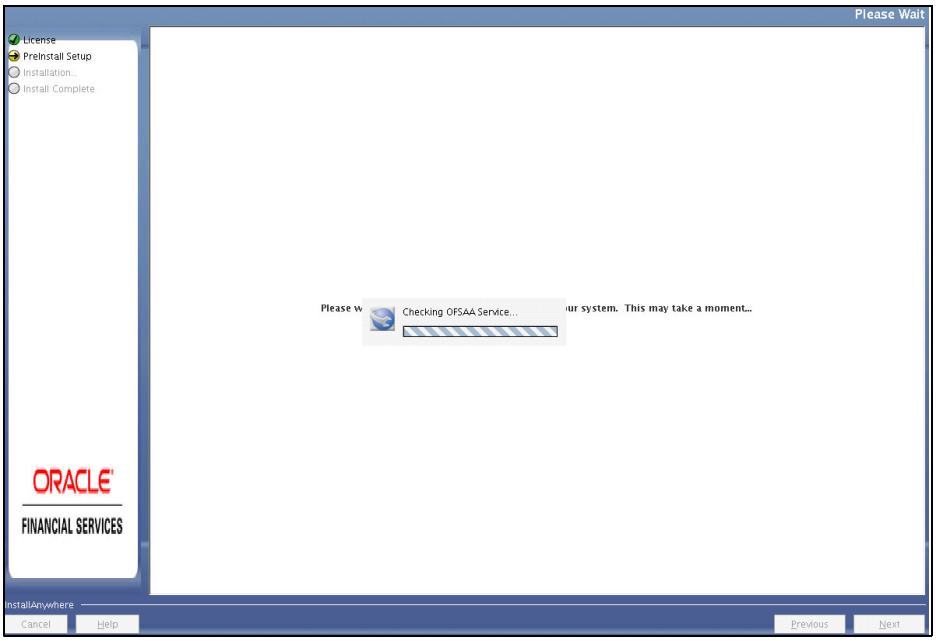


Figure 4–34 Installation Summary

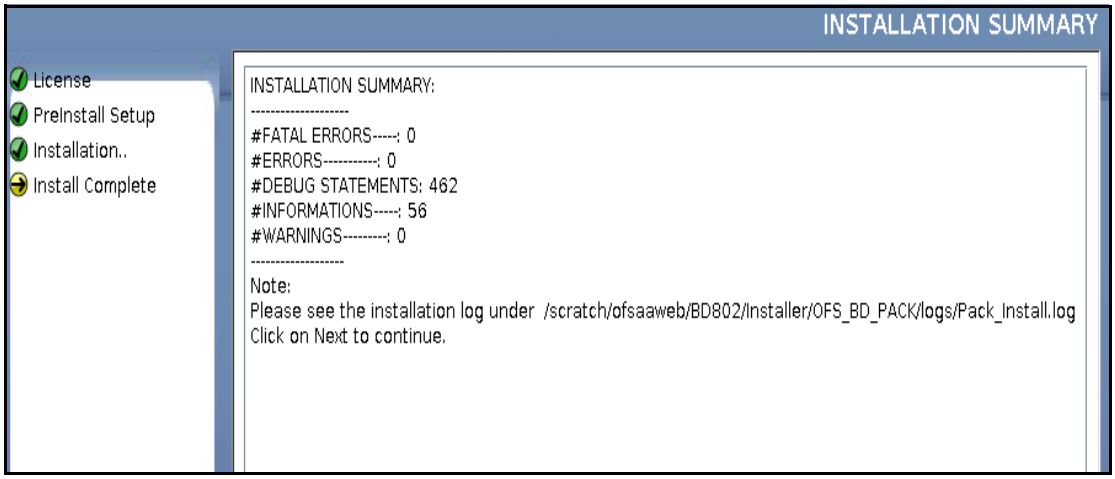
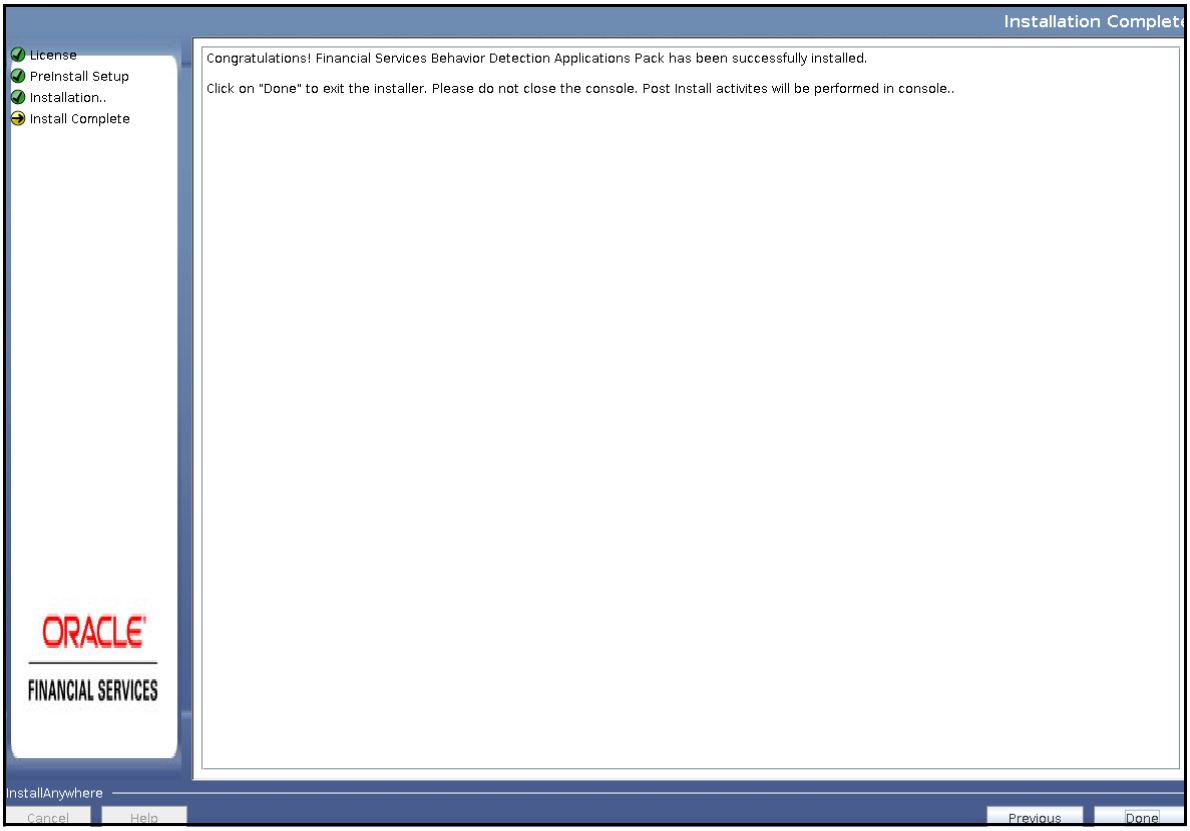


Figure 4–35 Installation Complete



42. Click **Done**.

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

43. Perform steps mentioned in the Post Installation Configuration section.

Verifying Installation

Verify the following logs files for more information:

- See the `Pack_install.log` file in the folder: /OFS_BD_PACK/logs
- See the OFSAA logs under `/OFS_BD_PACK/OFS_AAI/logs`
- See the `BD_log` files located in the folder: `/OFS_BD_PACK/OFS_BD/logs` for OFS BD Applications Pack Installation log file.

> **Note:** If there are any errors, do not proceed with further installation and contact Oracle Support Services.

Note: If BD and FSDF are in different Infodom, follow these steps:

1. Run the following scripts in FSDF schema present in the path `<download_dir>/OFS_BD_PACK/OFS_BD`: `FSDFAlterTimezone.sql`
2. Run the following script in BD schema after replacing placeholder ##FSDF_USER## with FSDF User name: `INGESTUSERSYNONYMFORFSDFSTGSCHEMAOWNER.sql.`
3. Run the following script in FSDF schema after replacing placeholder ##DATA_LOADER## with Data Loader Role: `FsdfStgSchemaOwnergrant.sql`

5

Upgrading the OFS BD Applications Pack

This chapter includes the following topics:

Prerequisites

Follow these steps before proceeding with the upgrade process:

Note: If you are upgrading from OFS BD 8.0.1.0.0 to OFS BD 8.0.4.0.0, then you should first apply the OFS BD 8.0.2.0.0 patch and then proceed with OFS BD 8.0.4.0.0 upgrade process.

Note: IUpgrade patch is not available for KYC. For more information, please contact product support.

1. Take a backup of the existing 8.0.2 setup, that is:
   - FIC_HOME
   - FTPSHARE
   - Atomic and config schema
2. Ensure that the `<801_Installer Folder>/schema_creator/OFS_BD_SCHEMA_OUTPUT.xml` file which is created during the 8.0.1 schema installation is available. This is used to update the `patchconfig.xml` file before doing the upgrade.
3. Download and apply the following patch from https://support.oracle.com/.
   - Patch 8.0.2.0.130 - Bug 25532735
4. Back up if data exists in the column `sec_citzn_country_code` in the table `stg_party_master`.
5. Execute the following Alter script mandatorily:

   alter table stg_party_master rename column v_sec_citzn_country_code to v_sec_citzn_country_old

Note: Ensure that the dispatcher is not running. If the dispatcher is running, stop and then start the upgrading process.

Note: Ensure that you end all the batches before you start the upgrade process.

Upgrading the OFS BD Applications Pack

Refer to the following instructions to download, extract, install, and configure this release:

1. To download and copy the OFS BD Applications Pack v8.0.4.0.0 archive file, see Downloading and copying the OFS BD Applications Pack Installer section.

   Note: The archive files are different for every operating system like AIX, Solaris, and RHEL/Oracle Linux.

2. Log in to the OFSAA Server.
3. Shut down all the OFSAAI Services. For more information, refer to the *Start/Stop Infrastructure Services* section in Appendix D.
4. Execute the following command:

   ```
   chmod -R 750 $FIC_HOME
   ```

5. If you have Unzip utility, skip to the next step. Download the Unzip utility (OS specific) and copy it in **Binary** mode to the directory that is included in your PATH variable, typically **$HOME** path or directory in which you have copied the 8.0.4.0.0 installer.

   - Uncompress the unzip installer file using the command:

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

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

   - Give EXECUTE permission to the file using the command:

     ```
     chmod 751 OFS_BD_80400_<OperatingSystem>.zip
     ```

6. Extract the contents of the Oracle Financial Services Behavior Detection Applications Pack 8.0.4.0.0 installer archive file using the following command:

   unzip_<os> <name of the file to be unzipped>

7. Give EXECUTE permission to the archive file. Navigate to the path *OFS_BD_80400_<OperatingSystem>.zip* and execute the command:

   ```
   chmod -R 750 OFS_BD_80400_<OperatingSystem>
   ```

8. Update `patchconfig.xml` and grant permission to the sh files as follows:

Placeholder Name	Significance and Expected Value	Mandatory
##OFS_AML_SW_RMIPORT##	This attribute is used by the Scenario Wizard. It should consist of a proper port number, which should not be used by any other application. For example, 7623 or 8204.	Yes
##OFS_AML_SAVE_METADATA#	This attribute is used by the installer to decide whether to execute hierarchy Resave. Applicable value is ALL.	Yes
##EXECUTE_PRE_AND_POST_SCRIPTS##	This flag indicates if certain scripts need to be executed just before and just after the datamodel upload.	Yes
##SCHEMA_OUT_XML_PATH##	This attribute refers to the path which needs to be pointed to `OFS_BD_SCHEMA_OUTPUT.xml` which was generated at the time of installation. For example, `/scratch/ofsaaapp/Installer/OFS_BD_PACK/schema_creator/OFS_BD_SCHEMA_OUTPUT.xml`	Yes
##OFS_FCCM_LOADER_ROLE##	This attribute is the role used when OFS BD 8.0.1.0.0 was installed. The value will be present in `OFS_BD_SCHEMA_OUTPUT.xml` which was generated at the time of 8.0.1 Installation.	Yes
##OFS_AML_ANALYST_DATA_SOURCE##	Name of the Analyst Data source used for Admin Tools Configurations. For example: Create a data source with name `ANALYST`	Yes
##OFS_AML_MINER_DATA_SOURCE##	Name of the Miner Data source used for Admin Tools Configurations For example: Create a data source with name `MINER`	Yes
##BASE_COUNTRY##	ISO country code to use during data ingestion to record institution-derived geography risk on parties on transactions that are internal to the OFSBD client. For example: `base_country=US` `base_country=US`	Yes
##DEFAULT_JURISDICTION##	Jurisdiction to assign the derived entities and derived addresses. For example: `default_jurisdiction=AMEA`	Yes
##TNS_ADMIN##	This attribute refers to the path where TNSNAMES.ORA is placed. For example, `/scratch/ofsaaapp`	Yes

9. Navigate to the `OFS_BD_PACK/bin` folder.
10. Execute setup.sh file using the following command:

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

    Verify if the release is applied successfully by checking the log file generated in the installation folder. You can ignore ORA-00001, ORA-00955, ORA-02260, and ORA-01430 errors in the log file. In case of any other errors, contact Oracle Support.
11. For more information on securing your OFSAA Infrastructure, refer to the Security Guide in OTN Library.
12. After successful installation, follow these steps:

    Clear the application cache. Navigate to the following path depending on the configured web application server and delete the files.

    - **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>/<auto generated folder>/jsp_servlet
```

- **Websphere**

```
<Websphere installation
directory>/AppServer/profiles/<Profile name>/temp/<Node
name>/server1/<Application name>/<.war file name>
```

13. Add umask 0027 in the `.profile` of the UNIX account which manages the WEB server to ensure restricted access permissions.
14. Restart all the OFSAAI services. For more information, refer to the *Start/Stop Infrastructure Services* section in Appendix D.
15. 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 section.
16. Deploy the RPD and Catalog OBIEE files present under $FIC_HOME/OBIEE folder.

Upgrading the KYC Application

Refer to the following instructions to upgrade KYC:

Note: The following steps apply to the migration of data for only out of the box functionalities. For risk parameters which were added as a part of customizations, refer to the chapter *Adding New Risk Parameters* in the KYCAdministration Guide 8.0.4.0.0.

1. Download and apply the following patches for 8.0.4.0.1 from https://support.oracle.com/.
   - Patch 8.0.4.0.1 - 25895877
   - Patch 8.0.4.0.6 - 26109295
   - Patch 8.0.4.0.7 - 26178437
   - Patch 8.0.4.0.15 - 26263485
   - Patch 8.0.4.0.17 - 26318606
   - Patch 8.0.4.0.16 - 26331310
2. Download and apply the following patch for 8.0.4.0.18 from https://support.oracle.com/.
   - Patch 8.0.4.0.18 - 25611290
3. After applying the upgrade patch, run the `upgrade_kyc_802_804.sh` file.

Note: Ensure that the backup taken in the Prerequisites section for the existing 8.0.2 setup is available.

4. Run the `upgrade_kyc_802_804.sh` file.

Note: After a successful backup, you need to restore schema backups & re-run utility in case the upgrade fails. To do this, first drop the following temp tables:

- DIM_RA_PRIORITY_TEMP
- DIM_RAORRISK_CATEGORY_TEMP

- DIM_RISK_CATEGORY_TEMP
- APPLN_PARAMS_TEMP
- APPLN_REREVIEW_PARAMS_TEMP
- APPLN_RB_PROCESSING_TEMP
- APPLN_RISK_RATING_PARAMS_TEMP
- FCT_CUST_RVWDTLS_TEMP
- FCT_RA_TEMP
- FCT_CUST_RA_HISTRY_TEMP
- FCT_RA_RISK_HISTORY_TEMP
- FCT_RA_ACTIONS_TEMP
- FCT_TP_WLS_RESULTS_TEMP
- FCT_TP_WLS_REQUESTS_TEMP
- KDD_CASES_TEMP
- TEMP_CODE_MAPPING

After dropping the temp tables, you must then restore data in the following tables if they are truncated:

- DIM_RA_PRIORITY
- DIM_RISK_CATEGORY
- DIM_RAORRISK_CATEGORY
- APPLN_PARAMS
- APPLN_RISK_RATING_PARAMS
- APPLN_RB_PROCESSING
- APPLN_REREVIEW_PARAMS
- PARAM_RISK_SCORE_JRSDN
- FCT_RA
- FCT_CUST_RA_HISTRY
- FCT_CUST_RVWDTLS
- FCT_RA_RISK_RATING_HISTORY
- FCT_RA_RISK_SUMMARY
- FCT_RA_RISK_REASONS
- FCT_RA_ACTIONS
- FCT_TP_WLS_RESULTS
- FCT_TP_WLS_REQUESTS
- FCT_RA_RISK_DETAILS
- FCT_CUST_REVIEW_REASONS

As a part of migration of KYC legacy data from previous versions to 8.0.4.0.0, follow these steps:

1. Ensure that data in the DIM_JRSDN table in the 8.0.2.0.0 schema and data in the KDD_JRSDN table in the 8.0.4 schema are the same.
2. Ensure that all the static data, that is, the DIM_RISK parameter data, of risk parameters are available in the KDD_CODE_SET_TRSL table against the product mapped code set for each risk parameter. The following are the dim tables for which data has to be made available in the code set translation table:

- DIM_OCCUPATION
- DIM_LGLSTRUC_OWNRSHP_RISK
- DIM_INDUSTRY
- DIM_INCOME_SRC_TYPES
- DIM_PRODUCT
- DIM_COMPANY_TYPE_RISK
- DIM_MARKETS_SERVED
- DIM_COUNTRY
- DIM_CORP_AGE_RANGE
- DIM_RELN_PERIOD_RANGE
- DIM_NEG_NEWS_RANGE
- DIM_ACCOUNT_TYPE
- DIM_ACCOUNT_OPENING_METHODS

3. Ensure that the static data and the code set data are the same. This is so that the risk scores against each of the static data for a particular jurisdiction is moved to the Parameter risk score jurisdiction table, that is, PARAM_RISK_SCORE_JRSDN.

Note: The following customer type mappings are done by the system when migrating from 8.0.2.0.0 to 8.0.4.0.0:

- Firm-Org
- Corp-Fin
- Ind-Ind

Note: A few risk parameters available in previous versions are not available as out of the box risk parameters. These parameters are moved as a part of the data migration process with the inactive flag set as Y. If these parameters are also needed for 8.0.4 they can be configured accordingly. Also, the *Risk Associated with Citizenship* parameter is divided into two risk parameters: one for primary citizenship and another for secondary citizenship.

Note: The Risk Associated with Country of Citizenship risk parameter is divided into two risk parameters in 8.0.4.0.0. Since it is a seeded risk parameter, it is migrated to 8.0.4.0.0 as an inactive risk parameter. In order to populate data, you must add the risk parameter using the excel upload feature and click **Auto-Populate Data.** For more information, refer to the KYC Administration Guide 8.0.4.0.0.

Post Installation Steps

Follow these steps:

1. Restore data for the column sec_citzn_country_code in the table stg_party_master.

2. Download and install OFSAAI one-off patch **25487272** from fromhttps://support.oracle.com/.

Note:

- Once the upgrade process is completed, remove the AM folder from `<FIC_HOME>/ficweb/AM`. Then regenerate EAR/WAR files and deploy.
- If you are using Currency Transaction Reporting that is deployed on Websphere, create a **Temp** folder under the location `<Deployed_Path>WEB-INF/classes`

6

Post Installation Configuration

On successful installation of the Oracle Financial Services Behavior Detection Applications Pack, see the following post installation sections:

This chapter includes the following sections:

- Creating and Deploying the Applications Pack Web Archive
- Installing Scenario Manager
- Configuring Scenario Manager
- Deploying Analytic Reports and Threshold Analyzer
- Installing RAOR Service
- Configuring Resource Reference
- Configuring Web application server
- Configurations for Java 8
- Configuring FSDF
- TC-BC Ingestion
- Synchronizing FSDF Changes
- Loading New/Modified Scenarios
- Configuring Big Data Processing

Note:

Ensure to clear the application cache prior to the deployment of Applications Pack Web Archive. This is applicable to all Web servers (WebSphere, WebLogic, and Tomcat). For more information, see the *Clearing Application Cache* section.

Oracle Financial Services Behavior Detection (BD) customers on version 8.0.2.x.x or higher must apply the Analytical Applications Infrastructure (AAI) Patch 33663417 and OFS Behavior Detection 33660530.

Creating and Deploying the Applications Pack Web Archive

Note: Remove the existing Admin Tools deployment (which is integrated with OFS BD pack).

This section covers the following topics:

- OFSBD Applications Pack Deployment
- Scenario Wizard Configuration and Deployment
- Services Configuration and Deployment

OFSBD Applications Pack Deployment

To create and deploy the Applications Pack web archive, follow these steps:

1. Navigate to the `$FIC_WEB_HOME` directory.
2. Execute the command:

   `./ant.sh`
3. This will trigger the creation of EAR/WAR file - `<contextname>.<extn>`. Here `<contextname>` is the context name given during installation.

   Note: Creating ear/war files are done by the installer automatically. If the files are not created, user can execute these steps.
4. On completion of the EAR/WAR files creation, the "BUILD SUCCESSFUL" and "Time Taken" message is displayed and you are returned to the prompt.
5. The EAR/WAR file - `<contextname>.<extn>` - is created under "`$FIC_WEB_HOME`" directory.

   Note: This process overwrites any existing version of EAR/WAR file in the path. If the web application server is Apache Tomcat, the file created would be `<contextname>.war`.
6. Deploy the generated EAR/WAR file on to the web application server. For detailed information, see Deploying EAR/WAR File.

   Note: If you are using Currency Transaction Reporting that is deployed on WebSphere, create a **Temp** folder under the location `<Deployed_Path>WEB-INF/classes`

Scenario Wizard Configuration and Deployment

The Scenario Wizard Configuration and Deployment must be performed if the following applications are installed

- AML
- FR
- Trade Compliance
- Broker Compliance
- Fraud-EE
- ECTC

- TB

To configure and deploy Scenario Wizard, follow these steps:

1. Navigate to `$FIC_HOME/ficweb/SCENARIO_WIZARD`
2. Execute `./install.sh`. When prompted for password, enter the KDD MNR Schema password.
3. Deploy the `<context-name>.war` file (for example SMLiteWeb.war) available at `$FIC_HOME/ficweb/SCENARIO_WIZARD` as an application on your Web application server. While deploying war file, keep context name as SMLiteWeb.

Note Only one instance of Scenario Wizard will run on one Application server at a time. While launching the Scenario Wizard if you find any exception pop-up saying java.rmi.bind exception or java.rmi.unknownhost exception, follow these steps**:**

1. Stop the SMLiteWeb.war
2. Navigate to `<deployed area>SMLiteWeb\WEB-INF\classes\conf\mantas_cfg\install.cfg`
3. In `install.cfg` change the token to some other port which is not occupied.
4. Define rmiPort. By default keep it 1099

   rmiPort=1099
5. Restart the server.

---

4. Log Details.
   a. Log file name- smlite.log
   b. Log path - Navigate to `<deployed area>SMLiteWeb\WEB-INF\classes\logs\smlite.log`
5. To customize the Log path/log file name, follow the following steps
   a. Go to `<deployed area>\SMLiteWeb\WEB-INF\classes\log4j.properties` file
   b. Change the value of the property log4j.appender.file.File="Your log file path"
   c. Restart the `SMLiteWeb.war`

To configure and deploy Scenario Wizard on WebSphere, follow these steps:

1. Ensure that port 1099 is free and available.
2. Deploy the SMLiteWeb.war
3. Change the class loader.
4. Navigate to **Applications > Application Types > WebSphere enterprise applications > SMLiteWeb.war > Manage Modules**.
5. Click on Module **Apache-Axis** and select **Class loaded with local class loader first (parent last)** under **Class loader order**.
6. Click **Apply** and then **Save**.
7. Start the application. If the application is not accessible, stop and start the application again from the WebSphere console.

Note: See Post Deployment Configuration for more details.

1. For Front-end access, the following settings must be changed on the client side for the Scenario Wizard to work on Windows XP/Windows 7.
    a. Navigate to Java Control Panel.
    b. Under the General tab ensure the following two settings:
    c. Navigate to Network Settings and change the Network Proxy Settings to Direct Connection.
    d. Navigate to Settings under Temporary Internet Files and perform the following steps:
    e. Check the option to keep temporary files on my computer.
    4. Click Delete Files to clear the Java cache.

To configure Scenario Wizard on Tomcat 8 and above before deploying the warfile, follow these steps:

1. Remove the following text from `context.xml` at `<deployed area>/conf/`:

    ```
    AbandonedOnBorrow="true"
    AbandonedOnMaintenance="true"
    AbandonedTimeout="60"
    logAbandoned="true"/>
    ```

2. Replace with the following text:

    ```
    maxTotal="100"
    maxIdle="30"
    maxWaitMillis="10000"/>
    ```

3. All resources have been moved to `Context.xml` from `server.xml`.
4. Change the following text:

    ```
    <Context path =
    /admin_tools" docBase="<deployed_area>/webapps
    admin_tools" debug="0" reloadable="true"
    crossContext="true">
    ```

    to

    ```
    <Context>
    ```

Services Configuration and Deployment

You must configure and deploy Services if the following applications are installed:

- AML
- FR
- Trader Compliance

- Broker Compliance
- ECTC
- Fraud-EE
- TB
- KYC

Note: Either Watchlist Services or Post Alert Services can be run, but not both simultaneously, as these services both use the variable FIC_HOME**.**
JDK is required for creation of Watchlist WAR and can be removed once services deployment is successful.

Watchlist Deployment Service

To configure and deploy Services, follow these steps:

1. Create the WAR file by changing to the FIC_HOME/ingestion_manager/scripts directory and executing createWatchListWAR.sh. This will create the mantas.war file which contains the watch list service.
2. Deploy the mantas.war file to the web application server. Any context path can be used, but the KYC application expects it to be at /mantas. The full path leading to the exploded WAR file will be referred to as <Service Deployed Directory> below.
3. Modify the following file: <Service Deployed Directory>/WEB-INF/fuzzy_match/mantas_cfg/install.cfg and change the path in the fuzzy_name.B.stopword_file and fuzzy_name.P.stopword_file properties from: <FIC_HOME>/ingestion_manager to: <Service Deployed Directory>/WEB-INF
4. Modify the following file: <Service Deployed Directory>/WEB-INF/config/install.cfg and change the Creating and Deploying the Applications Pack Web Archive Post Installation Configuration path in the log.message.library,log.categories.file.path, and log4j.config.file properties as specified in step3.
5. **For WebLogic:**

   Copy the following contents into setDomainEnv.sh located under $WL_HOME/user_projects/domains/<user_domain>/bin/setDomainEnv.sh after replacing the place holders (<WATCHLIST_DEPLOYED_AREA>, <ORACLE_HOME>)

   ```
   FIC_HOME=<WATCHLIST_DEPLOYED_AREA>

   ORACLE_HOME=<ORACLE_HOME>

   export FIC_HOME

   export ORACLE_HOME

   KDD_PRODUCT_HOME=${FIC_HOME}/WEB-INF/fuzzy_match

   export KDD_PRODUCT_HOME

   JAVA_LIB_HOME=${KDD_PRODUCT_HOME}/lib/kddcore.jar:${KDD_PRODUCT_HOME}/lib/log4j-1.2.12.jar

   export JAVA_LIB_HOME

   LD_LIBRARY_PATH=${KDD_PRODUCT_HOME}/lib:${ORACLE_HOME}/lib:${LD_LIBRARY_PATH}

   export LD_LIBRARY_PATH
   ```

   For Tomcat:

Create file `setenv.sh` under `<TOMCAT_INSTALLED_AREA>/bin/` and copy the following contents after replacing the place holders (`<WATCHLIST_DEPLOYED_AREA>`, `<ORACLE_HOME>`)

```
FIC_HOME=<WATCHLIST_DEPLOYED_AREA>

ORACLE_HOME=<ORACLE_HOME>

export FIC_HOME

export ORACLE_HOME

KDD_PRODUCT_HOME=${FIC_HOME}/WEB-INF/fuzzy_match

export KDD_PRODUCT_HOME

JAVA_LIB_HOME=${KDD_PRODUCT_HOME}/lib/kddcore.jar:${KDD_
PRODUCT_HOME}/lib/log4j-1.2.12.jar

export JAVA_LIB_HOME

LD_LIBRARY_PATH=${KDD_PRODUCT_HOME}/lib:${ORACLE_
HOME}/lib:${LD_LIBRARY_PATH}

export LD_LIBRARY_PATH
```

For WebSphere:

Copy the following contents into the .profile file (Create a .profile file if it is not already existing) of the user after replacing the place holders (`<WATCHLIST_DEPLOYED_AREA>`, `<ORACLE_HOME>`)

```
FIC_HOME=<WATCHLIST_DEPLOYED_AREA>

ORACLE_HOME=<ORACLE_HOME>

export FIC_HOME

export ORACLE_HOME

KDD_PRODUCT_HOME=${FIC_HOME}/WEB-INF/fuzzy_match

export KDD_PRODUCT_HOME

JAVA_LIB_HOME=${KDD_PRODUCT_HOME}/lib/kddcore.jar:${KDD_
PRODUCT_HOME}/lib/log4j-1.2.12.jar

export JAVA_LIB_HOME

LD_LIBRARY_PATH=${KDD_PRODUCT_HOME}/lib:${ORACLE_
HOME}/lib:${LD_LIBRARY_PATH}

export LD_LIBRARY_PATH
```

6. Restart the web application server.

Note: Update the proper `LD_LIBRARY_PATH` based on your OS,

- **For Linux:**

```
export LD_LIBRARY_PATH=$KDD_PRODUCT_HOME/lib:$ORACLE_
HOME/lib:$LD_LIBRARY_PATH
```

- **For Solaris SPARC:**

```
export LD_LIBRARY_PATH=/usr/lib/lwp:$KDD_PRODUCT_
HOME/lib:$ORACLE_
HOME/lib:/usr/ucblib/sparcv9:/scratch/JAVA_7/jdk1.7.0_
75/jre/lib/sparcv9/server:/scratch/JAVA_7/jdk1.7.0_
75/jre/lib/sparcv9:/scratch/JAVA_7/jdk1.7.0_
75/jre/lib/sparcv9/native_
threads:/usr/local/lib/sparcv9:/scratch/JAVA_
7/jdk1.7.0_75/jre/lib/:$LD_LIBRARY_PATH
```

- **For AIX:**

```
export LIBPATH=$KDD_PRODUCT_HOME/lib:$ORACLE_
HOME/lib:$JAVA_HOME/jre/bin:$JAVA_
HOME/jre/bin/j9vm:$JAVA_HOME/jre/lib/ppc64:$LIBPATH
```

- **For Solaris x86:**

```
export LD_LIBRARY_PATH=/usr/lib/lwp:$KDD_PRODUCT_
HOME/lib:$ORACLE_
HOME/lib:/usr/ucblib/amd64:/scratch/oracle/JRE7/jre1.7
.0_75/lib/amd64/server:/scratch/oracle/JRE7/jre1.7.0_
75/lib/amd64:/scratch/oracle/JRE7/jre1.7.0_
75/lib/amd64/native_
threads:/usr/local/lib/amd64:/scratch/oracle/JRE7/jre1
.7.0_75/lib/:$LD_LIBRARY_PATH
```

Create the Post Alert Service.war file by following these steps:

1. **Create PostAlertService war**
   Trigger the ant.sh under the <INSTALLED_AREA>/services/ to create mantasServ.war.

   Add `-Doracle.jdbc.autoCommitSpecCompliant=false in the web server profile to pass as a JVM argument`

For Tomcat:

2. Deploy the mantasServ.war.
3. Restart the WebLogic server and install the mantasServ.war application.
   Replace the Path for "kdd.xml.catalog" and "log.mantaslog.location" in the install.cfg file located under `<Service_Deployed_Area>/solution/services/mantas_cfg`.

   - `kdd.xml.catalog=<Service Deployed Area>/solution/services/share/xml/catalog.xml`
   - `log.mantaslog.location=<Service Deployed Area/solution/services/logs`

4. Create file setenv.sh under `<TOMCAT_INSTALLED_AREA>/bin/` and copy the below contents after replacing the place holders (`<Service_Deployed_Area>`, `<Oracle_Home>` and `<TNS_Admin_Home>`) and save.

```
SERVICES_ROOT=<Service_Deployed_Area>/solution/services

export TNS_ADMIN=<TNS_Admin_Home>

export ORACLE_HOME=<Oracle_Home>
```

```
export FIC_HOME=<Service_Deployed_Area>

MINHEAP=32m

export LD_LIBRARY_PATH=$SERVICES_ROOT/lib:$ORACLE_HOME/lib:$LD_LIBRARY_
PATH

PLATFORM=`uname -i`

if [ "$PLATFORM" = "x86_64" ]; then

MAXHEAP=10000m

else

MAXHEAP=1800m

fi

export MINHEAP MAXHEAP

export KDD_PRODUCT_HOME=$SERVICES_ROOT

export KDD_HOME=$SERVICES_ROOT
```

5. Restart the tomcat server.

For WebLogic:

1. Explode the mantasServ.war under the desired WebLogic Domain.
2. Restart the WebLogic server and install the mantasServ.war application.
   Replace the Path for "kdd.xml.catalog" and "log.mantaslog.location" in the install.cfg file located under `<Service_Deployed_Area>/solution/services/mantas_cfg.`
   - `kdd.xml.catalog=<Service Deployed Area>/solution/services/share/xml/catalog.xml`
   - `log.mantaslog.location=<Service Deployed Area/solution/services/logs`
3. Copy the below contents into the setDomainEnv.sh located under `$WL_HOME/user_projects/domains/<user_domain>/bin/setDomainEnv.sh` after replacing the place holders (`<Service_Deployed_Area>, <Oracle_Home>` and `<TNS_Admin_Home>`).

```
SERVICES_ROOT=<Service_Deployed_Area>/solution/services

export TNS_ADMIN=<TNS_Admin_Home>

export ORACLE_HOME=<Oracle_Home>

export FIC_HOME=<Service_Deployed_Area>

MINHEAP=32m

export LD_LIBRARY_PATH=$SERVICES_ROOT/lib:$ORACLE_HOME/lib:$LD_LIBRARY_
PATH

PLATFORM=`uname -i`

if [ "$PLATFORM" = "x86_64" ]; then

MAXHEAP=10000m

else

MAXHEAP=1800m

fi
```

```
export MINHEAP MAXHEAP

export KDD_PRODUCT_HOME=$SERVICES_ROOT

export KDD_HOME=$SERVICES_ROOT
```

4. Restart the WebLogic server and install the mantasServ.war application.

For WebSphere:

1. Deploy mantasServ.war in the WebSphere server. Do not start the mantasServ application.
2. In the IBM console, navigate to Enterprise Applications > mantasServ_war > Manage modules > mantasServ.war . Set the Class Loader Order to "Classes loaded with local class loader first (parent last)"
3. Replace the Path for "kdd.xml.catalog" and "log.mantaslog.location" in the install.cfg file located under `<Service_Deployed_Area>/solution/services/mantas_cfg`.

- `kdd.xml.catalog=<Service Deployed Area>/solution/services/share/xml/catalog.xml`
- `log.mantaslog.location=<Service Deployed Area>/solution/services/logs`

4. Copy the following contents into the .profile file (create a .profile file if it is not already existing) of the user after replacing the place holders (`<Service Deployed Area>`, `<TNS Admin Home>` and `<Oracle Home>`).

```
SERVICES_ROOT=<Service Deployed Area>/solution/services

export TNS_ADMIN=<TNS Admin Home>

export ORACLE_HOME=<Oracle Home>

export FIC_HOME=<Service Deployed Area>

MINHEAP=32m

export LD_LIBRARY_PATH=$SERVICES_ROOT/lib:$ORACLE_HOME/lib:$LD_LIBRARY_
PATH

PLATFORM=`uname -i`

MAXHEAP=10000m

export MINHEAP MAXHEAP

export KDD_PRODUCT_HOME=$SERVICES_ROOT

export KDD_HOME=$SERVICES_ROOT
```

5. Shutdown the WebSphere server and exit the putty.
6. Execute the .profile.
7. Start the WebSphere server.
8. Start the mantasServ application (if not started automatically).

To access the Post Alert Service, use the URL:
<protocol>://<Server>:<port>/mantasServ/services/AlertManagementService

Note: Update the proper `LD_LIBRARY_PATH` based on your OS,

- **For Linux:**

```
export LD_LIBRARY_PATH=$SERVICES_ROOT/lib:$ORACLE_
HOME/lib:$LD_LIBRARY_PATH
```

- **For Solaris SPARC:**

```
export LD_LIBRARY_PATH=/usr/lib/lwp:$SERVICES_
ROOT/lib:$ORACLE_
HOME/lib:/usr/ucblib/sparcv9:/scratch/JAVA_7/jdk1.7.0_
75/jre/lib/sparcv9/server:/scratch/JAVA_7/jdk1.7.0_
75/jre/lib/sparcv9:/scratch/JAVA_7/jdk1.7.0_
75/jre/lib/sparcv9/native_
threads:/usr/local/lib/sparcv9:/scratch/JAVA_
7/jdk1.7.0_75/jre/lib/:$LD_LIBRARY_PATH
```

- **For AIX:**

```
export LIBPATH=$SERVICES_ROOT/lib:$ORACLE_
HOME/lib:$JAVA_HOME/jre/bin:$JAVA_
HOME/jre/bin/j9vm:$JAVA_HOME/jre/lib/ppc64:$LIBPATH
```

- **For Solaris x86:**

```
export LD_LIBRARY_PATH=/usr/lib/lwp:$SERVICES_
ROOT/lib:$ORACLE_
HOME/lib:/usr/ucblib/amd64:/scratch/oracle/JRE7/jre1.7
.0_75/lib/amd64/server:/scratch/oracle/JRE7/jre1.7.0_
75/lib/amd64:/scratch/oracle/JRE7/jre1.7.0_
75/lib/amd64/native_
threads:/usr/local/lib/amd64:/scratch/oracle/JRE7/jre1
.7.0_75/lib/:$LD_LIBRARY_PATH
```

For Watchlist Service:

For Linux:

Installing Scenario Manager

This section provides the general steps to install the OFS BD Scenario Manager software, along with a reference to the specific section and page where the tasks are explained.

Installing the Scenario Manager involves the following procedures:

- Verifying the Pre-installation Requirements
- Installing the Scenario Manager on the Workstation
- Cancelling the Scenario Manager Installation Program
- Accessing the Scenario Manager
- Configuring JAVA HOME and JDBC URL

Verifying the Pre-installation Requirements

Before you install the OFSBD Scenario Manager on the Windows workstation, verify the following information:

- Verifying Prerequisite Third-Party Software Installation
- Verifying Values for the Scenario Manager Installation Program

Note: Install and configure OFS BD application completely before you install the Scenario Manager software.

Verifying Prerequisite Third-Party Software Installation

Before installing the OFS BD Scenario Manager, verify that the third-party software defined in Table 6–1 is installed and configured on the workstation.

OFS BD application supports the third-party software identified in following table.

Table 6–1 Prerequisite Third-Party Software Products for the Scenario Manager Workstation

Component	Product	Version	Vendor
Operating System	Windows XP, Vista		Microsoft
Java	JRE, Standard Edition with HotSpot	1.7	Sun

Verifying Values for the Scenario Manager Installation Program

To prepare for the OFS BD Scenario Manager installation program's requests for information, use the pre-installation checklist in Table 6–2 to verify the database connection information, provide the user and owner names to the Scenario Manager Installation Program.

Table 6–2 Scenario Manager Pre-installation Checklist

Item	Description	Example Value	Your Value
OFS BD Installation Directory	Directory on the workstation where you want to install the Scenario Manager.	C:\Oracle Scenario Manager	Microsoft
Database Client	Oracle Client 11g Release 2 (11.2.0.3.0+) - 64 bit Oracle Client 12c Release 1 (12.1.0.1.0+) - 64 bit	N/A	N/A
Service Name/ SID	Service Name/ SID for the instance. This is often the same as the database name.	ORA_PROD	Sun
KDD Schema Database Owner	KDD Schema Database owner's name.	Value for kdd_ schema_owner	
Alert Management Schema Database Owner Name	Mantas Schema Database owner's name.	Value for mantas_ schema_owner	
Database server name	Name of the server that the database resides on.	prod_server	
KDD Miner User Name	KDD Miner user's name.	Value for tools_user	
JRE Home	Directory name of your JRE 1.7 server installation	C:\apps\jre1.7	
Maximum Java Virtual Machine Memory	UsageMaximum amount of Java Virtual Machine (JVM) memory available for the Scenario Manager.	64	

Table 6–2 Scenario Manager Pre-installation Checklist

Item	Description	Example Value	Your Value
Program Group Name	Name of the Windows Program Group where you want to install the Scenario Manager.	Financial Crime and Compliance Management Scenario Manager	

Note: Any path that includes spaces should be entered with double quotes, for example, C:\Program Files\JRE 1.7.

Installing the Scenario Manager on the Workstation

The OFS BD Scenario Manager Installation program installs the Scenario Manager using a series of screens that prompt you for the information relevant to local installation and interface with the other subsystems of OFS BD application.

The following procedures group the installation program into high-level categories:

- Starting the Installation
- Completing the Pre-installation Questions
- Completing the Database Information
- Completing the Environment Information
- Completing the Installation

Note: You can cancel the installation from any screen in the installation program. See Cancelling the Scenario Manager Installation Program, for more information.

Starting the Installation

To start the OFS BD Scenario Manager installation, follow these steps:

1. Copy the ScenarioManager.exe file from OFS_BD_PACK/OFS_BD/bin to the windows machine.
2. Locate file through Windows Explorer and double-click the ScenarioManager.exe file. The Scenario Manager Installation program opens and displays the Introductory screen.
3. Proceed to the Completing the Pre-installation Questions.

Completing the Pre-installation Questions

To complete the pre-installation questions, follow these steps:

1. From the Introductory screen, select the desired language from the Language drop-down list.

   Note: The OFS BD Installation Program executes in the selected language. The default language is English.

2. Click OK.

   The Introduction screen is displayed.

Note: This screen serves as a reminder that you must have the appropriate version of Windows installed prior to the execution of the Scenario Manager Installation program.

3. Click Next.

   The OFS BD Scenario Manager Installation Directory screen displays.

4. Do one of the following:

   a. Click Next to accept the default destination for OFS BD software installation.

      The Database Type screen displays. Proceed to the Completing the Database Information.

   b. Click Choose to select an installation directory different from the displayed default location, and select the directory to which you want to install the Scenario Manager.

5. Click Next.

   a. If you do not have write permission to the chosen installation folder, an installation error message displays.

      Click OK. You return to the OFS BD Scenario Manager Installation Directory screen and do one of the following:

      a. Give the path of different installation directory which have write permission.

      b. Give the write permission to the given installation directory.

   b. If you have write permission to the selected directory, the Database Type screen displays.

6. Proceed to the Completing the Database Information.

Completing the Database Information

To complete the database information, follow these steps:

1. Click Oracle in the Database Type screen.
2. Click Next.
3. Enter the Oracle database connection string for OFS BD application in the text box of the Oracle Database Connection String screen.
4. Click **Next**.

   Then enter the Name of Server that Oracle Database Resides On screen displays.

Note: By default, Scenario Manager installer assumes the default database port as 1521. This port can be changed by editing `install.cfg` file under the path: `<Scenario Manager Installer Directory>\behavior_detection\toolkit\mantas_cfg`

5. Type the following in their respective text boxes:

Table 6–3 Prerequisite Third-Party Software Products for the Scenario Manager Workstation

Component Product Version Vendor	<enter user name for (kdd_schema_owner)>
The Firm Schema database owner's name.	<enter user name for (mantas_schema_owner)>

Table 6–3 Prerequisite Third-Party Software Products for the Scenario Manager Workstation

The KDD Miner user's name.	<enter user name for (tools_user)>

Note: See the file OFS_BD_SCHEMA_OUTPUT.XML located at <OFS BD Installed Directory>/schema_creator folder for schema names written against the variables provided in brackets of respective schema.

6. Click Next.

   The Java Runtime Environment Home screen displays.

   Proceed to Completing the Environment Information, procedure.

Completing the Environment Information

To complete the user information, follow these steps:

1. From the Java Runtime Environment home screen, type the home directory of your JRE installation in the text box, or click Choose to browse for the home directory.
2. Click Next.

   The Maximum Java Virtual Machine Memory Usage screen displays.
3. Select the option that represents the maximum JVM memory available for use by the Scenario Manager.
4. Click Next.

   The Program Group Name screen displays.
5. Type the Program Name: the name of the Windows Program Group where you want to install the Scenario Manager.
6. Click Next.

   The Pre-installation Summary screen displays.

   Proceed to Completing the Installation.

Completing the Installation

To complete the installation, follow these steps:

1. Click Install in the Pre-installation Summary screen.

   The Installing screen displays; the Installation Complete screen follows.
2. Click Done to complete the installation of the Scenario Manager.

Cancelling the Scenario Manager Installation Program

You can cancel the installation of Scenario Manager at any time from any screen in the OFSBDP installation program. However, canceling the installation program results in partial installation of the OFSBDP components, depending on when you cancel the installation.

Use these conditions to help you determine when to cancel the OFSBDP Scenario Manager installation:

- If you click Cancel before or on the Installing screen, you do not leave a partial OFSBDP installation. You can execute the installation program again as though you are installing for the first time.

- If you click Cancel during the installation of components, when the software is placed on the workstation, a partial installation results. You must manually remove all files from the file system in the OFSBDP installation directory chosen during installation.

To cancel the OFSBDP Scenario Manager installation, follow these steps:

1. Click Cancel.

   The Cancel Installation screen displays.

2. Click Quit.

Accessing the Scenario Manager

After the installation is successfully completed you can access Scenario Manager.

To access Scenario Manager through the Windows Start menu, follow these steps:

1. Click Start, point to Programs, and then click the OFSBDP Scenario Manager menu option.
2. Click the Scenario Manager option.

   The Scenario Manager application launches and the Login dialog box displays.

3. Enter your user ID and password into the appropriate fields. This userID and password are same as OFS BD atomic schema's userID and password.
4. Click Login.

Configuring JAVA HOME and JDBC URL

To configure JAVA HOME, follow these steps:

1. Open the folder where the Scenario Manager is installed on the desktop and navigate to the path:

   `<INSTALLED_DIRECTORY>\behavior_detection\toolkit\bin`

2. Set `JAVA_HOME` as ur JRE path in the `kddstart.bat` file.

   For example, set `JAVA_HOME="C:\Program Files\Java_7\jre1.7.0_65"`

To update the JDBC URL,

1. Navigate to the path: `<INSTALLED_DIRECTORY>\behavior_detection\toolkit\mantas_cfg`
2. Open the file `install.cfg`
3. Update the JDBC URL if the existing one is incorrect.

Configuring Scenario Manager

To configure Scenario Manager, follow these steps:

1. Open the folder where the Scenario Manager is installed on the desktop and navigate to the path:

   `<INSTALLED_DIRECTORY>\behavior_detection\toolkit\lib`

   Replace the jar file

   'xml-apis-2.10.0.jar' with the latest file from the path

   /ficweb/webroot/WEB-INF/lib

2. Edit the `kddtool.bat` file in the following location:

   `<INSTALLED_DIRECTORY>\behavior_detection\toolkit\bin\kddtool.bat`

   Replace the line set:

   ¡§XML_APIS_JAR=%LIBDIR%\xml-apis.jar¡¨

   with

   ¡§set XML_APIS_JAR=%LIBDIR%\xml-apis-2.10.0.jar¡¨

   Close and restart the Scenario Manager application

3. Copy `KDDtools.jar` from `##FIC_HOME##` and to be placed at

   `<INSTALLED_DIRECTORY>\Oracle_Mantas_Platform\behavior_detection\toolkit\lib\`

Deploying Analytic Reports and Threshold Analyzer

This section explains how to deploy Analytics on Oracle Business Intelligence Enterprise Edition (OBIEE) and integrate Analytic Reports and Threshold Analyzer in the OFSECM UI.

This section includes the following topics:

Installing OBIEE Server

To install the Oracle Business Intelligence Enterprise Edition (OBIEE) server, see Fusion Middleware Installing and Configuring Oracle Business Intelligence (12.2.1.0.0). After installation, get the Enterprise Manager URL, Username, Password, and OBIEE installed directory from the system administrator. For OBIEE server 11.1.1.9.0, see Oracle® Business Intelligence Applications Installation Guide 11g Release 1 (11.1.1.9.0).

Installing OBIEE Windows Administration Client

To install the OBIEE repository administration client for Windows machine, see Fusion Middleware Installing and Configuring Oracle Business Intelligence (12.2.1.0.0). For OBIEE server 11.1.1.9.0, see Oracle® Business Intelligence Applications Installation Guide 11g Release 1 (11.1.1.9.0).

The OBIEE repository administration client can be downloaded from running OBIEE setup from the following URL:

<protocol>://<OBIEE Server Name>:<OBIEE Analytics port>/analytics

From LHS menu, click **Download BI Desktop tools** under the Most Popular section.

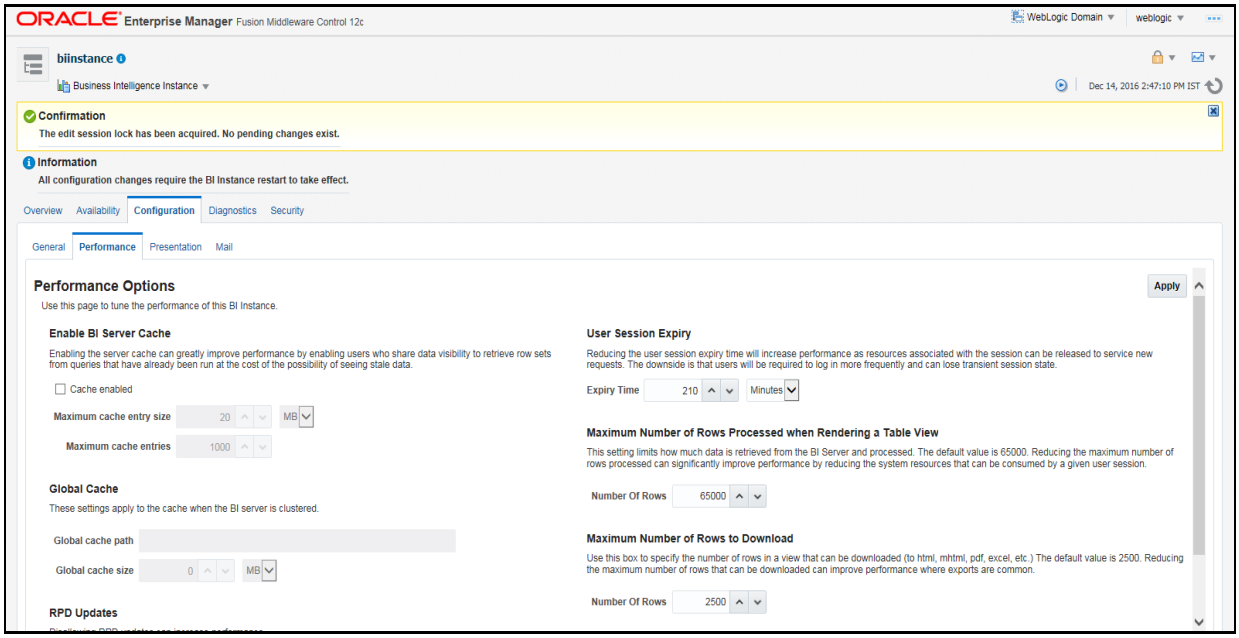
Disabling the Cache Feature in OBIEE Server

OBIEE 12.2.1.0.0:

Login to the Enterprise Manager and perform the following steps:

1. Click the Target Navigation icon 
2. Expand the Business Intelligence section and then click **biinstance**.
3. Click the **Configuration** tab.
4. Click the Lock icon  and then click Lock & Edit to enable the Cache Enabled check box.
5. Under the Enable BI Server Cache section, deselect the Cache Enabled check box and make the required changes
6. Click the Lock icon  and then click Release Configuration to save the changes made.

Figure 6–1 Disabling the Cache Feature in OBIEE Server (12.2.1.0.0)

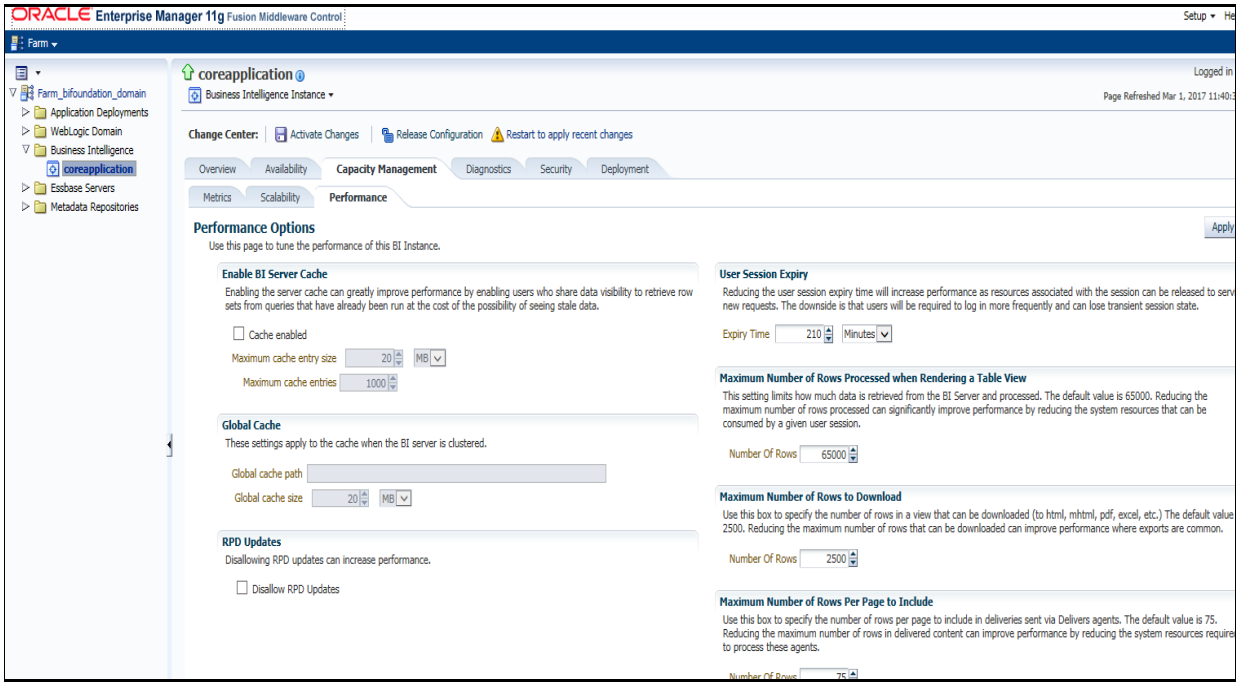


OBIEE 11.1.1.9.0:

Login to the Enterprise Manager and perform the following steps:

1. Expand the Business Intelligence section and then click **coreapplication**.
2. Click the **Capacity Management** tab.
3. Under that tab, click the **Performance** tab.
4. Click **Lock and Edit Configuration** to disable the Cache feature.
5. Clear the **Cache Enabled** checkbox.
6. Click **Apply**.
7. Click **Activate Changes**. The confirmation window is displayed.
8. Click **Close**.

Figure 6–2 Disabling the Cache Feature in OBIEE Server (11.1.1.9.0)



Change Default Repository Password

OBIEE 12.2.1.0.0:

Copy `FCCM804.rpd` from `$FIC_HOME/OBIEE/Repository` to the Windows machine where the OBIEE Windows administration client is installed.

To change the default password for the repository follow these steps:

1. Open the Repository using the OBIEE Windows administration client from Windows machine. From the File menu, select Open and click Offline. Browse to the Repository on Windows machine. The Oracle BI Administration Tool - `FCCM804.rpd` windows is displayed.
2. Enter default Repository password: **FCCM$804**

To change the default password, follow these steps:

1. From File menu, choose **Change Password**.
2. Enter the new password and click **OK**.

OBIEE 11.1.1.9.0:

Copy FCCM804.rpd from $FIC_HOME/OBIEE/Repository to the Windows machine where the OBIEE Windows administration client is installed.

To change the default password for the repository, follow these steps:

1. Open the Repository using the OBIEE Windows administration client from Windows machine. From the File menu, select Open and click Offline. Browse to the Repository on Windows machine. The Oracle BI Administration Tool - `FCCM804.rpd` windows is displayed.
2. Enter default Repository password: **FCCM$804**

To change the default password, follow these steps:

1. From File menu, choose **Change Password**.
2. Enter the new password and click **OK**.

Configuring OBIEE Connection Pool

OBIEE 12.2.1.0.0:

To configure the Connection Pool of the repository, follow these steps:

1. Open the same Repository (as in the previous step) on the Windows machine. The Oracle BI Administration Tool - `FCCM804.rpd` windows is displayed.
2. Expand the FCCM folder in the Physical section.
3. Double-click Connection Pool to open the Connection Pool Properties window.
4. Enter the following in the Data Source Name text box of the Connection Pool Properties window after modifying <Database Server Host Name> and <Database Name> Data Source Name = (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=<Database Server HostName>)(PORT=1521))(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAME=<Database Name>)))
5. Enter the Atomic Schema user in the User name text box.
6. Enter the Atomic Schema user password in the Password text box.
7. Click OK.
8. Expand the folder and test connection for any one table name by Right Click > view data.
9. Perform similar changes in the Connection Pools for all remaining folders in the Physical Layer by providing the following schema details for all Connection Pools:
   - KYC Analytics >Atomic Schema

     Note: Initial block and connection pool: both should point towards the atomic schema.

   - UIC_73 > CaseMng connection pool ->Atomic Schema
   - UIC_73 > Security connection pool->Atomic Schema
   - TA > Atomic Schema
   - CTRBI-> Atomic Schema
   - ORCL->Atomic Schema
10. Select **Save** option from the File menu. The following message is displayed: *Do you want to check global consistency?*.
11. Click **Yes**. The following message is displayed: *Consistency check didn't find any errors, warning or best practices violations*.
12. Click **OK**.

OBIEE 11.1.1.9.0:

To configure the Connection Pool of the repository, follow these steps:

1. Open the same Repository (as in the previous step) on the Windows machine. The Oracle BI Administration Tool - `FCCM804.rpd` windows is displayed.
2. Expand the FCCM folder in the Physical section.
3. Double-click Connection Pool to open the Connection Pool Properties window.
4. Enter the following in the Data Source Name text box of the Connection PoolProperties window after modifying <Database Server Host Name> and <Database Name> Data Source Name =(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=<Database Server HostName>)(PORT=1521))(CONNECT_DATA=(SERVER=DEDICATED)(SERVICE_NAME=<Database Name>)))
5. Enter the Atomic Schema user in the User name text box.
6. Enter the Atomic Schema user password in the Password text box.
7. Click **OK**.
8. Expand the folder and test connection for any one table name by Right Click > View data.
9. Perform similar changes in the Connection Pools for all remaining folders in the Physical Layer by providing the following schema details for all Connection Pools:
   - KYC1.1DEV-179 >Atomic Schema

     Note: Initial block and connection pool: both should point towards the atomic schema.

   - UIC_73 > CaseMng connection pool ->Atomic Schema
   - UIC_73 > Security connection pool->Atomic Schema
   - TA > Atomic Schema
   - CTRBI-> Atomic Schema
   - ORCL->Atomic Schema
10. Select **Save** option from the File menu. The following message is displayed: *Do you want to check global consistency?*.
11. Click **Yes**. The following message is displayed: *Consistency check didn't find any errors, warning or best practices violations.*
12. Click **OK**

Deploying OFS BD Report Analytics

OBIEE 12.2.1.0.0:

To deploy Analytic Reports, follow these steps:

1. Change the value in `Nqsconfig.ini` file located at `<FMW_HOME>/user_projects/domains/bi/config/fmwconfig/biconfig/OBIS`

   From EVALUATE_SUPPORT_LEVEL = 0;

   To EVALUATE_SUPPORT_LEVEL =2;
2. Copy the `FCCM804.rpd` file in the working directory.
3. Navigate to the working directory and execute the following script:

```
<obiee_home>/user_
projects/domains/bi/bitools/bin/data-model-cmd.sh uploadrpd
-I FCCM804.rpd -SI ssi -U <user> -P <password>
```

4. Restart OBIEE server from Enterprise Manager by following these steps: (see figure Restarting OBIEE Server)
5. Click the Target Navigation icon 
6. Expand the Business Intelligence section and then click biinstance.
7. Click the Availability tab.
8. Click **Stop All**.
9. Copy the file `FCCM_ANALYTICS.bar` in the same working directory and execute the following script:

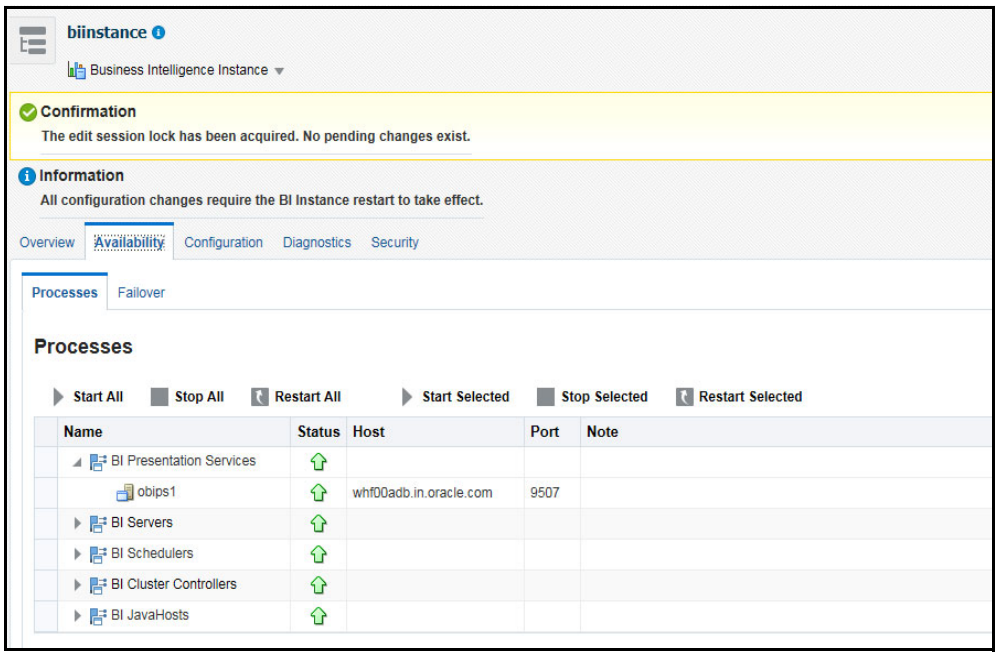
   ```
   <obiee_home>/oracle_common/common/bin/wlst.sh
   ```

10. A new prompt `wls:/offline>` is displayed. Execute the following script:

    ```
    importServiceInstance('<obiee_home>/user_
    projects/domains/bi','ssi','<Working directory>/FCCM_
    ANALYTICS.bar',importRpd=false,importWebcat=true,importJazn=t
    rue,includeCredentials=None)
    ```

11. Click **Start All**.

Figure 6–3 Restarting OBIEE Server



OBIEE 11.1.1.9.0:

To deploy Analytic Reports, follow these steps:

1. Stop Oracle Process Manager and Notification Server (OPMN) services by executing the following command from `<OBIEE Installed Directory>/instances/instance1/bin`

   ```
   ./opmnctl stopall
   ```

2. Change the value in `Nqsconfig.ini` file located at `<FMW_HOME>/instances/instance1/config/OracleBIServerComponent/coreapplication_obis1/` directory

   From EVALUATE_SUPPORT_LEVEL = 0;

   To EVALUATE_SUPPORT_LEVEL=2;

3. Login into Enterprise Manager, click the Business Intelligence folder on the left hand side and select **coreapplication**, and then click the **Deployment** tab.
4. Click the **Repository** tab.
5. Click the **Lock and Edit Configuration** tab. The confirmation window is displayed.
6. Click **Close**.
7. In the Upload BI Server Repository Section, browse the repository file from the Windows machine.
8. Enter the new repository password in the Repository Password and Confirm Password text boxes.
9. In BI Presentation Catalog section, provide the Catalog Location as `<OBIEE Installed Directory>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog/ANALYTICS_REPORT`
10. Click **Apply**.
11. Click **Activate Changes**. The confirmation window is displayed.
12. Click **Close**.
13. Modify <obiee_home>/user_projects/domains/bi/config/fmwconfig/biconfig/OBIPS/instanceconfig.xml as 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>
    ```

14. Open the Catalog Manager and access analytics URL as follows:

    http://<host>:<port>/analytics/saw.dll

15. Expand **Catalog Root** in LHS menu. Expand Shared Folders. Delete all the contents under Shared Folders.

16. Navigate to File->Unarchive->Browse. Select **FCCM_ANALYTICS.catalog** from window machine. Click **OK**.

Creating Application Role (Only for OBIEE 11.1.1.9.0)

This section is applicable only for OBIEE 11.1.1.9.0. Follow these steps for creating Application Role:

1. Login to OBIEE installed command prompt.
   - Change the directory `cd <<OBIEE Installation Path>>/Oracle_BI1/common/bin`

     For example, `cd /scratch/Obiee11g/Oracle_BI1/common/bin`
2. Copy `CreateAppRoles.py` to the aforementioned path and execute the following command:

   `./wlst.sh "CreateAppRoles.py" <<admin user>> <<admin password>> t3://<<server ip or server host>>:<<console port>>`

   For example, `./wlst.sh "CreateAppRoles.py" WebLogic WebLogic123 t3://ofss232465.in.oracle.com:7001`
3. Once the role has been created, remove the file `CreateAppRoles.py`.

Configuring TreeMap Graph

To configure the TreeMap Graph, follow these steps:

1. Login to OBIEE server.
2. Navigate to OBIEE Home.

   Note: OBIEE Home is the OBIEE installed path.
3. Execute the following command:

   `cd <obiee_home>`
4. Execute the following command to find the available `treemap-canvas.js`:

   `find -name treemap-canvas.js`

   Four different files, all named `treemap-canvas.js` are displayed.
5. Back up these four files.
6. Edit `window.top.console` to `console` in these four files and save.

Post Installation Steps

After installing the OBIEE server, follow these steps:

1. Log in as OFS BD Admin User with valid username and password. The OFS BD Home page is displayed.
2. Click FCCM and then click the Administration Menu and select the Manage Parameters and click Manage Common Parameters.
3. Choose Parameter Category as UI and Parameter Name as OBIEE.
4. Set Attribute 2 Value = <PROTOCOL>://<OBIEE_SERVER_NAME>:<PORT>

Note: <PROTOCOL> is the web page access PROTOCOL (http or https) and <OBIEE_SERVER_NAME> is the FQN (fully qualified name)/host name of the server, where OBIEE is installed.

<PORT> is the PORT number used in OBIEE installation. It may change based on the OBIEE version. Enter the correct PORT number if it is not 9704.

Placeholder variables are mentioned between angle brackets. Update the placeholders with actual value.

5. Verify Attribute 4 Value. It must be the OFS BD application URL. If the same OFS BD application is deployed on different machines, then modify the OFS BD Application URL in Attribute 4 Value appropriately.

Accessing Reports through OFS BD Application

For more information on Accessing Reports, see the Alert Management User Guide.

Installing RAOR Service

To install RAOR service, follow these steps:

1. Creating RAOR.ear/ RAOR.war
2. Deploying RAOR.ear in WebLogic
3. Deploying RAOR.ear in WebSphere
4. Deploying RAOR.ear in Tomcat

Note: For information on IPE configurations, such as JMS connection factory and JMS queue, see the OFS Inline Processing Engine Configuration Guide.

Note:

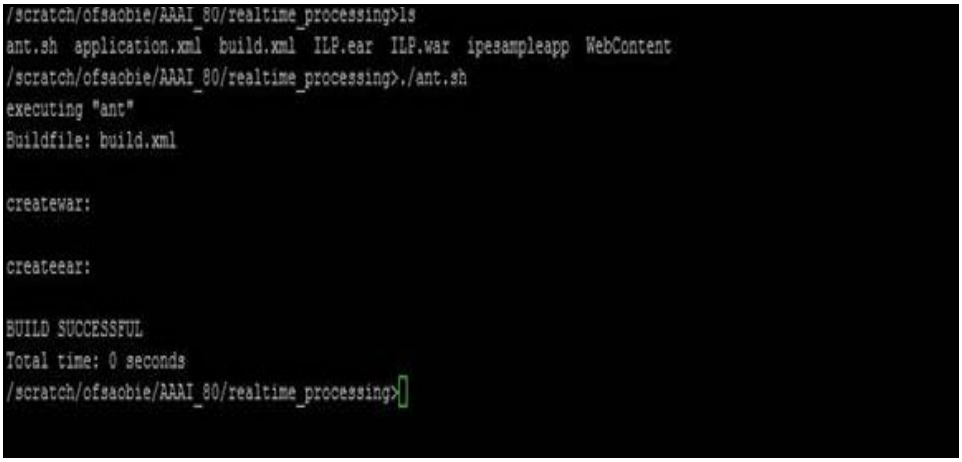
Creating RAOR.ear/ RAOR.war

It is mandatory to have the `RAOR.ear` in the same profile or domain where the `<contextname>.ear` file of the OFS BD Application is deployed. To create `RAOR.ear`/ `RAOR.war`, follow these steps:

1. Navigate to `< OFSAA Installation Directory >/raor_processing`
2. Execute the command:

   `./ant.sh.`

Figure 6–4 Creating RAOR.ear/ RAOR.war



3. On successful execution, the `RAOR.ear` and `RAOR.war` files are generated under the `<OFSAA Installation Directory >/raor_processing/` folder.

Deploying RAOR.ear in WebLogic

This section defines how to deploy `RAOR.ear` in WebLogic.

> **Note:** It is mandatory to have `RAOR.ear` in the same domain where `<contextname>.ear` of the OFS BD Application is deployed.

To deploy `RAOR.ear` in WebLogic, follow these steps:

1. Start the WebLogic server.
2. Create an `RAOR.ear` folder in `<WEBLOGIC_INSTALL_DIR>/user_projects/domains/<DOMAIN_NAME>/applications`

   Copy `<FIC_HOME>/raor_processing/RAOR.ear` to `<WEBLOGIC_INSTALL_DIR>/user_projects/domains/<DOMAIN_NAME>/applications/RAOR.ear/`
3. Explode the `RAOR.ear` file by executing the command:

   `jar -xvf RAOR.ear`
4. Delete the `RAOR.ear` and `RAOR.war` files.
5. Create an `RAOR.war` folder in `<WEBLOGIC_INSTALL_DIR>/user_projects/domains/<DOMAIN_NAME>/applications/RAOR.ear`

   Copy `<FIC_HOME>/raor_processing/RAOR.war` to `<WEBLOGIC_INSTALL_DIR>/user_projects/domains/<DOMAIN_NAME>/applications/RAOR.ear/RAOR.war`
6. Explode the `RAOR.war` file by executing the command:

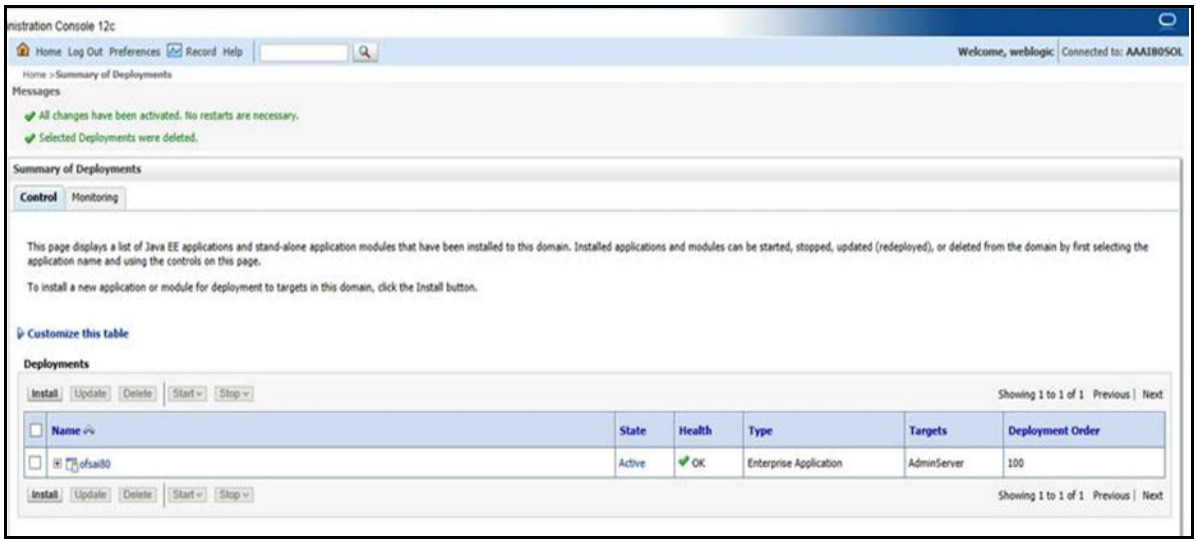
   `jar -xvf RAOR.war`
7. Delete the `RAOR.war` file.

Installing RAOR.ear in WebLogic using WebLogic Administrator Console

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:

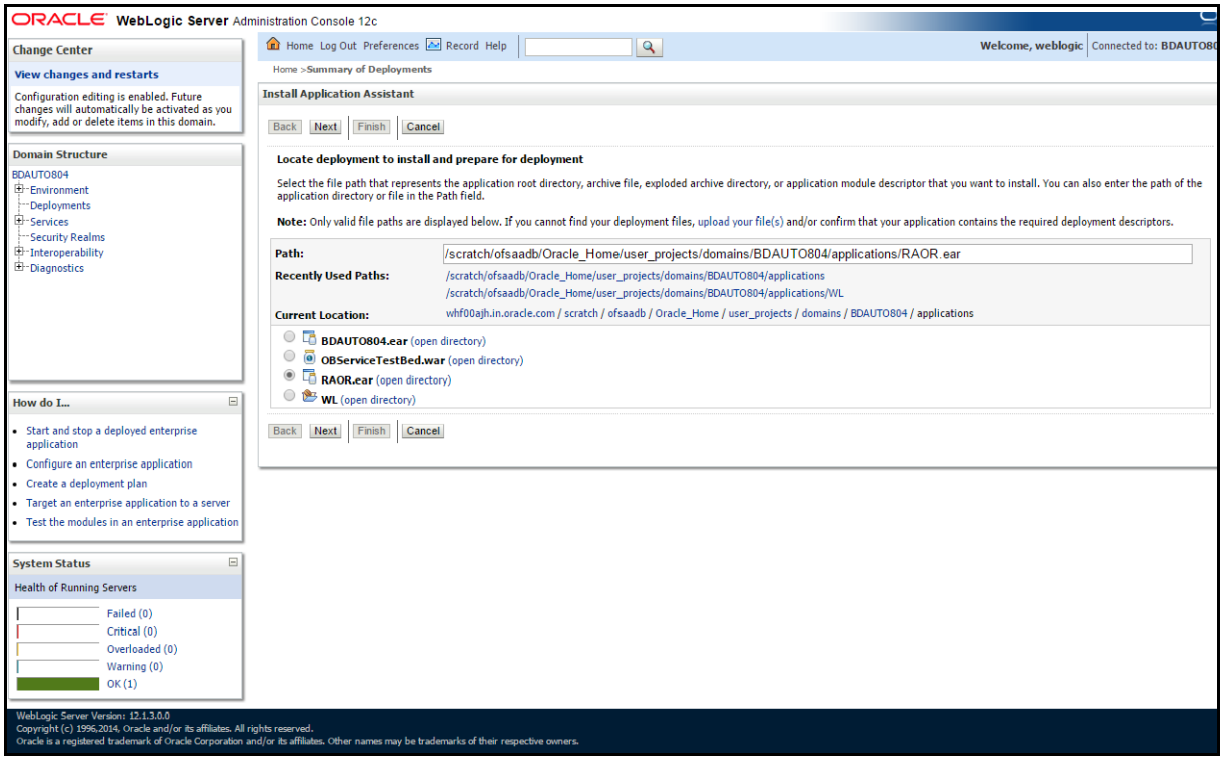
   `./startWebLogic.sh -d64 file`
3. Open the URL in the browser window: `http://<ipaddress>:<admin server port>/console`. (https if SSL is enabled). The Sign in window of the WebLogic Server Administration Console is displayed.
4. Login with the Administrator **Username** and **Password**. The Summary of Deployment page is displayed.

Figure 6–5 Summary of Deployment



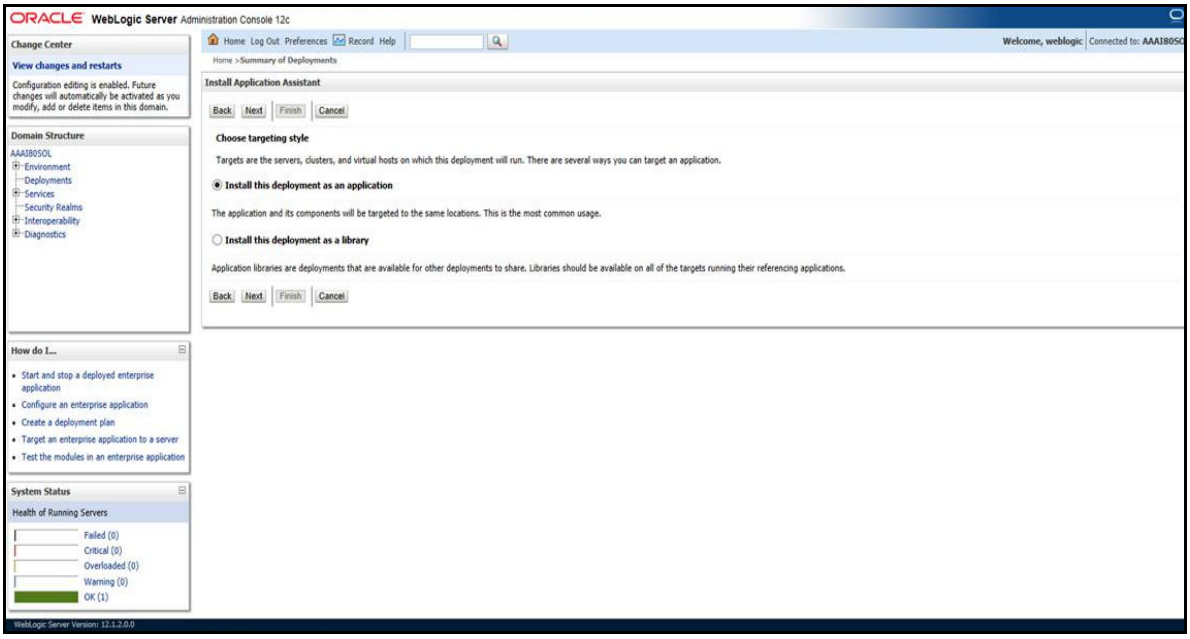
5. Click **Install**. The Install Application Assistance page is displayed.

Figure 6–6 Install Application Assistance Window



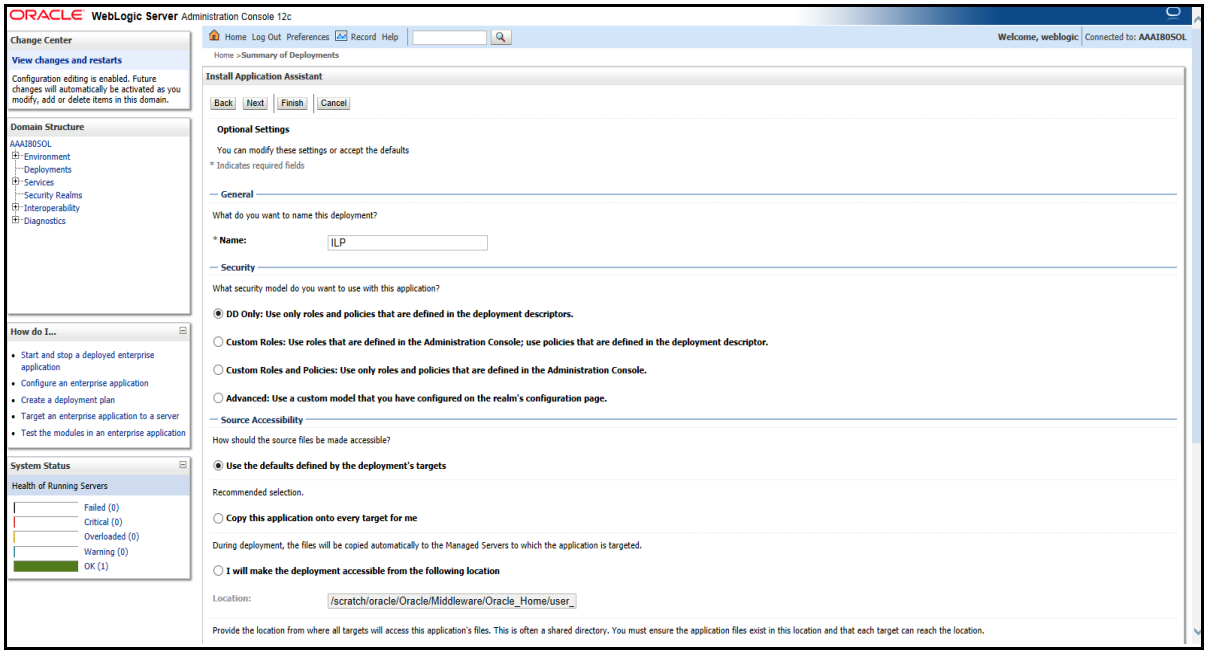
6. Select `RAOR.ear` and click **Next**. The Install Application Assistance page is displayed with the Choose targeting style section.

Figure 6–7 Install Application Assistance with choose Target Style



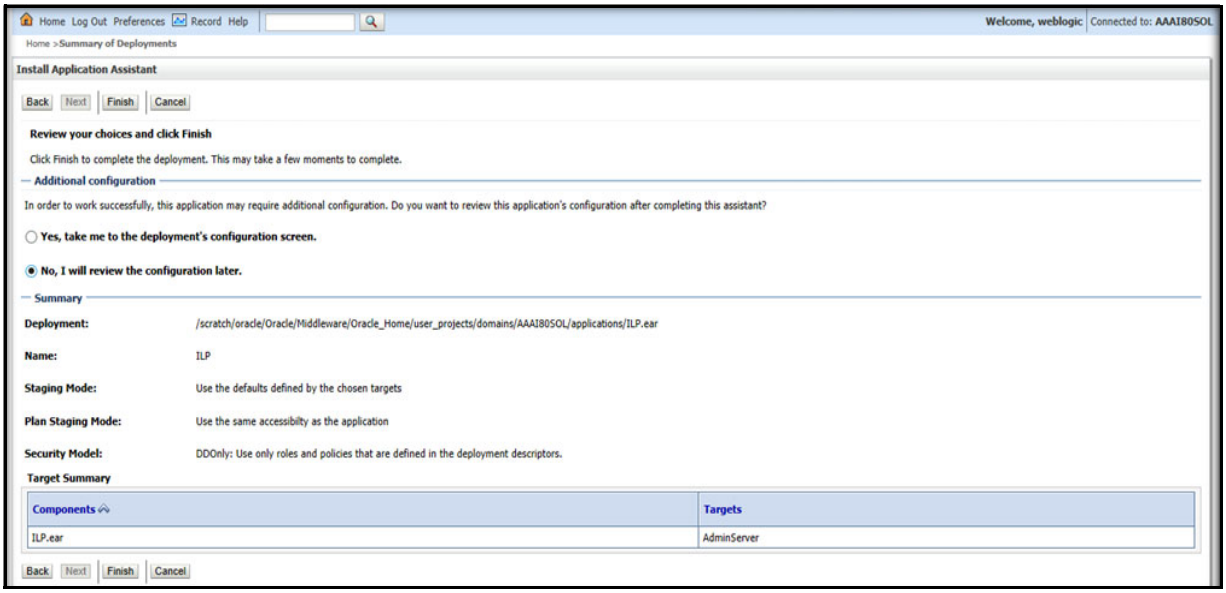
7. By default, the **Install this deployment as an application** option in the Choose targeting style section is selected. Click **Next**. The Install Application Assistance page is displayed with the Optional Settings section.

Figure 6–8 Install Application Assistance page with Optional Settings



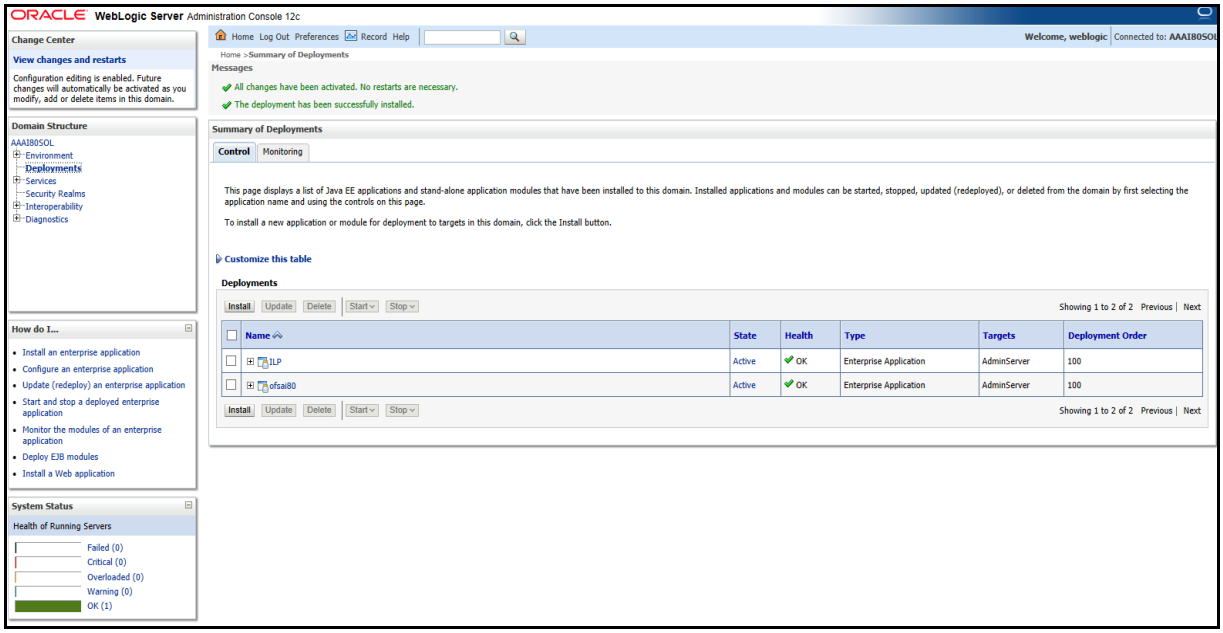
8. Retain the default selections and click **Next**. The Install Application Assistance page is displayed with the Review your choices and click Finish section.

Figure 6–9 Install Application Assistance page with Review your choices and click Finish section



9. Select **No, I will review the configuration later** in the Additional Configuration section and click **Finish**. RAOR is added in the Name section of the Summary of Deployment page with following message: *The deployment has been successfully installed.*

Figure 6–10 Summary of Deployment page with RAOR



10. Restart all OFS AAAI servers. For more information, see Appendix D, "Starting / Stopping Infrastructure Services"section.

Deploying RAOR.ear in WebSphere

To deploy `RAOR.ear` in WebSphere, follow these steps:

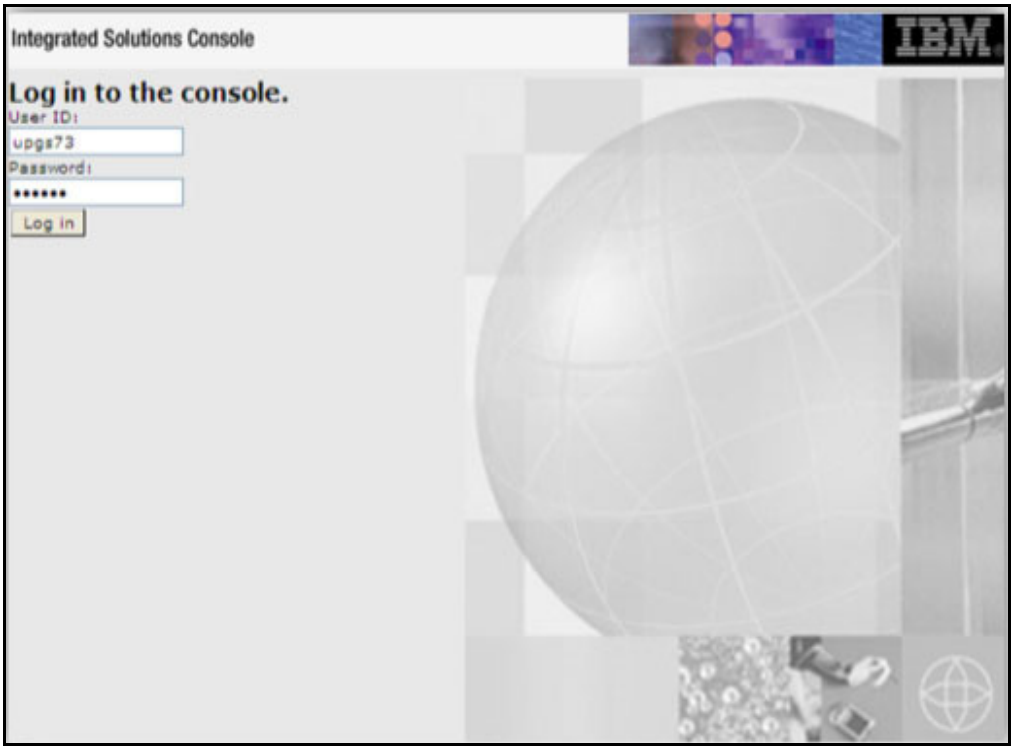
> **Note:** It is mandatory to have `RAOR.ear` in the same domain where `<contextname>.ear` of the OFS BD Application is deployed.

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

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

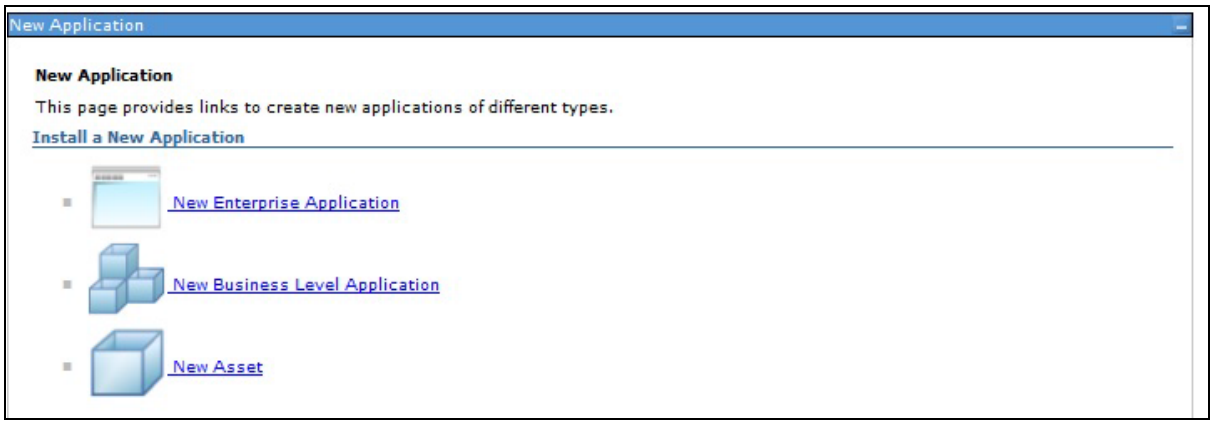
2. Open the following URL in the browser: `http://<ipaddress>:<Administrative Console Port>/ibm/console`. (use https protocol if SSL is enabled). The login screen is displayed.

Figure 6–11 WebSphere Login Window



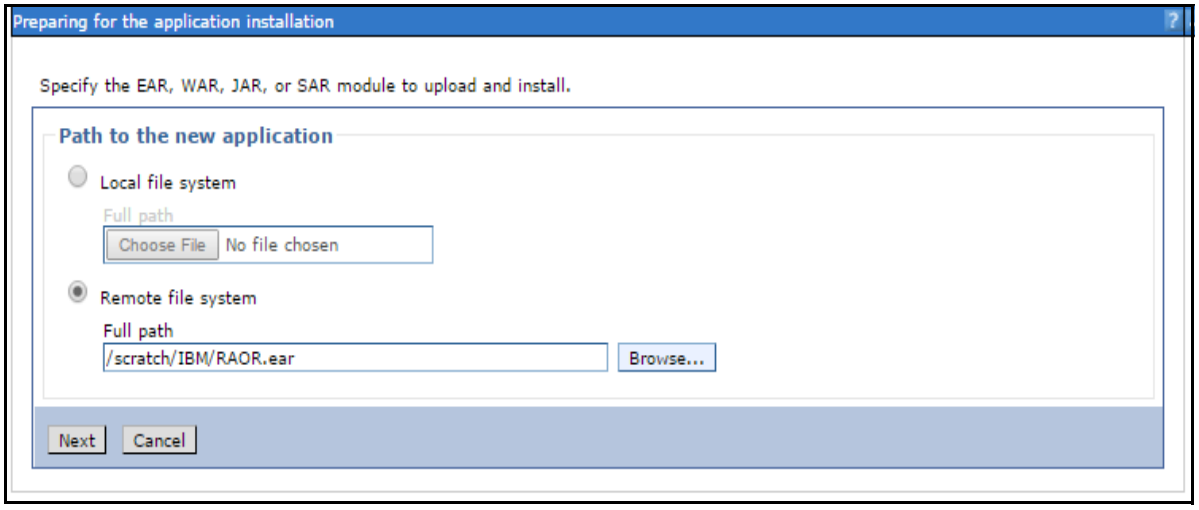
3. Enter the user credentials which has administrator rights and click **Log In**.
4. From the LHS menu, select **Applications** and click **New Application**. The New Application window is displayed.

Figure 6–12 New Application



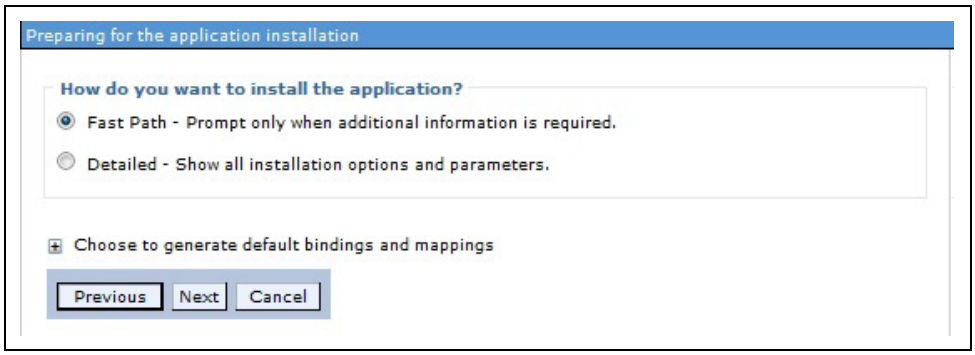
5. Click **New Enterprise Application**. The Preparing for the application installation window is displayed.

Figure 6–13 Preparing for the application installation



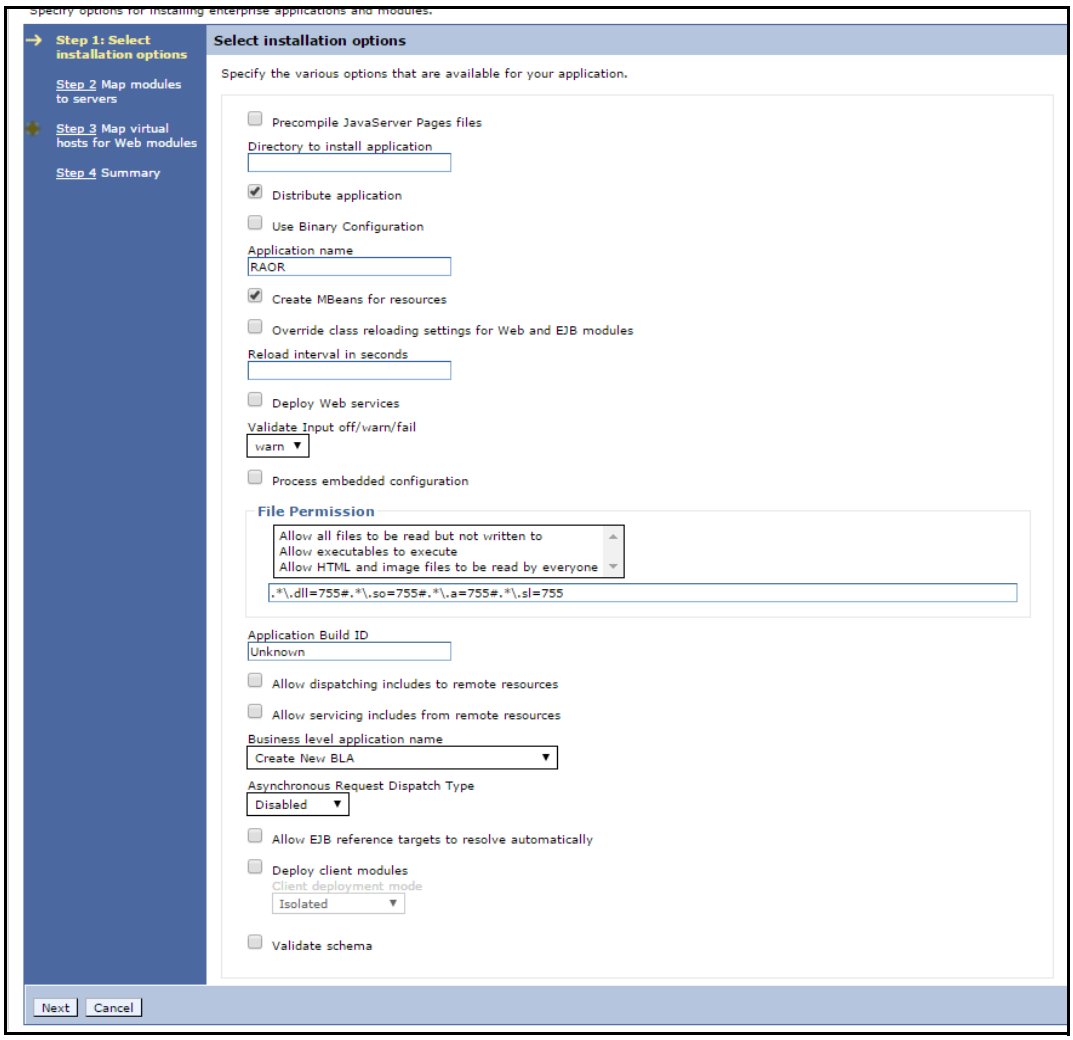
6. Select **Remote File System** and click **Browse**. Select the EAR file generated for RAOR to upload and install. Click **Next**.

Figure 6–14 Installation Options



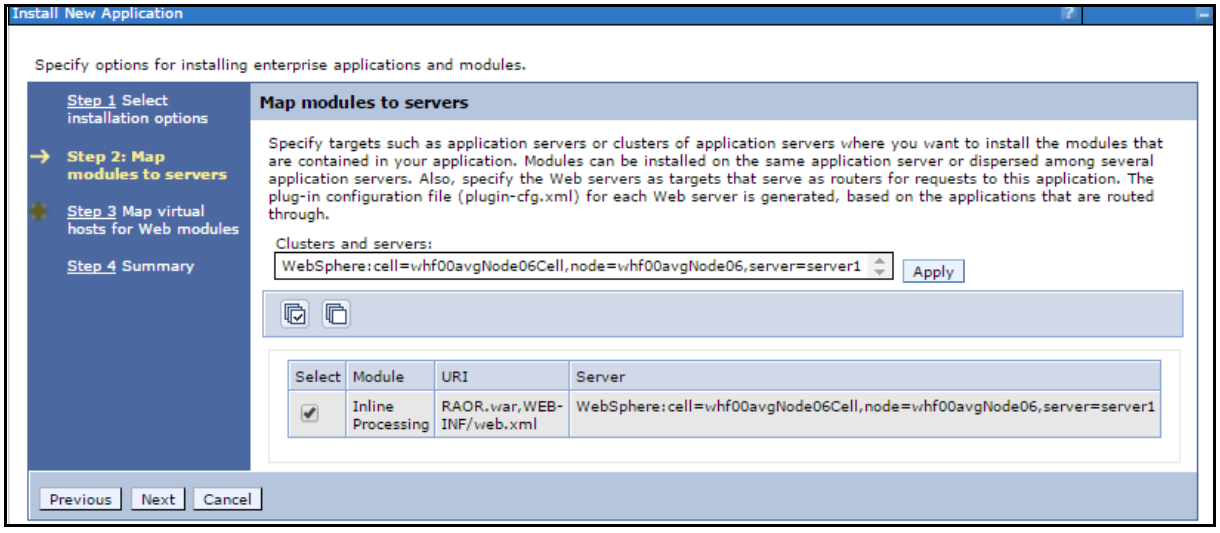
7. Select the **Fast Path** option and click **Next**. The Install New Application window is displayed.

Figure 6–15 Install New Application



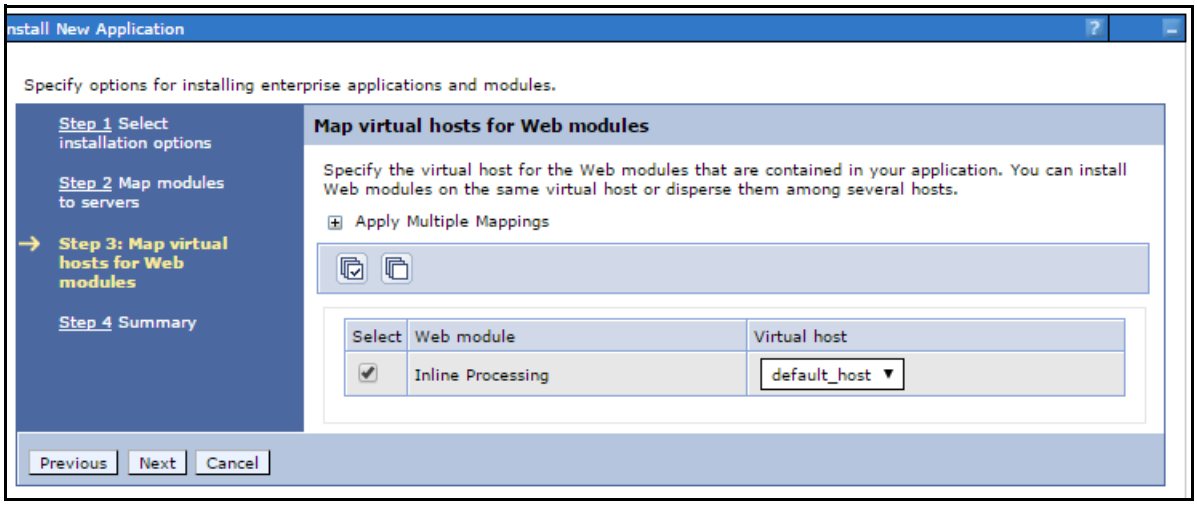
8. Enter the required information and click **Next**. The Map Modules to Servers window is displayed.

Figure 6–16 Map Modules to Servers



9. Select the **Inline Processing** checkbox and click Next. The Map Virtual hosts for Web modules page is displayed.

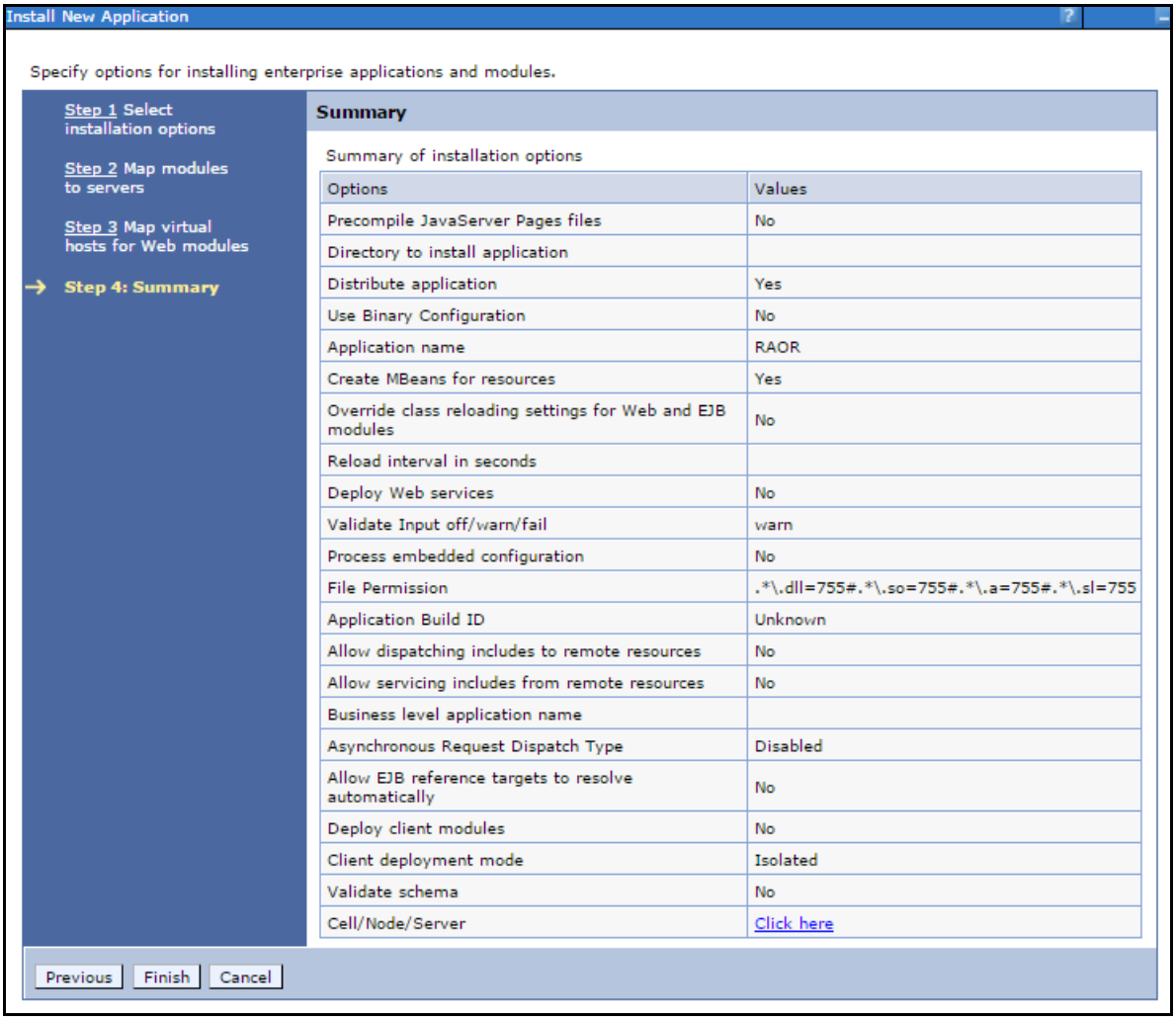
Figure 6–17 Map Virtual hosts for Web modules page



10. Select the **Inline Processing** checkbox and click **Next**. The Metadata for modules page is displayed.

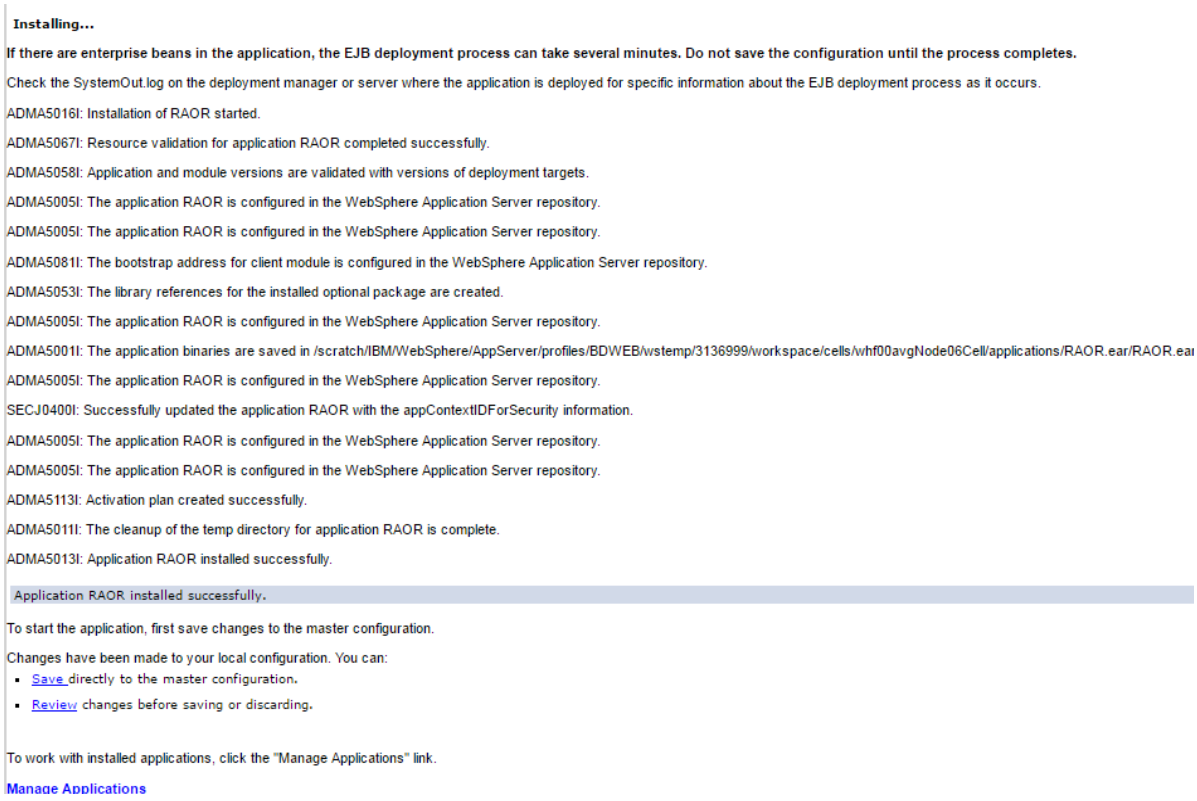
11. Select the **Metadata-complete** attribute checkbox and click **Next**. The Summary page is displayed.

Figure 6–18 Summary page



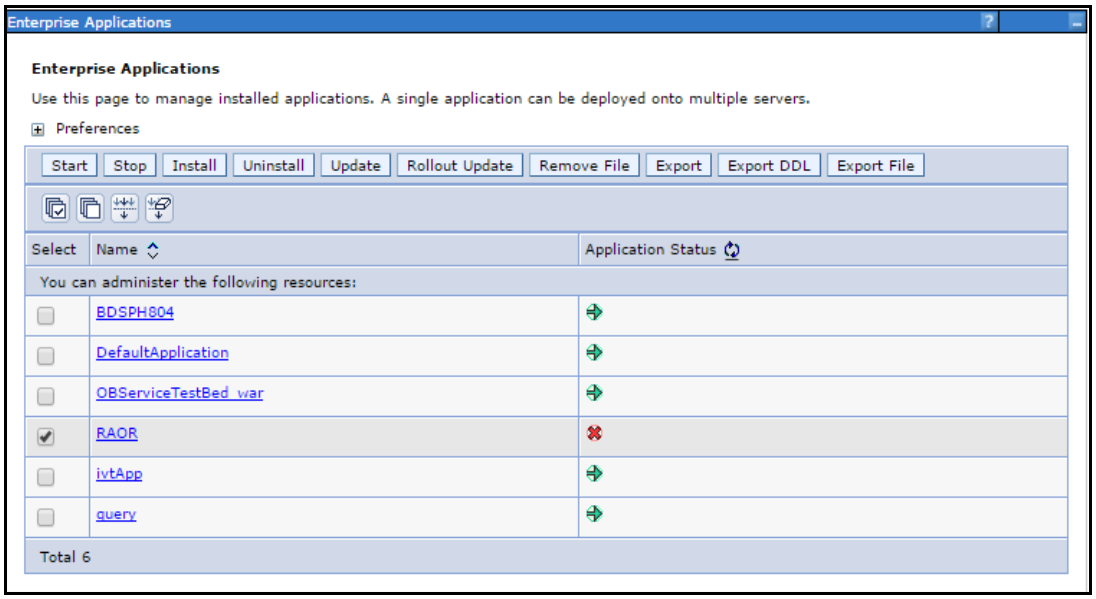
12. Click **Finish**. On successful installation, a message is displayed.

Figure 6–19 Installation Success



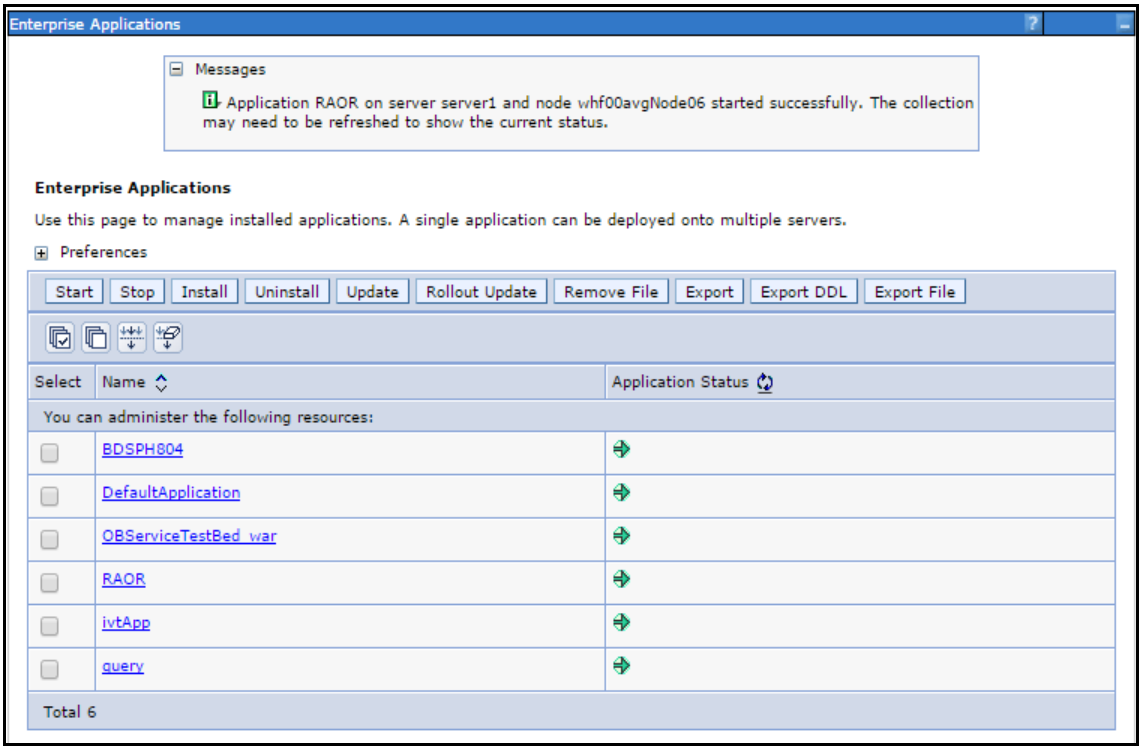
13. Click **Save** and save the master file configuration. The details are displayed in the *Master File Configuration* page.

Figure 6–20 Master File Configuration page



14. Select **RAOR** and click **Start**. The Enterprise Application page is displayed with confirmation message.

Figure 6–21 Enterprise Application page with Confirmation message



15. Restart all OFS AAAI servers. For more information, see Appendix D, "Starting / Stopping Infrastructure Services"section.

Deploying RAOR.ear in Tomcat

To deploy RAOR.ear in Tomcat, follow these steps:

1. Create datasource for RAOR context in Tomcat by editing `server.xml` in `<TOMCAT_HOME_DIR>/conf` directory.
2. Update database details as shown in the following sample:

Note: Context name must be the directory name under `webapps`.

```
<Context path="/RAOR"
docBase="/scratch/ofsaaapp/apache-tomcat-8.0.32/webapps/RAOR"
debug="0" reloadable="false" crossContext="true"><Loader
delegate="true"/>

     <Resource auth="Container"

                 name="jdbc/FICMASTER"

                 type="javax.sql.DataSource"

           driverClassName="oracle.jdbc.driver.OracleDriver"

                 username="act_obiconf"

                 password="password"

        url="jdbc:oracle:thin:@whf00aqr:1521/DEVUT08SPRINT"
```

```
                    maxTotal="100"
                    maxIdle="30"
                    maxWaitMillis="10000"
removeAbandoned="true" removeAbandonedTimeout="60"
logAbandoned="true"/>
      <Resource auth="Container"
                    name="jdbc/OFSAAAIINFO"
                    type="javax.sql.DataSource"
        driverClassName="oracle.jdbc.driver.OracleDriver"
                    username="act_obiatm"
                    password="password"
        url="jdbc:oracle:thin:@whf00aqr:1521/DEVUT08SPRINT"
                    maxTotal="100"
                    maxIdle="30"
                    maxWaitMillis="10000"
removeAbandoned="true" removeAbandonedTimeout="60"
logAbandoned="true"/>
 <Resource auth="Container"
                    name="jdbc/OFSAAAIINFOCNF"
                    type="javax.sql.DataSource"
          driverClassName="oracle.jdbc.driver.OracleDriver"
                    username="act_obiatm"
                    password="password"
          url="jdbc:oracle:thin:@whf00aqr:1521/DEVUT08SPRINT"
                    maxTotal="100"
                    maxIdle="30"
                    maxWaitMillis="10000"
removeAbandoned="true" removeAbandonedTimeout="60"
logAbandoned="true"/>
      </Context>
```

3. Update `install.properties` file in `$TOMCAT_HOME/webapps/RAOR/conf` directory as follows:

   ```
   sql.config.datasource.jndi.name=java:comp/env/jdbc/FICMASTER
   sql.atomic.datasource.jndi.name=java:comp/env/jdbc/OFSAAAIINF
   O
   sql.metadom.datasource.jndi.name=java:comp/env/jdbc/OFSAAAIIN
   FOCNF
   ```

   Note: Name must match the Resource Name defined in `server.xml`.

4. Update `application-env.properties` in `$TOMCAT_HOME/webapps/RAOR/conf` directory.
5. Copy `jms-api-1.1-rev-1.jar` and `javax.ws.rs-api-2.0-m02.jar` to `$TOMCAT_HOME/webapps/RAOR/WEB-INF/lib` directory.
6. Copy `RAOR.ear` file to `$TOMCAT_HOME/webapps` directory.
7. Unzip RAOR.ear to explode the war file by executing the following command:

   ```
   mkdir RAOR  jar -xvf RAOR.ear
   ```

8. Start Tomcat server.

Configuring Resource Reference

This section describes the details for configuring the resource reference in WebSphere, WebLogic, and Tomcat Application Servers. For detailed information, see Configuring Resource Reference.

Configuring Web application server

This section describes the details to configure the different web application servers for OFSAA Infrastructure deployment namely, IBM WebSphere, Oracle WebLogic, and Apache Tomcat Servers. For detailed information, see Configuring Web application servers.

Configurations for Java 8

Follow these steps to extract and apply the patch.

1. Follow the instructions given in the Readme to apply the patch.
2. 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/`

   Note: If ojdbc6.jar is already present in any of the aforementioned folders, you need to remove it.

3. 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/

To install OFS BD Applications Pack for Java 7 and Java 8 follow these steps:

Java 7:

- Navigate to the OFS_BD_PACK/bin folder.
- Execute ./setup.sh GUI in the console.

Java 8:

- Navigate to the OFS_BD_PACK/bin folder
- Execute ./setup.sh GUI in the console.

Configuring FSDF

This section covers following topics:

Configuring FSDF in Same Infodom

If BD and FSDF are in same Infodom, follow these steps:

Run the following SQL files in Atomic schema present in the path <download_dir>/OFS_BD_PACK/OFS_BD.

- FSDFAlterTimezone.sql
- 8.0.2.0.0_Alter_Table_Script.sql.

Configuring FSDF in Different Infodom (Pack on Pack Installation)

If BD and FSDF are in different Infodom, follow these steps:

- FSDFAlterTimezone.sql
- 8.0.2.0.0_Alter_Table_Script.sql

1. Run the following script in BD schema after replacing placeholder ##FSDF_USER## with FSDF User name INGESTUSERSYNONYMFORFSDFSTGSCHEMAOWNER.sql.
2. Run the following script in FSDF schema after replacing placeholder ##DATA_LOADER## with Data Loader Role FsdfStgSchemaOwnergrant.sql

> **Note:**
>
> For pack on pack installation of 8.0.2.0.0 on 8.0.1.0.0, the following scripts should not be executed after the installation of 8.0.1.0.0:

3. FSDFAlterTimezone Run the following scripts in FSDF schema present in the path <download_dir>/OFS_BD_PACK/OFS_BD.
   - .sql
   - INGESTUSERSYNONYMFORFSDFSTGSCHEMAOWNER.sql

- FsdfStgSchemaOwnergrant.sql

TC-BC Ingestion

Note:

This is applicable for single and multiple infodom configuration.

For TC-BC ingestion, run the SQL 8.0.2.0.0_Alter_Script.sql, under <download_dir>/OFS_BD_PACK/OFS_BD path.

Note:

Unique records should be loaded into the following tables as per the key given below:

- Stg_Automated_Quote - (FIC_MIS_DATE, V_AUTO_QUOTE_GROUP_ID, D_AUTO_QUOTE_DATE, D_AUTO_QUOTE_TIME, V_INSTRUMENT_CODE)
- Stg_Market_News_Event - (FIC_MIS_DATE, V_INSTRUMENT_CODE, D_NEWS_EVENT_DATE, D_NEWS_EVENT_TIME

Synchronizing FSDF Changes

Note:

This is applicable for single and multiple infodom configuration.

If there is existing data present in staging tables in 8.0.1.0.0, perform the following steps:

- Move the data from V_NATIONALITY_COUNTRY_CODE to V_NATIONALITY_COUNTRY in STG_PARTY_MASTER.
- Move the data from V_SEC_CITZN_COUNTRY_OLD to V_SEC_CITZN_COUNTRY_CODE in STG_PARTY_MASTER.
- Move the data from V_DOMICILE_COUNTRY to V_DOMICILE_COUNTRY_CODE in STG_PARTY_MASTER.
- Move the data from V_MKT_CENTER_COUNTRY_CODE to V_MKT_CENTER_COUNTRY in STG_MARKET_CENTER_MASTER

Note:

In case, Oracle 12c database is used and following error is encountered during scenario execution: "ORA-04036: PGA memory used by the instance exceeds PGA_AGGREGATE_LIMIT" then increase the value of PGA_AGGREGATE_LIMIT parameter at instance level.

Loading New/Modified Scenarios

This section explains how to load new/modified scenarios manually.

The following is the list of scenarios:

- ML-AnomATMBCStructuredCash.116000056.xml
- ML-AnomATMBCStructuredCash.116000057.xml
- IML-MvmtFundsWoTrade-dINST.114000020.xml
- ML-StructuringAvoidReportThreshold.116000046.xml
- ML-StructuringAvoidReportThreshold.116000058.xml
- ML-StructuringAvoidReportThreshold.116000062.xml
- ML-StructuringAvoidReportThreshold.116000063.xml
- ML-LgDeprecAcctValue.115200003.xml
- ML-LargeReportableTrans.115400007.xml
- ML-TerroristFinancing.114000122.xml
- ML-TerroristFinancing.114000123.xml
- ML-TerroristFinancing.114000124.xml
- ML-DepWDSameAmts.115000007.xml
- ML-LargeReportableTrans.116000099.xml
- CTR-BSACTR.118745200.xml
- CTR-BSACTR.118745203.xml
- FR-AnomATMBCEMultiLocations.114400013.xml
- FR-AnomATMBCEMultiLocations.114400012.xml
- ML-ChkMISequentialNumber.114000065.xml
- ML-AnomATMBCForeignTrans.116000054.xml
- ML-AnomATMBCForeignTrans.116000055.xml
- ML-AnomATMBCExcessiveWD.116000065.xml
- ML-AnomATMBCExcessiveWD.116000070.xml
- ML-AnticipateProfileExpectedActivity.116000107.xml
- ML-LargeReportableTrans.116000060.xml
- ML-RapidMvmtFundsAllActivity.116000079.xml
- ML-FTNCuEnExternal.114000077.xml
- ML-FTNCuEnExternal.114000078.xml
- ML-CIBProductUtilization.116000069.xml
- CTR-BSACTR.118745202.xml
- ML-CIBPreviousAverageActivity.116000083.xml
- ML-CIBPreviousAverageActivity.116000084.xml
- ML-FTNClientBanks-dCWS.114000031.xml
- ML-HRTransHRCounterParty.114000074.xml
- TC-FrontRunning.118810008.xml
- TC-FrontRunning.118810007.xml
- TC-FrontRunning.118810010.xml

- TC-FrontRunning.118810011.xml
- TC-FrontRunFIandFX.118200002.xml
- TC-TransferSecuritiesInterest.118810018.xml
- TC-Parking-dFI.114000014.xml
- TC-OffMktFairPricing-MTP.118810004.xml
- TC-MarkupsDownsLIFO.118810003.xml
- CR-TradingAheadMarketMovingEvents.118810005.xml
- CR-TradingAheadMarketMovingEvents.118810006.xml
- CR-TradingAheadMarketMovingEvents.118810015.xml
- CR-TradingAheadMarketMovingEvents.118810017.xml
- CR-TradingAheadMaterialEvent.117200008.xml

For more information on loading scenarios, see the *Loading Scenario Metadata* section in Administration Guide.

Configuring Big Data Processing

This section covers following topics:

Enabling Big Data

To enable Big Data option, follow these steps:

1. Login to the application as SYSADMN user or any user with System Administrator privileges.
2. Click **System Configuration & Identity Management** tab.
3. Expand Financial Services Analytical Applications Infrastructure, select Administration and Configuration and click System Configuration.
4. Click **Manage OFSAA Product License(s)**. The Manage OFSAA Application Pack License window is displayed.

Figure 6–22 Manage OFSAA Application Pack License

5. Select the **OFS_BD_PACK** option. A list of applications under the application pack are listed below.
6. Select the **OFS_AAIB** (Financial Services Analytical Applications Infrastructure - Big Data Processing option.
7. Click **VIEW LICENSE AGREEMENT**. The License Agreement section is displayed.

Figure 6–23 License Agreement

8. Select the option **I ACCEPT THE LICENSE AGREEMENT**.
9. Click **ENABLE**. A confirmation message is displayed showing that the product is enabled for the pack.

Moving Data from HIVE to Oracle Database

To move data from HIVE to table, follow these steps:

1. Create an empty Oracle schema and a HIVE schema.
2. Login to OFSAA database server as a CONFIG user.

3. Execute the following script under the path `$FIC_HOME` with the newly created ORACLE schema as the input

   `config_table_privileges_for_atomic_user.sql`

4. Login to OFSAA database server as a SYS user.

5. Execute the following script under the path `$FIC_HOME` with the newly created ORACLE schema as the input.

   `privileges_atomic_user.sql`

6. Place the `OFSAA.KEYTAB` and `KRB5.CONF` files from the HIVE installed server into `<OFSAA server deployed path>/conf` and `FIC_HOME/conf`.

7. Download the following Jars from H**ortonworks JDBC Driver for Apache Hive (v1.0.36) - JDBC4.0 (**https://hortonworks.com/downloads/) and copy them to the location `$FIC_HOME/ext/lib` and `$FIC_WEB_HOME/webroot/WEB-INF/lib` and `<OFSAA server deployed path>/WEB-INF/lib`:

   - `commons-codec-1.3.jar`
   - `hiveJDBC4.jar`
   - `hive_metastore.jar`
   - `hive_service.jar`
   - `ql.jar`
   - `TCLIServiceClient.jar`
   - `zookeeper-3.4.6.jar`

8. Copy the following jars from the HDP installation path to the location `$FIC_HOME/ext/lib` and`$FIC_WEB_HOME/webroot/WEB-INF/lib and <OFSAA server deployed path>/WEB-INF/lib::`

   - `commons-collections-3.2.2.jar`
   - `commons-configuration-1.7.jar`
   - `commons-io-2.4.jar`
   - `guava-16.0.jar`
   - `hadoop-auth-2.7.3.2.5.3.0-37.jar`
   - `hadoop-common-2.7.3.2.5.3.0-37.jar`
   - `hadoop-hdfs-2.7.3.2.5.3.0-37.jar`
   - `hadoop-mapreduce-client-core-2.7.3.2.5.3.0-37.jar`
   - `hive-exec-1.2.1000.2.5.3.0-37.jar`
   - `httpclient-4.1.3.jar`
   - `httpcore-4.1.3.jar`
   - `libfb303-0.9.0.jar`
   - `libthrift-0.9.0.jar`

9. Copy the following jar from `$FIC_WEB_HOME/webroot/WEB-INF/lib` to `$FIC_HOME/ext/slf4j-api-1.7.5.jar`

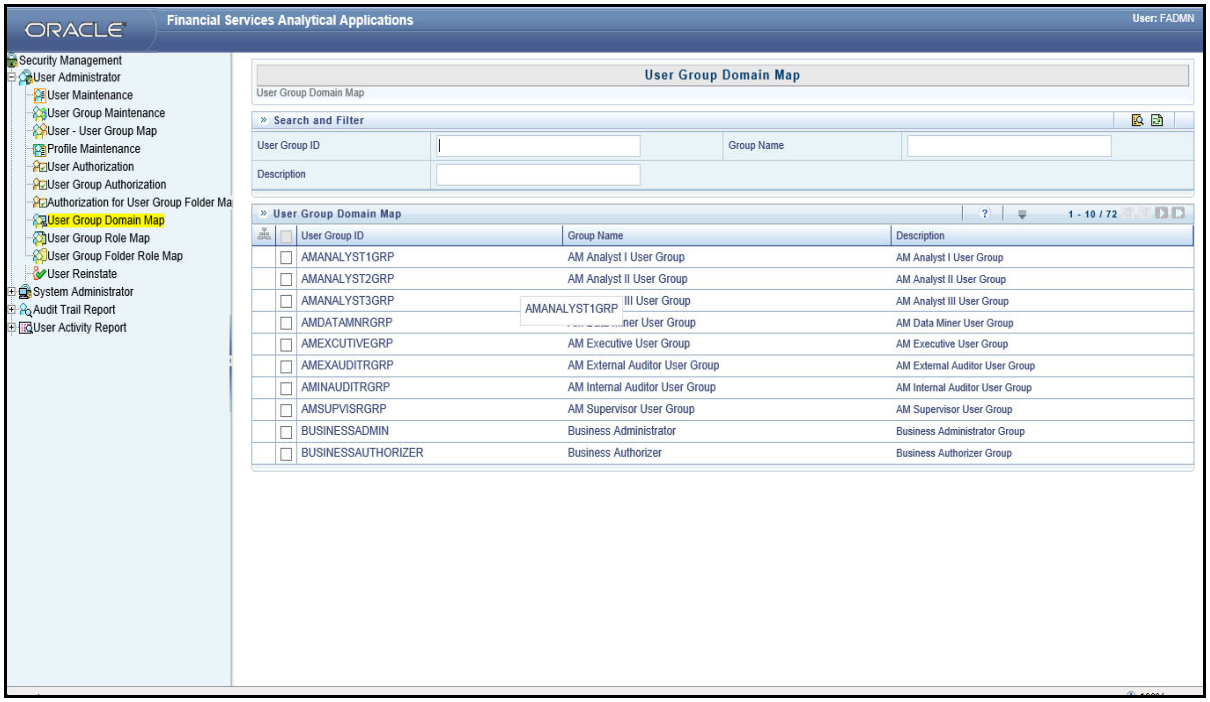
10. Login to the application as SYSADMN user or any user with System Administrator privileges.

11. Add the Database Details for both the schemas (Oracle and HIVE) separately. For more information, see **Database Details** in OFSAAI User Guide.

> **Note:** If your HIVE network is hortonworks , then the driver is `com.simba.hive.jdbc4.HS2Driver`

12. Create Infodom with HIVE schema as Datadom and Oracle schema as Metadom. For more information, see **Information Domain** in OFSAAI User Guide.
13. Create a new application for the aforementioned Infodom that was just created. For more information, see **Creating a New Application** in OFSAAI User Guide.
14. Create a new segment for the application with the aforementioned created Infodom. For more information, see **Segment Maintenance** in OFSAAI User Guide.
15. For any of the users, map the newly created segment to any existing user group. For more information, see **User Group Domain Map** in OFSAAI User Guide. See the following figure for the same.

Figure 6–24 HIVE- User Group Domain Map



16. Assign the respective function role to the created user.
17. Login to the application as SYSAUTH user.
18. Authorize the mapped user. For more information, see **User Group Authorization** in OFSAAI User Guide.
19. Login to the application with the credentials of the new user that was just created. Select the new application that was just created.
20. Perform FSDF Data Model Upload. For more information, see **Data Model Management** in OFSAAI User Guide.
21. Navigate to `$FIC_HOME`.

22. Execute the scripts under `Alter_Table_Script.hql` in the HIVE schema.
23. Load the data into the Stage Tables.
24. Login to the OFS AML application.
25. Create a Source Model for the newly created HIVE source with the following inputs:

    Source Name: `HiveStagingSource`

    Application Name: `HiveApplication_Staging`

    For more information, see **Generating Source Models** in OFSAAI User Guide.
26. Place the `OFSAA-HIVE-UDF.jar` from the path `$FIC_HOME/utility/DMT/UDF/lib` in the HIVE installed server auxillary path.
27. Execute the H2T batch. For `ETLLoader.properties` file changes to execute H2T in Sqoop mode, see **Data Mapping Configurations** section in OFSAAI Administration User Guide.

    In addition to the changes mentioned, add the following property in the `ETLLoader.properties` file:

    ```
    <PROPERTY ID="HIVE_SEQ" VALUE="Nextval"/>
    ```

    For more information on executing H2T batch, see **Run** in OFSAAI User Guide.

7

Post Deployment Configuration

This section provides detailed information about the Post Deployment Configurations. lists the various configurations to be completed before you use the OFSAA Applications.

- Creating Application Users
- Mapping Application User(s) to User Group
- Performing Administrative activities for OFS BD
- Performing Configurations for OFS BD
- Performing Administrative activities for KYC
- Setting OFS BD UI as Home Page of OFSAAI for a Particular User
- Modifying Additional Configuration Files
- Changing ICC Batch Ownership

Creating 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 see user creation section from the *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

Mapping Application User(s) to User Group

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

User Groups seeded with the OFS BD Applications Pack are listed in Table 7–1.

Table 7–1 Seeded User Groups

Name	Description
Modeler Group	User mapped to this group have access to all the menu items for Enterprise modeling, but do not have authorization rights for sandbox population, model deployment and modeling technique authorization.

Table 7–1 Seeded User Groups

Name	Description
Modeling Administrator Group	User mapped to this group have access to all the menu items for Enterprise modeling and authorization rights for sandbox population, model deployment and modeling technique authorization.
Inline Processing Admin Group	User mapped to this group have access to all the menu items and actions for Inline Processing module.
Business Administrator	User mapped to this group have access to all the menu items and actions for advanced operations of metadata objects.
Business Authorizer	User mapped to this group have access to all the menu items and actions for authorization of changes to metadata objects.
Business Owner	User mapped to this group have access to all the menu items and actions to read and write metadata objects
Business User	User mapped to this group have access to all the menu items and actions to access and read metadata objects.
Identity Administrator	User mapped to this group have access to all the menu items to manage User entitlements, User Group Entitlements and Access Management configurations.
Identity Authorizer	User mapped to this group have access to all the menu items to authorize User entitlements, User Group Entitlements and Access Management configurations.
System Administrator	User mapped to this group have access to all menu items to manage the setup configurations.
Object Administrator	User mapped to this group have access to all menu items to manage object migration and metadata traceability using metadata browser.
Guest Group	User mapped to this group have access to certain menu items with view 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, see Mapping/Unmapping Users section from the *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

Performing Administrative activities for OFS BD

Access the OFS BD UI as BDAP Administrator and perform all the steps given in the following sections of the Administration Guide.

- About Configuring Access Control Metadata
- Mapping Users To Access Control Metadata
- About Scenario Manager Login Accounts
- About Changing Passwords for System Accounts
- About Configuring File Type Extensions
- About Configuring File Size
- About Configuring Status To User Role Table

Note: Once Security Attributes mapping is completed for the BDAP Administrator user, restart OFSAAI and Web Application servers before accessing the Admin Tools application.

Performing Configurations for OFS BD

Access the OFS BD UI as BDAP Administrator and perform all the steps given in the following sections of Configuration Guide.

- Configuring the Base Time Zone
- Configuring the Default Currency Code
- Configuring E-mail
- Configuring XML Export
- Configuring Organization Relationships for Trade Blotter
- Configuring Search Criteria Population Options for Trade Blotter
- Configuring Case Correlation Owner
- Configuring Default Case Owner
- Configuring Default Alert Owner
- Configuring the Alert/Case Auto Assignment Web Service

Performing Administrative activities for KYC

You must perform the Administrative activities if OFSKYC application is installed.

Access the OFSBD UI as a KYC Administrator and perform all the steps given in the KYC Administration Guide.

Note: Appendix H and I should be performed for successful KYC installation.

Setting OFS BD UI as Home Page of OFSAAI for a Particular User

To set OFS BD UI as home page of OFSAAI, follow these steps:

1. Log in as an ECM Administrator/Supervisor user.
2. Navigate to Home page.
3. Click on logged in user name in the right top corner.
4. Click **Preferences** and a new page is displayed.
5. Select Enterprise Case Management as your default page and click **Save**.

Modifying Additional Configuration Files

You can modify the following additional configuration files (although it is not a requirement that you modify them to run the system):

Note: This step is optional.

- **DataIngest.properties:** This file (located in the ingestion_manager/config subdirectory) contains the variable values you specified in the silent properties file, including information about database configuration values, and schema specifications. For more information on configuring this file, see the Oracle Financial Services Behavior Detection Applications Pack Administration Guide on OTN.
- **DataIngest.xml:** This file (located in the /<OFS BD Installed Directory>/ingestion_manager/config subdirectory) contains the configuration settings required to configure each Ingestion Management runtime component. For example, setting up and configuring the number of threads used by each component. For more information on configuring this file, see Oracle Financial Services Behavior Detection Applications Pack Administration Guide on OTN.

Changing ICC Batch Ownership

This section is not applicable for OFS BD Applications Pack.

A

Configuring Web server

This section covers the following topics:

- Configuring Web server
- Configuring Web application servers

Configuring Web server

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

See the product specific installation guide to install and configure the Web server. If an installation already exists, skip and proceed to the next step.

Note:

- Make a note of the IP Address/ Hostname and Port of the web server. This information is required during the installation process.
- Add `umask 0027` in the `.profile` of the UNIX account which manages the WEB server to ensure restricted access permissions
- See Oracle Financial Services Analytical Applications Infrastructure Security Guide mentioned in the <$elemtext section for additional information on securely configuring your Web server.

Configuring Web application servers

This step assumes an installation of a web application server exists as per the prerequisites. To configure the Web application server for OFSAA Deployment see the following sections.

This section includes the following topics:

- Configuring WebSphere Application Server for Application Deployment
- Configuring WebLogic for Application Deployment
- Configuring Apache Tomcat Server for Application Deployment

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).
- See 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 stand-alone WebSphere application server. To create multiple WebSphere "Profiles" in a stand-alone server, use the command line option as explained in the following section. 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 covers the following topics:

Creating New Profile in WebSphere

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

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, see WebSphere manageprofiles command.

Managing Applications in WebSphere

To manage the installed applications in WebSphere, follow these steps:

1. Open the administrator console using the following URL:

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

   For 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.

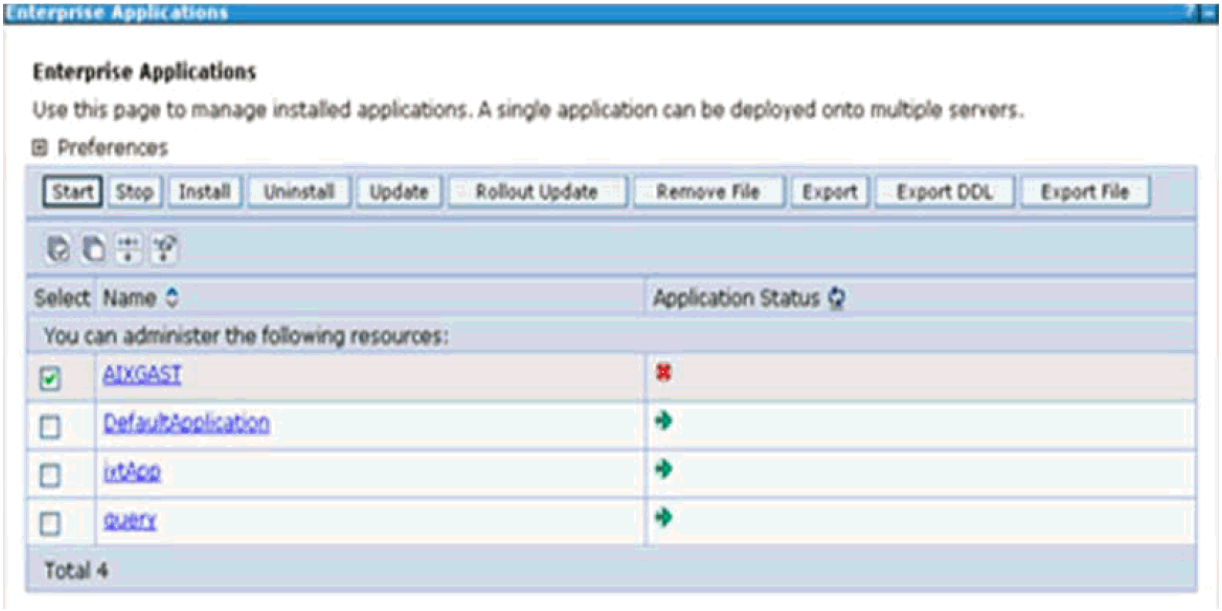
   The *Integrated Solutions Console Login* window is displayed.

Figure 7–1 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 7–2 Enterprise Applications



This Enterprise Applications screen helps you to:

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

Deleting WebSphere Profiles

To delete a WebSphere profile, follow these steps:

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 -validateAndUpdateRegistry`

Configuring WebSphere HTTPS

To configure an HTTPS Transport on WebSphere, follow these steps:

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.

Configuring WebSphere Memory Settings

To configure the WebSphere Memory Settings, follow these steps:

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 Infrastructure applications on different domains of a stand-alone WebLogic application server. To create multiple WebLogic "Domains" in a stand-alone server 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 12.1.3+ (64 bit) with Java 8, download and install patch 18729264.

This section covers the following topics:

- Creating Domain in WebLogic Server
- Deleting Domain in WebLogic
- Configuring WebLogic Memory Settings

Creating Domain in WebLogic Server

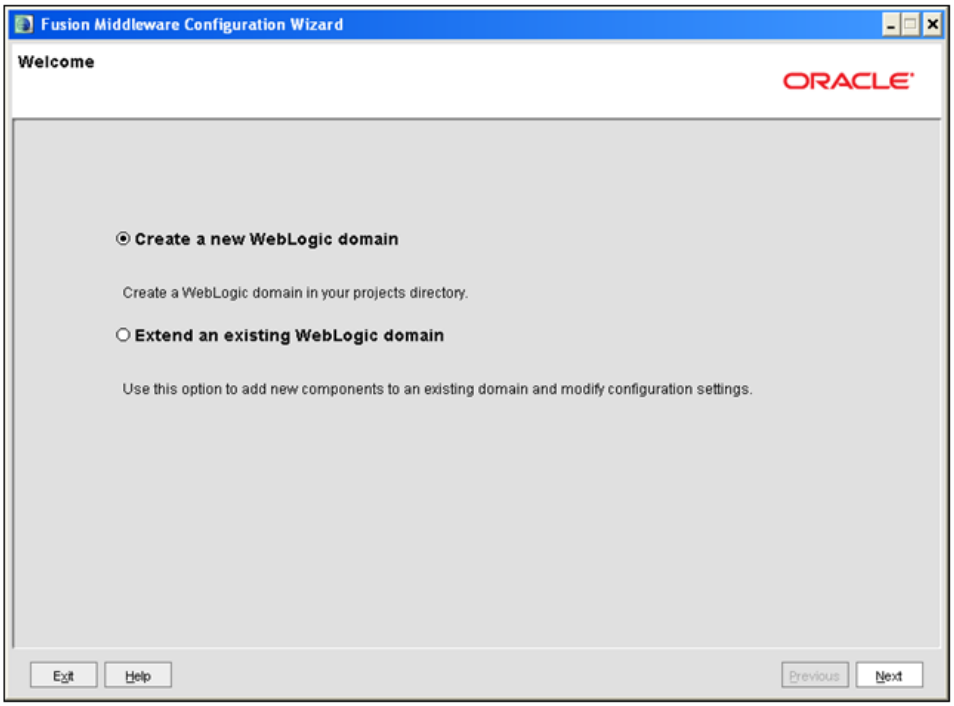
To create a new domain using Configuration Wizard in WebLogic, follow these steps:

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.

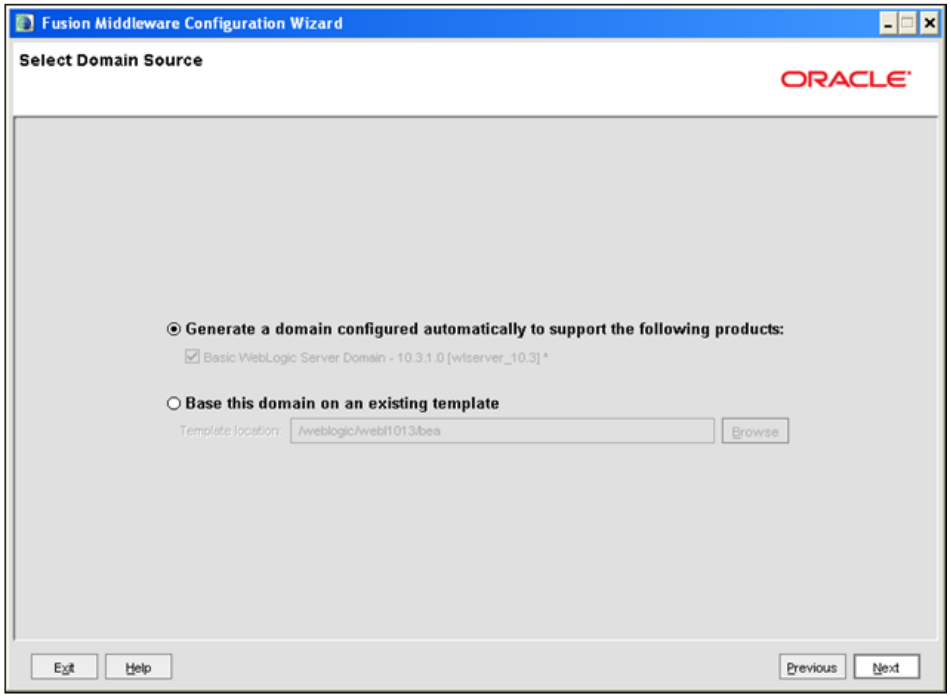
Figure 7–3 Welcome



2. Select **Create a new WebLogic domain** option and click **Next**.

   The *Select Domain Source* window is displayed.

Figure 7–4 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 7–5 Specify Domain Name and Location

4. Enter the **Domain Name** and **Location**. Click **Browse** to navigate and specify the location. Click **Next**.

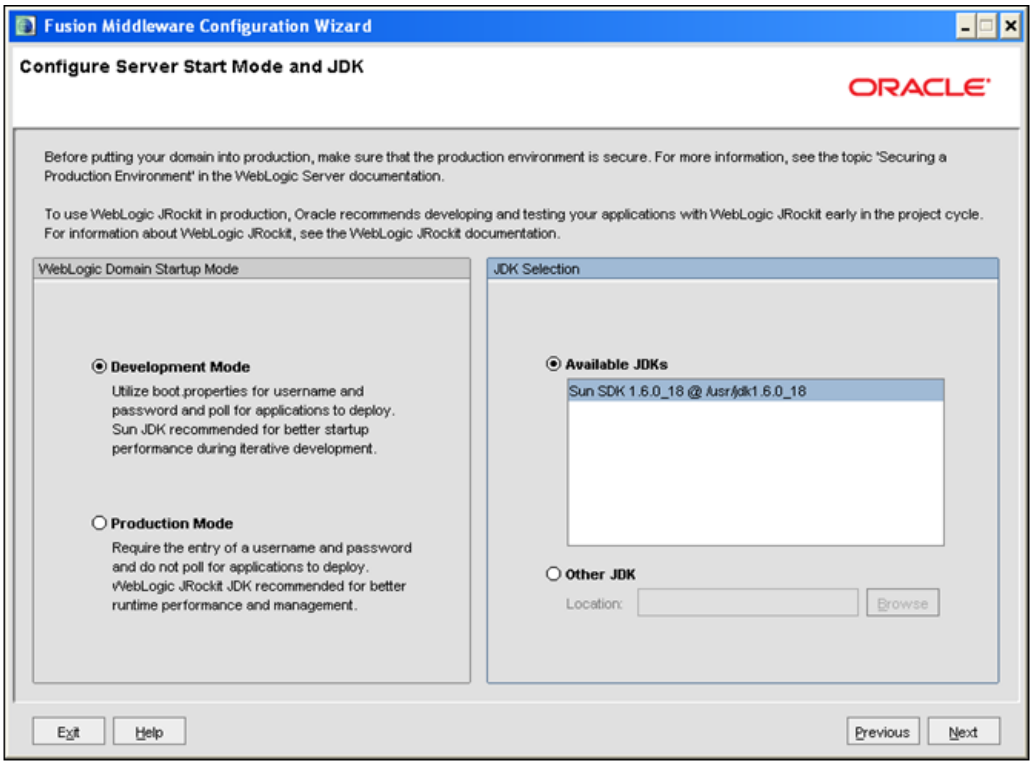
   The *Configure Administrator Username and Password* window is displayed.

Figure 7–6 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 7–7 Configure Server Start Mode and JDK



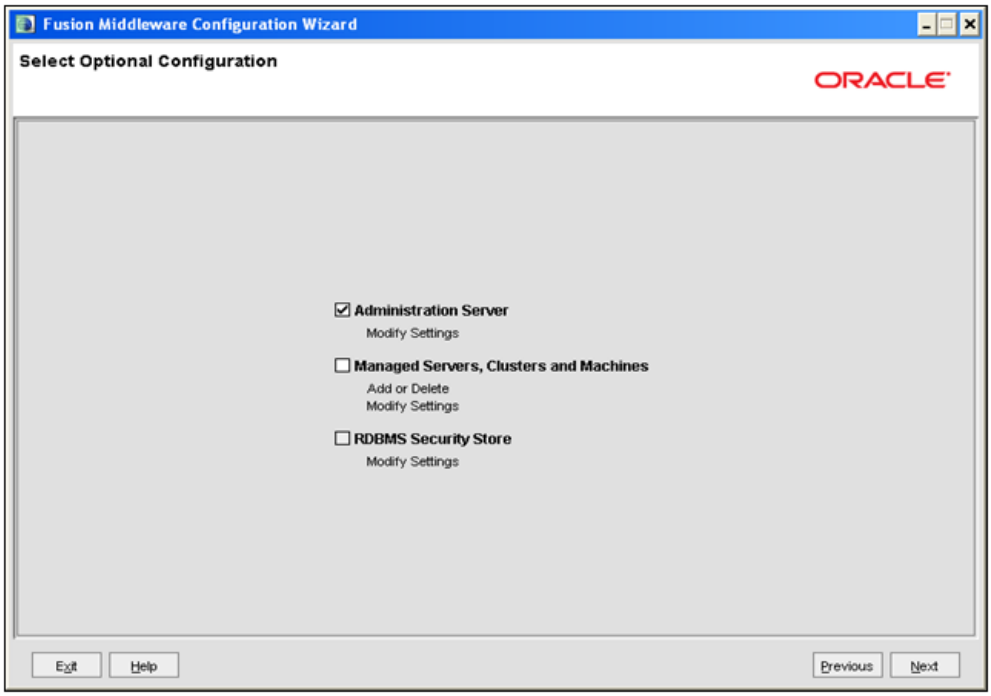
7. Select the following options:

   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. Click **Next**.

   The Select Optional Configuration window is displayed.

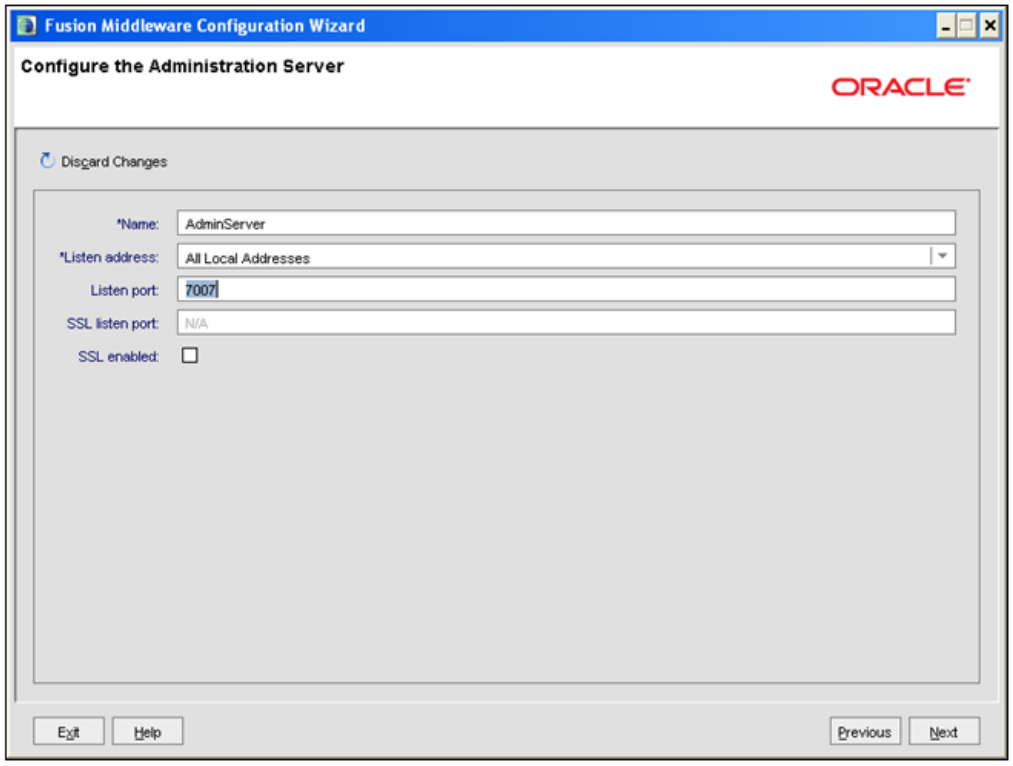
Figure 7–8 Select Optional Configuration



8. 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. Click **Next**.

   The Configure the Administration Server window is displayed.

Figure 7–9 Configure the Administration Server

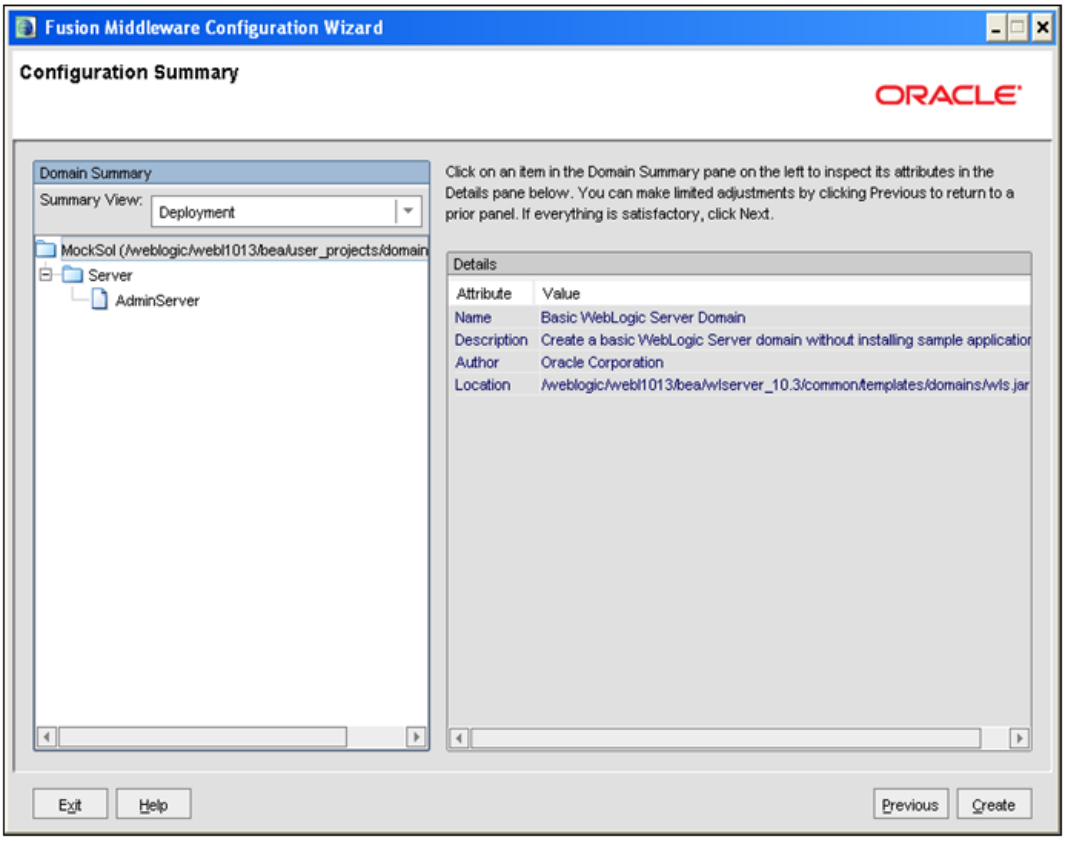


9. Enter Administration Server details such as the Name, Listen address, Listen Port, SSL listen port, and SSL enabled (for secure login using https) check box. Click **Next**.

   The Configuration Summary window is displayed.

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

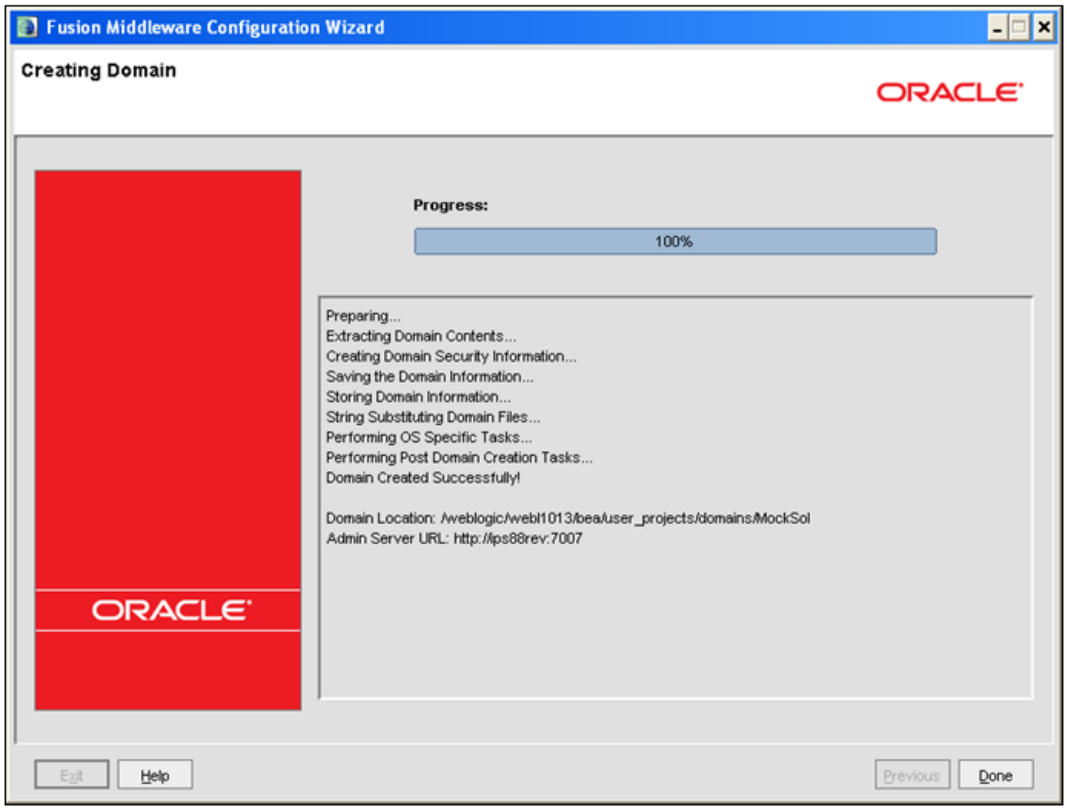
Figure 7–10 Configuration Summary



10. 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 7–11 Creating Domain



11. 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

---

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

Deleting Domain in WebLogic

To delete a domain in WebLogic, follow these steps:

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.

Configuring WebLogic Memory Settings

To configure the WebLogic Memory Settings, follow these steps:

1. Change the memory setting for Java Heap to `-Xms512m -Xmx3072m` 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

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 <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 preceding example.
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.

Configuring Tomcat to use JAVA 64 bit Executables

To configure Tomcat to use JAVA 64 bit, follow these steps:

1. Navigate to the `$CATALINA_HOME/bin` folder.
2. Edit the `setclasspath.sh` file as follows:
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
```

Configuring 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` file in the `conf` directory of Tomcat Installation directory.

To configure the Servlet Port, follow these steps:

1. Navigate to `$CATALINA_HOME/conf`. Open server.xml and locate the tag:

"Define a non-SSL HTTP/1.1 Connector on port 8080 "

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.

2. Save your changes in the server.xml file.

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

Configuring SSL Port

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 Applications Pack.
- To enable https configuration on Infrastructure, assign value 1 to HTTPS_ENABLE in OFSAAI_InstallConfig.xml file for Silent mode OFSAAI installation.

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

Configuring Apache Tomcat Memory Settings

To configure the Apache Tomcat Memory Settings, follow these steps:

1. Locate the catalina.sh file that resides in the <CATALINA_HOME>/bin folder.
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.

   For 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
```

Configuring Axis API

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

Configuring Tomcat for User Group Authorization

Users with system authorization roles can access User Group Authorization. However, to make it available on Tomcat web server, you have to perform the following configuration steps:

1. Navigate to the `$CATALINA_HOME/conf` folder and open `web.xml` file.
2. Enter the following in the web.xml file.

```
<init-param>
<param-name>mappedfile</param-name>
<param-value>false</param-value>
</init-param>
```

3. Save and close the file.

Uninstalling WAR Files in Tomcat

To uninstall WAR files in tomcat, see Uninstalling WAR Files in Tomcat.

B

Configuring Resource Reference in Web application servers

This section covers the following topics:

- Configuring Resource Reference in WebSphere Application Server
- Configuring Resource Reference in WebLogic Application Server
- Configuring Resource Reference in Tomcat Application Server

Configuring Resource Reference in WebSphere Application Server

This section is applicable only when the Web application server type is WebSphere.

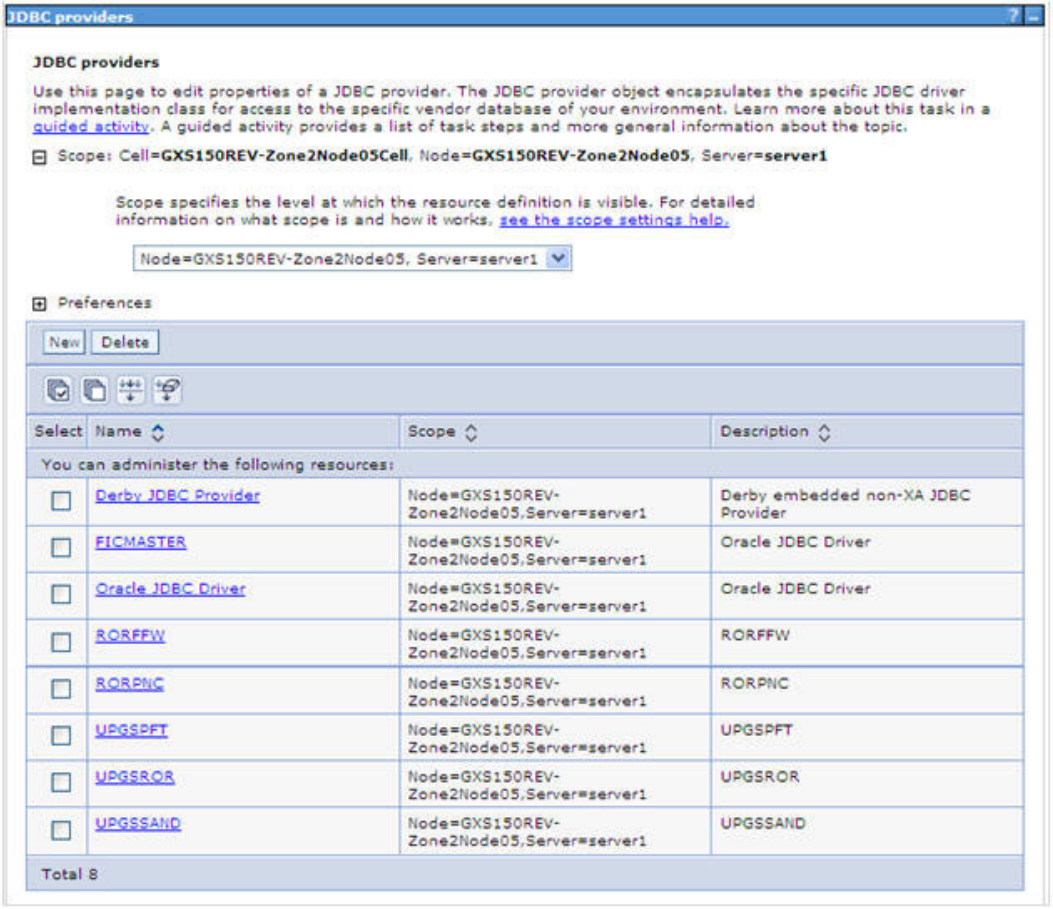
This section covers the following topics:

- Creating JDBC Provider
- Creating Data Source
- Creating J2C Authentication Details
- Defining JDBC Connection Pooling

Creating JDBC Provider

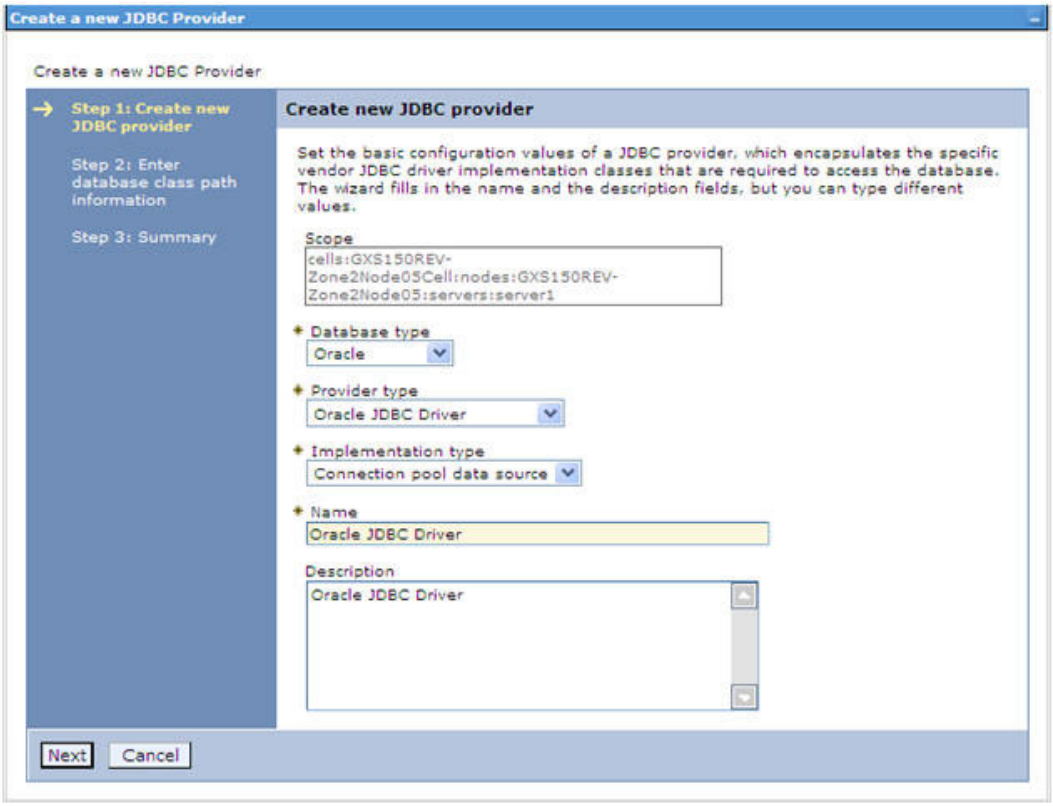
1. Open the WebSphere admin console in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC**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

Figure 7–12 JDBC Providers



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

Figure 7–13 Create a new JDBC Provider



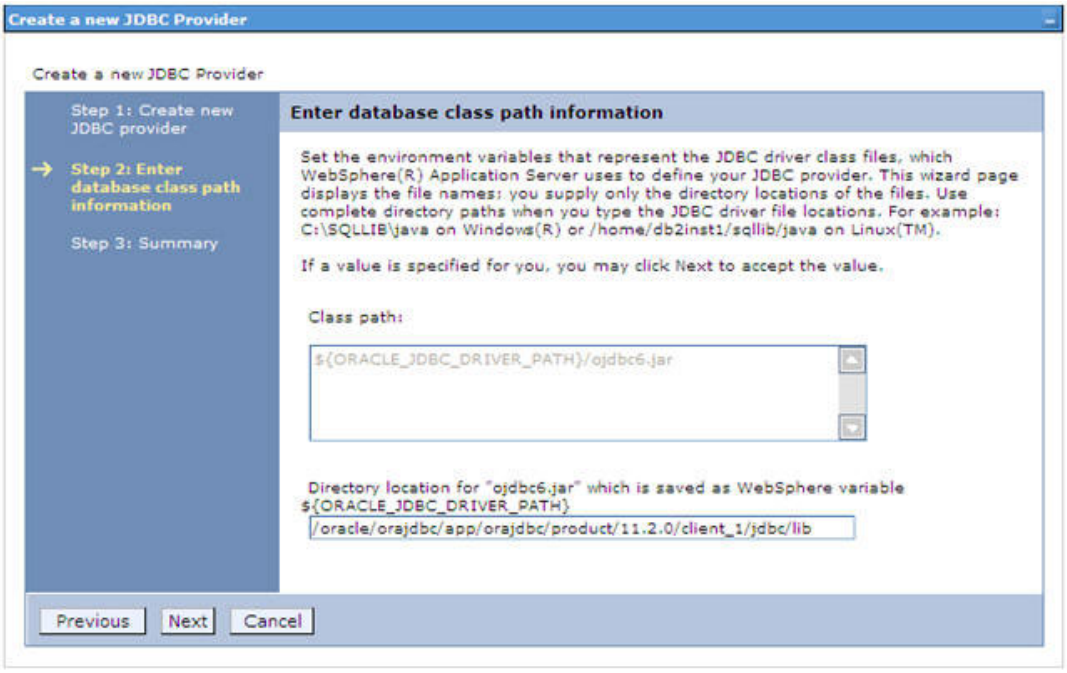
6. Enter the following details:

Table B–1 Fields and their description

Field	Description
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

7. Click **Next.**

Figure 7–14 Enter database class path information



8. 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:

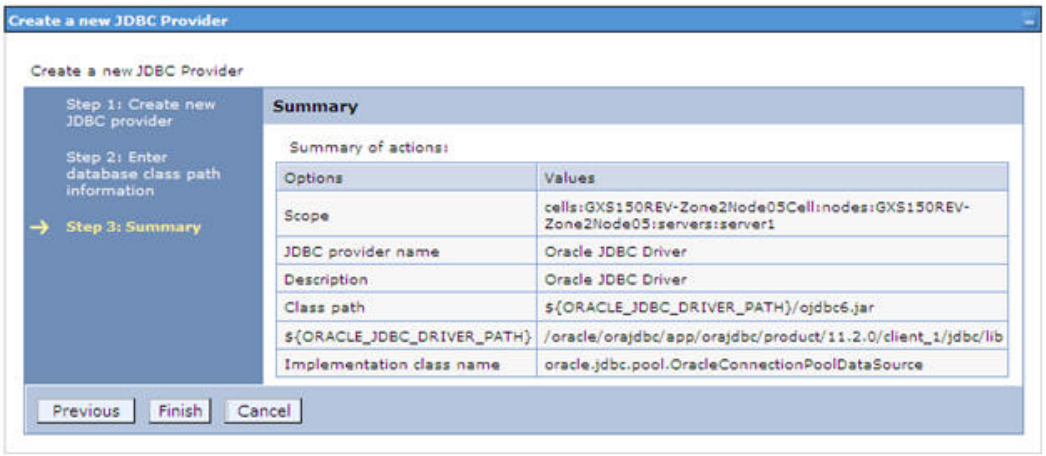
   - Oracle Database 11g Release 2 (11.2.0.4) JDBC Drivers
   - Oracle Database 12c Release 1 (12.1.0.1) JDBC Drivers

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

   Note: See Appendix N for identifying the correct `ojdbc<version>.jar` version to be copied.

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

Figure 7–15 Summary



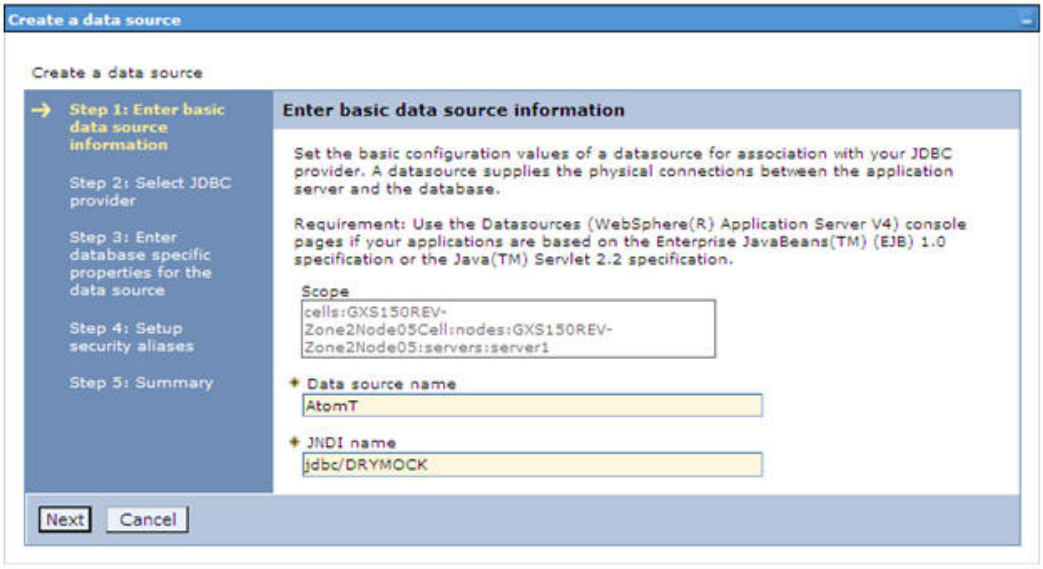
10. Verify the details and click **Finish** to create the JDBC Provider.
11. The options to **Save** and **Review** are displayed. Click **Save**.

Creating Data Source

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

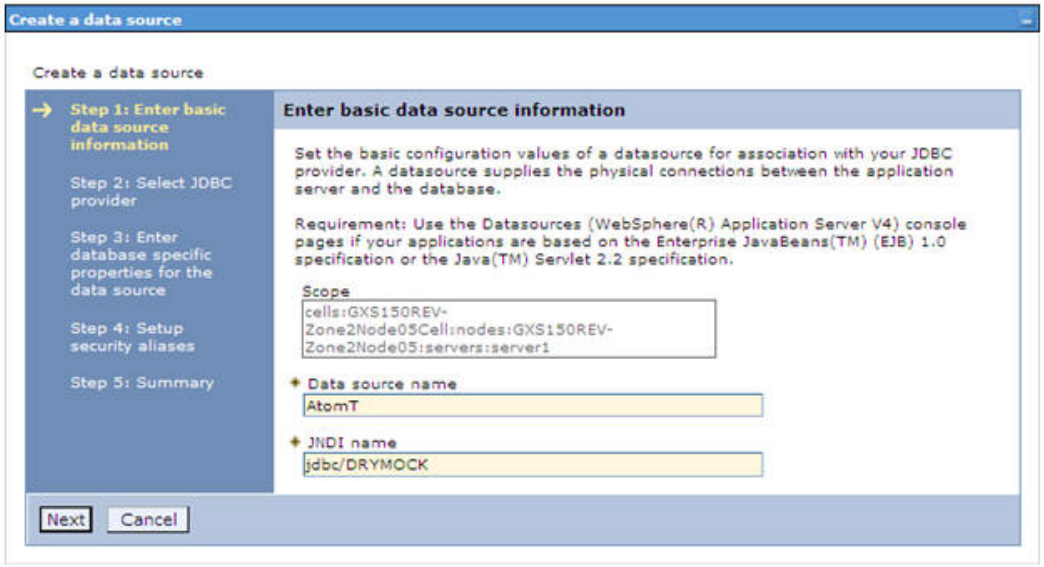
1. Open this URL in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC** > **Data sources**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

Figure B–1 Data Sources



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 B–2 Create 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 and ensure that JNDI name is same as the "Information Domain" name.

7. Click **Next**. The Select JDBC provider window is displayed.

Figure B–3 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 B–4 Enter database specific properties

9. Specify the database connection URL.

   For example: `jdbc:oracle:thin:@<DB_SEREVER_IP>:<DB_SERVER_PORT>:<SID>`

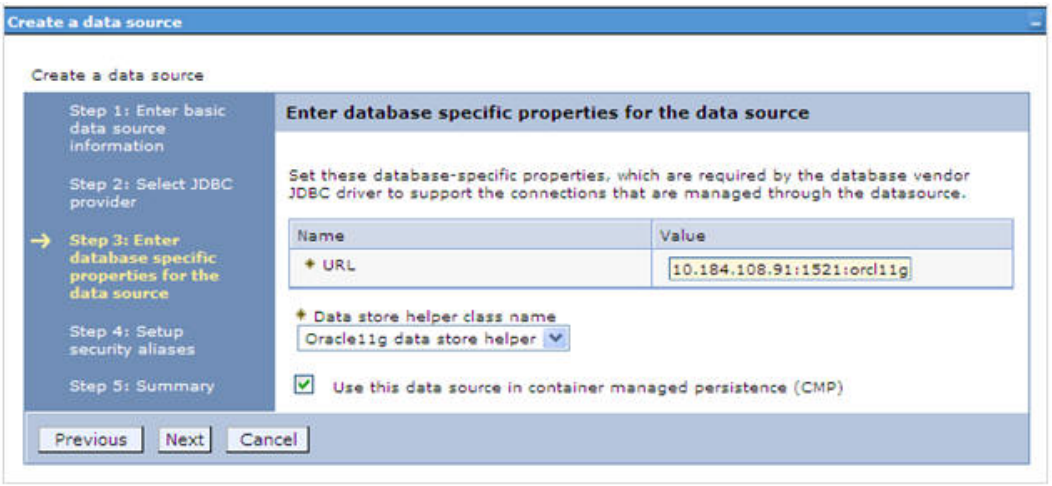
10. Select **Data Store Helper Class Name** from the drop-down list and ensure that the checkbox **Use this data source in container managed persistence (CMP)** is selected.

    Note: For RAC configuration, provide the RAC url specified during installation.

    Example: `jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=10.11.12.13)(port=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=10.11.12.14)(PORT=1521))(LOAD_BALANCE=no)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=pqadb)))`

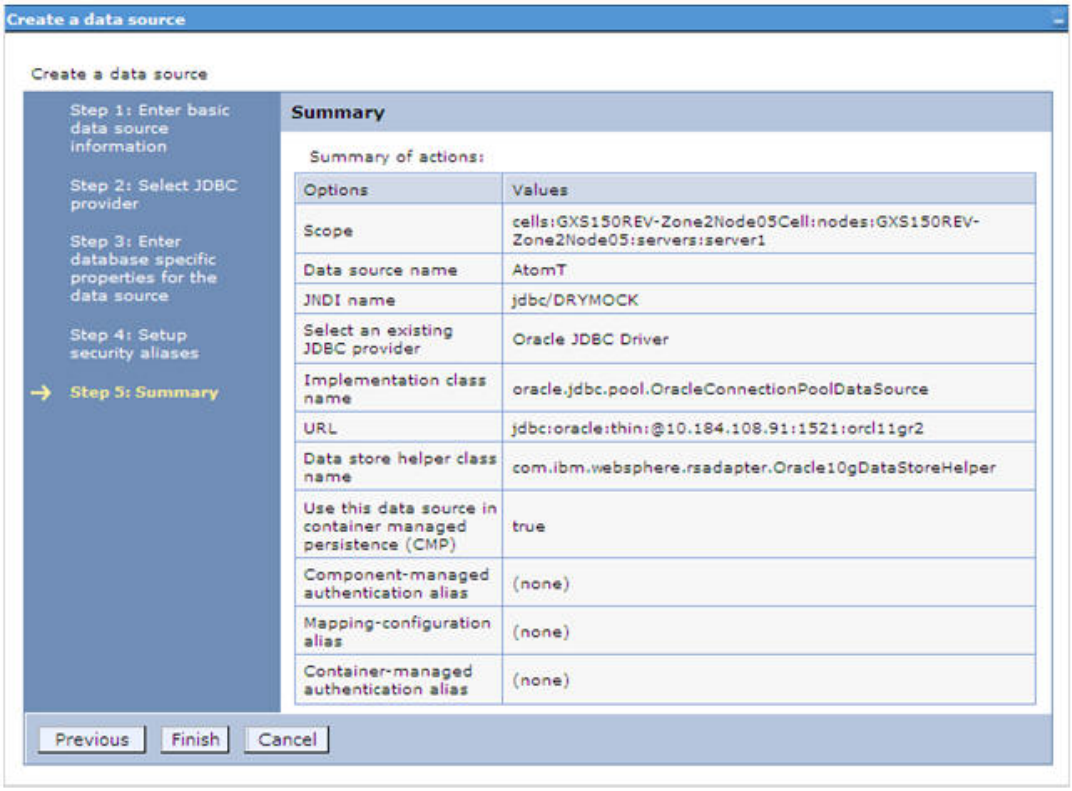
11. Click **Next**.

Figure B–5 Enter Database specific properties



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 B–6 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.

Creating J2C Authentication Details

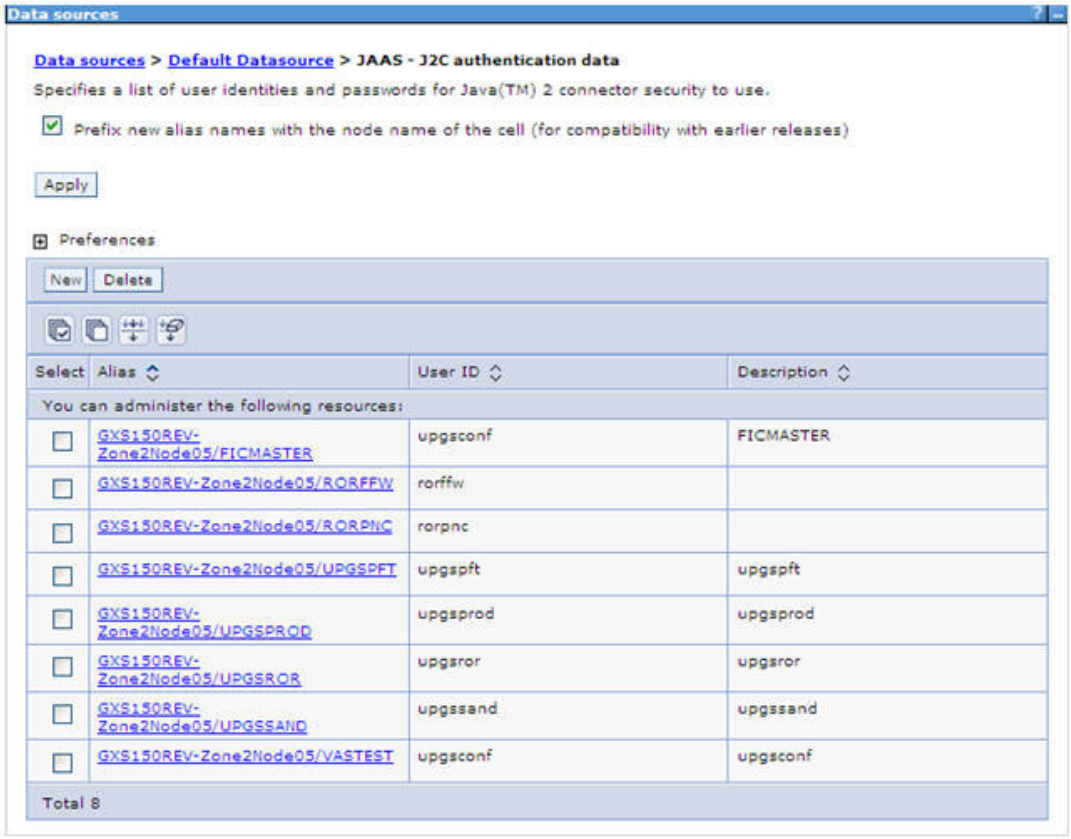
The steps given below are applicable for creating both config and atomic J2C Authentication.

To create J2C Authentication details, follow these steps:

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

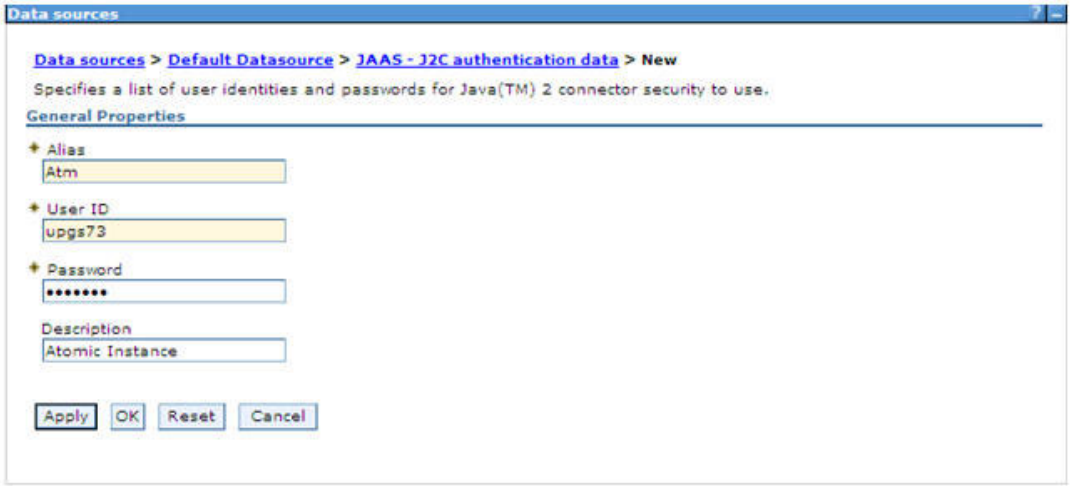
   JAAS- J2C authentication data

Figure B–7 JAAS- J2C authentication data



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

Figure 7–16 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.

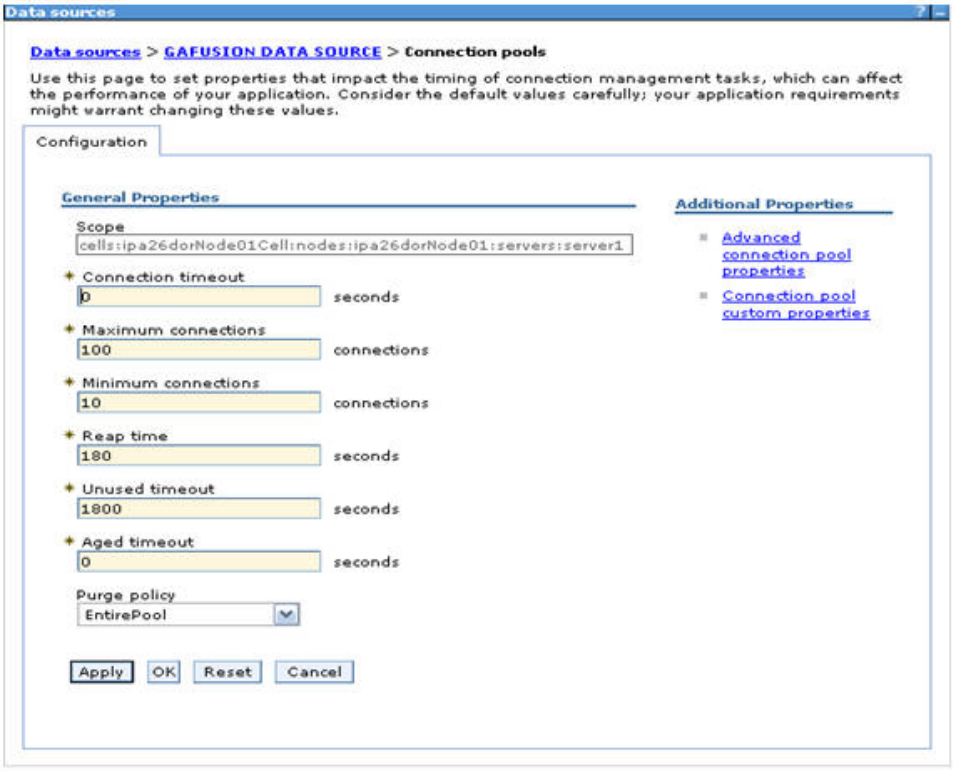
4. Click **Apply** and save the details.

Defining 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 B–8 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.

Configuring Resource Reference in WebLogic Application Server

This section is applicable only when the Web application server type is WebLogic.This section includes the following topics:

- Creating Data Source

- Creating GridLink Data Source
- Configuring Multi Data Sources
- Configuring Advanced Settings for Data Source
- Defining 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 Source.
- "When Load Balancing/Fail over is required, Multi Data Source has to be created. See Configure Multi Data Sources.

Creating Data Source

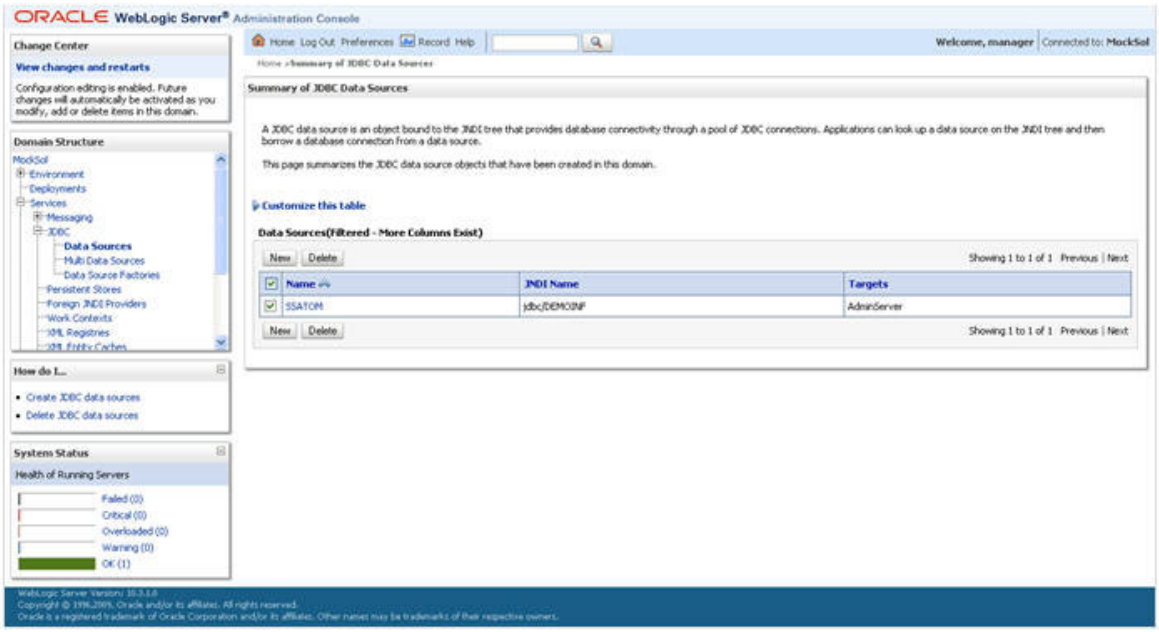
The steps given below are applicable for both config and atomic data source creation.

1. Open the following URL 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 B–9 Welcome

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

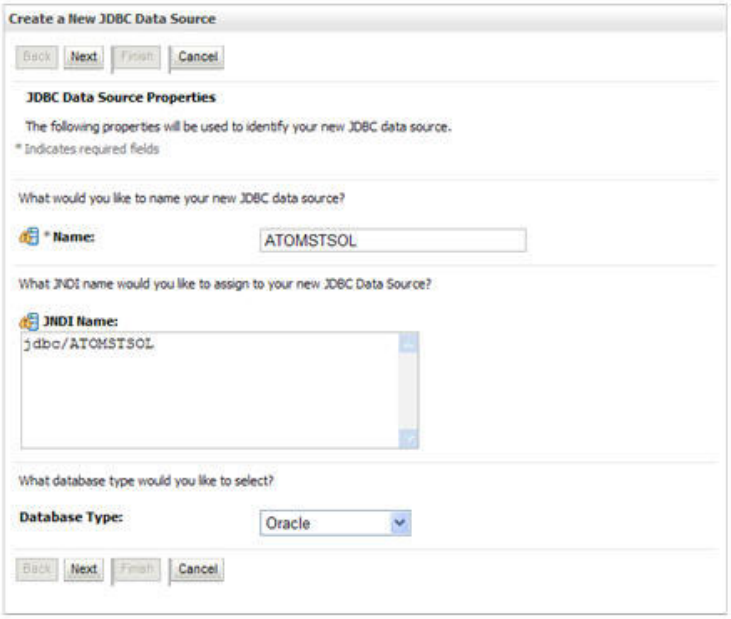
Figure B–10 Summary of JDBC Data Sources



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 Creating Data Sourceor Configuring Multi Data Sources.

Figure 7–17 Create a New JDBC Data Source

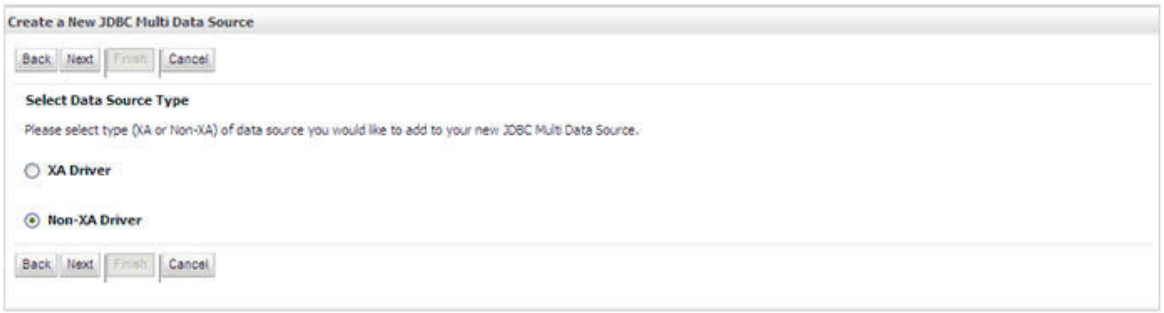


5. Enter JDBC data source **Name**, **JNDI Name**, and select the **Database Type** from the drop-down list. Click **Next**.

   Ensure the following:

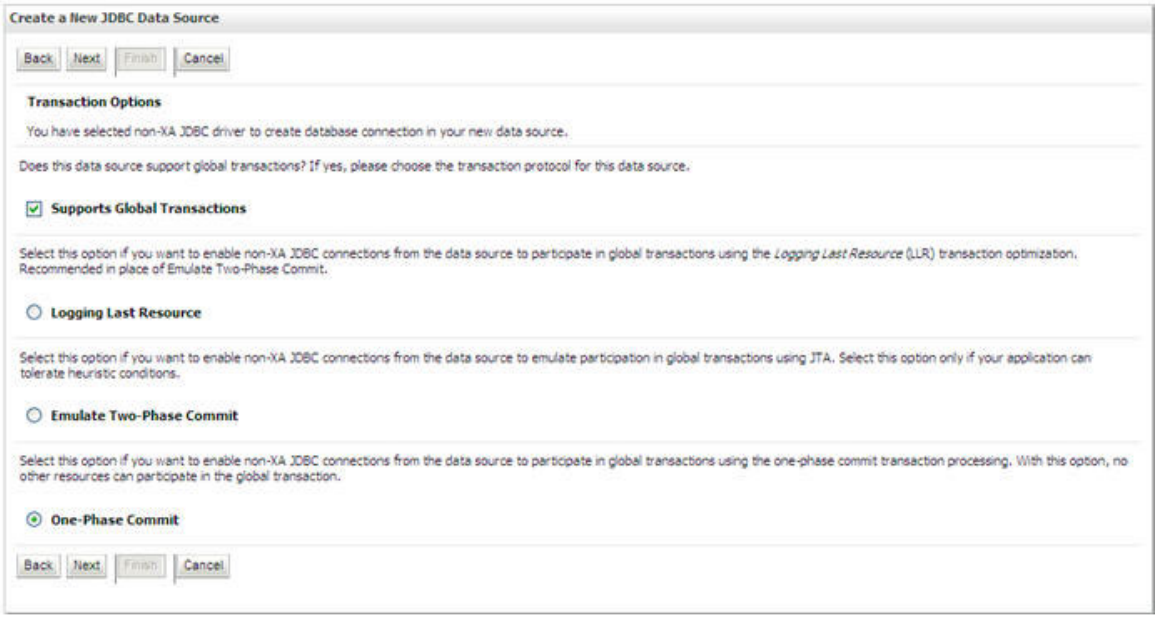
   - The JNDI Name field should be in the format "jdbc/informationdomain"
   - Same steps needs to be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with `jdbc/FICMASTER` as JNDI name.
   - JNDI Name is the same as mentioned in `web.xml` file of OFSAAI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

Figure B–11 JDBC Data Source Properties



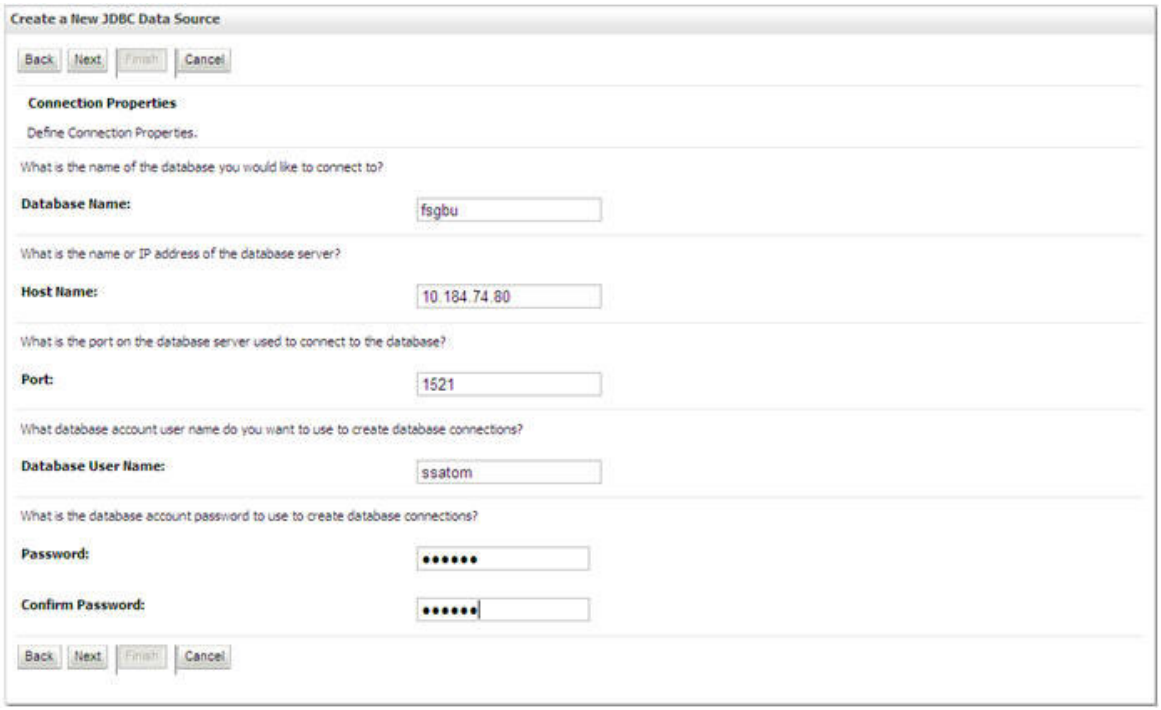
6. Select the **Database Driver** from the drop-down list. You need to select the Database Driver depending on database setup, that is, with or without RAC. Click **Next**.

Figure B–12 Transaction Options



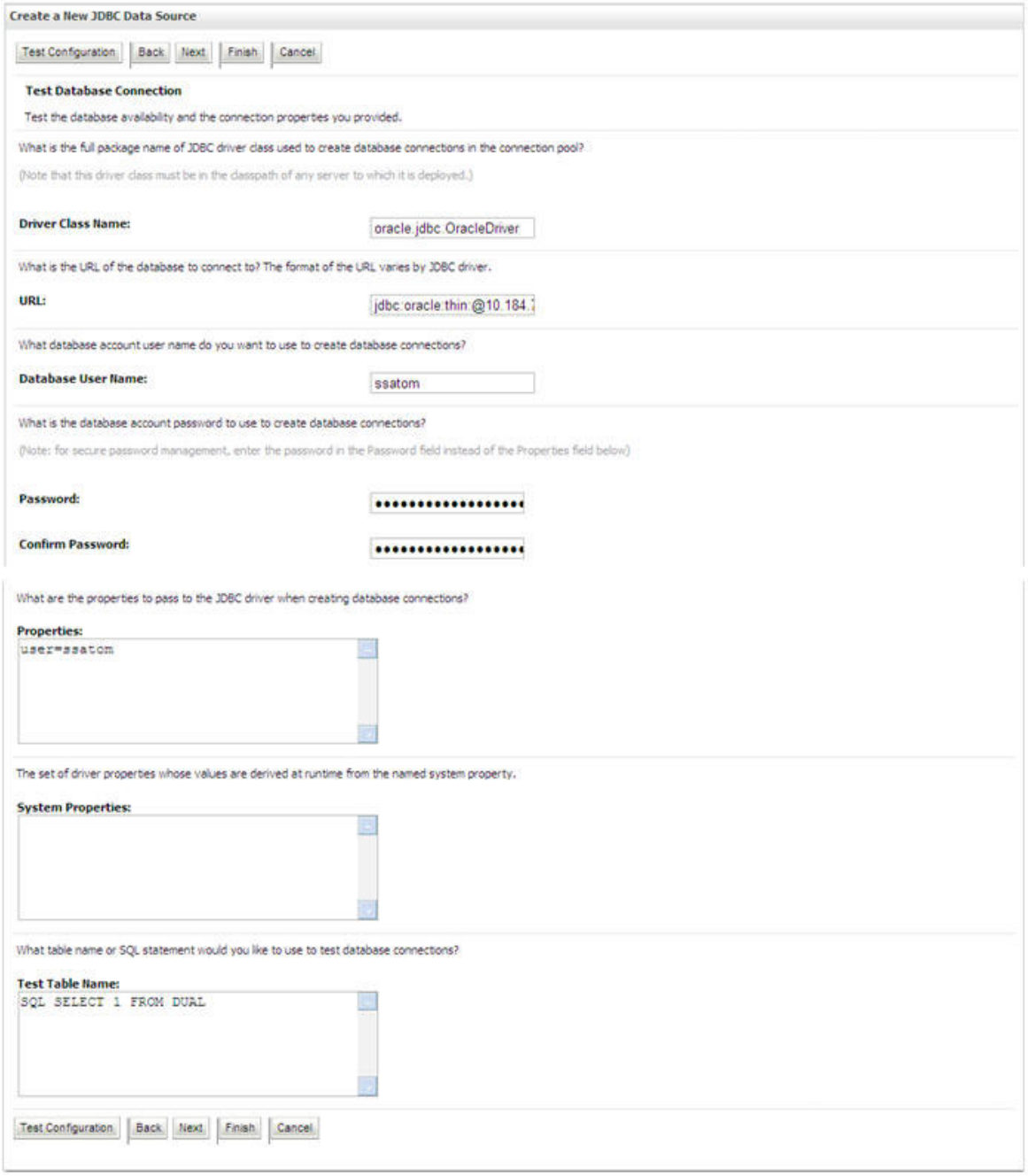
7. Select the **Supports Global Transactions** checkbox and the **One-Phase Commit** option.
8. Click **Next**. The Connection Properties window is displayed.

Figure B–13 Connection Properties



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

Figure B–14 Test Database Connection



11. Verify the details and click **Test Configuration** and test the configuration settings.

    A confirmation message is displayed stating "Connection test succeeded."

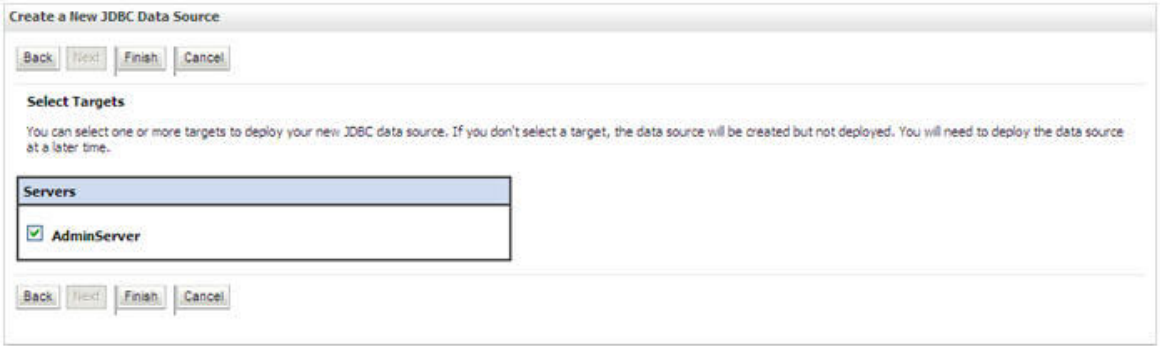
12. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

Note:

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

13. Select the new Data Source and click the Targets tab.

Figure B–15 Select Targets

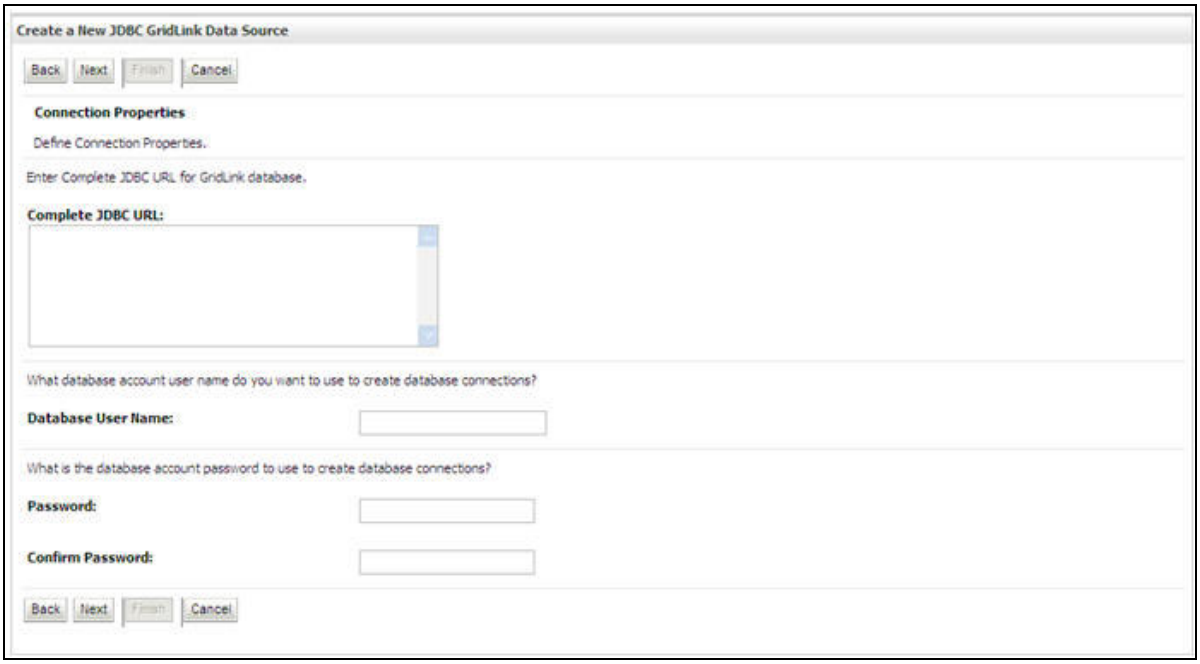


14. Select the **AdminServer** option and click **Finish**.

Creating GridLink Data Source

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

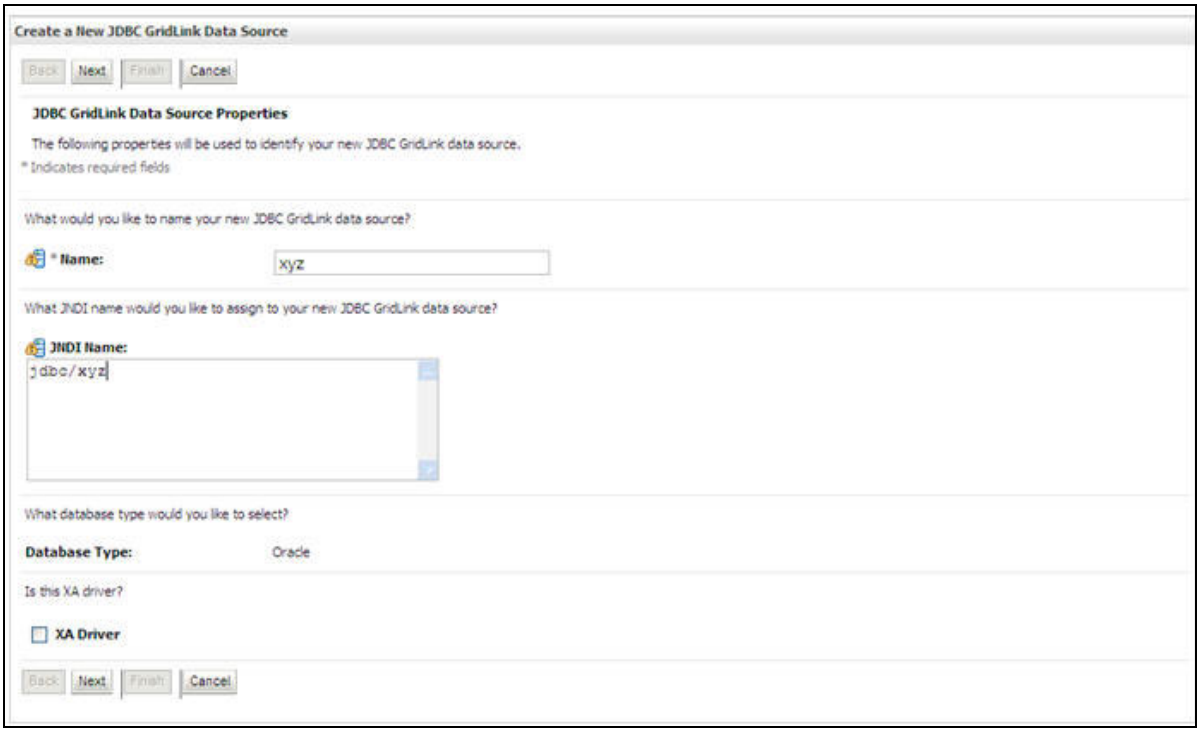
Figure 7–18 Create a New JDBC GridLinkData Source



1. Enter Data Source **Name**, and **JNDI Name**.

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

Figure 7–19 JDBC GridLinkData Source- Connection Properties



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

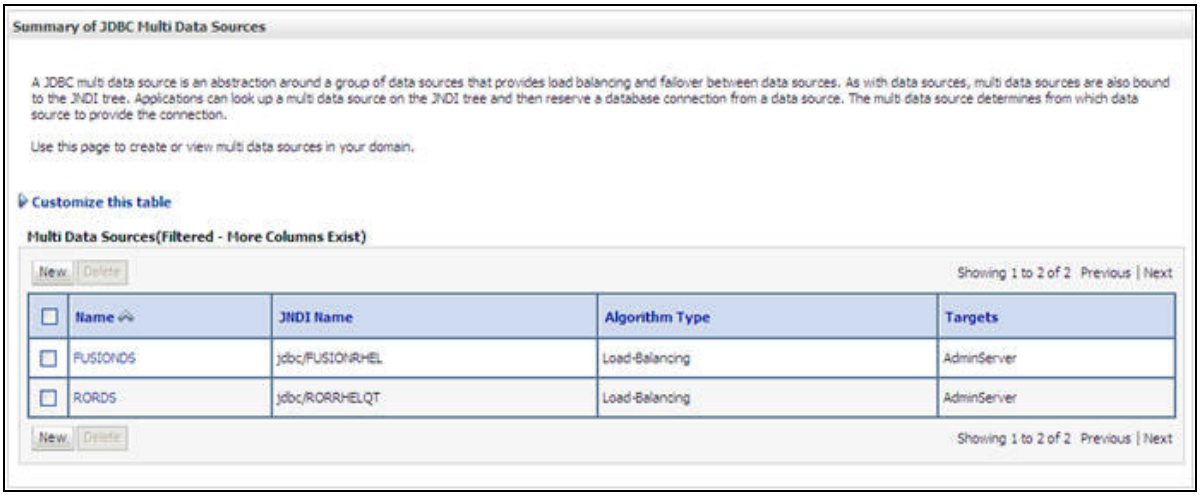
Configuring Multi Data Sources

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.

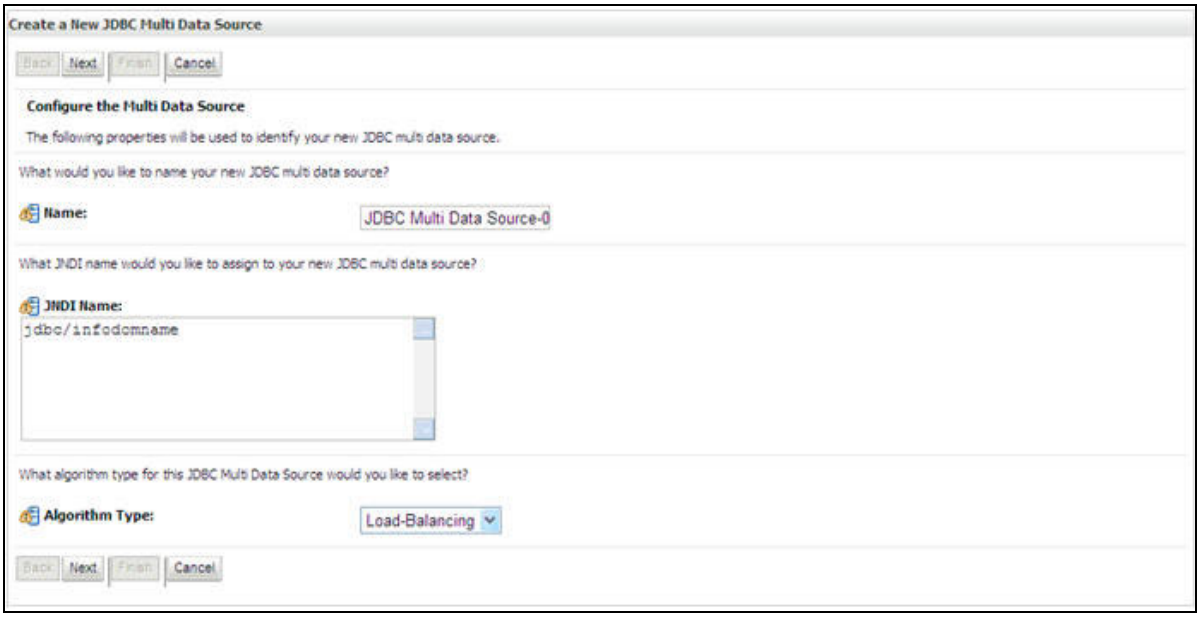
Figure 7–20 Summary of JDBC Multi Data Sources



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

Note: Ensure that the Data Sources which needs to be added to new JDBC Multi Data Source has been created.

Figure 7–21 Configure the Multi Data Source

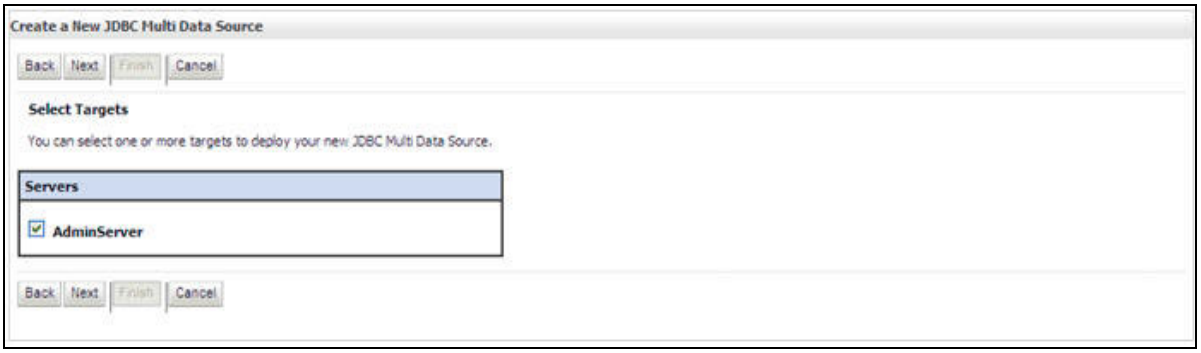


5. Enter the JDBC Source **Name**, **JNDI name**, and select the **Algorithm Type** from the drop-down list. Click **Next**.

Note:

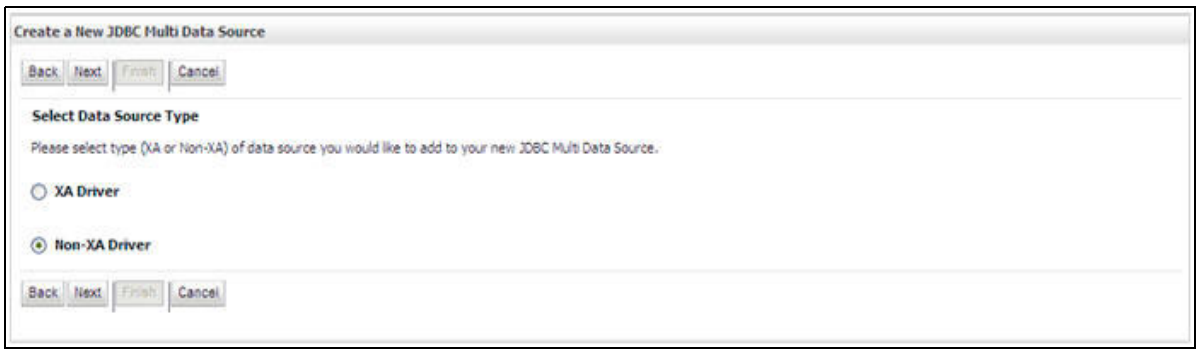
- The JNDI Name has to be specified in the format `jdbc/infodomname`.
- JNDI Name of the Data Sources that will be added to new JDBC Multi data source should be different from the JNDI name specified during Multi Data Source.
- Same steps needs to be followed to create a mandatory data source pointing 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 7–22 Select Targets



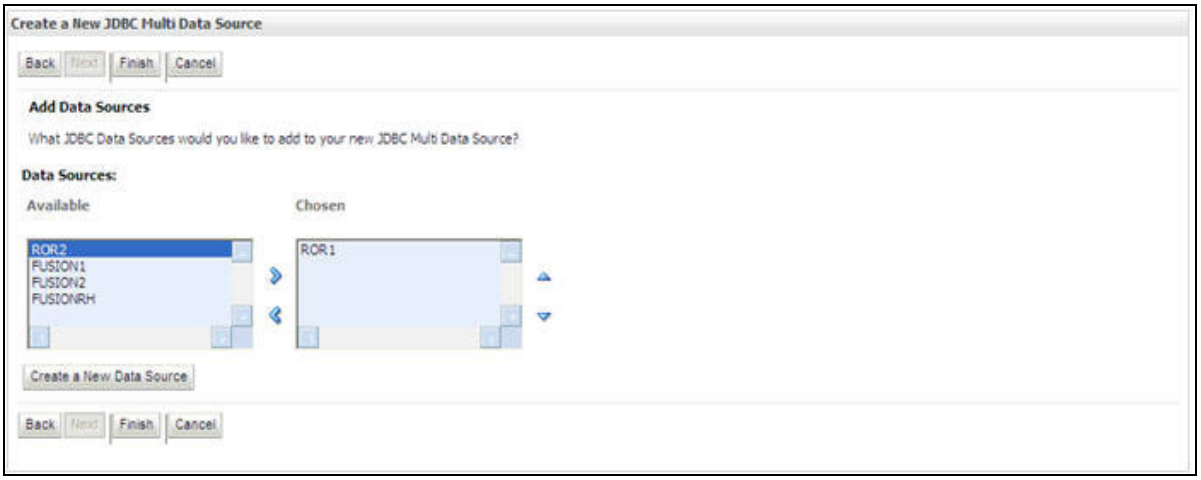
6. Select the **AdminServer** check box and click **Next**.

Figure 7–23 Select Data Source Type



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

Figure 7–24 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.

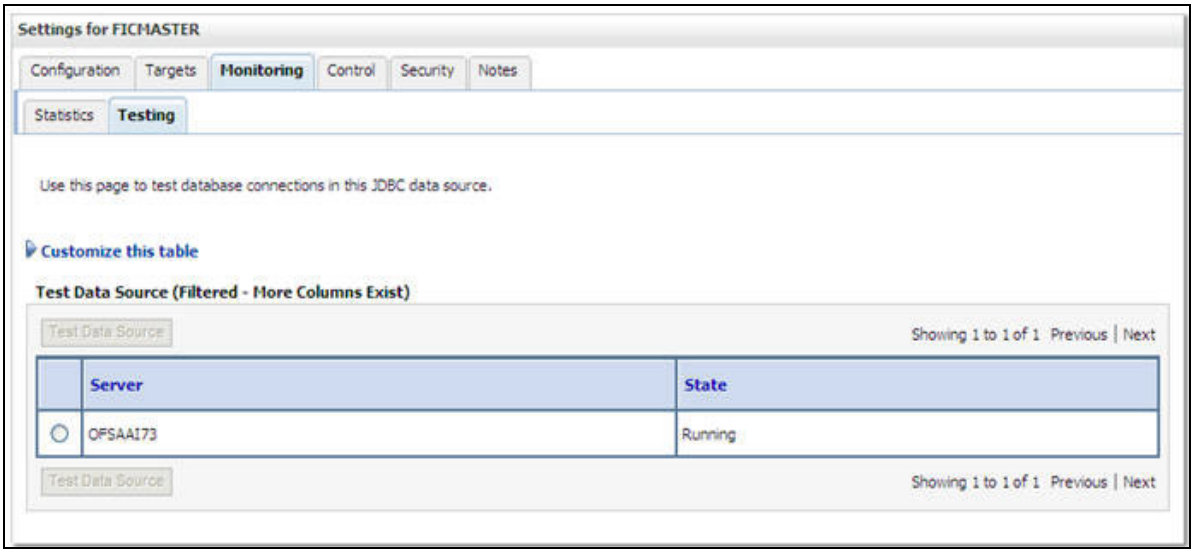
Configuring Advanced Settings for Data Source

Perform the following steps for advanced settings for Data Source:

1. Click the new Data Source from 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).

   To verify if the data source is valid, select "Data Source name". For example, FICMASTER.

Figure 7–25 Settings for <Data Source Name>



4. Select the server and click **Test Data Source**.

   A message is displayed indicating that the test was successful.

5. 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.

Defining 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. 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**.

Configuring Resource Reference in Tomcat Application Server

This section is applicable only when the Web application server type is Tomcat.

This section covers the following topics:

- Creating Data Source
- Defining JDBC Connection Pooling
- Configuring Class Loader 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: See Appendix N for identifying the correct `ojdbc<version>.jar` version to be copied.

Creating 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>"

    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>"

    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.

Defining 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: See Appendix N 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:

Note:

- $APP_DEPLOYED_PATH$ 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.

Configuring Class Loader 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. This is applicable only when the web application server is Apache Tomcat 8.

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

C

Creating and Deploying EAR/ WAR File

This section covers the following topics:

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

Creating EAR/WAR File

To create EAR/WAR File, follow these steps:

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

Figure C–1 Creating EAR/ WAR File

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

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

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

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

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

Note: The <contextname> is the name given during installation. This process overwrites any existing version of EAR file that exists in the path.

In case of OFSAA configured on Tomcat installation, <contextname>.war is created.

Deploying EAR/WAR File

Note: Remove the existing Admin Tools deployment (which is integrated with OFS BD pack).

This section covers the following topics:

- Deploying EAR/WAR Files on WebSphere
- Deploying EAR/WAR files for WebLogic
- Deploying Tomcat WAR Files on Tomcat

Note: Ensure to clear the application cache prior to the deployment of Applications Pack Web Archive. This is applicable to all Web servers (WebSphere, WebLogic, and Tomcat). For more information, see Clearing Application Cache section.

Deploying EAR/WAR Files on WebSphere

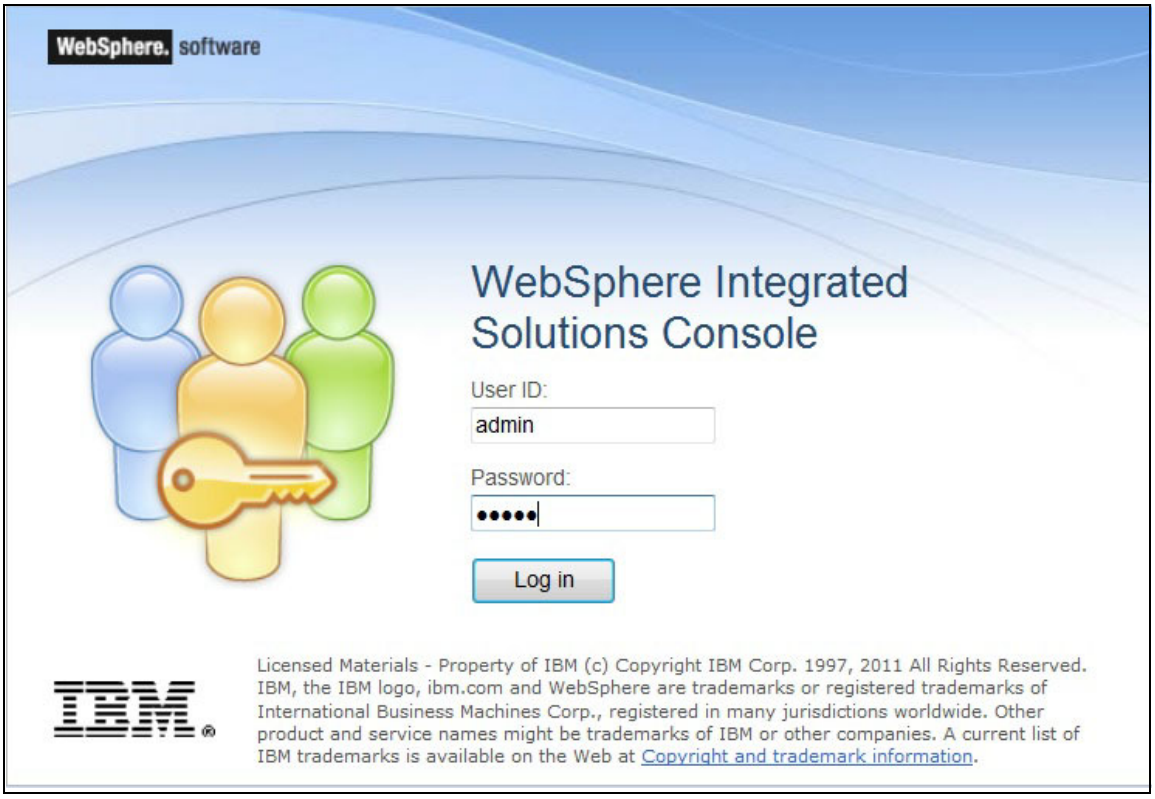
To deploy Infrastructure application in WebSphere:

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
   ```

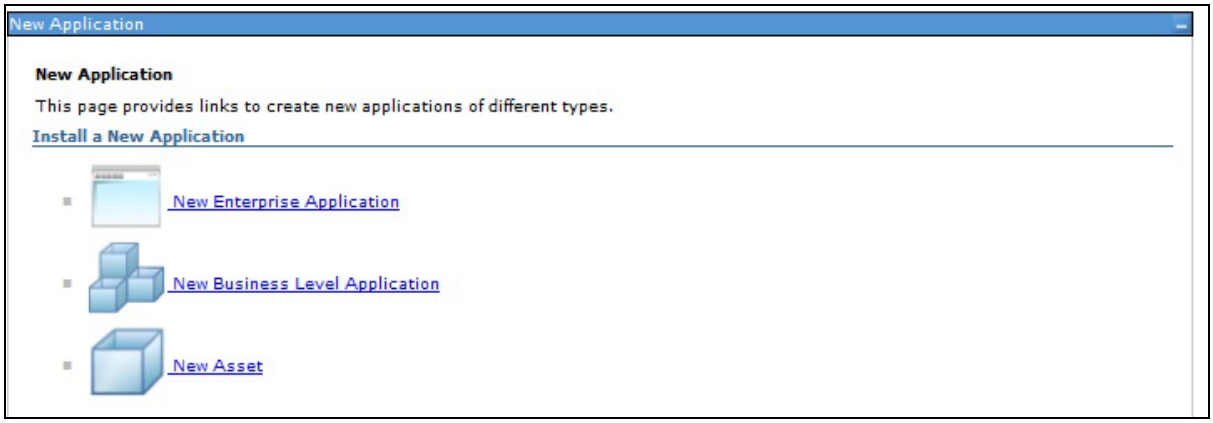
2. Open the following URL in the browser: `http://<ipaddress>:<Administrative Console Port>/ibm/console`. (https if SSL is enabled). The login screen is displayed.

Figure C–2 Login Window



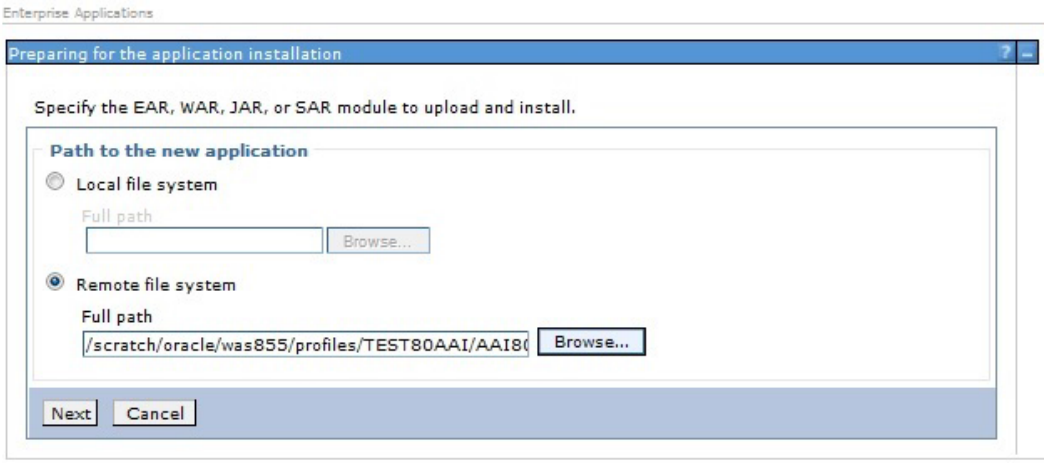
3. Enter the user credentials which has administrator rights and click **Log In**.
4. From the LHS menu, select **Applications** and click **New Application**. The New Application window is displayed.

Figure C–3 New Application



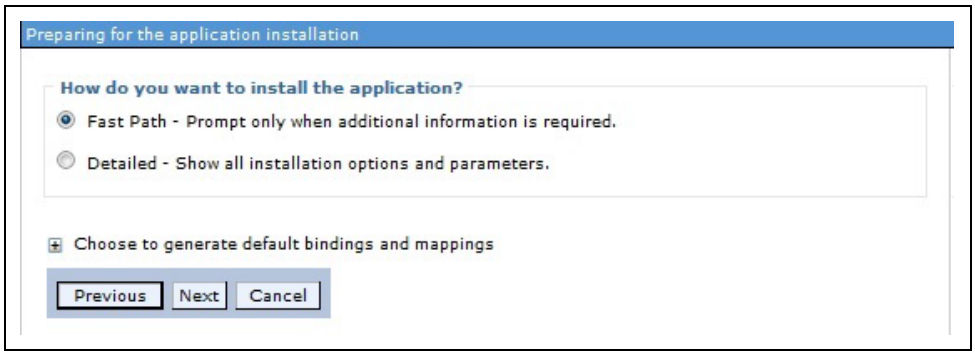
5. Click **New Enterprise Application**. The Preparing for the application installation window is displayed.

Figure C–4 Preparing for the application installation



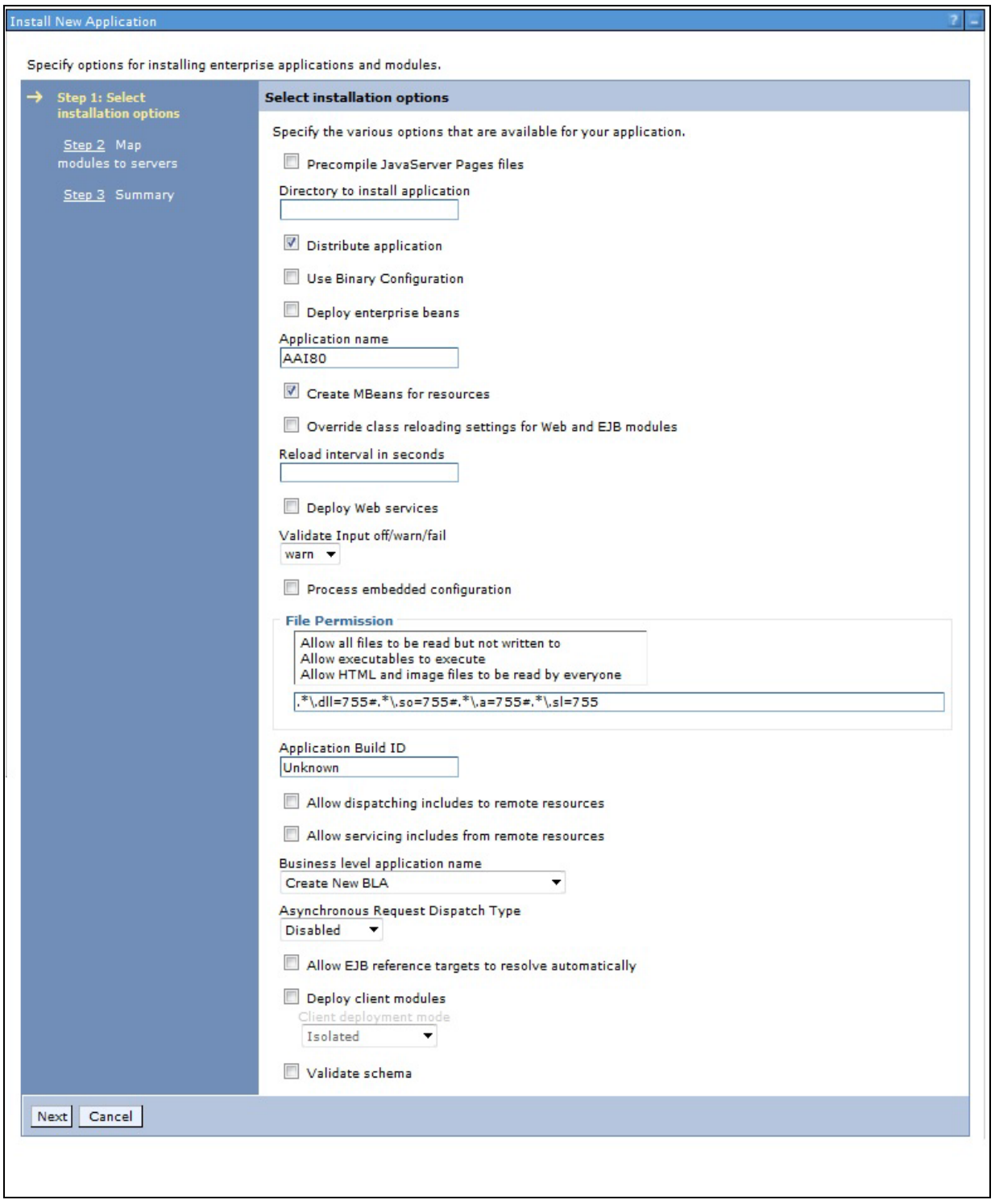
6. Select **Remote File System** and click **Browse**. Select the EAR file generated for OFSAAI to upload and install. Click **Next**.

Figure C–5 Installation Options



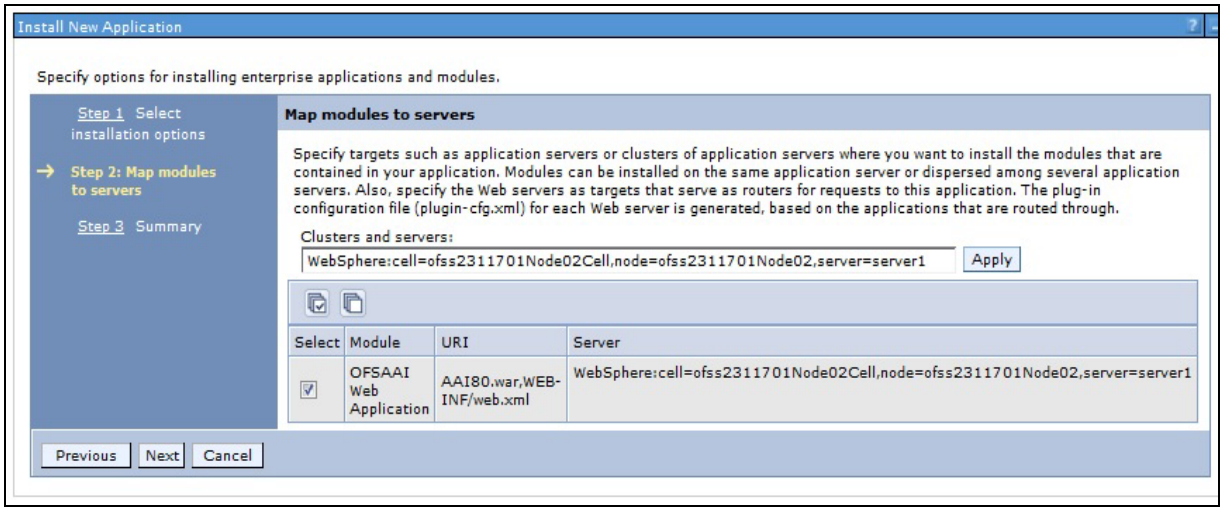
7. Select the **Fast Path** option and click **Next**. The Install New Application window is displayed.

Figure C–6 Install New Application



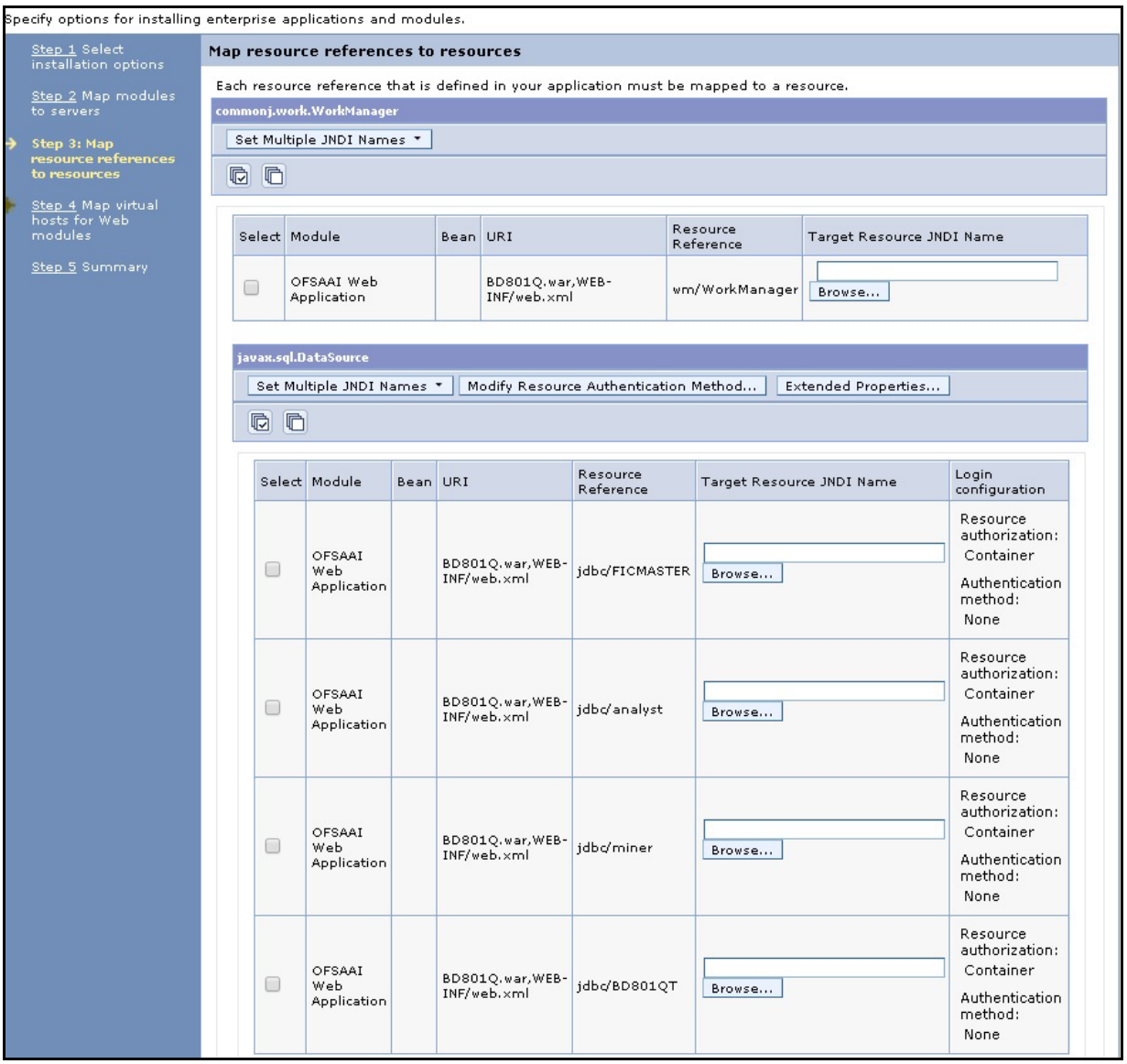
8. Enter the required information and click **Next**. The Map Modules to Servers window is displayed.

Figure C–7 Map Modules to Servers



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

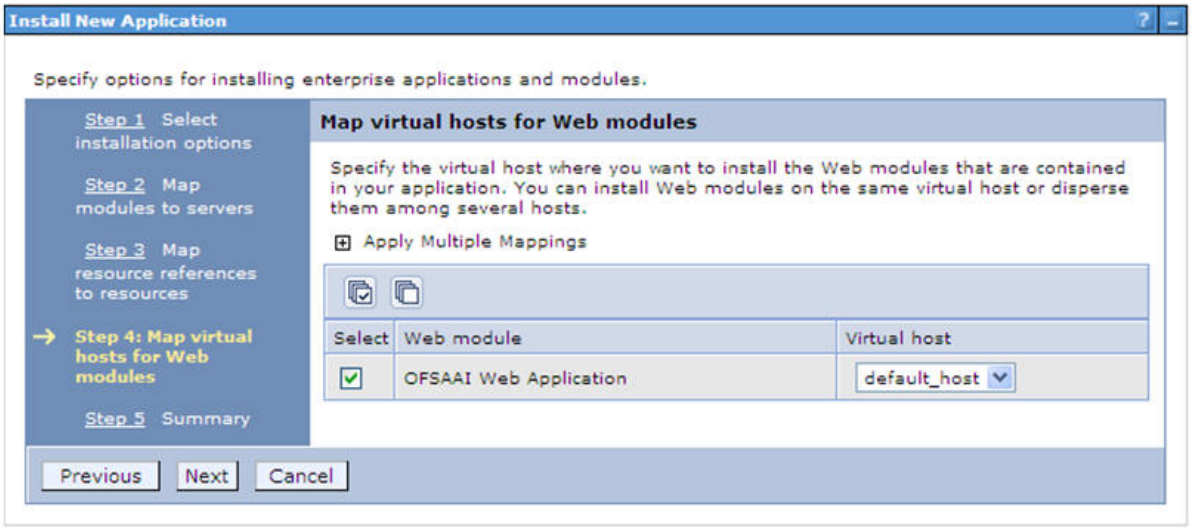
Figure C–8 Map Resource References to Resources



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.

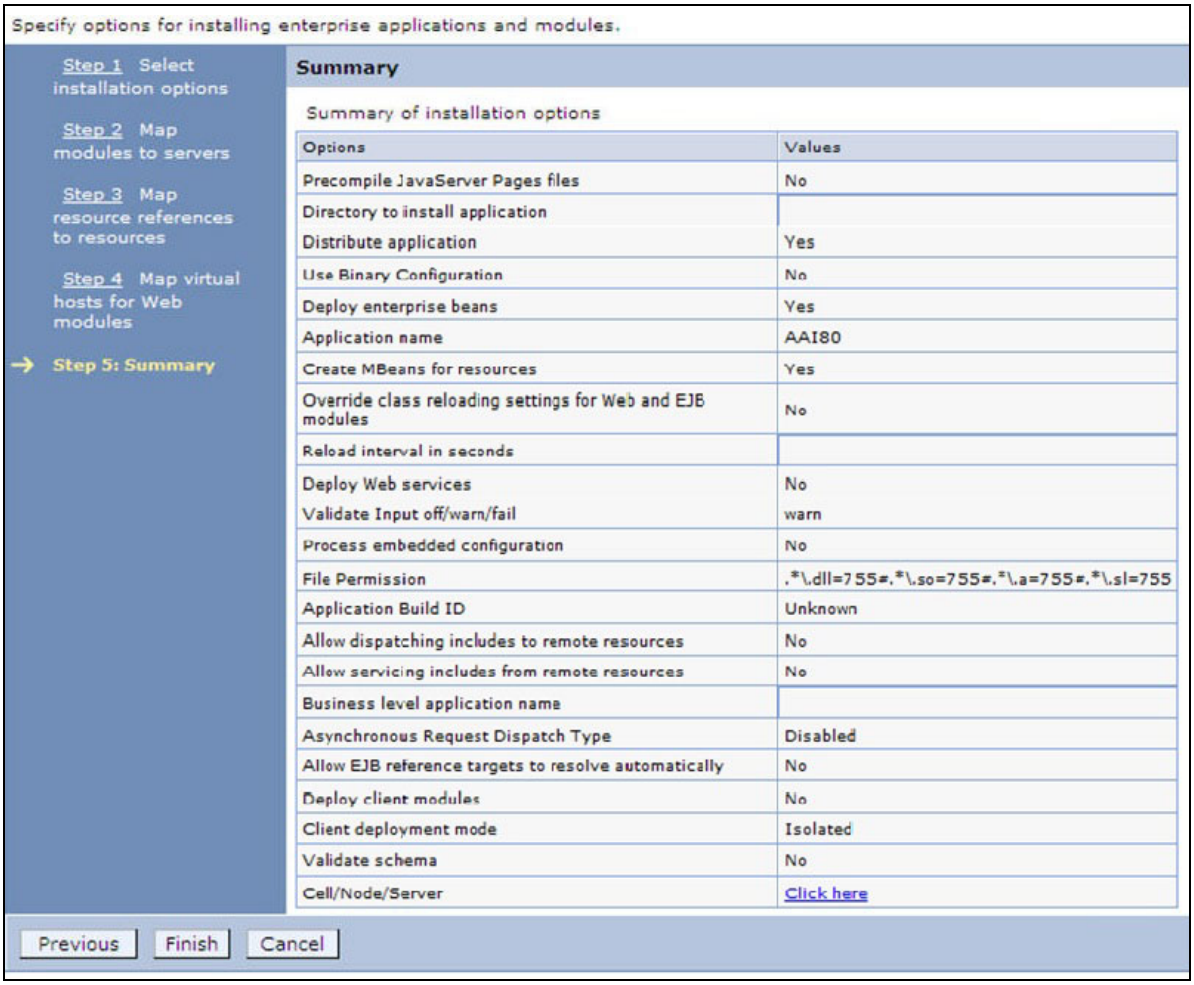
    You can specify "config" for FICMASTER resource or "atomic" for atomic resource as the authentication method.
12. Select the **OFSAAI Web Application** check box and click **Next**. The Map Virtual hosts for Web Modules window is displayed.

Figure C–9 Map Virtual host for Web Modules



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

Figure C–10 Summary



14. Click **Finish** and deploy the Infrastructure Application on WebSphere.

    On successful installation, a message is displayed.

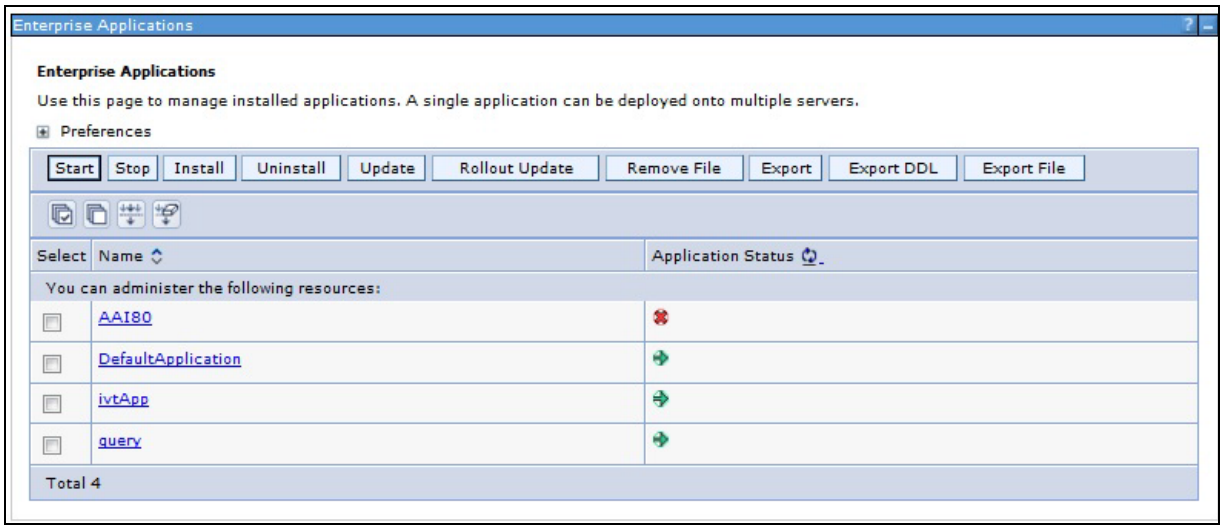
15. Click **Save** and save the master file configuration. The details are displayed in the Master File Configuration window.

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 C–11 Enterprise Application



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 files for 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:

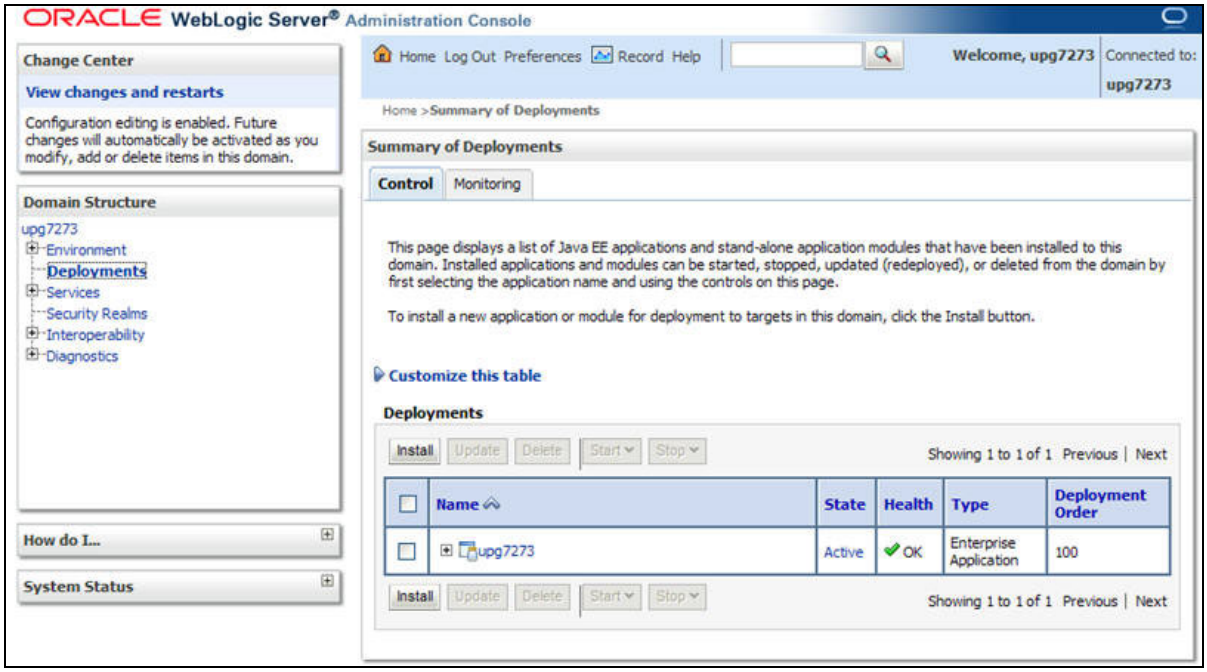
   ./startWebLogic.sh -d64 file

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 *Starting Infrastructure Services* section.

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

Figure C–12 Summary of Deployments



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

Explode EAR File

To explode EAR, follow these steps:

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

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

5. Delete the <context>.ear and < context >.war files (recently created) <WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear.
6. Create a directory <context_name>.war under <WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear.
7. Copy <$FIC_WEB_HOME/<context_name>.war file to <WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear/<context_name>.war.
8. Explode the <context_name>.war file by executing the following command to get the directory structure:

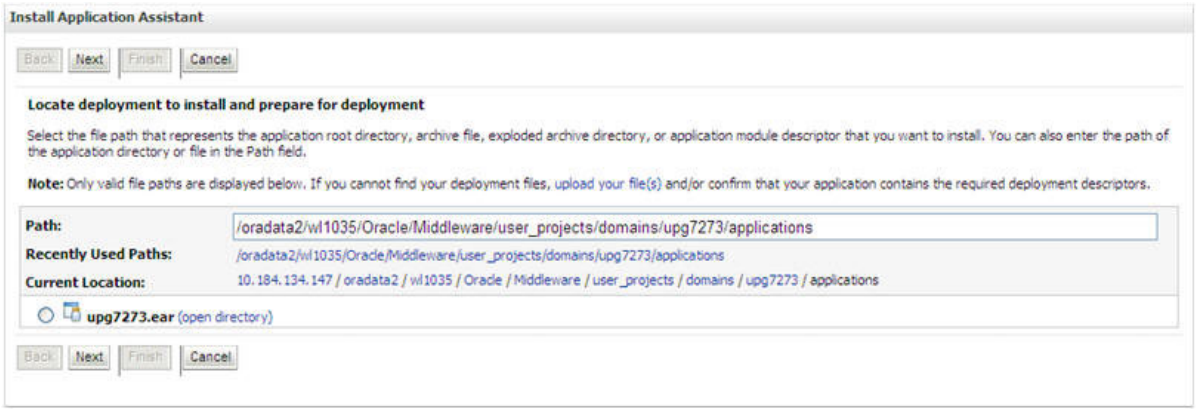
   ```
   jar -xvf <context_name>.war
   ```

Install Application

To install Application, follow these steps:

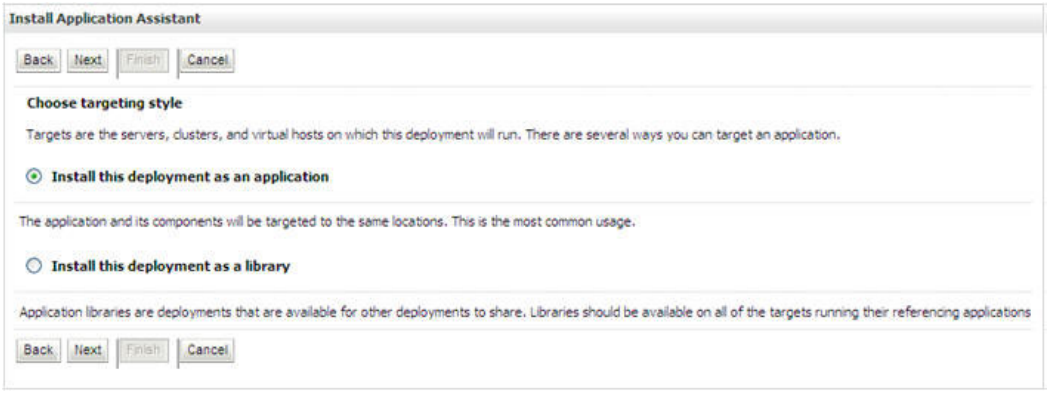
1. Open the Install Application Assistant.

Figure C–13 Install Application Assistant



2. Click **Next**.

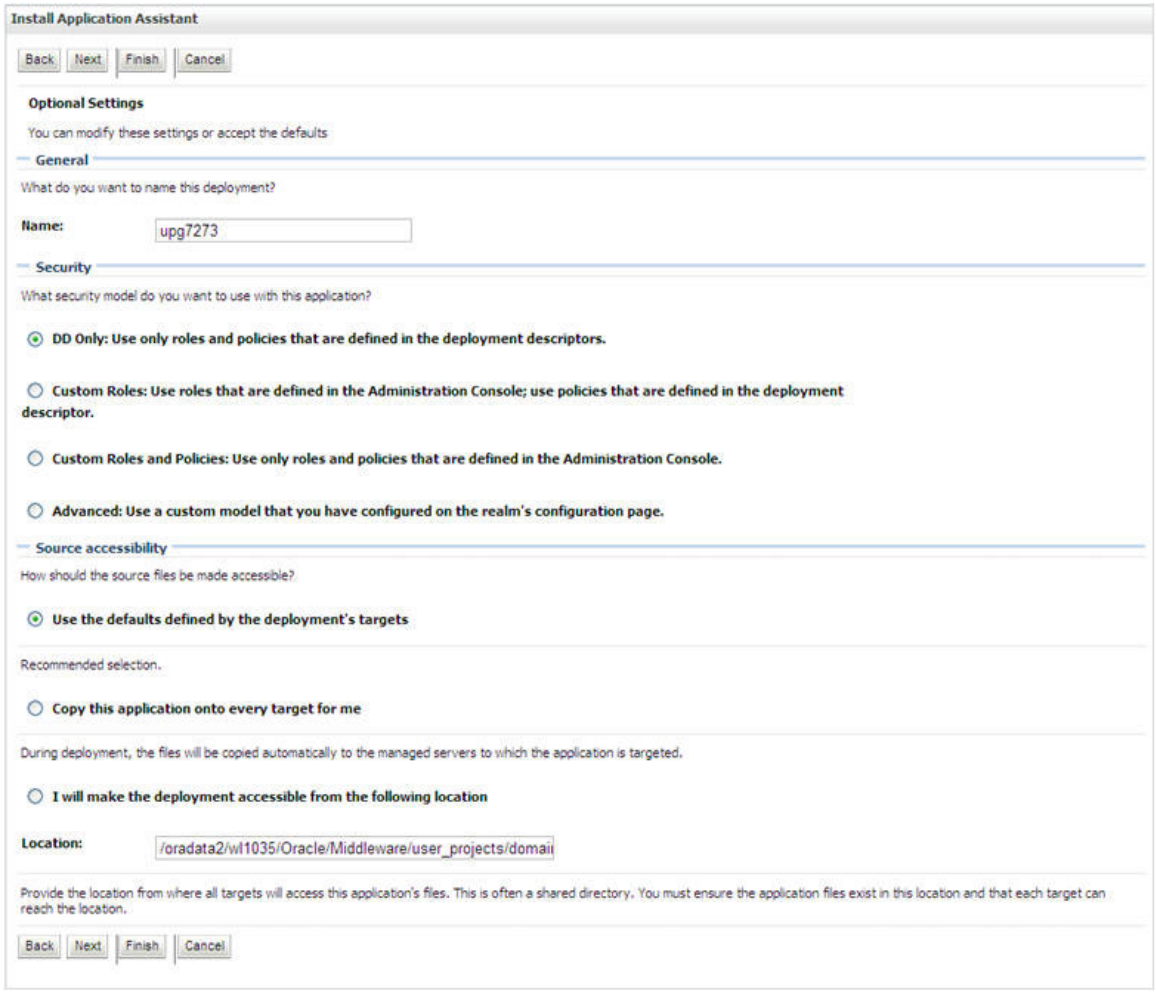
Figure C–14 Install Application Assistant



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.

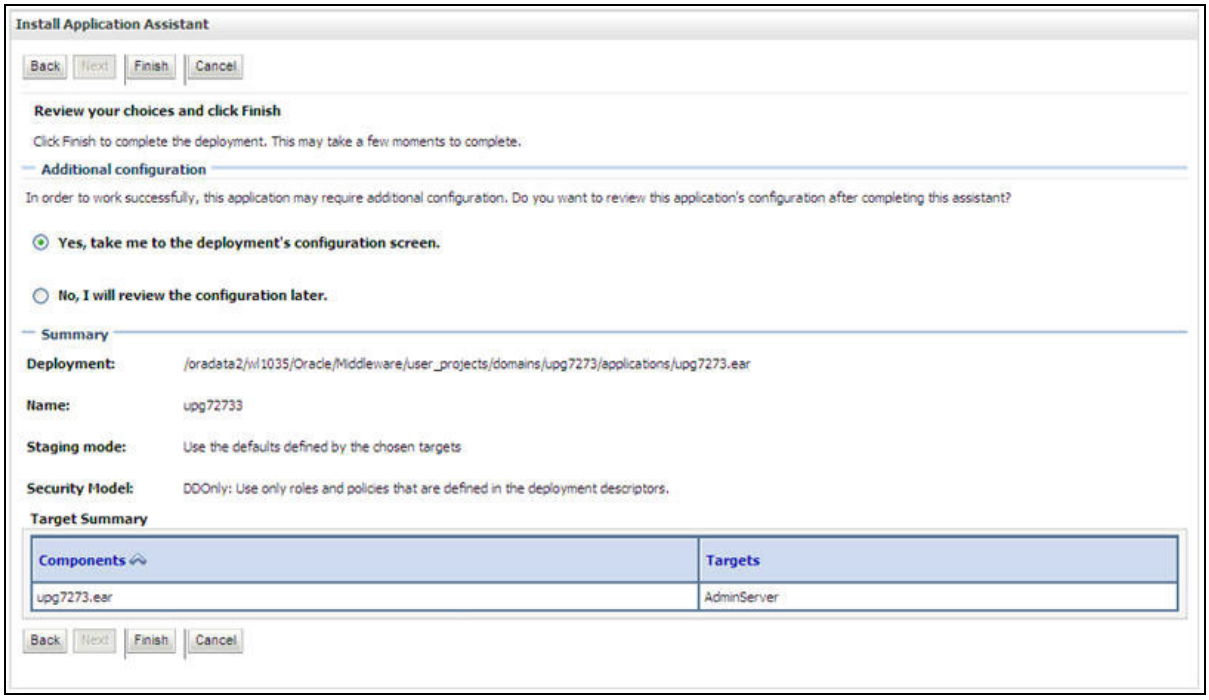
Figure C–15 Optional Settings



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.

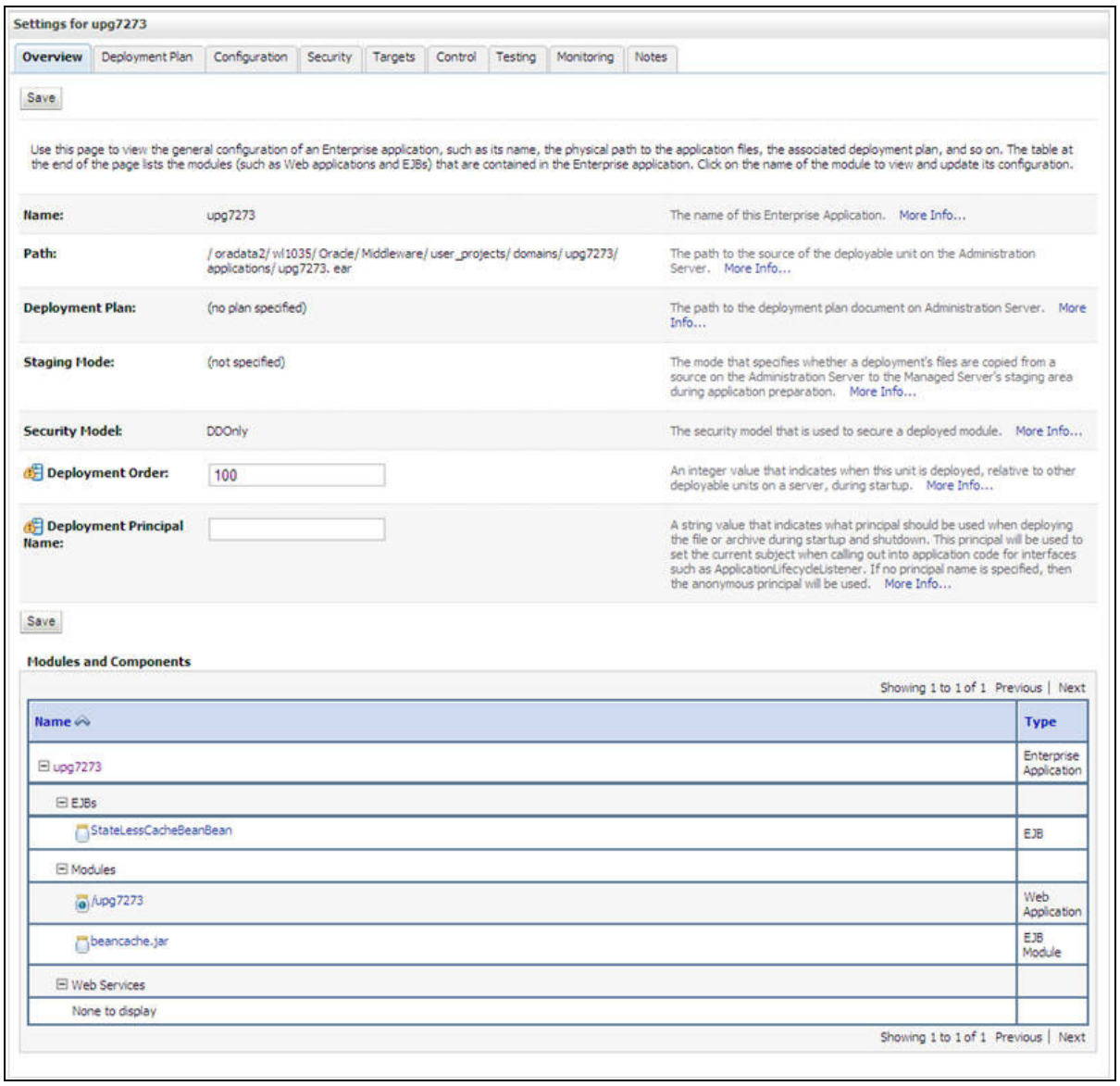
Figure C–16 Deployment Summary



8. Select the **Yes, take me to the deployment's configuration screen** option and click **Finish**.

   The Settings for <Deployment Name> window is displayed.

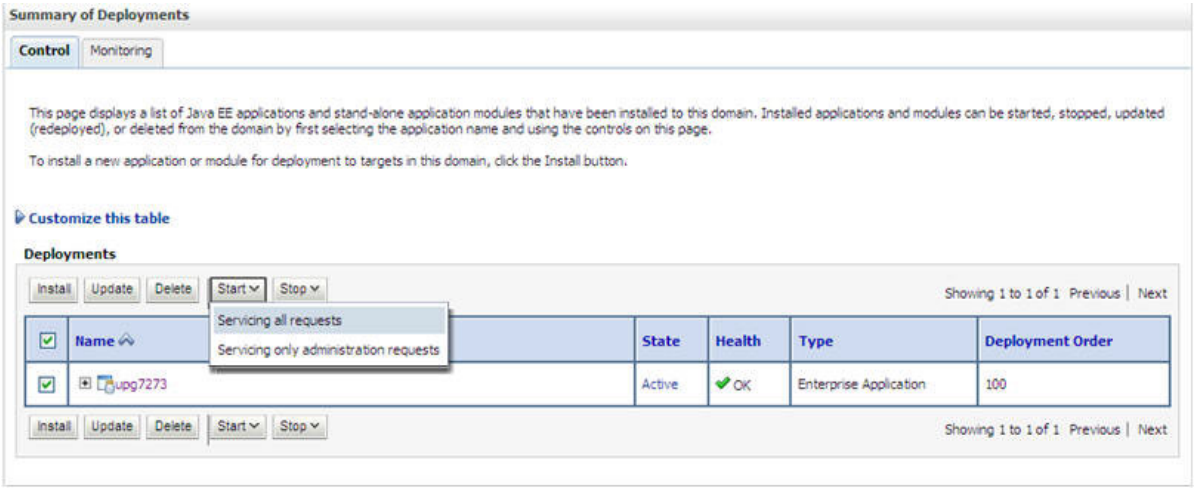
Figure C–17 Settings for <Deployment Name>



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**.

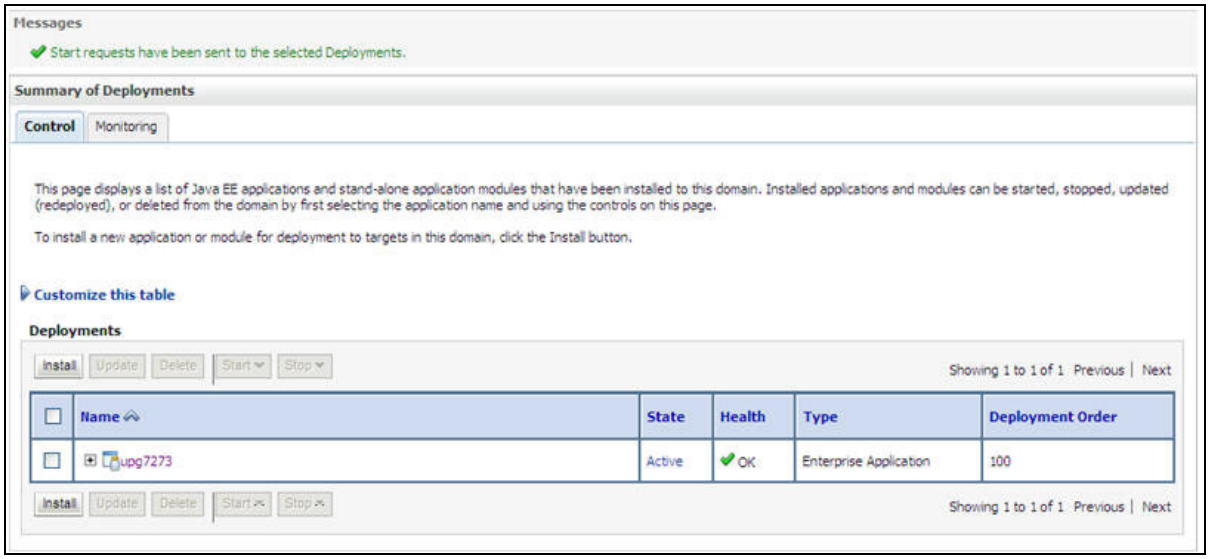
    The Summary of Deployments window is displayed.

Figure C–18 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 C–19 Summary of Deployments



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

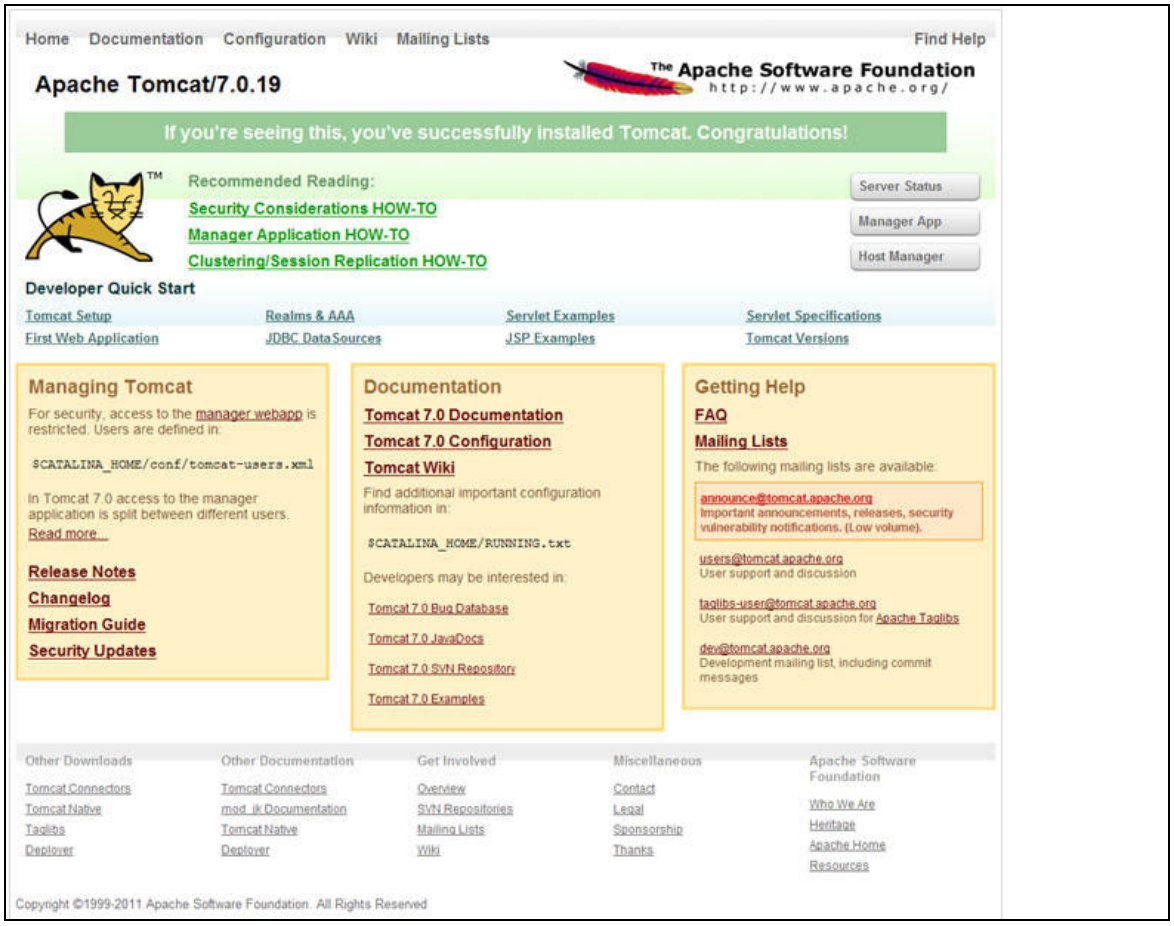
Deploying Tomcat WAR Files on Tomcat

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 these steps to deploy Infrastructure application:

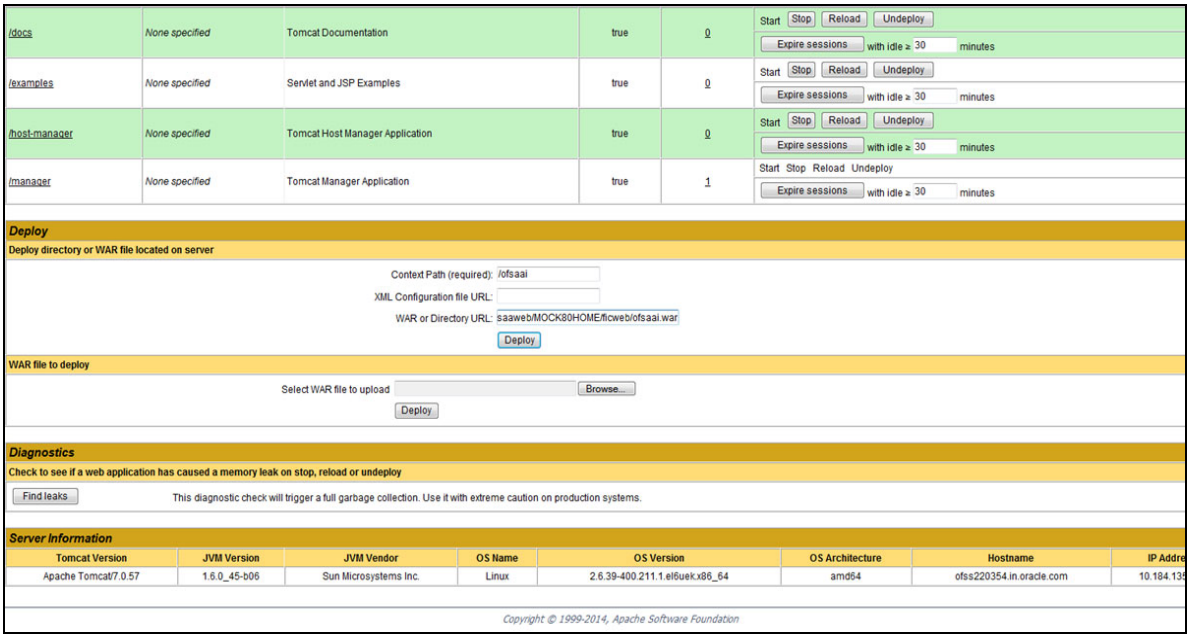
1. Copy the `<context-name>.war` from `$FIC_WEB_HOME/<context-name.war>` to `<Tomcat Installation Directory>/webapps/` directory.

Figure C–20 Tomcat Home Page



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

Figure C–21 Tomcat Web Application Manager



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

   Start the Tomcat server. See Starting Infrastructure Services for more details.

D

Starting / Stopping Infrastructure Services

This section details about how to start and stop Infrastructure services. This appendix covers the following topics:

- Starting Infrastructure Services
- Stopping Infrastructure Services
- Cleaning up the environment

Starting Infrastructure Services

Once the installation of Infrastructure is 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 following servers mentioned 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.

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 D–1 Webserver start up options

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
```

Cleaning up the environment

To clean up the enviornment, follow these steps:

1. Navigate to `$FIC_HOME`
2. Execute `./Uninstall.sh`.
3. When prompted, enter OFSAAI configuration schema password.
4. This will delete `$FIC_HOME` and drop all the objects from configuration schema
5. Navigate to ftpshare folder.
6. Delete the infodom folders `$ rm -rf <INFODOM>`.
7. Drop configuration and atomic schemas from the database

E

Accessing OFSAA Application

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

Access the OFSAA Application

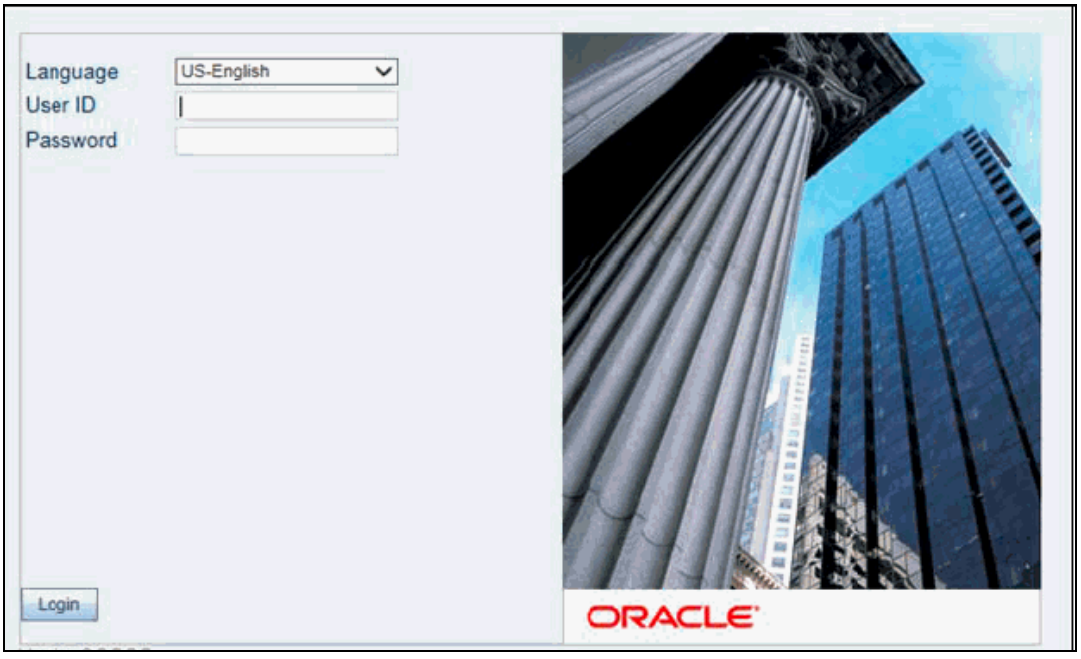
1. From your desktop, open the browser and enter the URL in the following format:

   <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.

Figure E–1 OFSAA Login Window



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

   "SYSADMN - System Administrator

   "SYSAUTH - System Authorizer

Note: For SYSADMN and SYSAUTH, the default password is password0.

1. 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.

F

Cloning OFSAA Instance

There is a consistent need for a faster and effective approach of replicating an existing OFSAA instance for further project developments, that is, setting up OFSAA instances that are exact copies of the current OFSAA instance. For more information on cloning, see OFSAA Cloning Reference Guide.

G

OFSAA Landing Page

This section includes the following topics:

OFSAA Landing Page

On successful authentication, the OFSAA 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
- Sandbox Tab
- Object Administration Tab
- System Configuration and Identity Management Tab

Applications Tab

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

The "<Select Application>" dropdown 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>" dropdown 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>" dropdown 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 and 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 dropdown list in this tab.

Note: NOTE: See the AAI User Guide for more details on how to operate on each tab.

Enabling a Product within an Applications Pack

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

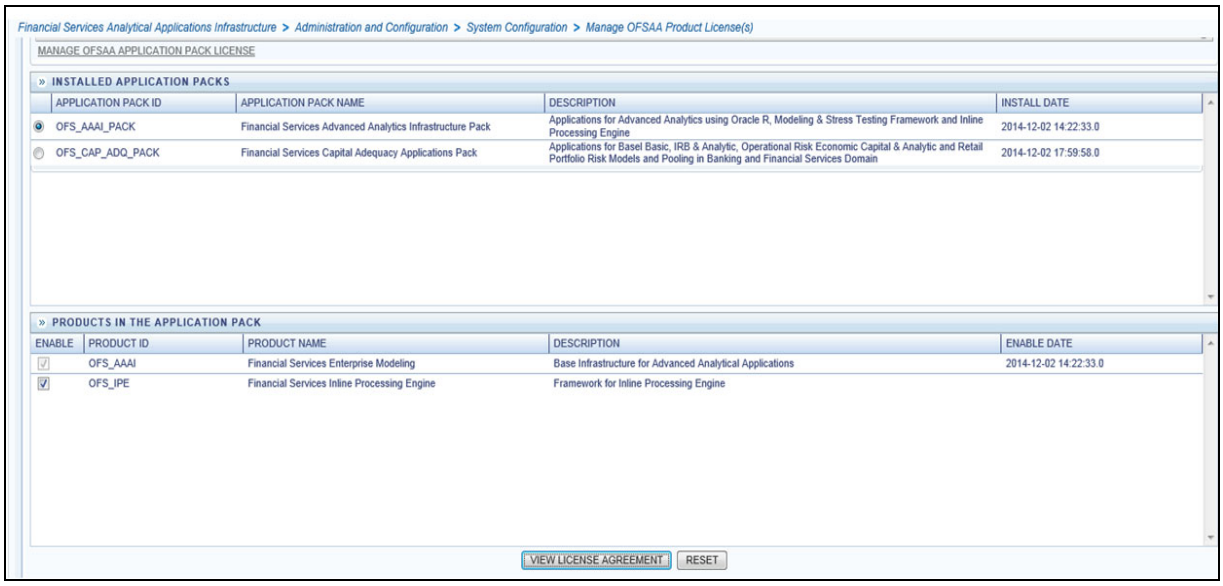
To enable a product through the application UI, follow these steps:

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.

   This page includes the following sections:

   - INSTALLED Applications PackS
   - PRODUCTS IN THE Applications Pack

Figure G–1 Manage OFSAA Product License(s) Page



5. The following fields are displayed in the INSTALLED Applications PackS section:

Table G–1 Installed Applications Pack - Field Description

Field	Description
Applications Pack ID	Displays a unique Applications Pack ID related to the Applications Pack. Select the appropriate Pack id using the radio button. The Products in the Applications Pack will be displayed below in the PRODUCTS IN THE Applications PackS section.
Applications Pack Name	Displays the name of the Applications Pack.
Description	Displays the description of the Applications Pack.
Install Date	Displays the date when the Applications Pack was installed.

6. The following fields are displayed in the PRODUCTS IN THE Applications Pack section:

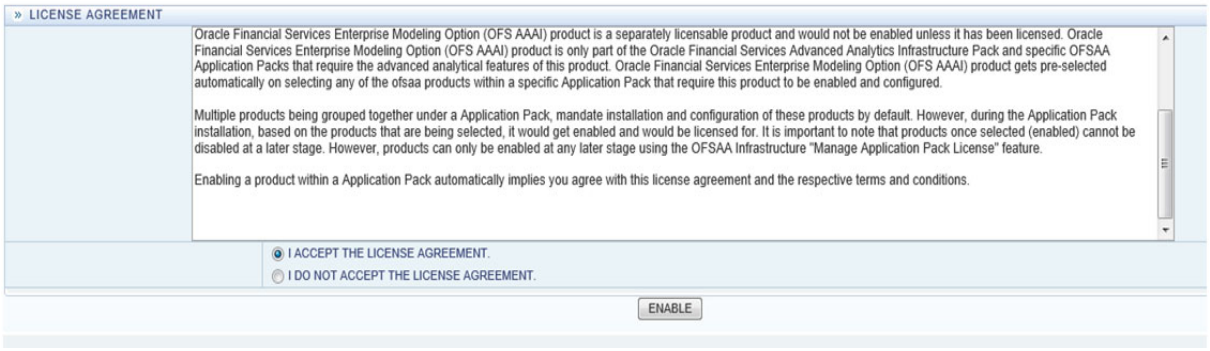
Table G–2 products in the Applications Pack - Field Description

Field	Description
Enable	Select the checkbox to enable a product within an Applications 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 Applications Pack by clicking the radio button next to the Applications Pack ID field.
8. Selecting an Applications Pack will display below the products within the Applications 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 Applications 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 G–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 see Mapping/Unmapping Users section in the *Oracle Financial Services Analytical Applications Infrastructure User Guide*.
- To identify the newly enabled product specific UserGroups/ Applications Pack specific User_Groups, see the respective Applications Pack specific Installation and Configuration Guide/ User Manual.

H

Additional Configuration

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

Additional Configuration

This section covers the following topics:

- Adding FTP/SFTP Configuration for File Transfer
- Configuring Infrastructure Server Memory
- Configuring Internet Explorer Settings
- Setting OLAP Data Server Configuration
- Changing IP/ Hostname, Ports, Deployed Paths of the OFSAA Instance
- Executing OFSAAI Setup Information Fetching Tool
- Executing Encryption Changer
- Setting Infrastructure LDAP Configuration
- Configuring OFSAAI Web Services
- Deploying OFSAAI Web Services
- Configure Message Details in Forms Designer
- Clearing Application Cache
- Configuring Password Changes
- Configuring Internal Service (Document Upload/ Download)

Adding 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)?

This adds an entry into the "known_hosts" file.

4. A confirmation message is displayed:

   Permanently added <OFSAA Server> RSA) to the list of known hosts.

Configuring 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 128 MB for heap and 64 MB for stack.

Configuring 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"
```

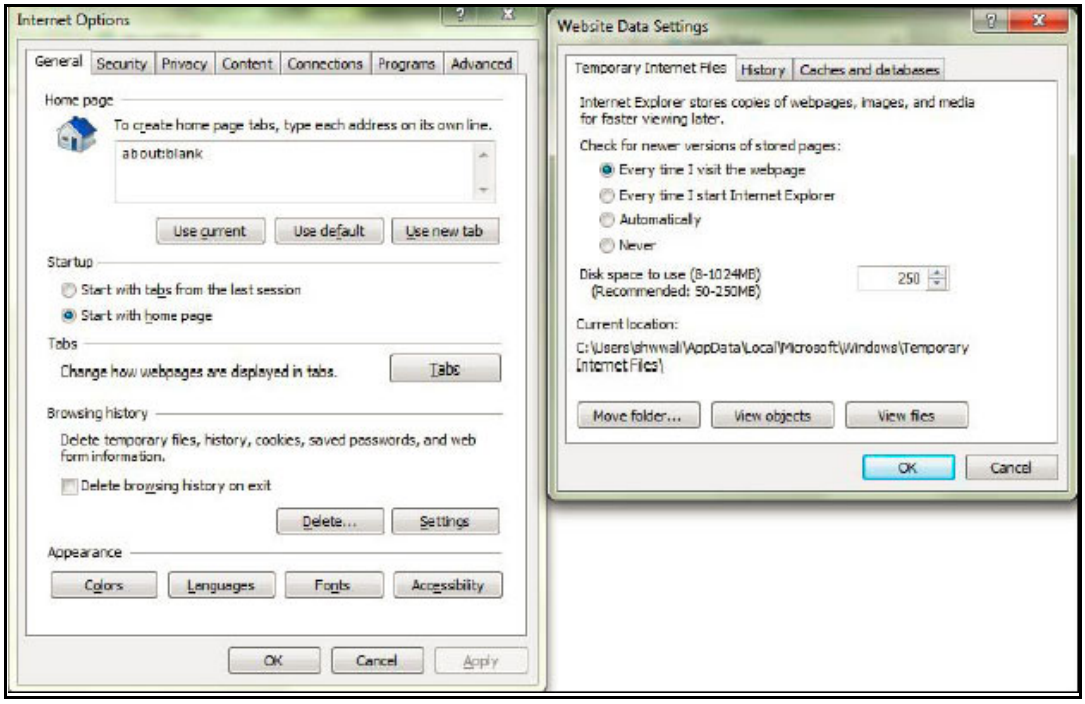
Configuring Internet Explorer Settings

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

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

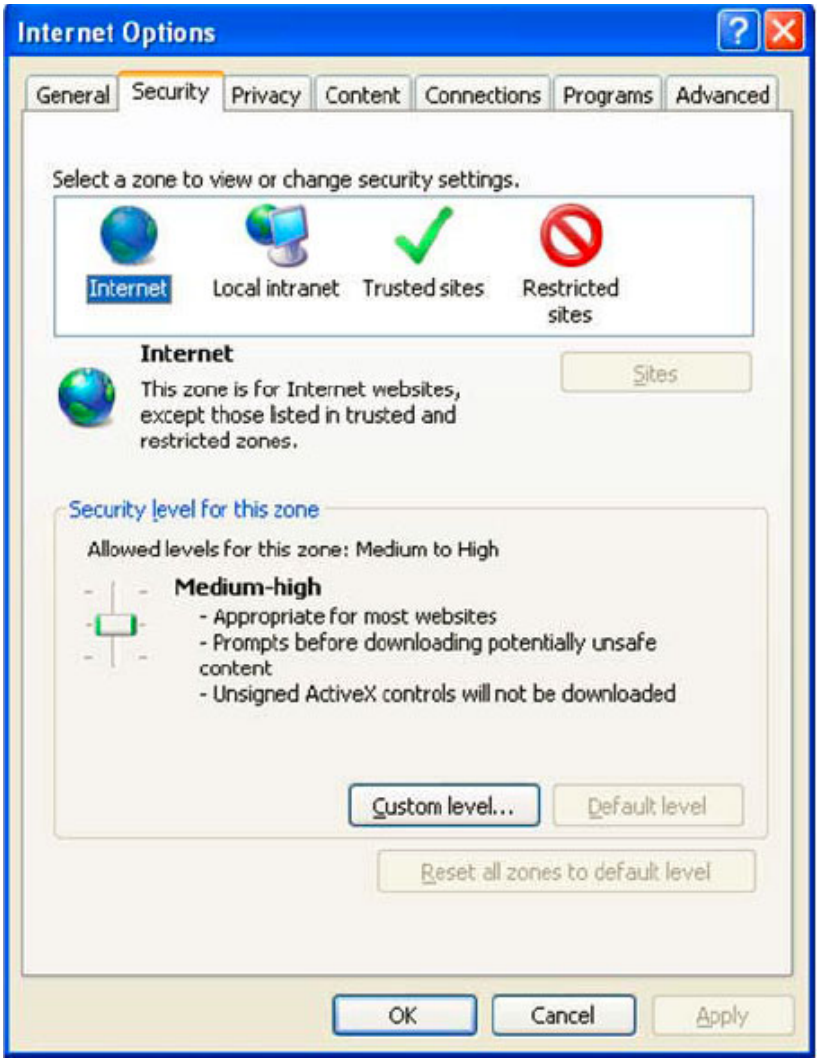
1. Open **Internet Explorer**. Select **Tools** > **Internet Options**. The *Internet Options* window is displayed.
2. Click **Settings**. The *Settings* window is displayed.
3. Select **Every time I Visit the webpage** and click **OK**.

Figure H–1 Internet Options



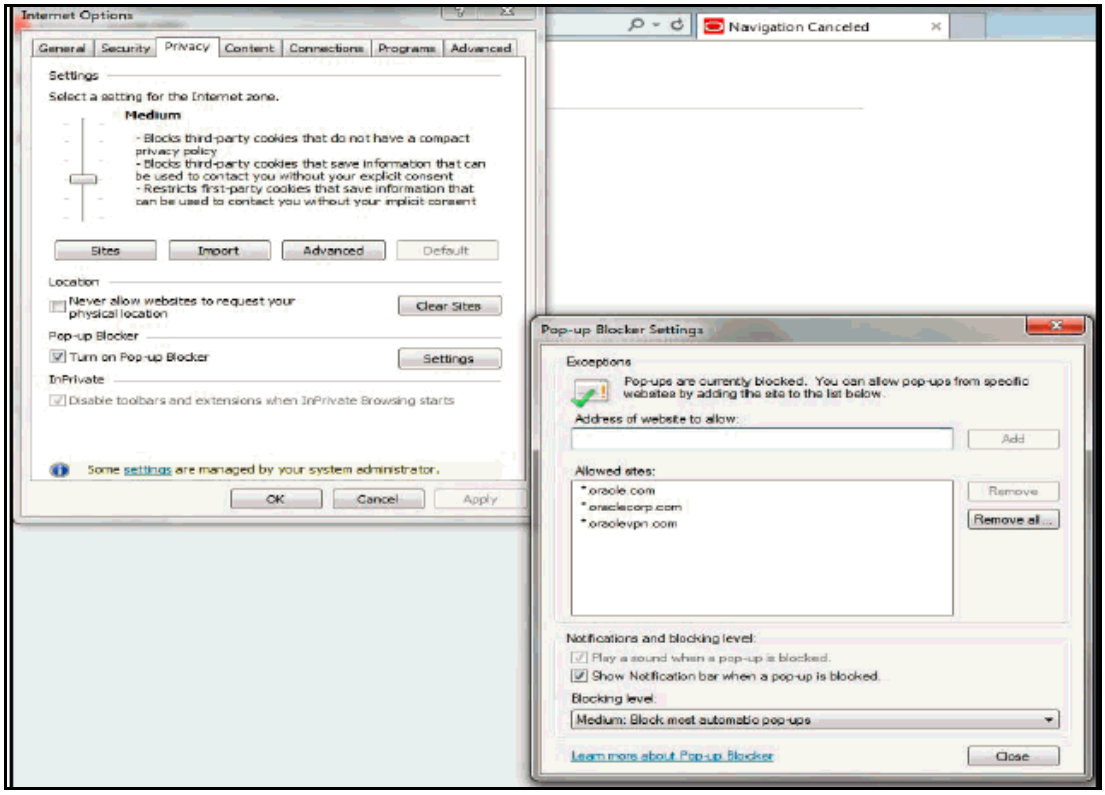
4. In the *Internet Options* window, select the **Security** tab and select the **Internet option** under **Select a zone to view or change the security** settings.
5. Click **Default Level** under **Security level for this zone**.

Figure H–2 Internet Options - Security Tab



6. Click **Apply** 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 H–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.

Retrieving 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.

Setting 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.

For 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.

Changing IP/ Hostname, Ports, Deployed Paths of the OFSAA Instance

For information on this section, see OFS Analytical Applications Infrastructure Administration User Guide in OTN.

Executing 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, follow these steps:

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.

Executing 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, follow these steps:

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.

Setting Infrastructure LDAP Configuration

For more information on LDAP configuration, see OFSAAI Administration Guide.

Configuring 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.

Configuring 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 of WEBSERVICE tag

Table H–1 WEBSERVICE tag Attributes

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.
$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 of OPERATION tag

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

Table H–2 OPERATION tag Attributes

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.

Table H–2 (Cont.) OPERATION tag Attributes

Placeholder	Description
$PACKAGENAME	Represents the JAXB package of input object.

Attributes of INPUT tag

Table H–3 INPUT tag Attributes

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 of OUTPUT tag

Table H–4 OUTPUT tag Attributes

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.

Adding web.xml Entries

This step is optional and required only if the web application server used is Tomcat. In case of any other application server, skip and proceed with next step.

1. Navigate to $FIC_HOME/webroot/WEB-INF/ and edit the web.xml file. Set parameter value DOCSERVICEAPP to EXEWebServiceAXIS.
2. 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:

```
<?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">
```

Configuring 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>
```

Configuring 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>
```

Configuring 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>
```

Configuring DynamicWSConfig.xml File

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.

Deploying 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.

Enabling 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 H–5 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 (that is, WebSphere, WebLogic, and Tomcat).

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

- **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.

Modifying OFSAA Infrastructure Config Schema password

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
   ./stopofsaai.sh
   ```

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

   ```
   ./startofsaai.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.

Modifying OFSAA Infrastructure Atomic Schema password

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 *Data Management Tools* >*Data Sources*> *Source Designer* window. Update the password of the appropriate Source

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.

Configuring 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.

Patching 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 product.

See http://support.oracle.com for more information on latest release.

J

Grants for Atomic/ Config Schema

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

This section discusses the following sections:

- Configuring Grants for Atomic Schema
- Configuring Grants for Config Schema
- Configuring Grants for Config Schema Entities for Atomic Users

Configuring 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`

Configuring 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
/
```

Configuring Grants for Config Schema Entities for Atomic Users

Atomic Schema creation requires certain grants for config schema object access. 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 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
/
```

K

Configuring Applications Pack XML Files

This section explains configuration of `OFS_BD_PACK.xml` and `OFS_BD_SCHEMA_IN.xml` files.

This section includes the following topics:

- Configuring OFS_BD_PACK.xml File
- Configuring OFS_BD_SCHEMA_IN.xml File

Configuring OFS_BD_PACK.xml File

The `OFS_BD_PACK.xml` file holds details on the various OFSAA products that are packaged in a particular Applications Pack.

The following table gives details about the various tags/ parameters available in the file and the values that need to be updated. Prior to installing the OFSAA Applications Pack in Silent mode, it is mandatory to update this file.

Note: If you are installing in the GUI mode, then this file need not be updated.

Table K–1 OFS_BD_PACK.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
APP_PACK_ID	Unique Applications Pack Identifier	Y	Unique Seeded Value	DO NOT modify this value.
APP_PACK_NAME	Unique Applications Pack Name	Y	Unique Seeded Value	DO NOT modify this value.
APP_PACK_ DESCRIPTION	Unique Applications Pack Description	Y	Unique Seeded Value	DO NOT modify this value.
VERSION	Unique Application Pack release version	Y	Unique Seeded Value	DO NOT modify this value.
APP	Unique Application Entries	Y	Unique Seeded Value	DO NOT remove these tags.

Table K–1 OFS_BD_PACK.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
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 Applications Packs, Infrastructure would have this value set to "YES". DO NOT modify this value.
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 OFS_BD_SCHEMA_IN.xml File

Creating database schemas, objects within schemas and assigning appropriate grants are the primary steps in the installation process of OFSAA Applications. The `OFS_BD_SCHEMA_IN.xml` file contains details on the various application schemas that should be created prior to the Applications 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 K–2 OFS_BD_SCHEMA_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
APP_PACK_ID	Unique Applications Pack Identifier	Y	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.	Y	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)))	Ensure to add an entry (with SID/ SERVICE NAME) in the tnsnames.ora file on the OFSAA server. The entry should match with the SID/SERVICE NAME used in the JDBC URL.
<JDBC_DRIVER>	By default this driver name is seeded. **Note**: Do not edit this attribute value.	Y	Example, oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. DO NOT modify this value.
<HOST>	Enter the Hostname/ IP Address of the system on which you are installing the OFSAA components.	Y	Host Name/ IP Address	

Table K–2 OFS_BD_SCHEMA_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<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.	Y	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.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	
<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.	Y	Default - N Permissible - Y or N	If set to N, need to specify PASSWORD value for every SCHEMA. **Note:** Setting this attribute value is mandatory, If DEFAULT attribute is set.
ROLE/ NAME	Database Role Name attribute used to update place holders	Y	Unique Seeded va l u e	DO NOT modify this value
DIRECTORY/ID	External Directory ID value used to update place holders	Y	Unique Seeded va l u e	DO NOT modify this value

Table K–2 OFS_BD_SCHEMA_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<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 Applications Pack. Note: Do not edit this attribute value.	Y	ATOMIC/CONFIG/SANDBOX/ADDON Note: SANDBOX AND ADDON schemas are not applicable for OFS AAAI Applications 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 Applications Pack).

Table K–2 OFS_BD_SCHEMA_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<SCHEMA.>/ NAME	By default, the schemas names are seeded based on the Applications 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 Applications Pack.	Y	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 Applications Pack). **Note:** For example: `<Variable name="DATABASE NAME">KYCDB.oracle.com</Variable>` A TNS entry must be made in tnsnames.ora with tnsname same as the value provided for KYC Database Name. If sqlnet.ora is configured with a value in NAMES.DEFAULT_ DOMAIN then ensure to use the same domain while defining Database Name. It is required for KYC Batch processing. This name should be unique The same above steps to be done for FATCA and CTR. A restart of web and app servers are necessary whenever any changes are done to config schema
<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.	N	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. Takes precedence over DEFAULT attribute value of <PASSWORD> tag.
<SCHEMA>/ APP_ID	By default, the Application ID is seeded based on the Applications Pack. Note: Do not edit this attribute value.	Y	Unique Seeded Value	Identifies the Application/ Product for which the schema is being created. DO NOT modify this value.

Table K–2 OFS_BD_SCHEMA_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<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.	N	Default - USERS Permissible - Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.
<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.	N	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	N	Example, 600M/m 20G/g UNLIMITED/unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.
SCHEMA/ INFODOM	Infodom Name Associated with each Atomic Schema and ADDON.	Y	Enter the name of the Information Domain to associate this schema. The schema creator utility automatically derives an Information Domain Name based on the Applications Pack if no value is specified for this attribute. Permissible length is 16 characters and only alphanumeric characters allowed. No special characters allowed.	Valid string with up to 11 characters. Mandatory for Silent Installation Mode

L

Configuring OFSAAI_InstallConfig.xml File

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 OFS_AAAI_PACK/OFS_AAI/conf/ directory.
2. Open the file OFSAAI_InstallConfig.xml in text editor.
3. Configure the OFSAAI_InstallConfig.xml as mentioned in Table L–1:
4. You must manually set the InteractionVariable parameter values as mentioned in the table. If a value is not applicable, enter NA and ensure that the value is not entered as NULL.

Table L–1 OFSAA Infrastructure Installation Tasks and Descriptions

Interaction Variable Name	Significance and Expected Value	Mandatory
<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</InteractionVariable>	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</InteractionVariable> or <InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable>	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

Table L–1 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

Interaction Variable Name	Significance and Expected Value	Mandatory
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**: See Appendix N for identifying the correct "ojdbc<version>.jar" version to be copied.	Yes
OLAP_SERVER_IMPLEMENTATION	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 for SFTP_ENABLE is 1, which signifies that SFTP will be used. Oracle recommends using SFTP instead of FTP because SFTP is considered more secure. However, a client may choose to ignore this recommendation and to use FTP by setting SFTP_ENABLE to 0. This selection may be changed later by using the OFSAAI administration interface.		
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 and the respective port is enabled.		
JAVAPORT	9999	Yes
NATIVEPORT	6666	Yes
AGENTPORT	6510	Yes
ICCPORT	6507	Yes
ICCNATIVEPORT	6509	Yes
OLAPPORT	10101	Yes
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.		

Table L–1 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

Interaction Variable Name	Significance and Expected Value	Mandatory
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_ENABLE` is 1 and as 443, if `HTTPS_ENABLE` is 0. For example, <InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>	No
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>/login.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 L–1 (Cont.) OFSAA Infrastructure Installation Tasks and Descriptions

Interaction Variable Name	Significance and Expected Value	Mandatory
WEBLOGIC_ DOMAIN_HOME	Identifies the WebLogic Domain Home. For example, <InteractionVariable name="WEBLOGIC_DOMAIN_ HOME">/home/WebLogic/bea/user_ projects/domains/mydomain </InteractionVariable>	Yes Specify the value only if WEBSERV ERTYPE is set as 3 (WebLogic)
OFSAAI_FTPSHARE_ PATH	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</InteractionVariable>	Yes
OFSAAI_SFTP_ USER_ID	Identifies the user who has RWX permissions on the directory identified under parameter APP_FTPSHARE_PATH above.	Yes
HIVE_Details	? HIVE_SERVER_PORT: Identifies the port used for the file transfer service. The default value specified is 22 (SFTP) or 21 (FTP). ? HIVE_SERVER_FTPDRIVE: Identifies the absolute path to the directory identified as file system stage area of HIVE server. ? HIVE_SERVER_FTP_USERID: Identifies the user who has RWX permissions on the directory identified under the preceding parameter HIVE_SERVER_FTPDRIVE. ? HIVE_SERVER_FTP_PROTOCOL: If the HIVE_SERVER_PORT is 21, then value is FTP, else it is SFTP.	NA as OFS BD does not support HIVE.

M

Migrating for Excel Upload Functionality

This section provides detailed instructions to migrate excel upload functionality.

Prerequisites

The following are the prerequisites 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.

Migrating Excel Upload

To migrate, 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.

N

JDBC Jar Files

The `ojdbc<version>.jar` file should be copied based on the Oracle Database version and the supported Java (JRE/ JDK) versions. See Table N–1 for details.

Table N–1 JDBC Jar files version details

Oracle Database Version	JDK/JRE Version Supported	JDBC Jar files specific to the release
12.1 or 12cR1	JDK 8,JDK 7 and JDK 8	ojdbc7.jar for JDK 7/JDK 8 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

O

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

This section explains the configurations required to upgrade an existing OFSAA 8.0.x Java 7 instance to Java 8. It consists of the following topics:

- Prerequisites
- Upgrading OFSAA 8.0.x Java 7 instance to Java 8
- Configuring Web application server
- Configuring User .profile Settings
- Configuring OFSAA for New Web application server Installation

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. Download and install patch 18729264 from http://support.oracle.com/ for the same.

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, see Configuring Web application server.
2. Configure the OFSAA instance to Java 8. For more information, see Configurations for Java 8. For a newly installed Web application server, see Configuring OFSAA for New Web application server Installation
3. Restart the OFSAA services. For more information, see 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, see Appendix C.

Configuring Web application server

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:

Upgrading Oracle WebLogic Server

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/jre1.8.0_45

   WLS_JAVA_HOME=/usr/java/jre1.8.0_45

   JAVAHOME=/usr/java/jre1.8.0_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/jre1.8.0_45"

   DEFAULT_SUN_JAVA_HOME="/usr/java/jre1.8.0_45"

   JAVA_HOME="/usr/java/jre1.8.0_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, see Configuring 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.

Upgrading Apache Tomcat Server

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, see <$elemtext.

> **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.

Configuring 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/jre 1.8.0_45/jre
   ```

   ```
   JAVA_BIN=/usr/java/jre 1.8.0_45/jre/bin
   ```

   ```
   LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/java/jre 1.8.0_45/jre/lib/amd64/server
   ```

Configuring OFSAA 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

P

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.

Figure 7–26 *Uninstalling OFSAA Infrastructure*

Note:

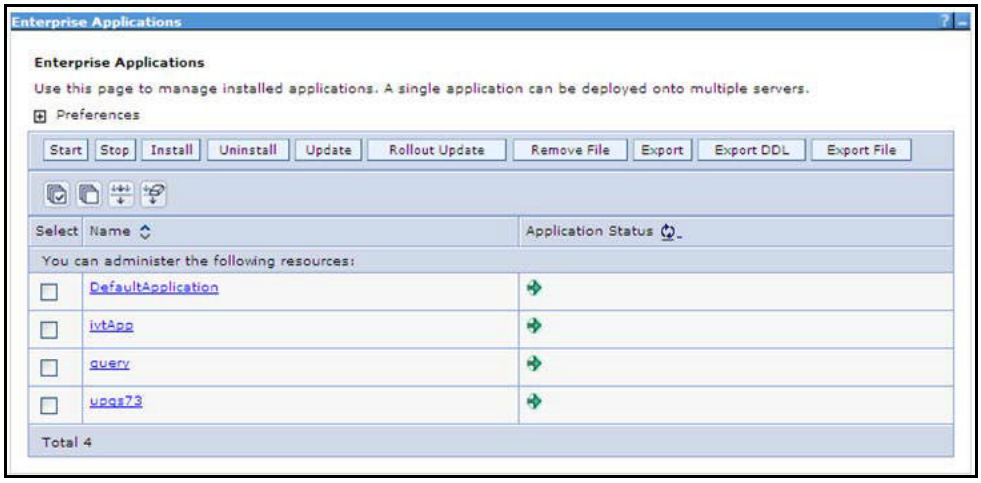
- Uninstallation does not remove the Infrastructure application from the Web application server. This has to be done manually.
- The entries in the `.profile` file will have to be removed manually.
- The files/ folders under the file system staging area (ftpshare) have to be deleted manually.
- All the 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 7–27 *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 7–28 *Uninstall Application*

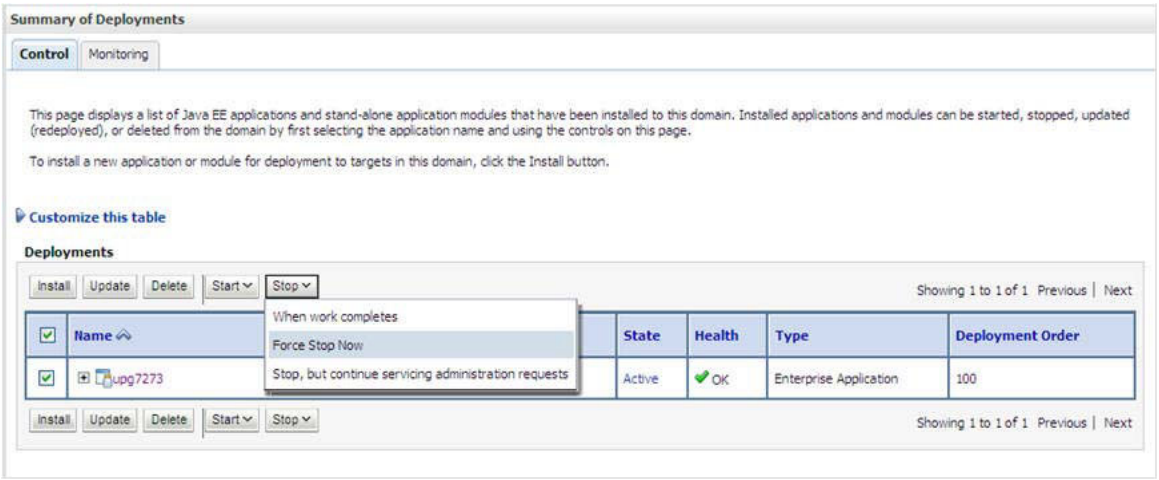
6. Click **OK** to confirm.
7. Click **Save** to save the master file configuration.

Uninstalling EAR Files in WebLogic

On the machine that hosts WebLogic, perform the following steps to uninstall any previously deployed application:

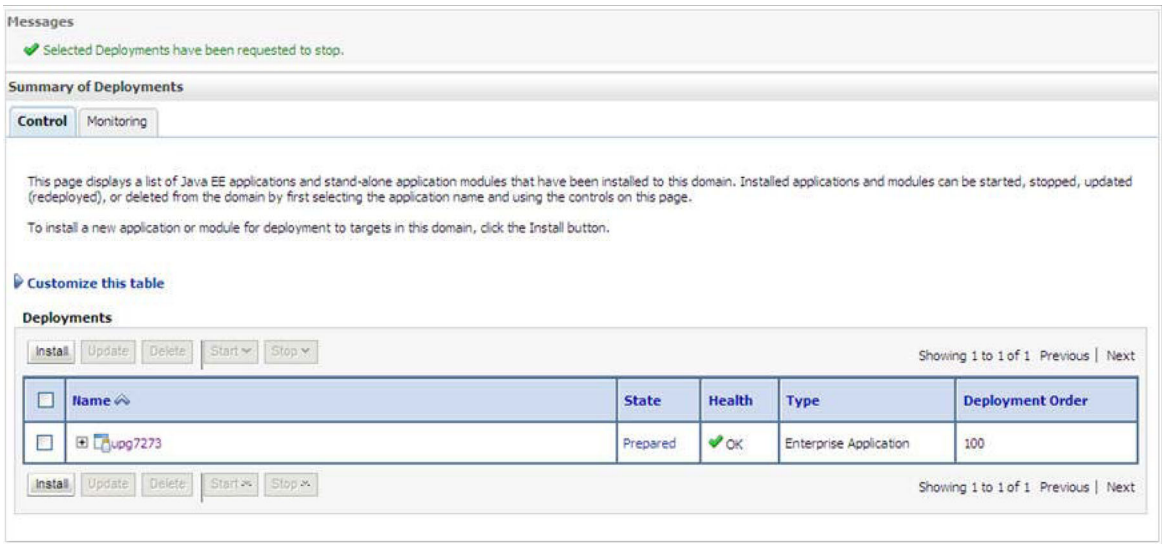
1. Open the URL in the browser window: `http://<ipaddress>:<admin server port>/console` (https if SSL is enabled). The *Login* window of the WebLogic Server Administration Console is displayed.
2. Login with the WebLogic user credentials having administrator privileges.
3. From the **Domain Structure** LHS menu, click **Deployments**. The *Summary of Deployments* screen is displayed.

Figure 7–29 *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 7–30 *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:

d. Login to the "Unix server" through a terminal emulator.

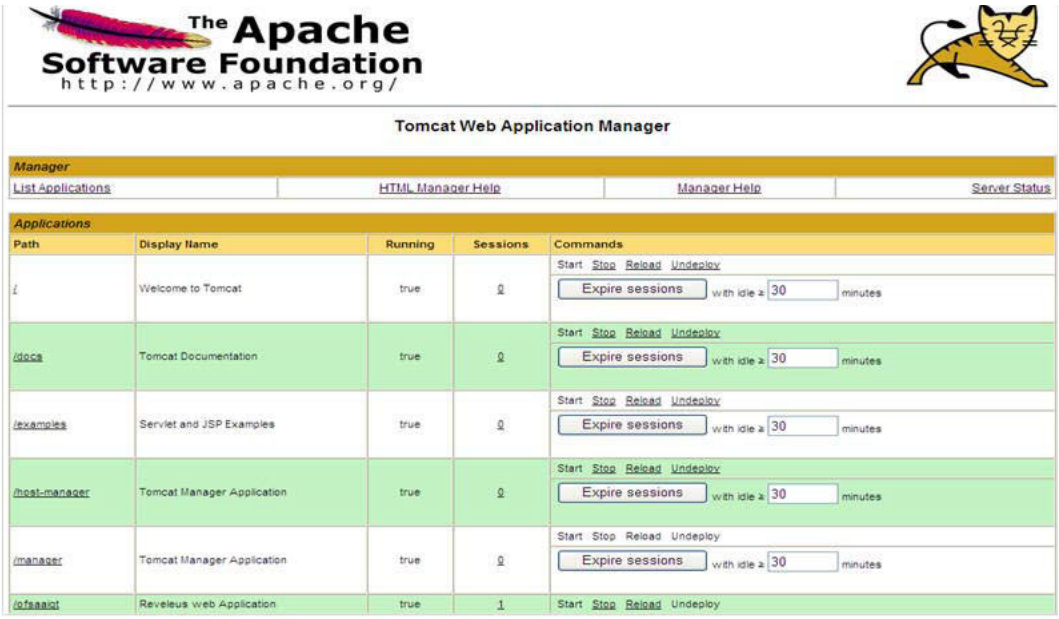
e. Navigate to `$catalina_home/bin` directory.

f. Stop the tomcat services using the command `./shutdown.sh`

g. 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 7–31 *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.

Q

Tunable Database Parameters

This appendix contains the Tunable Database Parameters.

> **Note:** Review the Oracle recommended guidelines in setting the SGA_TARGET, SGA_MAX_SIZE and PGA_AGGREGATE_TARGET parameters. The values for these memory parameters can vary significantly based on database server specifications and estimated data volume. For values of PGA_AGGREGATE_TARGET parameters Oracle recommends that they be kept at a minimum of 1024 MB.

Table Q–1 Database Tunable Parameters

Tunable Database Parameters		Parameter Values			
Category	**Parameter Name**	**Type**	**Default**	**Oracle Recommended**	**Oracle Recommended for Exadata**
Parameters affecting database creation (not tunable through the init.ora file)	CHARACTER SET	string	AL32UTF8	AL32UTF8	AL32UTF8
	NLS_LENGTH_SCHEMATICS	string	byte	byte	byte
	NLS_SORT	binary	binary	binary	binary
	MAXDATAFILES	integer	254		
	MASXINSTANCES	integer	1		
	MAXLOGFILES	integer	32		
	MAXLOGHISTORY	integer	24794		
	MAXLOGMEMBERS	integer	2	4	4
	REDO LOG SIZE	integer	10M	3G	16G

Table Q–1 Database Tunable Parameters

Tunable Database Parameters		Parameter Values			
Category	**Parameter Name**	**Type**	**Default**	**Oracle Recommended**	**Oracle Recommended for Exadata**
Parameters affecting I/O operation	DB_BLOCK_SIZE	integer	2048	8192	8192
	DB_FILE_MULTIBLOCK_READ_COUNT	integer	The default value corresponds to the maximum I/O size that can be efficiently performed and is platform-dependent.	32	32
	DB_FILES	integer	200		
	DISK_ASYNCH_IO	boolean	TRUE		
	TAPE_ASYNCH_IO	boolean	TRUE		
	DB_WRITER_PROCESSES	integer	1	4	4

Table Q–1 Database Tunable Parameters

Tunable Database Parameters		Parameter Values			
Category	**Parameter Name**	**Type**	**Default**	**Oracle Recommended**	**Oracle Recommended for Exadata**
Parameters affecting resource consumption and parallel operations	FAST_START_PARALLEL_ROLLBACK	string	LOW	HIGH	HIGH
	LOG_BUFFER	integer	7M	10000000	10000000
	LOG_CHECKPOINT_INTERVAL	integer	0	10000	10000
	LOG_CHECKPOINT_TIMEOUT	integer	0	0	0
	OPEN_CURSORS	integer	50	4096	4096
	PARALLEL_EXECUTION_MESSAG E_SIZE	integer	2148	16384	16384
	PARALLEL_MAX_SERVERS	integer	10 * No of CPUs	Set if you are configuring DOP manually at site and PARALLEL_DEGREE_POLICY is set to MANUAL.	Do not set or change
	PARALLEL_MIN_SERVERS	integer	0	Set if you are configuring DOP manually at site and PARALLEL_DEGREE_POLICY is set to MANUAL.	Do not set or change
	PROCESSES	integer	150	600	600
	LARGE_POOL_SIZE	integer	0	512M	
	PARALLEL_MIN_PERCENT	integer	0	Set if you are configuring DOP manually at site and PARALLEL_DEGREE_POLICY is set to MANUAL.	Do not set or change
	PARALLEL_THREADS_PER_CPU	integer	2		

Table Q–1 Database Tunable Parameters

Tunable Database Parameters		Parameter Values			
Category	**Parameter Name**	**Type**	**Default**	**Oracle Recommended**	**Oracle Recommended for Exadata**
Additional needed parameters	OPTIMIZER_MODE	string	ALL_ ROWS	ALL_ ROWS	ALL_ ROWS
	COMPATIBLE	string		11.2.0 (for Oracle 11gR2)	11.2.0 .3.0(if using Oracle 11.2.0.3.0) otherwise 11.2.0.2.0
	GLOBAL_NAMES	string	FALSE	TRUE	TRUE
	PRE_PAGE_SGA	string	FALSE	TRUE	TRUE
	UNDO_ MANAGEMENT	string	AUTO	AUTO	AUTO
	UNDO_ TABLESPACE	string		Set as Per Site Values	Set as Per Site Values
	UNDO_RETENTION	integer	900	10800	18000
	TIMED_STATISTICS	boolean	TRUE	TRUE	TRUE
	OPTIMIZER_ INDEX_CACHING	integer	0		
	OPTIMIZER_ INDEX_COST_ADJ	integer	100	30	
	QUERY_REWRITE_ ENABLED	string	TRUE	FALSE	FALSE
	STAR_ TRANSFORMATION _ENABLED	string	FALSE	FALSE	FALSE

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.

- <$elemtext
- Error Dictionary

OFSAAI installer performs all the pre-requisite validation check during installation. Any errors encountered in the process is displayed with an appropriate Error Code. You can see the Error Dictionary to find the exact cause and resolution to rectify the error.

Frequently Asked Questions

You can see 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
- Applications Pack 8.0.4.0.0 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 <$elemparanumonly<$elemtext.

What are the different modes of OFSAAI installation?

OFSAAI can be installed in two modes, Silent Mode, and GUI mode.

Can the OFSAA Infrastructure components be installed on multi-tier?

No. OFSAA Infrastructure components (ficapp, ficweb, ficdb) cannot be installed on multi-tier. By default, they will be installed on single-tier. However, OFSAA Infrastructure can be deployed within the n-Tier architecture where the Database, Web server and Web application server is installed on separate tiers.

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. See 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?

See 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

What should I do if I get the following error message during installation, "Execute Permission denied"?

Please check whether all the files provided for OFSAAI installation has execute permissions.

To give execute permissions,

- Navigate to the path `OFSAAI_80000` 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 <$elemparanumonly<$elemtextsection 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).

What should I do if I get the following error message during installation, "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.

What should I do if I get the following error message during installation, "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 Table <$elemparanumonly<$elemtext section in this document.

Installation of OFSAAI was completed successfully! What next?

Post the successful completion of OFSAAI installation, one has to perform the Post Installation steps. See Chapter <$elemparanumonly<$elemtext.

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 Infrastructure in the OFS AAAI Installation and Configuration Guide Release 8.0.4.0.0.

Can OFSAAI config and atomic schemas be on different databases?

OFSAAI requires both config and atomic schemas to be present on the same database instance.

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 OFS AAI Administration Guide available on OTN.

Does OFSAAI support Oracle Linux versions other than 5.5?

OFSAAI supports the Oracle Linux versions from 5.5 up to 5.10 and also from 6.0 and above.

What should I do if I get the following error message on the UNIX System terminal while executing ./setup.sh, "Insert New Media. Please insert Disk1 or type its location"?

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 do I 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 Services.

See Verifying System Environment section for additional information.

How do I 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 I 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 <$elemtext section are done correctly.

What should I do if I get the following error message during OFSAAI installation on Solaris 11 system?:

"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 should I 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.

What should I do if the installation process is abruptly terminated or aborted?

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.

Does OFSAA support any other web server types, other than the ones stated in tech matrix and installation guide?

No, all the supported softwares and versions are stated in the OFSAA Technology Stack Matrices.

What should I do if the database connection from connection pool displays the following error message, "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.

What should I do when I get syntax errors/file not found error messages while invoking setup.sh file from my install archive?

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_80000`.

   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 succession.

   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.

What should I do if I get the following error message while executing ./startofsaai.sh file on the UNIX System terminal "./startofsaai.sh: /java: Execute permission denied"?

- Ensure JAVA_BIN environment variable path is set on the "unix user" terminal from where the `./startofsaai.sh` file is invoked.
- Ensure the `.profile` where the environment/ path settings are made has been executed successfully.

What should I do if the OFSAAI Login page does not open and I get the following error message, "Could not retrieve list of locales"?

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. For more information, see Stopping Infrastructure 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. For more information, see Starting Infrastructure Services section.

B. Steps to correct the port number conflicts

1. Stop all the OFSAA services.

2. See the port numbers stated in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 7.2 Installation (DOC ID 1500479.1)) 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 Services section.

For more details on the issue, see 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 completing the 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 on all the layers? Can we have ftpshare on another machine other than the machines where OFSAAI is installed?

Ftpshare is a Metadata Repository directory. All the metadata related files used in Infrastructure are stored in the ftpshare directory. The ftpshare 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 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 directory, and should be able to independently login to the unix server.

What are the permissions required for ftpshare and when should I give them?

It is recommended to provide permissions on ftpshare 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' 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, see Changing IP/ Hostname, Ports, Deployed Paths of the OFSAA Instance 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.

What should I do if I get the following message while creating Information Domain, "Please create a database and then create the information domain"?

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.

What should I do if I get the following message during startup of backend engine message server, "ConnectToDatabase: FatalError, could not connect to the DB server"?

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.

What should I do if I get the following message during the startup of backend engine message server, "Fatal Error, failed to get user ID from LibSmsConnect"?

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 provide?

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`.

See the section *Run Model Upload Utility* of the OFS Analytical Applications Infrastructure User Guide available on OTN for details.

How do I apply incremental change to the existing model when the Business Data model undergoes a change?

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 the User Interface, take more time to load than other screens?

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 `startofsaai.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.

1. 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
   ```

2. The above query returns a list of codes with their respective metadata count. You can see "metadata_type_master" table to identify the metadata name.
3. 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).
4. 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 Appendix C.

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.

See Support Note for the workaround.

Can I install an Applications Pack on an existing Atomic schema/ Information Domain created manually?

No, you cannot install an Applications Pack on existing Atomic schema/Information Domain created manually. Applications Packs can be installed only on Atomic Schemas/Information Domain created using schema creator utility and/ or the Applications Pack installer.

What should I do if I get the following exception while trying to view the model outputs in Model Outputs screen, "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.

What should I do if I get the following exception during OFSAA services startup, "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 R–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 MB	"-Xms6144m -Xmx6144m
Model Upload Utility	106 MB	"-Xms1024m -Xmx1024m"-Xms2048m -Xmx2048m
	336 MB	"-Xms4096m -Xmx4096m
	815 MB	"-Xms4096m -Xmx4096m
	1243 MB	"-Xms6144m -Xmx6144m
Save New Erwin File In Server	106 MB	"-Xms1024m -Xmx1024m
	336 MB	"-Xms2048m -Xmx2048m
		"-Xms4096m -Xmx4096m
		"-Xms6144m -Xmx6144m

What should I do if I get the following error message, "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 available on OTN.

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).

   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 Appendix C.
4. Restart the OFSAAI Services (APP and WEB). For more information, see the Starting / Stopping Infrastructure Services. section

> **Note:** This setting helps cache the Infodom metadata only for the infodoms that get accessed after user login. Infodoms which are not accessed, are not cached.

Sample code is as follows:

```
<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+.

Can Multiple OFSAA Infrastructure instances share the same config schema?

No, only one OFSAA environment can be installed using one config schema.

Can Atomic schema be shared?

Yes, it can be shared between two OFSAA instances.

While setting a firewall, which ports should be opened for communication between the Web server (Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server) and the Web application server (WebSphere/ WebLogic/ Tomcat) for OFSAAI to operate properly?

The OFSAA Servlet port which is same as Web server port should be open. Also the web application port should be open.

Can I modify the NLS_LENGTH_SEMANTICS to BYTE from CHAR for the Database where older versions of OFSAA is Installed?

Yes, NLS_LENGTH_SEMANTICS can be modified to BYTE from CHAR if you are not intending to use multi language support.

Can I install already installed application in a different infodom?

No, it is not possible to install the same application in two different infodoms.

How can I configure the OFSAA application for High Availability??

OFSAA can have active-passive high availability. For more details, see Configuring OFSAA in Clustered Environment Guide.

During OFSAA installation should I provide web application server's IP /Hostname and port or web server's IP/Hostname and port, if the Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server are configured?

In case the web server is configured, you should enter the Web server IP Address/Hostname and Port details during OFSAA installation. Here the Servlet port should be same as the Web server port.

If Web server is not configured, the Web application server's IP Address/ Hostname

and Port is required during the installation process. Here the Servlet port should

be same as the Web application Server port.

Is "ReveleusAdminConsoleAgent" applicable for OFSAAI 8.0.0.0.0 and higher versions?

No, `ReveleusAdminConsoleAgent` is not applicable starting OFSAAI 7.3.3.0.0. There is a change in the way agentservers are managed through `AGENTSTARTUP.SH` & `AGENTSHUTDOWN.SH`.

What should I do when the message server process does not open and I get the following error message, "CI18NProvider::CI18NProvider, Error, unable to connect to the config database"?

This error is displayed due to the following reasons:

- The Config Schema password is already expired.
- If the config schema password is going to expire soon and the message such as "ORA-28002: the password will expire within 6 days" displays while connecting to config schema through sqlplus.
- The Config schema password is Modified.

To resolve the error, re-set the config schema password to the old password. Else, if the config schema password is modified to something else then follow the below steps:

1. Delete the $FIC_HOME/conf/Reveleus.SEC file.
2. Shutdown the OFSAAI App service: `cd $FIC_APP_HOME/common/FICServer/bin ./stopofsaai.sh`
3. Shutdown the OFSAAI App service: `cd $FIC_APP_HOME/common/FICServer/bin ./stopofsaai.sh`
4. Start the Infrastructure Server in foreground directly on the server or through XWindows software using the command: `./startofsaai.sh`
5. Enter System Password.
6. Enter the new Config schema password. The service starts and initializes if it is able to successfully connect to the DB and generates the `Reveleus.SEC` file.
7. Post successful startup of the service, if required, the Infrastructure server may be shut down and restarted in the background using nohup mode.

What is the mechanism of Log File sizing and backup?

OFSAAI Log files created under `$FIC_APP_HOME/common/FICServer/logs & <OFSAAI_DEPLOYED_AREA>/<CONTEXT.war>/logs` is configurable in `RevLog4jConfig.xml`.

The default size of the log files (MaxFileSize) is set to max 5000kb & number of max backup log files (MaxBackupIndex) retained is set to 5, both of which are configurable. Increasing these parameters to a higher value should depend on the server HW configurations and may reduce the performance.

To configure the Logs file size on OFSAA Application server, follow these steps:

1. Navigate to `$FIC_HOME/conf` where OFSAA is installed.
2. Edit the following parameters in the file `RevLog4jConfig.xml`
   - <param name="file" : Enter the path where the Logs are to be generated.
   - <param name="MaxFileSize" : Provide the required file size.
   - <param name="MaxBackupIndex" : Provide the required number of backup files to be created.

Example:

```
<appender name="REVSERVERAPPENDER"
class="org.apache.log4j.RollingFileAppender">
<param name="file" value="$FIC_
HOME/ficapp/common/FICServer/logs/RevAppserver.log"/>
<param name="Append" value="true" />
<param name="MaxFileSize" value="5000kb" />
<param name="MaxBackupIndex" value="5" />
<layout class="org.apache.log4j.PatternLayout">
<param name="ConversionPattern" value="[REVELEUSLOG] %m%n"/>
</layout>
</appender>
```

To configure the Deployed area logs file, follow these steps:

1. Navigate to `<EAR/WAR Deploy area>/conf` folder.
2. Repeat step 2 from the above section.

Can we modify the Log file path?

Yes, Log file path is configurable, it can be configured in `RevLog4jConfig.xml`. default log file path (file) is set by the installer . This can be configured to another path.

Can I point the environment with HTTP enabled to HTTPS after installation and vice versa?

Follow these steps:

1. Create SSL related certificates and import to respective servers.
2. Enable SSL on a desired Port (example 9443) on your existing and already deployed web application servers.
3. Replace the protocol as https and new ssl port (FIC_SERVLET_PORT) configured and in all the URLs specified on below files:
   - `$FIC_HOME/ficapp/common/FICServer/conf/FICWeb.cfg and $FIC_ HOME/ficweb/webroot/conf/FICWeb.cfg`
   - `$FIC_HOME/ficapp/icc/conf/WSMREService.properties`
   - `$FIC_HOME/ficweb/webroot/conf/ModelExecution.properties`
   - `$FIC_HOME/ficdb/conf/MDBPublishExecution.properties`
   - `$FIC_HOME/ficdb/conf/ObjAppMap.properties`
   - `$FIC_HOME/utility/Migration/conf/WSMigration.properties`
   - `$FIC_HOME/utility/WSExecution/conf/WSExecution.properties`
   - `$FIC_ HOME/EXEWebService/WebSphere/ROOT/WEB-INF/wsdl/EXEWebServiceImpl .wsdl`
   - `$FIC_ HOME/EXEWebService/Tomcat/ROOT/WEB-INF/wsdl/EXEWebServiceImpl.ws dl`
   - `$FIC_ HOME/EXEWebService/WebLogic/ROOT/WEB-INF/wsdl/EXEWebServiceImpl. wsdl`
4. Replace XML attribute/Node values as specified on below files:

- $FIC_HOME/ficweb/webroot/WEB-INF/web.xml

  FIC_WEBSERVER_PORT=9443

- FIC_WEBPROTOCOL=https

  $FIC_HOME/conf/LookUpServices.xml and $FIC_HOME/ficweb/webroot/conf/LookUpServices.xml

  PORT="9443" PROTOCOL="https:"

5. Login to config schema and execute below SQL command to replace protocol and SSL port.

```
SQL> update configuration cn set cn.paramvalue='9443' where
cn.paramname='SERVLET_ENGINE_PORT';

SQL> update configuration cn set
cn.paramvalue=replace(cn.paramvalue,'http:','https:') where
cn.paramname='FormsManagerCacheReload';

SQL> update web_server_info ws  set
ws.servletport='9443',ws.servletprotocol='https';
```

6. Create EAR/WAR file and Re-Deploy.

What should I do if the sliced data model upload takes a long time to complete?

If the metadata cache size is set to a lower value than the actual count of each metadata type (hierarchy, dataset, dimension etc), then it gets into performance degrade issues. We have to increase the cache size for each metadata type according to the count in the environment.

Following are the parameters in DynamicServices.xml to be configured depends on the metadata count in your environment.

```
<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="3000"/>

<PARAMETER NAME="HIERARCHY_

CACHE_SIZE" VALUE="2000"/>

<PARAMETER NAME="DIMENSION_

CACHE_SIZE" VALUE="2000"/>

<PARAMETER NAME="CUBE_CACHE_SIZE" VALUE="1000"/>

<PARAMETER NAME="BUSINESSPROCESSOR_CACHE_SIZE"

VALUE="2000"/>

<PARAMETER NAME="DERIVEDENTIT

Y_CACHE_SIZE" VALUE="1000"/>
```

Metadata count can be derived based on the following queries:

```
select count(1) from metadata_master where metadata_version=0  --- for all
metadata select count(1) from metadata_master where metadata_version=0
and metadata_type=1  --- for measure

select count(1) from metadata_master where metadata_version=0  and
metadata_
```

```
type=2  --- for Dimension

select count(1) from metadata_master where metadata_version=0  and
metadata_

type=3  --- for HCY

select count(1) from metadata_master where metadata_version=0  and
metadata_

type=4  --- for DATASET

select count(1) from metadata_master wh

ere metadata_version=0  and  metadata_

type=59  --- for BP's

select count(1) from metadata_master wh

ere metadata_version=0  and  metadata_

type=54   --- for Alias

select count(1) from metadata_master wh

ere metadata_version=0  and  metadata_

type=5  --- for CUBES

select count(1) from metadata_master wh

ere metadata_version=0  and  metadata_

type=856  --- for Derived Entit
```

For LDAP authentication, which server connects with the LDAP server, the Application server (where ofsaai is installed), or Web Application server (where EAR is deployed)?

For LDAP authentication, the Application server (ficapp) connects with the LDAP server.

The LDAP server in the setup listens on secure protocol ldaps (port 636). I have the root certificate of the LDAP server for SSL, and would like to know where to offload this certificate?

You need to import the certificate into the JDK/JVM used by Reveleus server in ficapp layer.

How to relocate FTPSHARE folder?

You can run the PortC.jar utility. For more details, see Changing IP/Hostname, Ports, Deployed Paths of the OFSAA Instance section in the OFSAAI Admin Guide available on OTN.

How do we identify the list of ports that are used by/configured in an OFSAA environment?

1. Navigate to `$FIC_HOME` folder on Target.
2. Run the PortC.jar utitlity using the command:

   ```
   java -jarPortC.jar DMP
   ```

   A file with the name `DefaultPorts.properties` will be created under `$FIC_HOME` directory which will contain the ports. For more information, see Changing IP/Hostname, Ports, Deployed Paths of the OFSAA Instance section in the OFSAAI Admin Guide available on OTN.

What should I do if I get the following error message, "Error while fetching open cursor value Status : FAIL"?

This error occurs while executing envCheck.sh because the user does not have access to `V$parameter`. This error does not occur due to sysdba or non sysdba privileges provided they have access/grants to `V$parameter`.

Applications Pack 8.0.4.0.0 FAQs

What is an Applications Pack?

An Applications Pack is suite of products. For more information, see *<$elemtext*.

Can I get a standalone installer for OFSAAI 8.0?

No. AAI is part of every Applications Pack and installs automatically.

How does OFSAA 8.0 Applications 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 Applications Pack?

There is no upgrade path available. However, we will have migration kit / path for every product to 8.0 Applications Pack. Further details will be available with Oracle Support Services.

Does OFSAA 8.0 Applications Pack UPGRADE automatically to existing environments?

No. OFSAA 8.0 Applications 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. Note that the objects can be migrated only from the previously released version of OFSAA products..

Where can I download OFSAA 8.0 Applications Pack?

You can download the OFSAAI 8.0 Applications Pack from Oracle Software Delivery Cloud (OSDC).

What are the minimum system and software requirements for OFSAA 8.0 Applications Pack?

See installation guide section Hardware and Software Requirements.

Is my environment compatible with OFSAA 8.0 Applications Pack?

Environment Check utility performs the task. It is part of install and can also be run separately.

Does the OFSAA 8.0.4.0.0 Applications Pack support all Operating systems?

OFSAA 8.0.4.0.0 Applications Pack supports the following Operating Systems: LINUX, AIX, SOLARIS 10, 11. See Technology Matrix for the technology matrix that OFSAA suite products are/ will be qualified on.

How can I install OFSAA 8.0.4.0.0 Applications Pack?

See Oracle Financial Services Advanced Analytical Infrastructure Installation And Configuration Guide published in OTN for the Applications Pack installers.

Does this installation require any Third party Softwares?

Oracle Financial Services Advanced Analytical Infrastructure Installation And Configuration Guide published in OTN lists the third party software that needs to be installed.

What languages are supported during OFSAA 8.0.4.0.0 Applications Pack installation?

US English is the language supported.

What mode of installations OFSAA Applications Pack supports? [i.e., Silent , GUI]

OFSAA Applications Packs supports both, GUI and Silent Mode.

Does OFSAA 8.0.4.0.0 Applications Pack support Multi tier Installations?

OFSAA 8.0.4.0.0 supports only single tier installation. For more information see OFSAAI FAQs section.

Does this Applications 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 Applications Pack installer.

What happens if it aborts during installation of any application with in Applications Pack?

You must restore the system and retrigger the installation

Does this Applications Pack 'Roll Back' if any application installation fails due to errors?

Rollback of installation is not supported.

Does the Applications Pack install all applications bundled?

All Applications Pack system files are installed but there is an option to enable the licensed products.

Can I re-install any of the Applications Packs?

You can retrigger in case of failure.

Does this Applications 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 an Applications Pack, can I install any of new application within the Applications Pack later?

No, installation of additional applications is not required. If you wish to add an application later, you can enable the application at that time.

How many OFSAA Infrastructures can be installed in a single server?

There is no issue in installing separate OFSAAI installations, each with their own PFT/FTP installations and separate associated database instances and separate Web server installations on the same server as long as adequate memory is allocated for each instance and as long as each OFSAAI installation is installed using a separate UNIX user and profile. Care should be taken if running multiple OFSAAI installations on a single server. Adequate memory will be required for each installation as several OFSAAI processes (model upload, DEFQ services, etc) take significant amounts of memory. So it depends on your server memory.

Is it possible to Install OFSAA 8.0 Applications Pack on an existing 'Infodom' where another OFSAA 8.0 application is installed?

Yes. However, the Behavioral Detection Applications Pack and Compliance Regulatory Reporting Applications Pack are the exceptions. They need to be installed in a different INFODOM.

Can I select an Infodom in Applications Pack during installation?

Yes. You can select or change the required infodom.

Can I install all Applications Packs in a 'Single Infodom'?

Yes. But Behavioral Detection Applications Pack and Compliance Regulatory Reporting Applications Pack are the exceptions. They need to be installed in a different INFODOM.

Is it possible to install applications on different Infodom within the Applications Pack? (For example, I want to install LRM & MR in two infodoms)

Applications within Applications Pack have to be installed in the same information domain in the same environment.

How many Infodoms can be created over a single OFSAA Infrastructure of 8.0.4.0.0?

You can install only one infodom during installation. But after installation, you can create multiple infodoms.

Is the 'Data Model' bundled specific to an Applications Pack or to an individual application?

A merged data model for all applications within the Applications Pack is bundled and uploaded.

Is it possible to install OFS Enterprise Modeling later?

OFS Enterprise Modeling is a separate product and can be enabled as an option later from any Applications Pack that bundles Enterprise Modeling.

Does the Applications Pack create sandbox automatically for the required applications?

Yes, Sandbox creation is part of application install process.

Are upgrade Kits available for individual applications or the complete Applications Pack?

Maintenance Level (ML) Release / Minor Release upgrades are available across all applications.

Can I upgrade AAI only?

Yes, you can upgrade AAI alone.

Can I upgrade one application within the Applications Pack? (For example, I want to upgrade LRM in the Treasury Applications Pack, but not MR.)

No, an upgrade is applied to all applications in the Applications Pack.

Is it possible to uninstall any Application from the Applications Pack?

No, it is not possible to uninstall any Application from the Applications Pack.

Can I uninstall entire Applications Pack?

No, you cannot uninstall the Applications 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 Applications Pack contain all Language Packs supported?

Language Packs need to be installed on 8.0 Applications Packs.

Can I install an Applications Pack over another Applications Pack (that is same infodom or different infodom)?

Yes, you can install an Applications Pack over another Applications Pack in the same information domain or different information domain. But Behavioral Detection Applications Pack and Compliance Regulatory Reporting Applications Pack, Asset Liability Management Applications Pack and Profitability Applications Pack are the exceptions. They need to be installed in a different INFODOM.

Can I use an existing manually created schema as information domain for Applications 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. See the link http://docs.oracle.com/cd/E28280_01/web.1111/e13737/ds_12cdriver.htm#JDBCA655 for additional configurations.

What should I do if I get the following error message while running the schema creator utility, "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.

What are the Java versions supported in OFS AAAI Applications Pack version 8.0.4.0.0?

OFS AAAI Applications Pack supports Java 1.7.x and 1.8.x.

Is OFS AAAI Applications Pack version 8.0.4.0.0 supported on Java 8?

Yes. To install this release of the OFS AAAI Applications Pack version 8.0.4.0.0 on Java 8. For more information, see specific notes mentioned in the sections <$elemtext, Configurations supported for Java 8, <$elemtext, <$elemtext, <$elemtext .

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?

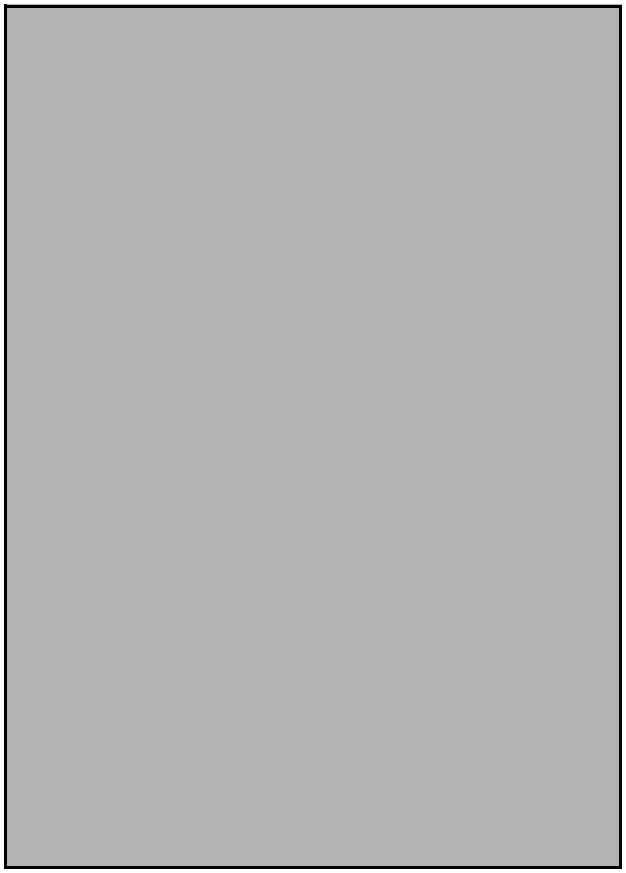
Perform Grid Export operation to export the columns added to the grid by Field Chooser option.

'Expand All/ Collapse All' button is not visible in the Hierarchy Browser window. What should I do?

Expand All/ Collapse All button is enabled only if the number of hierarchy nodes is less than 50. If it is more than that, it is considered as large hierarchy and the data will be fetched dynamically when you expand each node.

What is the difference between the two Searches available in the Hierarchy Browser window?

In the new *Hierarchy Browser* window introduced from 7.3.5.1.0 version, there are 2 search options available as highlighted in the following figure:



- **DB Search (Top search container):** It will search the required node in database and displays the result as shown below. This search is performed on full hierarchy nodes.
- **UI search (Below the hierarchy):** This search will find the required node in the UI and will show in tree structure.

> **Note:** In case hierarchy nodes are more than 50 and if it is a non-custom hierarchy, then the UI search will not show the required node in tree structure, until all the nodes are expanded and loaded manually in the UI.

What is a Custom Hierarchy?

Custom hierarchies will be having the parameter configuration customQuery as shown below and the customized query will be taken from the `HIERARCHY_FILTER_MASTER` table.

Configuration in xml:

```
<CONTROL ID="1003" TYPE="41">
<CONTROLPROPS>
            <EXTRAPARAMETERS>
<PARAMETER NAME="customQuery" VALUE="Yes"/>
</EXTRAPARAMETERS>
</CONTROLPROPS>
    </CONTROL>
```

For custom hierarchy, all the hierarchy nodes are loaded in UI without any limit.

So, even if the hierarchy nodes are more than 50, the UI search will show the required node in tree structure and ExpandAll and ExpandBranch images will be enabled.

Error Dictionary

This contents 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.

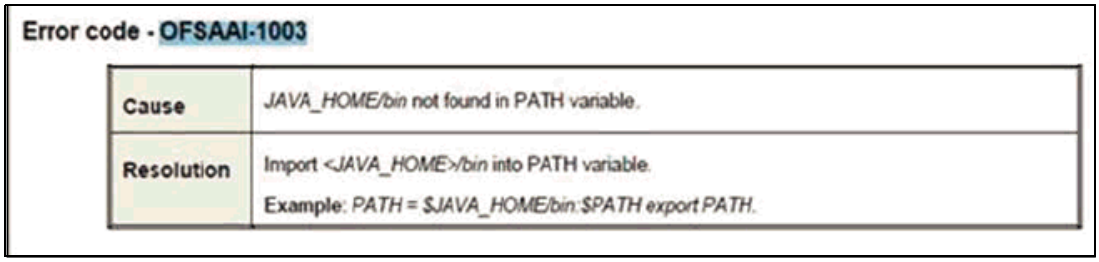
This section includes the following topics:

Accessing Error Dictionary

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 R–1 Error Code



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

Error code - OFSAAI-1001

Table R–2 Error code - OFSAAI-1001

Cause	Unix shell is not "korn" shell.

Table R–2 Error code - OFSAAI-1001

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.

Error code - OFSAAI-1002

Table R–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 GUI`

Error code - OFSAAI-1004

Table R–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.

Error code - OFSAAI-1005

Table R–5 Error code - OFSAAI-1005

Cause	File `OFSAAInfrastructure.bin` is not present in current folder.
Resolution	Copy `OFSAAInfrastructure.bin` into installation kit directory.

Error code - OFSAAI-1006

Table R–6 Error code - OFSAAI-1006

Cause	File `CustReg.DAT` is not present in current folder.
Resolution	Copy `CustReg.DAT` into installation kit directory.

Error code - OFSAAI-1007

Table R–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.

Error code - OFSAAI-1008

Table R–8 Error code - OFSAAI-1008

Cause	File `validateXMLInputs.jar` is not present in current folder.
Resolution	Copy `validateXMLInputs.jar` into installation kit directory.

Error code - OFSAAI-1009

Table R–9 Error code - OFSAAI-1009

Cause	File `log4j.xml` is not present in current folder.
Resolution	Copy `log4j.xml` into installation kit directory.

Error code - OFSAAI-1010

Table R–10 Error code - OFSAAI-1010

Cause	Unknown error occurred.
Resolution	Make sure to provide proper argument (Silent or GUI) to the `Setup.sh` file.

Error code - OFSAAI-1011

Table R–11 Error code - OFSAAI-1011

Cause	XML validation failed.
Resolution	Check InfrastructurePreValidations.Log for more details.

Error code - OFSAAI-1012

Table R–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`.

Error code - OFSAAI-1013

Table R–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.

Error code - OFSAAI-1014

Table R–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.

Error code - OFSAAI-1015

Table R–15 Error code - OFSAAI-1015

Cause	XML is not well formed.

Table R–15 Error code - OFSAAI-1015

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`.

Error code - OFSAAI-1016

Table R–16 Error code - OFSAAI-1016

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.

Error code - OFSAAI-1017

Table R–17 Error code - OFSAAI-1017

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.