Oracle® Financial Services Behavior Detection Applications Pack

Installation Guide

Release 8.0.0.0.0

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Preface

This Preface 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 an access to the Oracle Support Portal with the required login credentials to quickly notify us of any issues at any stage. You can obtain the login credentials by contacting Oracle Support.

Audience

Oracle Financial Services 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

Following are the expected preparations from the administrator before starting the actual installation:

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

- Oracle Financial Services Behavior Detection pack components
- OFSAA Architecture
- UNIX Commands
- Database Concepts
- Web Server / Web Application Server

Documentation Accessibility

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

Access to Oracle Support

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

Related Documents

This section identifies additional documents related to OFS BD. You can access Oracle documentation online from Documentation Library for Oracle Financial Services Behavior Detection (OTN).

OFSAA Related Documents

- *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

- *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 Guid*
- *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 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

Table 0–2 Abbreviations and their meaning

Abbreviation	Meaning
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
XML	Extensible Markup Language

1

About OFS BD Applications Pack

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.

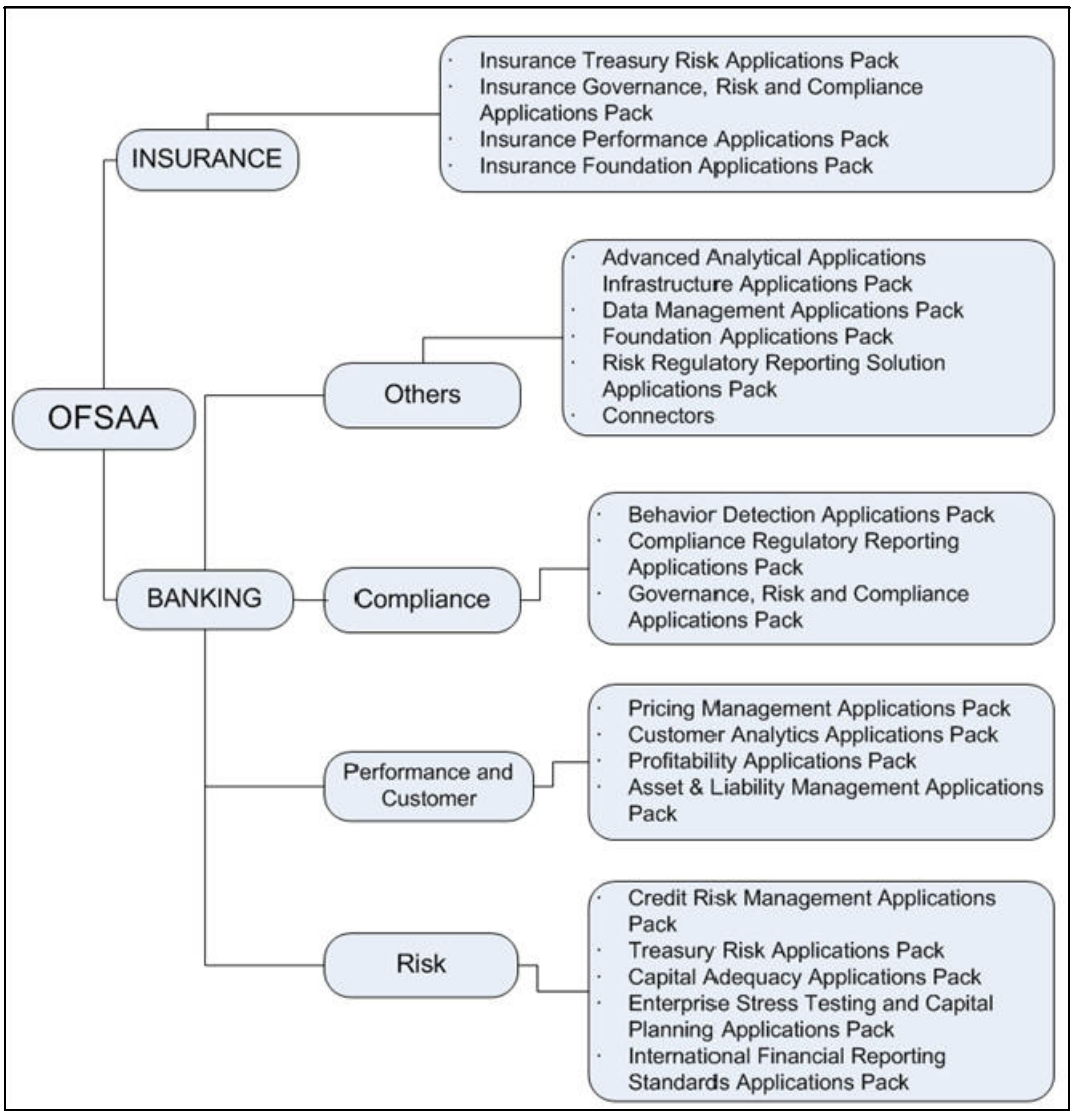
OFSAA uses industry-leading analytical methods, shared data model and applications architecture to enable integrated risk management, performance management, customer insight, and compliance management. OFSAA actively incorporates risk into decision making, enables to achieve a consistent view of performance, 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 following figure 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 Application 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 needed to analyze, understand and report on specific performance, risk, compliance and customer insight issues by providing a strong foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of Risk, Performance, Compliance and Customer Insight.
- **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.

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 needed to analyze, understand and report on specific performance, risk, compliance and customer insight issues by providing a strong foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of Risk, Performance, Compliance, and Customer Insight.

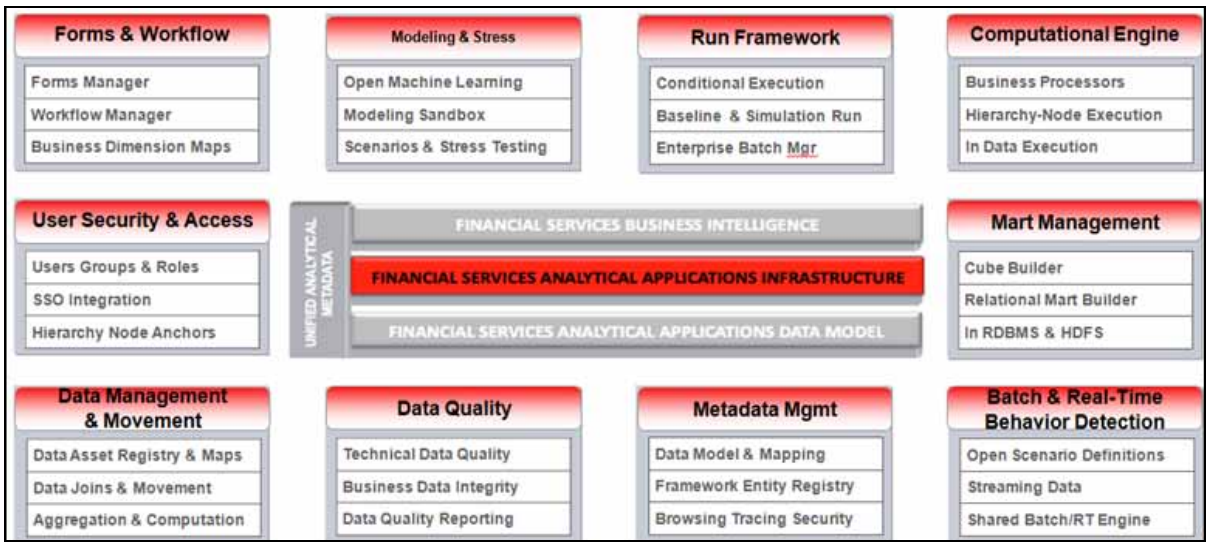
Components of OFSAAI

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

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

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

Figure 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.

2

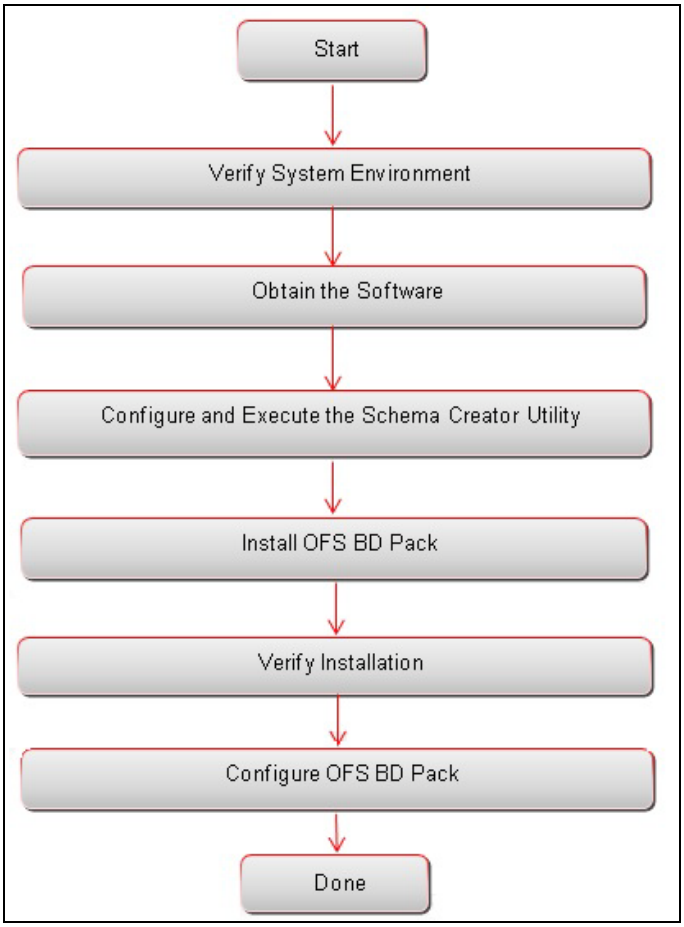
Understanding OFS BD Pack Installation

This chapter includes the following topics:

Installation Overview

This section gives an overview of the OFS BD Pack Installation. Figure 2–1 shows the order of procedures you will need to follow:

Figure 2–1 Installation Overview



The following lists provide additional information and links to specific documentation for each task in the flowchart.

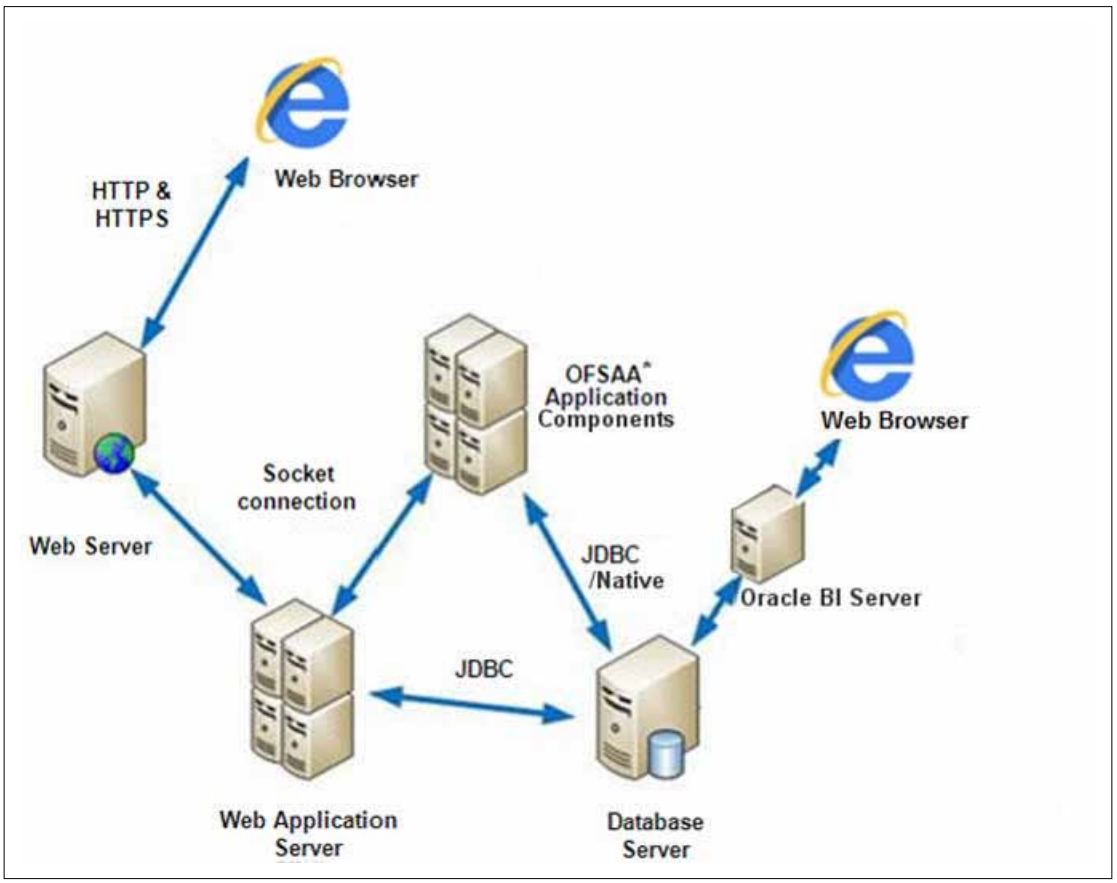
- **Verify System Environment:** This section provides details to verify that your system meets the minimum necessary requirements for installing and hosting the OFS BD Applications Pack. For more information, see Hardware and Software Requirements" and "Verifying the System Environment.
- **Obtain the Software:** This section provides details about obtaining the software. For more information, see Obtaining the Software.
- **Configure and Execute the Schema Creator Utility:** This section provides details about configuring and executing the schema creator utility. For more information, see Configuring and Executing the Schema Creator Utility.
- **Install OFS BD Pack:** This section provides details about installing the OFS BD Pack Installer. For more information, see Installing the OFS BD Applications Pack.
- **Verify Installation:** This section provides details about verifying the installation. For more information, see Verifying the Installation.
- **Configure OFS BD Pack:** This section provides details about post installation configuration. For more information, see Post Installation Configuration.

Deployment Topology

The deployment architecture depicts the mapping of a logical architecture to a physical environment.

The physical environment includes the computing nodes in an intranet or Internet environment, CPUs, memory, storage devices, and other hardware and network devices.

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 table shows the minimum hardware and software requirements for running OFS BD Applications Pack:

Configurations for Java 7

Table 2–1 Configurations Supported fro Java 7

Operating System	
Oracle Linux /Red Hat Enterprise Linux	▪ Oracle Linux Server release 5.3 up to 5.10 - 64 bit ▪ Oracle Linux Server release 6.0 and above - 64 bit **Note**: Same versions of RHEL are supported. If the operating system is RHEL, install the package lsb_release using one of the following commands by logging in as root user: ▪ `yum install redhat-lsb-core` ▪ `yum install redhat-lsb`
Oracle Solaris	▪ Oracle Solaris v5.10 Update 11 and above - 64 bit ▪ Oracle Solaris v5.11 update 1 and above - 64 bit
IBM AIX	AIX 6.1 (TL 09 and above) - 64 bit **Note:** If the OS is IBM AIX 6.1, configure the size parameter setting for "Large File Support". Refer to http://www-01.ibm.com/support/docview.wss?uid=isg3T1000290 for more details.
Shell	KORN Shell (KSH)
Java Runtime Environment	
Oracle Linux / Red Hat Enterprise Linux Oracle Solaris	Oracle Java Runtime Environment (JRE) 1.7.0_76 - 64 bit
IBM AIX	IBM AIX Runtime, Java Technology 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 partitioning option ▪ Oracle Database Server Enterprise Edition 12 c (12.1.0.1.0+) - 64 bit RAC/Non-RAC with partitioning option ▪ Oracle Client 11g R2 (11.2.0.3.0+) * - 64 bit ▪ Oracle Client 12 c (12.1.0.1.0+) * - 64 bit ▪ Oracle 11g R2 (11.2.0.3+) JDBC driver (Oracle thin driver) ▪ Oracle 12C Release 1 (12.1.0.1+) JDBC driver (Oracle thin driver) **Note:** JDBC driver (Oracle thin driver) installation is enough for establishing web server connectivity.	
Note: Ensure that the following patches are applied: Oracle Server 12c, v12.1.0.1 - 17082699 Oracle Server 12c, v12.1.0.2 - 19392604, 19649591 For latest information, refer to 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)	
Web Server/ Web Application Server	

Table 2–1 (Cont.) Configurations Supported fro Java 7

Oracle Linux / Red Hat Enterprise Linux Oracle Solaris	Oracle HTTP Server 11.1.1.1 / Apache HTTP Server 2.2.x / IBM HTTP Server ■ Oracle WebLogic Server 12.1.3+ (64 bit) ■ IBM WebSphere Application Server 8.5+ with bundled IBM Java Runtime (64 bit) ■ Apache Tomcat 8.0.x (64 bit)
Note: OFSAA Infrastructure web component deployment on Oracle WebLogic Server with Oracle JRockit 6 - R28.2.7 (1.6.0_45) - 64 bit is not supported.	
Desktop Requirements	
Operating System	MS Windows XP SP3 / 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+* **Note**: Enable caching of static content (static files, images, CSS, and so on).
Office Tools	■ MS Office 2003 / 2007 / 2010 / 2013 ■ Adobe Acrobat Reader 8 or above
Screen Resolution	1024*768 or 1280*1024
Other Software	
Directory Services	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software like MS Active Directory.
Note: ■ Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Infrastructure LDAP Configuration. Open LDAP needs to be installed on MS Windows Server machine only.	

1* This indicates the latest version available at the time of the release. Any latest updates may be applied.

Configurations for Java 8

Table 2–2 Configurations Supported for Java 8

Operating System	
Oracle Linux / Red Hat Enterprise Linux	■ Oracle Linux Server release 5.3 up to 5.10 - 64 bit ■ Oracle Linux Server release 6.0 and above - 64 bit **Note**: Same versions of RHEL are supported. If the operating system is RHEL, install the package lsb_release using one of the following commands by logging in as root user: ■ `yum install redhat-lsb-core` ■ `yum install redhat-lsb`
Oracle Solaris	■ Oracle Solaris v5.10 Update 11 and above - 64 bit ■ Oracle Solaris v5.11 update 1 and above - 64 bit

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

IBM AIX	AIX 6.1 (TL 09 and above) - 64 bit **Note:** If the OS is IBM AIX 6.1, configure the size parameter setting for "Large File Support". Refer to http://www-01.ibm.com/support/docview.wss?uid=isg3T1000290 for more details.
Shell	KORN Shell (KSH)
Java Runtime Environment	
Oracle Linux / Red Hat Enterprise Linux Oracle Solaris	Oracle Java Runtime Environment (JRE) 1.8.x - 64 bit
IBM AIX	IBM AIX Runtime, Java Technology JRE 1.8.x - 64 bit
Oracle Database Server and Client	
▪ Oracle Database Server Enterprise Edition 11g Release 2 (11.2.0.3.0+) - 64 bit RAC/ Non-RAC with partitioning option ▪ Oracle Database Server Enterprise Edition 12 c (12.1.0.1.0+) - 64 bit RAC/Non-RAC with partitioning option ▪ Oracle Client 11g R2 (11.2.0.3.0+) * - 64 bit ▪ Oracle Client 12 c (12.1.0.1.0+) * - 64 bit ▪ Oracle 11g R2 (11.2.0.3+) JDBC driver (Oracle thin driver) ▪ Oracle 12C Release 1 (12.1.0.1+) JDBC driver (Oracle thin driver) **Note:** JDBC driver (Oracle thin driver) installation is sufficient for establishing web server connectivity.	
Note: Ensure that the following patches are applied: Oracle Server 12c, v12.1.0.1 - 17082699 Oracle Server 12c, v12.1.0.2 - 19392604, 19649591 For latest information, refer to 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)	
Web Server/ Web Application Server	
Oracle Linux/Red Hat Enterprise Linux Oracle Solaris	Oracle HTTP Server 11.1.1.1/ Apache HTTP Server 2.2.x/ IBM HTTP Server ▪ Oracle WebLogic Server 12.1.3+ (64 bit) ▪ Apache Tomcat 8.0.x (64 bit) **Note:** IBM JAVA8 SDK does not support WebSphere full profile.
Note: ▪ OFSAA Infrastructure web component deployment on Oracle WebLogic Server with Oracle JRockit 6 - R28.2.7 (1.6.0_45) - 64 bit is not supported. ▪ For deployment on Oracle WebLogic Server 12.1.3+ (64 bit) with Java 8, download and install patch 18729264 from http://support.oracle.com/.	
Desktop Requirements	
Operating System	MS Windows XP SP3/ Windows 7/ Windows 8/ Windows 8.1

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

Browser	▪ MS Internet Explorer 9 10(Compatibility Mode) and 11 (Compatibility Mode) ▪ Oracle Java plug-in 1.7.0+* racle Java plug-in 1.7.0+* (64- bit) Turn off Pop-up blocker settings. For more information, refer Internet Explorer Settings **Note**: Enable caching of static content (static files, images, CSS, and so on).
Office Tools	▪ MS Office 2003 / 2007 / 2010 / 2013 ▪ Adobe Acrobat Reader 8 or above
Screen Resolution	1024*768 or 1280*1024
Other Software	
Directory Services	OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software like MS Active Directory.
Note: ▪ Configuration of Directory services software for OFSAAI installation is optional. For more information on configuration, see Infrastructure LDAP Configuration. Open LDAP needs to be installed on MS Windows Server machine only.	

OFS BD Applications Pack recommends the following software combinations for deployment:

Table 2–3 Recommended Software Combinations

Operating System	Database	Web Application Server	Web Server
Oracle Linux 5.x and 6.x	Oracle Database 11g R2 (11.2.0.3.0) and 12c	Oracle WebLogic Server 10.3.6.0 and 12c (12.1.2) and IBM WebSphere Application Server 7.0.0.25 and 8.5	Oracle HTTP Server / Apache HTTP Server
Oracle Solaris 5.10 / 5.11	Oracle Database 11g R2 (11.2.0.3.0) and 12c	Oracle WebLogic Server 10.3.6.0 and 12c (12.1.2) and IBM WebSphere Application Server 7.0.0.25 and 8.5	Oracle HTTP Server / Apache HTTP Server
IBM AIX 6.1	Oracle Database	IBM WebSphere Application Server / Apache Tomcat Server	IBM HTTP Server / Apache HTTP Server

Verifying the System Environment

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

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

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

Understanding the Installation Mode

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

- GUI Mode
- Silent Mode

GUI Mode

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

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 v8.0.0.0.0.

This chapter includes the following topics:

Installer and Installation Prerequisites

Table 3–1 mentions 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 to be set to include the Java Runtime Environment absolute path. The path should include java version (java 7 or java 8) based on the configuration. **Note**: Ensure the absolute path to JRE/bin is set at the beginning of PATH variable. For example, PATH=/usr/java/jre1.7/bin:$ORACLE_HOME/bin:$PATH Ensure no SYMBOLIC links to JAVA installation is being set in the PATH variable The path in .profile should be set to JAVA_HOME. For example: JAVA_HOME=/usr/java/jre1.7
	Oracle Database Settings	■ TNS_ADMIN to be set in.profile pointing to appropriate tnsnames.ora file ■ ORACLE_HOME to be set in .profile pointing to appropriate Oracle Client installation PATH in .profile to be set to include appropriate $ORACLE_HOME/bin path

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 Solaris OS: export LANG=en_US.UTF-8 PATH in .profile to be set to include time zone For example: export TZ=Asia/Calcutta ■ For Linux OS: export LANG=en_US.utf8 ■ For AIX: export LANG=EN_US.UTF-8 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). Set 775 permission on this folder.
	Installation Directory	A directory where the installation files will be installed. User permission is set 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.

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 1000 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, refer to 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 will be prompted to enter the WebSphere Profile path or WebLogic Domain path or Tomcat Deployment path during OFSAAI installation. **Note:** ▪ Refer Appendix A for WebSphere Profile Creation and WebLogic Domain Creation. ▪ For deployment on Oracle WebLogic Server 12.1.3+ (64 bit) with Java 8, download and install patch **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 will be required to enter the Web Server IP / Hostname and Port details during installation. **Note:** Refer Appendix A for Web Server installation.
Others	OFSAA	▪ For installation on Java 8, login to https://support.oracle.com/ and search for **21160684** under the Patches & Updates tab. ▪ For installation of this release on an existing OFSAA instance where the underlying OFSAA Infrastructure (OFS AAI) version is upgraded to version 8.0.1.0.0, login to https://support.oracle.com/ and search for **21133780** under the Patches & Updates tab. ▪ For installation of this release on an existing OFSAA instance version 8.0.2.0.0, login to https://support.oracle.com/ and search for **21657319** under the Patches and Updates tab.

Obtaining the Software

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

Common Installation Tasks

The following are the common pre-installation activities that you need to carry out before installing the OFS BD Applications Pack.

This section includes the following topics:

Identifying the Installation Directory

This would typically be the User home directory and requires you to copy the following files:

- **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) - This is the directory where the installer would install / copy the product files. `FIC_HOME` variable to be set in the `.profile` pointing to this OFS BD Installation Directory.
- **OFS BD Staging/Metadata Directory (Mandatory)** - Create a Staging / Metadata Directory. This is the directory where you would be required to copy data loading files, save data extracts etc. Additionally, this folder also maintains the OFSAA metadata artifacts. This is also referred as "FTPSHARE".

Note:

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

Ensure the user permission is set to 775 on the Staging Directory.

Download and copy the OFS BD Applications Pack Installer

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

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

Configuration for GUI Mode Installation

To install OFS BD Applications Pack in GUI mode, you need to ensure the below software and configurations are available:

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

Syntax:

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

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

For example, 10.11.12.13:0.0 or myhostname:0.0

Copying and Extracting the Software

Once you obtain the installer, copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.

Note:

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

---

1. Download the unzip utility (OS specific) `unzip_<os>.Z` from the location https://updates.oracle.com/unzips/unzips.html, and copy it in Binary mode to the directory that is included in your PATH variable. If you already have the unzip utility to extract the contents of the downloaded archive, skip to the next step.
2. Uncompress the unzip installer file using the command:

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

   Note

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

   ---

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

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

   For example, `chmod 751 unzip_sparc`
4. Extract the contents of the Oracle Financial Services Behavior Detection Application Pack 8.0.0.0.0 in Download Directory installer archive file using the following command:

   ```
   unzip OFS_BD_PACK.zip
   ```

   Note

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

   ---

1. Navigate to the directory where the installer kit is extracted.

   ```
   chmod -R 755 OFS_BD_PACK
   ```

Setting Up the Web Application Server

For setting up the environment based on your selected Web Application Server, refer to Configuring Web Application Servers.

4

Installing OFS BD Pack

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

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

This chapter includes the following sections:

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 8.0.0.0.0 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 these schemas.

The different types of schemas available for configuration in the OFSAA instance and their use is mentioned as follows:

- CONFIG - This schema denotes the unique OFSAA setup configuration schema and holds entities and other objects required to hold the unique OFSAA setup information.

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

- ATOMIC - This schema denotes the schema that 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.

- ADDON - This schema denotes any additional schema used by the OFSAA Applications.

Schema creator utility supports two modes of execution:

- Online Mode: In this mode, the utility connects to the database and executes the DDLs 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 a SQL script with all the required DDLs for User, Entities and Grants. This script needs to 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 need to connect as any user with the following grants (alternatively, you can also connect as a user with SYSDBA privileges):
    - SELECT ON DBA_ROLES
    - SELECT ON DBA_USERS
    - SELECT ON DBA_DIRECTORIES
    - SELECT ON DBA_TABLESPACES
    - CREATE SESSION
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 script execution, reconfigure the `OFS_BD_SCHEMA_IN.xml` file and execute the utility. This regenerates the scripts with corrected information.
4. Do not keep any backup files of xml's in the download directory.

Configuring and Executing the Schema Creator Utility

This section includes the following topics:

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 following prerequisites must be satisfied before configuring the Schema Creator Utility:

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

Configuring the Schema Creator Utility

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

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` folder.
3. Edit the `OFS_BD_SCHEMA_IN.xml` file in a text editor.
4. Configure the following elements as described in the table:

Table 4–1 OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
APP_PACK_ID	Applications Pack ID as per Product Management	-	Mandatory This value should not be edited.

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<JDBC_URL>	Enter the JDBC URL. **Note:** You can enter RAC and NON-RAC enabled database connectivity URL. The TNS Entry should be made in the Application Server where the installation is happening and Web Application Server.	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:@//dbshostserver.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)))	Mandatory
<JDBC_DRIVER>	By default this driver is seeded. **Note:** Do not edit this attribute value.	Example, oracle.jdbc.driver.OracleDriver	Mandatory

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<HOST>	Enter the Hostname or the IP Address of the system on which you are installing the OFSAA components.	Host Name/IP Address	Mandatory
<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.	Accepts strings with a minimum length of two and maximum of four. Example, DEV, SIT, PROD	Mandatory
<SETUPINFO>/ PREFIX_ SCHEMA_NAME	Identifies if the value specified in <SETUPINFO>/ NAME attribute should be prefixed to the schema name. Sample: <SETUPINFO NAME="DEV" PREFIX_ SCHEMA_ NAME="N" />	Y or N Default value is N. If Y, the schema names generated would carry the prefix. For example: dev_ofsaaconf, uat_ ofsaatm1	Optional

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<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, then you need to provide individual passwords for all schemas. **Note:** If 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 / N	Mandatory **Note:** Setting this attribute value is mandatory, If DEFAULT attribute is set.
<PASSWORD> / DEFAULT*	Enter the password if you want to set a default for all schemas. The maximum length allowed is 30 characters. Special characters are not allowed. **Note:** You also need to set APPLYSAMEFORALL attribute as Y to apply the default password for all the schemas.	-	Optional

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<SCHEMA>TYPE	The different types of schemas that are supported in this release are ATOMIC and CONFIG. By default, the schemas types are seeded based on the Applications Pack. **Note:** Do not edit this attribute value.	ATOMIC / CONFIG / ADDON	Mandatory
<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. The schema name should be same for all APP_IDs: **Note:** By default, the schema name `ofsaapurgeutil user` is more than the allowable limit of the number of characters. Please edit this value to an appropriate value.	The permissible length is 15 characters and only alphanumeric characters allowed. No special characters allowed except underscore '_'.	To identify which schema is associated to this Application. Cannot be blank

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<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. ■ The maximum length allowed is 30 characters. Special characters are not allowed.	-	Optional **Note:** You need to mandatorily enter the password if you have set the <PASSWORD>/ APPLYSAMEFORALL attribute as N.
<SCHEMA>/ APP_ID	By default, the Application ID is seeded based on the Applications Pack. **Note:** Do not edit this attribute value.	-	Mandatory
<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. Do not edit these values.	-	Mandatory
<SCHEMA>/ TEMPTABLESPACE	Enter the available temporary tablespace for the DB User. **Note:** If this attribute is left blank, then TEMP is set as the default tablespace.	-	Optional

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<SCHEMA>TYPE	The different types of schemas that are supported in this release are ATOMIC, CONFIG By default, the schemas types are seeded based on the Application Pack. **Note**: Do not edit this attribute value.	ATOMIC / CONFIG / A DDON	Mandatory
<SCHEMA> / QU OTA	Enter the quota to be set on DEFAULTTABLES PACE attribute for the schema / user. By default, the quota size is set to 10G.	Minimum: 500M or Unlimited on default Tablespace. For example, ■ 600M / m ■ 20G / g ■ UNLIMITED / unlimit ed	Optional
<SCHEMA> / INFODOM	Enter the name of the Information Domain to associate this schema. The schema creator utility automatically derives an Information Domain Name based on the Applications Pack if no value is specified for this attribute. **Note**: Entering information domain is required only for SILENT mode of installation. The infodom name should be same for all the APP_ID.	Minimum string length should be 6 characters and up to 11 characters.	Optional
<TABLESPACE> VALUE attribute	As per naming conventions, User can modify the default values provided under the VALUE attribute	Example: DATA_AM_ TBSP and so on.	Mandatory

Table 4–1 (Cont.) OFS_BD_SCHEMA_IN.xml Paraemters

Element Name	Description	Permissible Value	Mandatory/Optional change
<TABLESPACE> DATAFILE attribute	Update <CHANGE_ME> place holder with the actual DATAFILE creation path. For example: DATAFILE="+DATA/ORA12CQA/alert_data_052.dbf" **Note:** For ASM enabled database, the datafile path should start with +data/.	Example: /scratch/oracle/app/oracle/oradata/	Mandatory
<ROLES> VALUE attribute	As per naming conventions, User can modify the default values provided under the VALUE tag.	Example: OFS_FCCM_LOADER_ROLE	Mandatory
<DIRECTORIES> VALUE attribute	Mention the VALUE attribute as @FIC_HOME@/bdf/inbox, where @FIC_HOME @ needs to be replaced with OFSBD application pack installed path. Note: As such this path can be edited/changed by Users. This directory path can be any directory that both the database server and application server have access to and Oracle user (user with which Oracle Database is installed) must have read/write access to this named directory.	Example: /scratch/ofsaaweb/OFSAAI80/bdf/inbox	Mandatory for AML/FR/TC/BC/ECTC

* Once the Schema Creator Utility is successfully executed, the entered passwords will be 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.

Refer to the following List of attributes that should not be modified:

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

Executing the Schema Creator Utility

You can execute the schema creator utility either 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 in Silent Mode
- 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 will create all the Schemas, Schema Objects, and Grants in the database during the execution process.

To execute the schema creator utility while creating the schemas for the first Applications Pack, follow these steps:

1. Log in to the system as non-root user.
2. Navigate to the following folder 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.*
5. Enter the DB Username with SYSDBA Privileges. For example: SYS as SYSDBA.
6. Enter the User Password.

Figure 4–1 Schema Creation - Online Mode

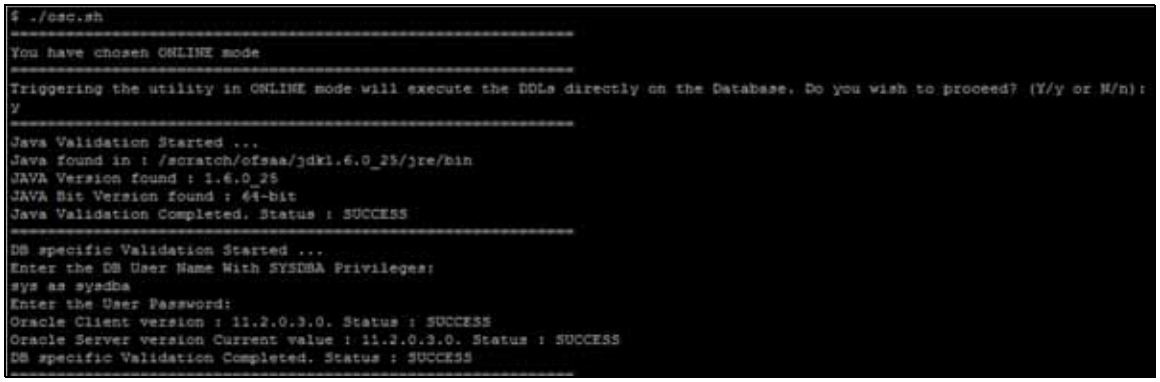
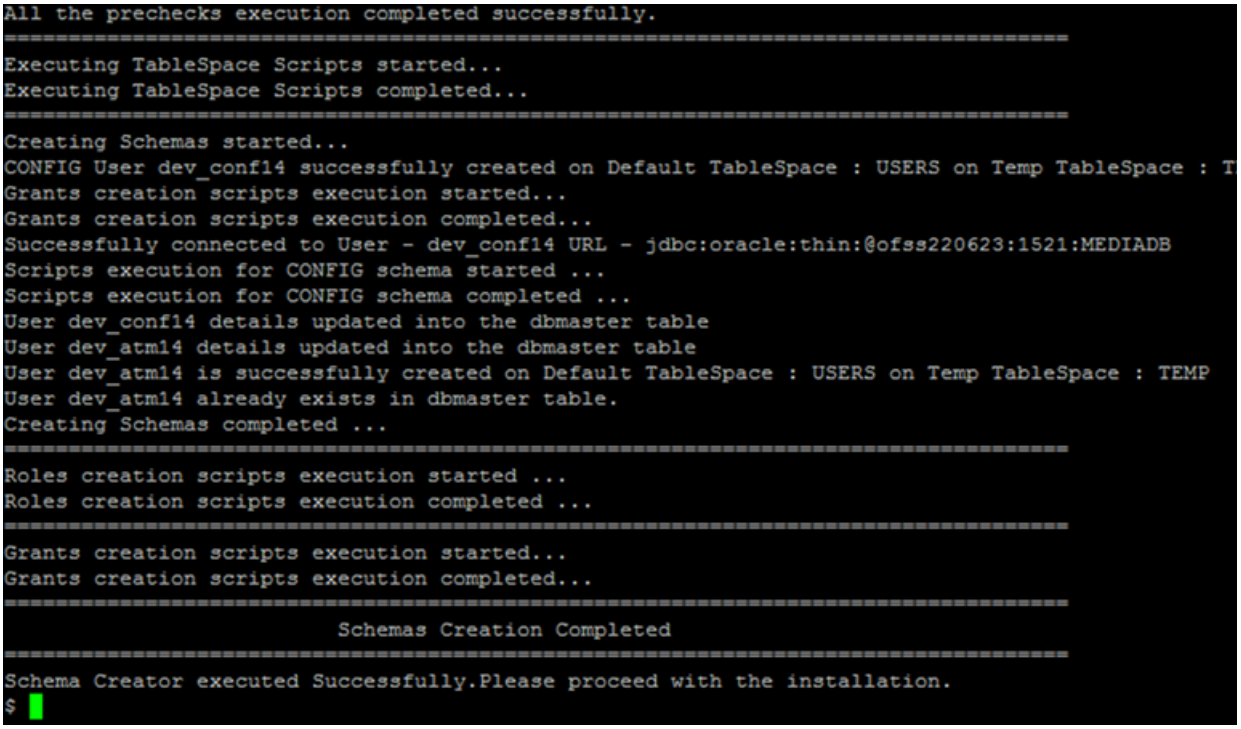


Figure 4–2 Schema Creation - Online Mode



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

Schema Creator executed successfully. Please proceed with the installation.

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

Executing the Schema Creator Utility in Offline Mode

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

Prerequisites:

Database user with the following privileges:

- DBA_ROLES
- DBA_USERS
- DBA_DIRECTORIES
- DBA_TABLESPACES
- CREATE SESSION

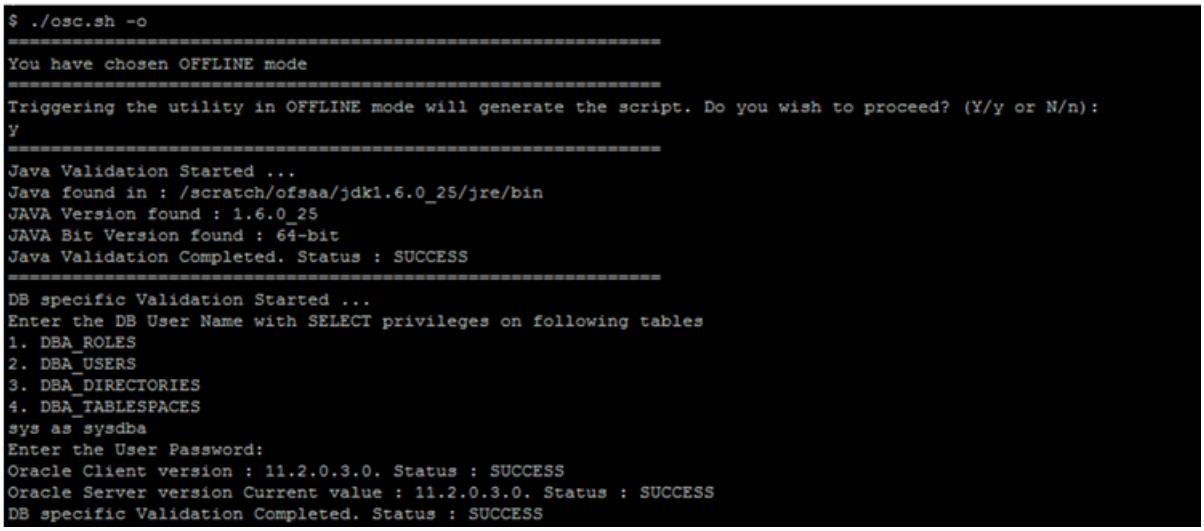
To execute the schema creator utility in the offline mode, follow these steps:

1. Navigate to the following folder path: OFS_BD_PACK/schema_creator/bin
2. Execute the osc.sh file using the following command:

   ./osc.sh -o

3. The following message is displayed: *You have chosen OFFLINE mode.*
4. Enter the DB Username with SELECT privileges.
5. Enter the User Password.

Figure 4–3 Schema Creation - Offline Mode



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

6. Navigate to the directory:

   `OFS_BD_PACK/schema_creator`

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

Figure 4–5 Schema Creator - Offline Mode

```
/scratch/ofsaaweb/OFS_AAAI_PACK/schema_creator/bin
$ cd ..
$ sqlplus sys/oracle@MEDIADB as sysdba

SQL*Plus: Release 11.2.0.3.0 Production on Fri Dec 5 15:10:52 2014

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


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

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

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

   `SQL>@sysdba_output_scripts.sql`

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

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

SQL Scripts folder and SQl file should reside in the same folder.

Executing the Schema Creator Utility in Silent Mode

If you want to run the OFS BD Application 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 will derive the Information Domain name. If the attribute value is set, the utility / installer will configure the Information Domain against this <SCHEMA>.

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

   - OFS_FATCA
   - OFS_FRAUD
   - OFS_AML
   - OFS_TC
   - OFS_ECTC
   - OFS_PTA
   - OFS_TB
   - OFS_BC
   - OFS_IPE
   - OFS_FRAUD_EE

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

   For Example `./osc.sh -s`

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

   Note: To 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 Pack need 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.

Refer log file in `OFS_BD_PACK/schema_creator/logs` folder for execution status, if scripts are executed in online mode.

Refer `log sysdba_output_scripts.log file` for execution status, if executed in offline mode.

In case of any errors, contact Oracle Support.

Verifying the Log File

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

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

- Silent Mode Installation
- GUI Mode Installation

Silent Mode Installation

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

Configuring OFSAAI_InstallConfig.xml

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 following table:
6. You need to 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 4–2 Prerequisite Information

InteractionVariableName	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
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (ojdbc<version>.jar) exists. This would typically be the $ORACLE_HOME/jdbc/lib **NOTE:** Refer to Appendix J for identifying the correct "ojdbc<version>.jar" version to be copied. For example, <InteractionVariable name="ABS_DRIVER_PATH">">/oradata6/revwb7/oracle </InteractionVariable>	Yes

Table 4–2 (Cont.) Prerequisite Information

InteractionVariableName	Significance and Expected Value	Mandatory
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 value should be set to 0/.	Yes
SFTP_ENABLE	Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The below numeric value should be set depending on the choice: ■ SFTP - 1 ■ FTP - 0	Yes
Note: The default value set is 1 as this release of the OFSAA Infrastructure mandates the SFTP service be up and running on the system where OFSAA Infrastructure would be installed. For example, <InteractionVariable name="SFTP_ENABLE">0</InteractionVariable>		
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 following 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
<Layer name="OFSAAI_WEB_LAYER">		

Table 4–2 (Cont.) Prerequisite Information

InteractionVariableName	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 following numeric value should be set depending on the choice: ■ Yes - 1 ■ No - 0	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>	Yes
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>	Yes
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

Table 4–2 (Cont.) Prerequisite Information

InteractionVariableName	Significance and Expected Value	Mandatory
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/webaps/. 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
WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain Home. Specify the value only if WEBSERVERTYPE is set as 3 (WebLogic). For example, <InteractionVariable name="WEBLOGIC_DOMAIN_ HOME">/home/weblogic/bea/user_ projects/domains/mydomain </InteractionVariable>	Yes if the if WEBAPPSERVERTYPE atrribute is set to 3

Table 4–2 (Cont.) Prerequisite Information

InteractionVariableName	Significance and Expected Value	Mandatory
OFSAAI_FTPSHARE_PATH	Identifies the absolute path to the directory identified as file system stage area. Note: 1.The directory should exist on the same system on which the OFSAA Infrastructure is being installed (can be on a separate mount). 2.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

7. 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 4–3 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

Table 4–3 (Cont.) InstallConfig.xml Parameters

Placeholder Name	Significance and Expected Value	Mandatory
##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_ADMIN_TOOLS_CONTXT##	Admin Tools Web application Context. For Example: admin_tools **Note**: During deployment the ear file needs to be deployed with same name	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 / 2009	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 / 2009	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 / 2010	Yes
##OFS_AML_ANALYST_DATA_SOURCE##	Name of the Analyst Data source used for Admin Tools Configurations	Yes
##OFS_AML_MINER_DATA_SOURCE##	Name of the Miner Data source used for Admin Tools Configurations	Yes
##OFS_AML_WEB_SERVICE_USER##	Web service user for Post Alert Services.	Yes

Table 4–3 (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

Running the installer in Silent Mode

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

For Java 7:

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

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

For Java 8:

1. Edit the `VerInfo.txt` file to modify the value for property JAVA_VERSION to 1.8 under the following paths:

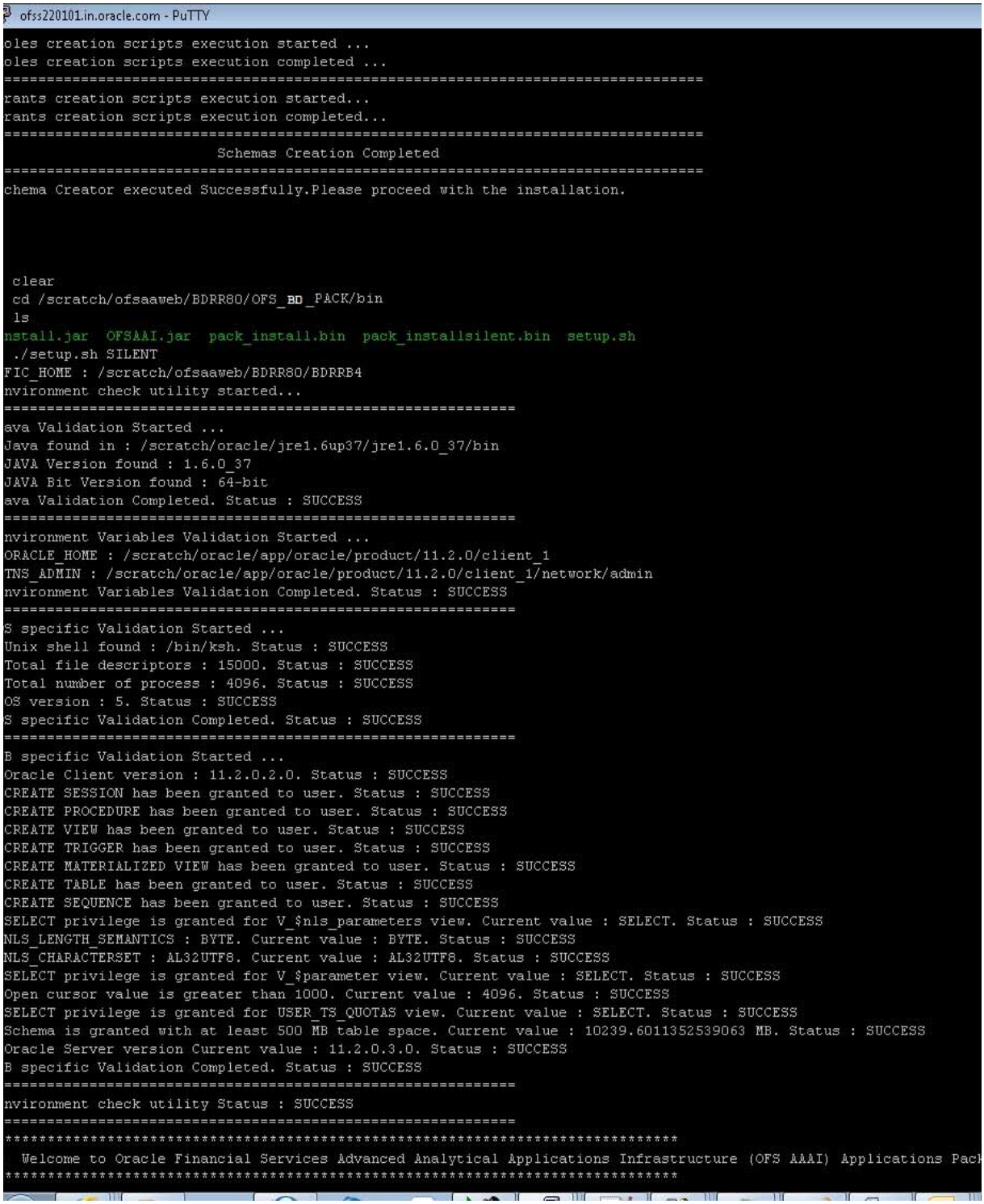
   `OFS_BD_PACK/OFS_AAI/bin` and `OFS_BD_PACK/OFS_BD/bin`
2. Navigate to the `OFS_BD_PACK/bin` folder.
3. Execute the command in the console:

   ```
   ./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:

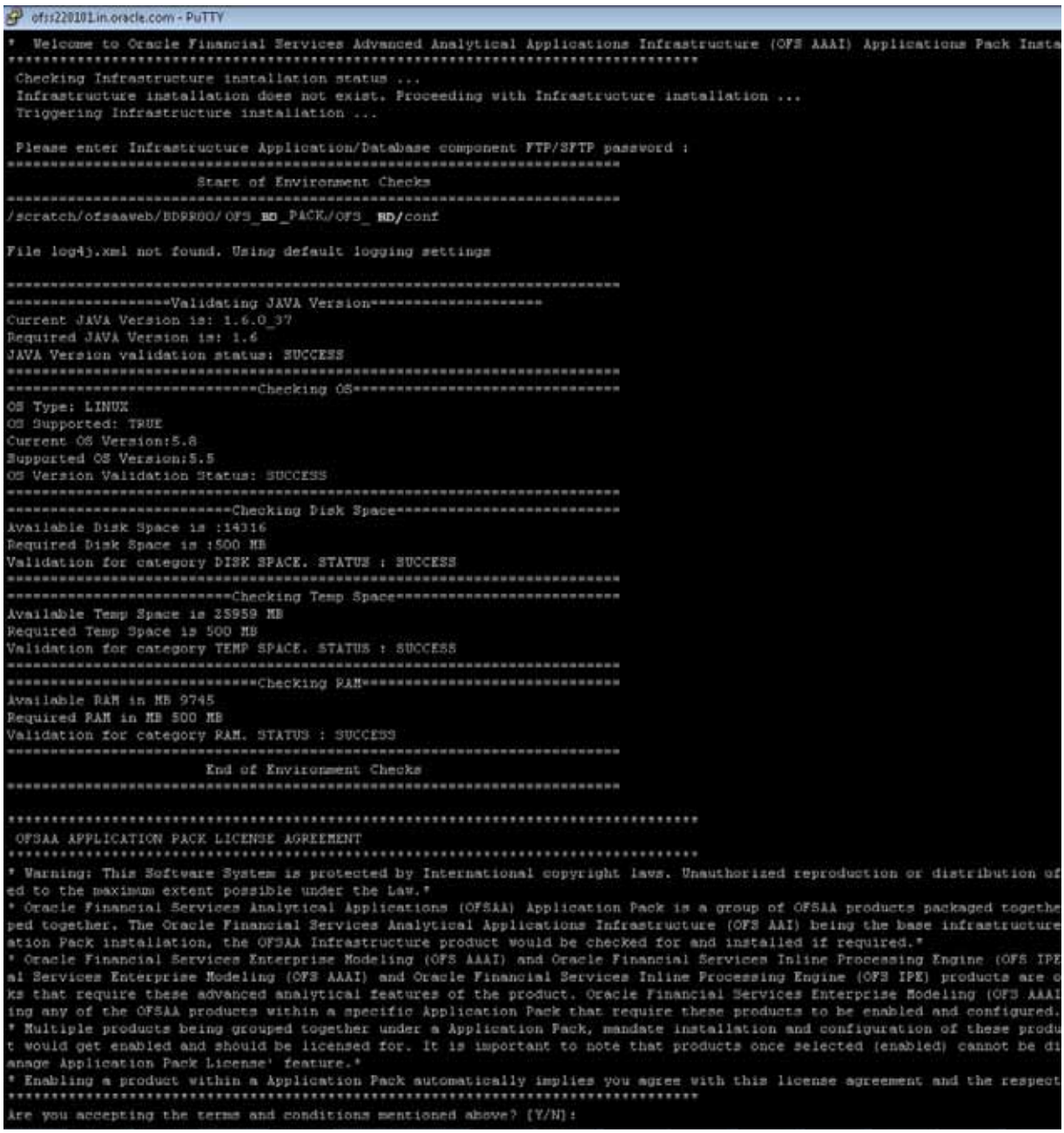
- Enter the Infrastructure FTP / SFTP password value, when prompted at the command prompt.
- Enter **Always**, when prompted to add host key fingerprint.

Table 4–4 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 4–6 OFSAAI License Agreement Page

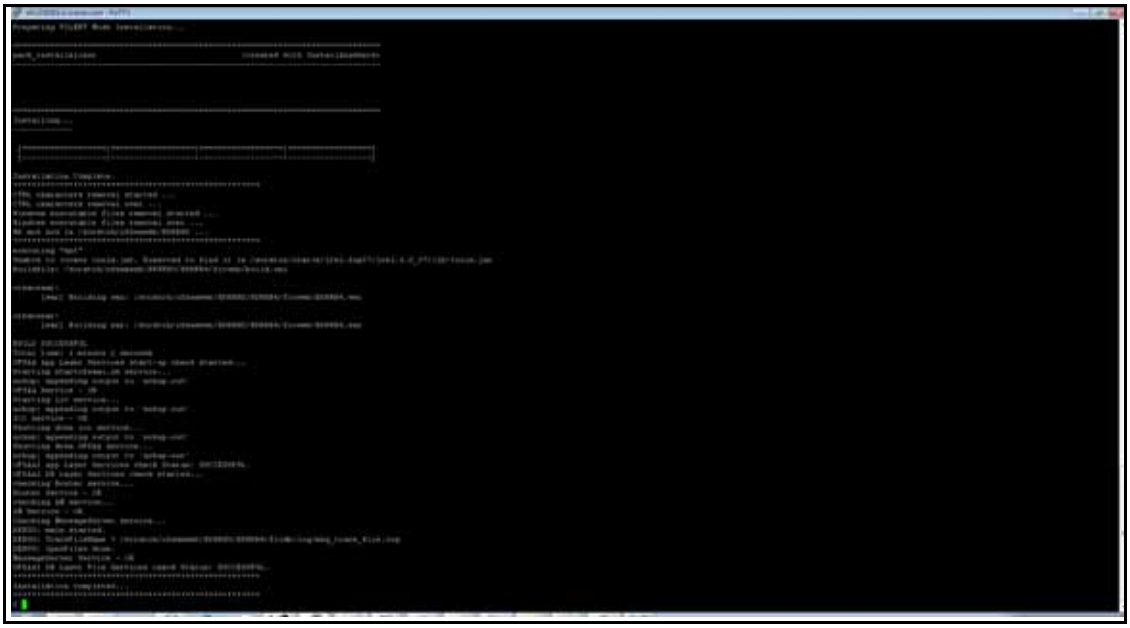


2. Accept the License Agreement.

Table 4–5 Webserver start up options

Console Prompts	User Inputs
Are you accepting the terms and conditions mentioned above? [Y / N]	Enter Y if you accept the license agreement and want to proceed with installation.
Enter password for default Infrastructure administrator user SYSADMN	Enter the password for the System Administrator.
Re-enter password for default Infrastructure administrator user SYSADMN	Enter the same password again to confirm its validity.
Enter password for default Infrastructure authorizer user SYSAUTH	Enter the password for the System Authorizer.
Enter password for default Infrastructure authorizer user SYSAUTH	Enter the same password again to confirm its validity.

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



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.

Download and install patch for Bug **21160684** if installing this

release of the OFS BD Application Pack version 8.0.0.0.0 on Java 8.

For more information, refer Configurations for Java 8. This patch is not required if an OFSAA instance already exists and is configured for Java 8.

GUI Mode Installation

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

1. Log in to the system as non-root user.
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`.
4. To install OFS BD Application Pack for Java 7 and Java 8:

   Java 7:

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

   Java 8:

   - Edit the `VerInfo.txt` file to modify the value for property JAVA_VERSION to 1.8 under the following paths:

     `OFS_BD_PACK/OFS_AAI/bin` and `OFS_BD_PACK/OFS_BD/bin`
   - Navigate to the `OFS_BD_PACK/bin` folder
   - Execute `./setup.sh GUI` in the console.

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

Figure 4–7 Initialization Window

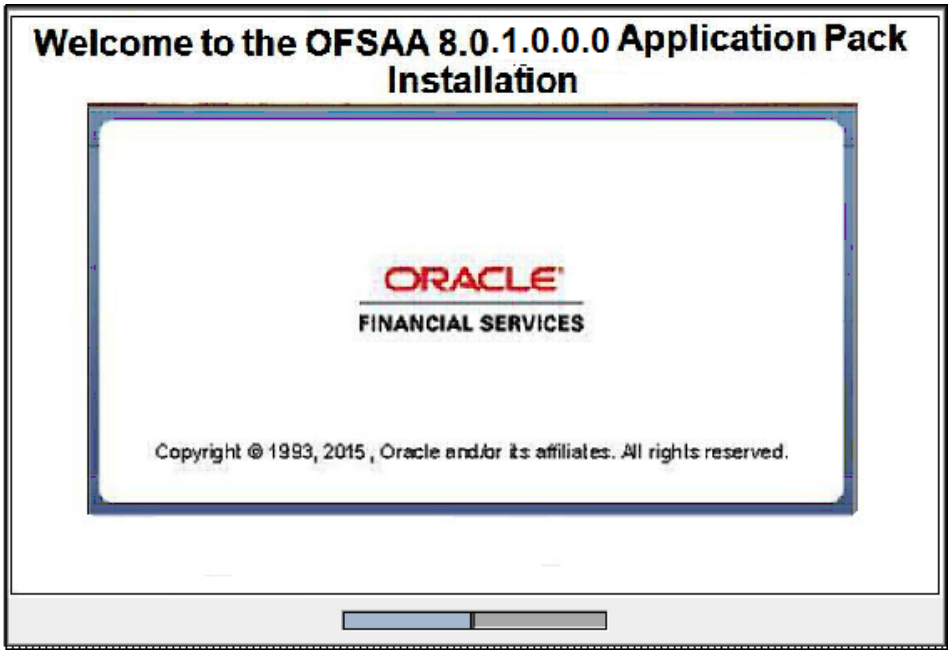
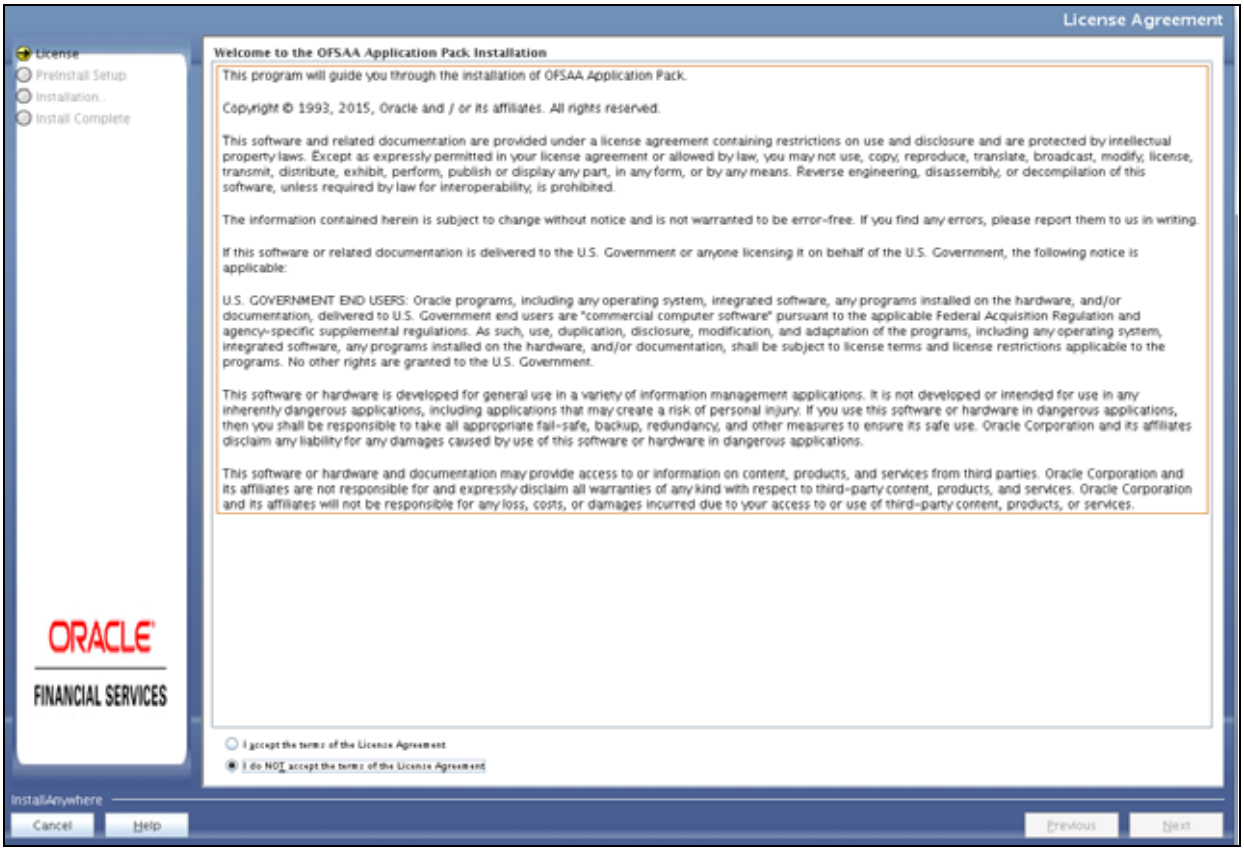


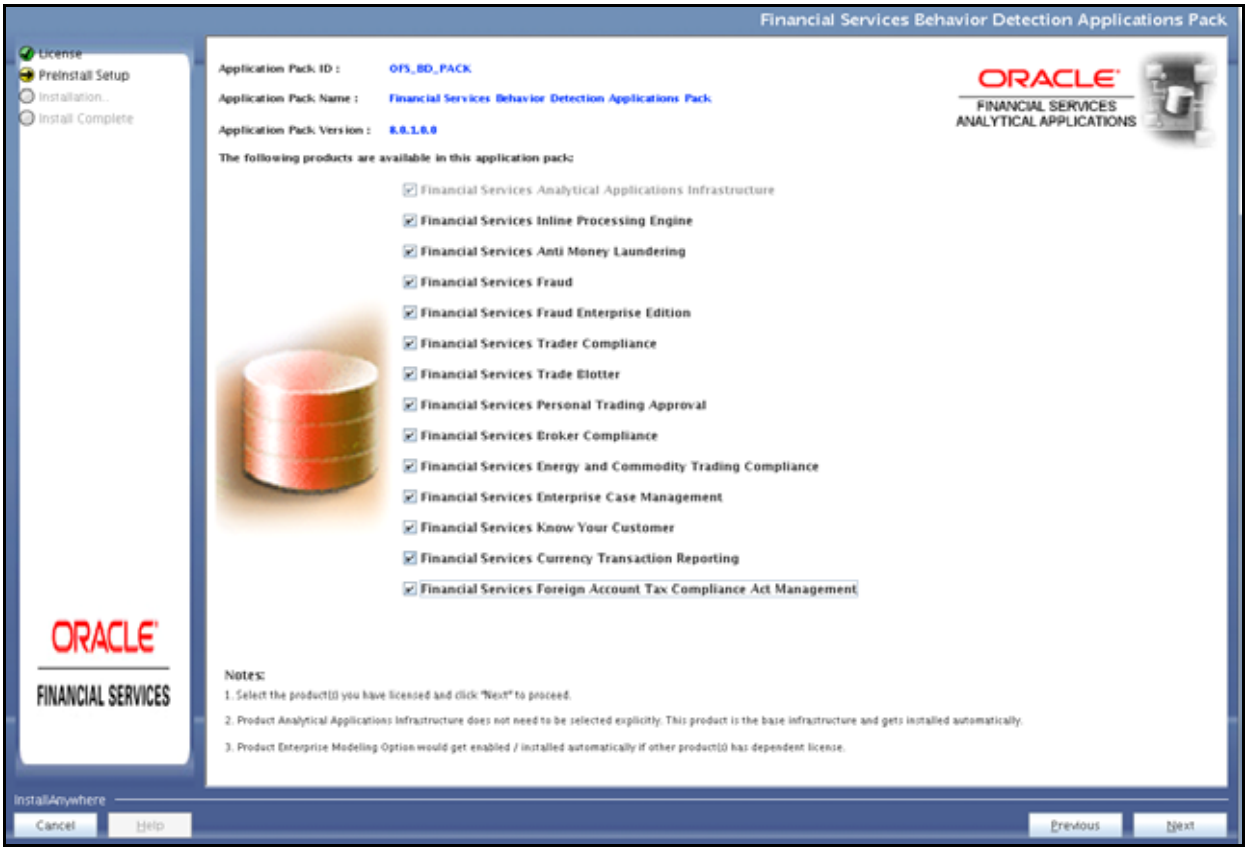
Figure 4–8 License Agreement



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

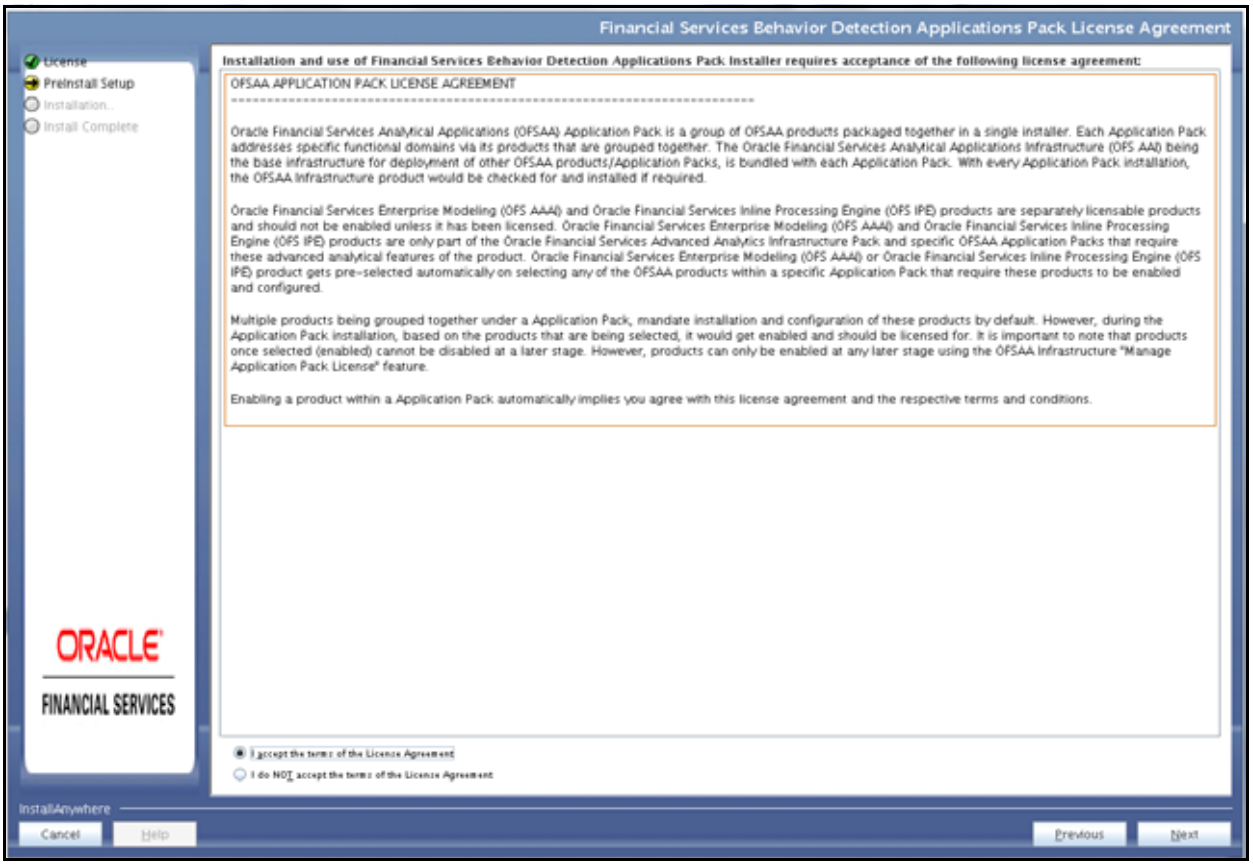
The Financial Services Behavior Detection Applications Pack details are displayed.

Figure 4–9 Applications Pack Details



7. Select the product to enable for which you have already obtained license.
8. Click **Next**. The License Agreement page is displayed.

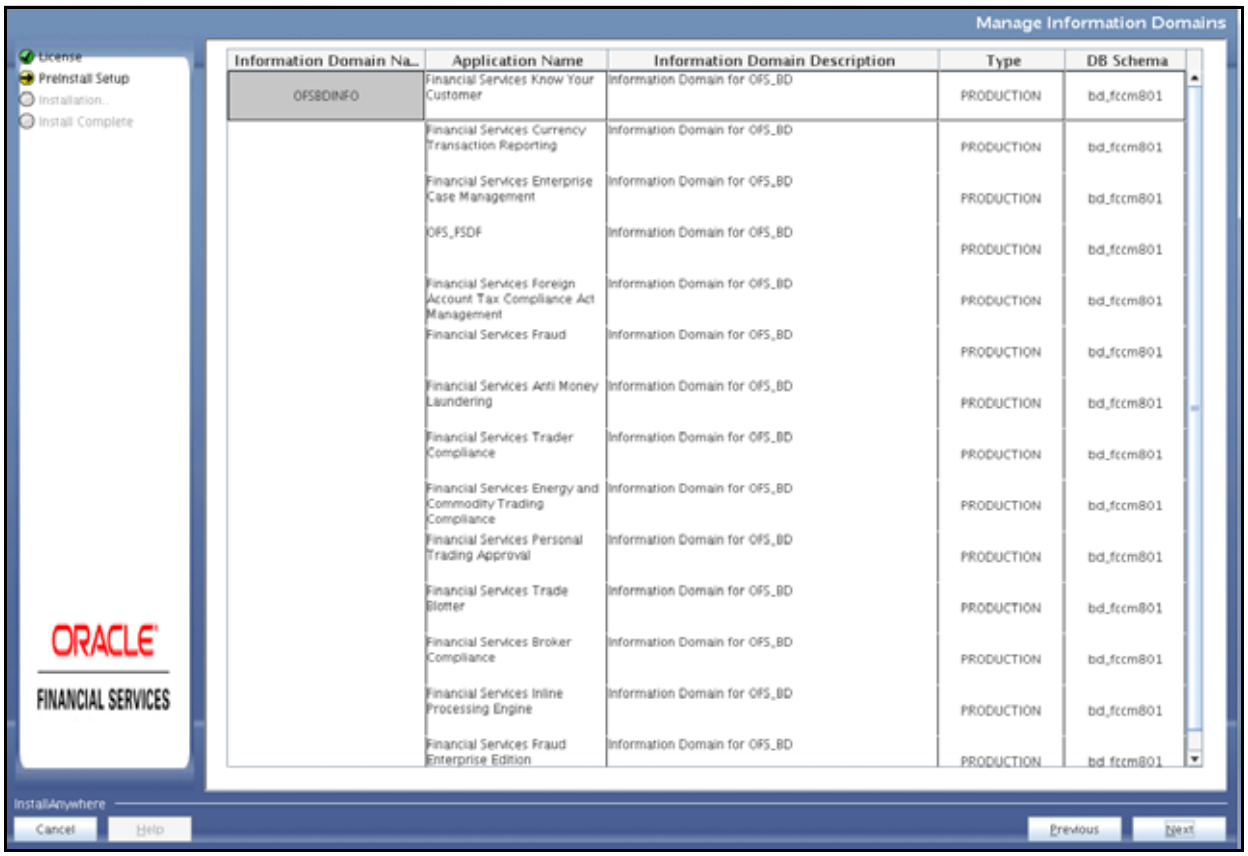
Figure 4–10 License Agreement page



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

    The Manage Information Domain page is displayed.

Figure 4–11 Manage Information Domain page

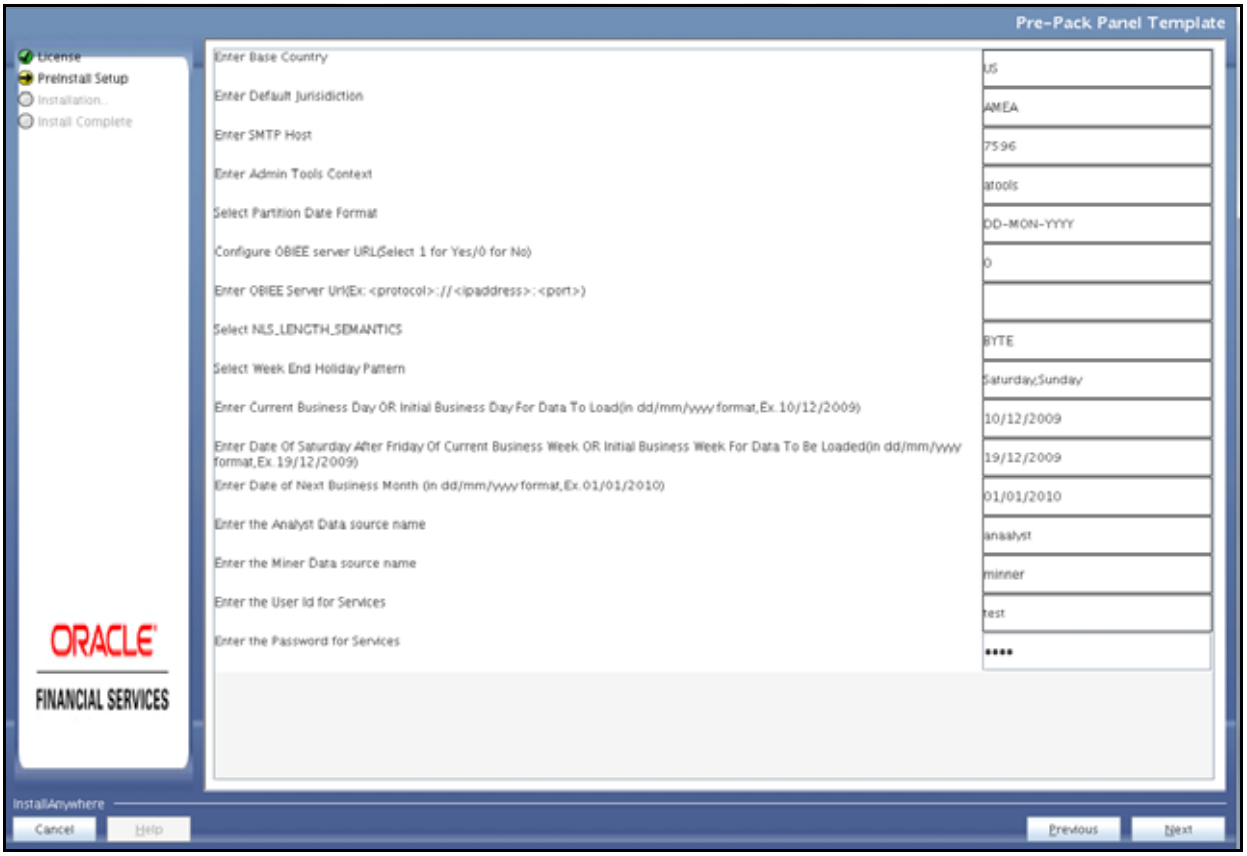


Note: Refer to Table 4-3 and provide appropriate values in the screen. All fields are mandatory.

11. 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 4–12 Pre-Panel Template



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

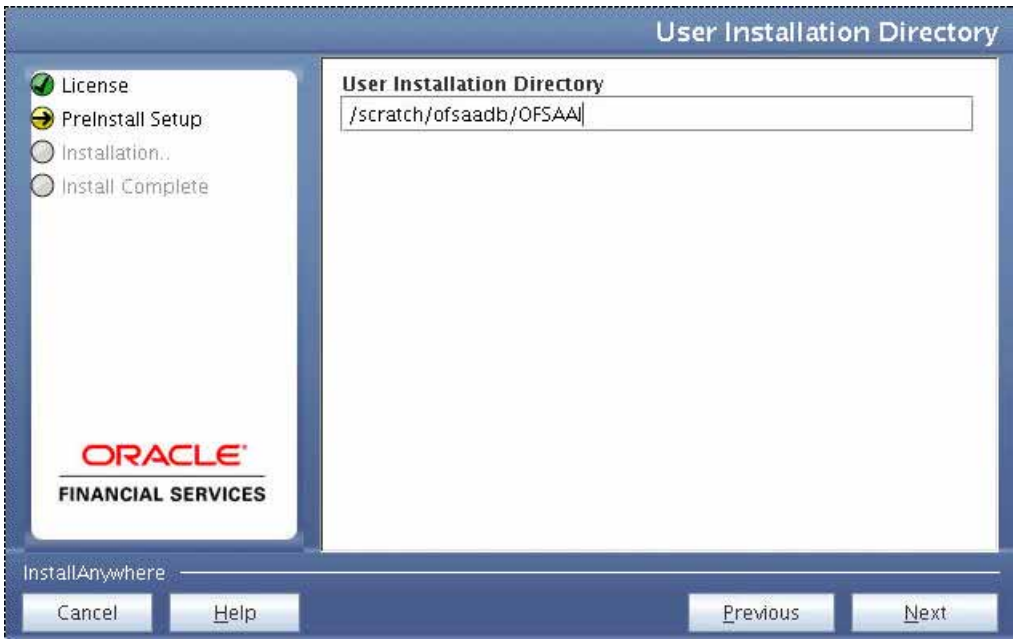
Figure 4–13 License Agreement Window

13. Select **I accept the terms of the License Agreement** option.
14. Click **Next**. The License Details page is displayed.

Figure 4–14 License Details Page

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

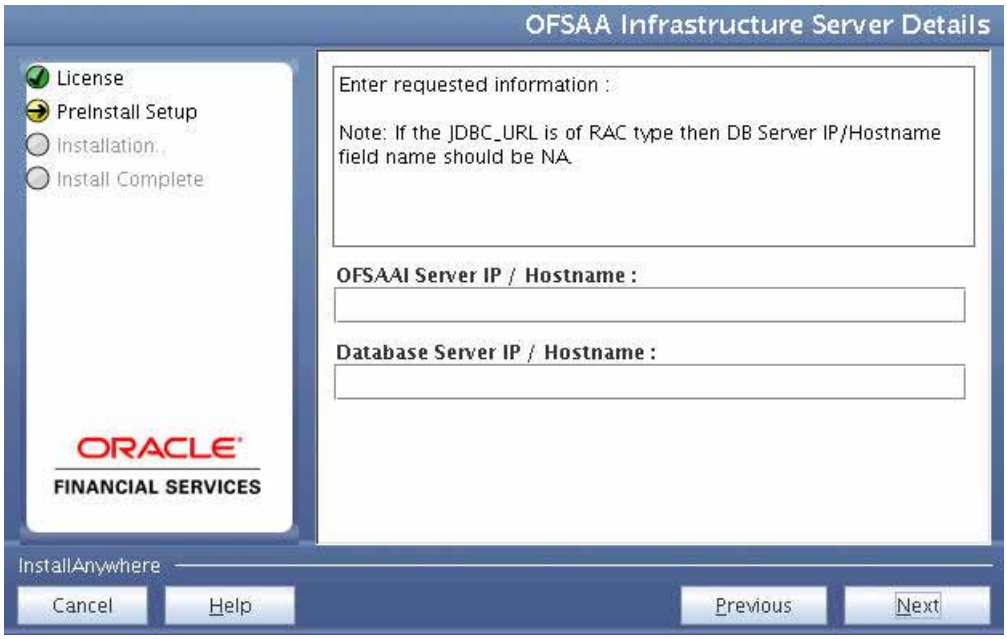
Figure 4–15 User Installation Directory



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

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

Figure 4–16 OFSAA Infrastructure Server Details



17. Enter the IP address or hostname of the OFSAAI server and Database server.
18. Click **Next.** The *Web Application Server* window is displayed.

Figure 4–17 Web Application Server

19. Select the appropriate Web Application server type. The options are Tomcat, WebSphere, and WebLogic.

20. Click **Next**. Based on the selection, corresponding screens are displayed.

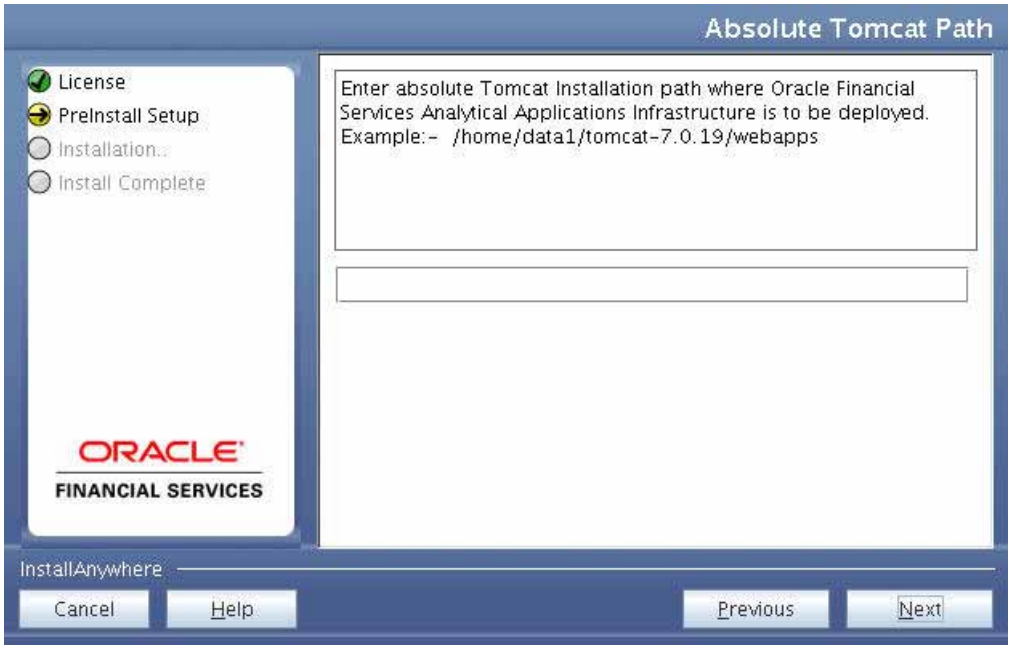
    For WebSphere: The WebSphere Setup Details window is displayed.

Figure 4–18 WebSphere Setup Details

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

    For Tomcat: The Absolute Tomcat Path window is displayed.

Figure 4–19 Absolute Tomcat Path



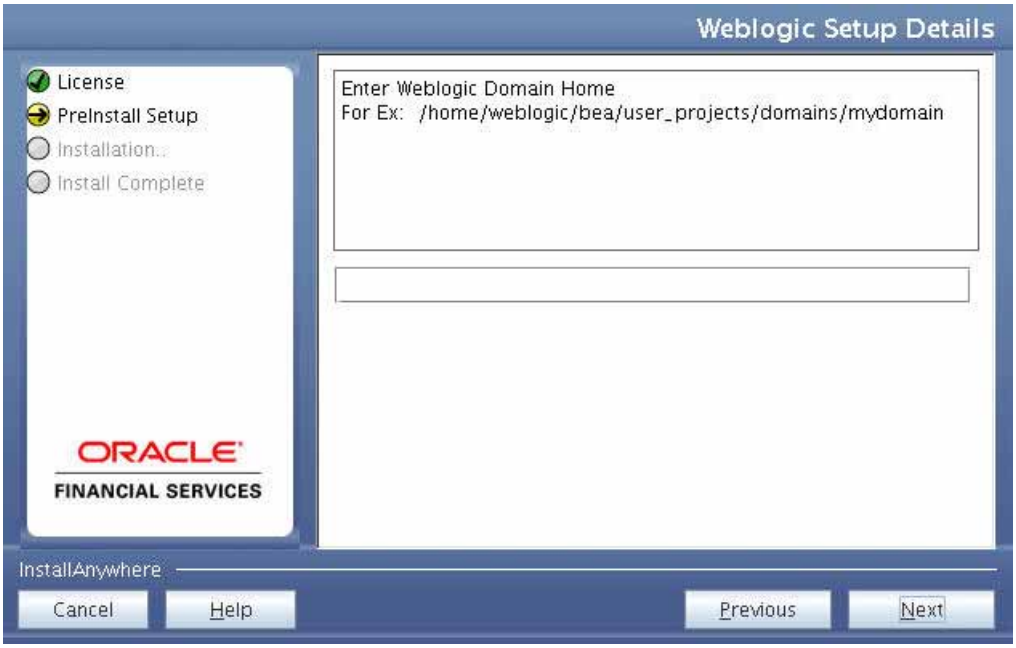
22. Enter the Tomcat installation path (till / webapps) where OFSAAI will be deployed.

    For WebLogic: The Weblogic Home window is displayed.

Figure 4–20 Weblogic Home

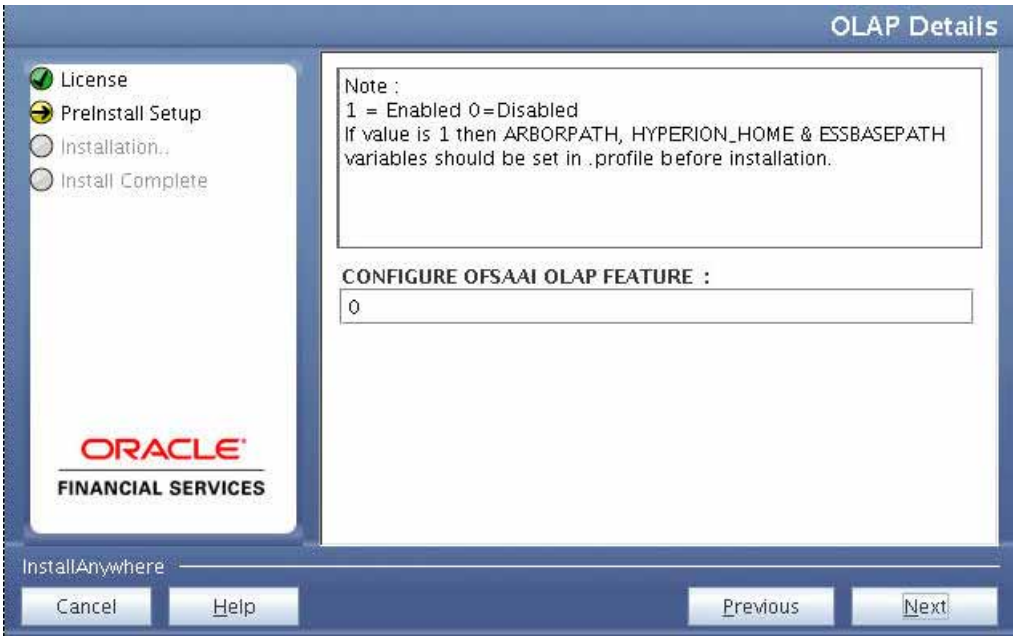
23. Enter the WebLogic home directory path.

Figure 4–21 Weblogic Setup Details



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

Figure 4–22 OLAP Details

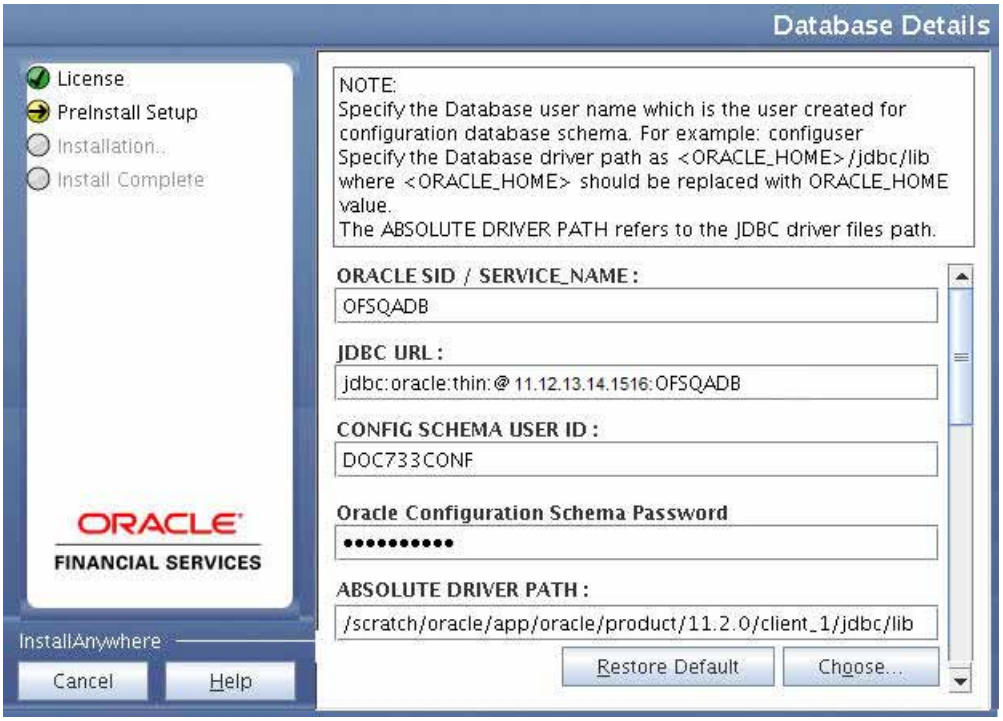


25. OFSAAI OLAP feature should be set to 0.
26. Click **Next**. The Web Server Details window is displayed.

Figure 4–23 Web Server Details

27. Select **Enable HTTPS** checkbox to configure HTTPS, if required, and enter the Web Server (HTTP Server) Port, Context name for deployment, and Local path to any folder on the Web Application Server (Tomcat / Websphere / Weblogic).
28. Click **Next**. The Database Details window is displayed.

Figure 4–24 Database Details



29. Enter Oracle SID / Service Name.

Note:

The JDBC URL, Configuration Schema User ID, Oracle Configuration Schema Password, and Absolute Driver Path are auto-populated.

Absolute Driver Path can be the path where Oracle DB client is installed or JDBC driver is installed. For example, `/scratch/oracle/app/oracle/product/11.2.0/client_1/jdbc/lib`

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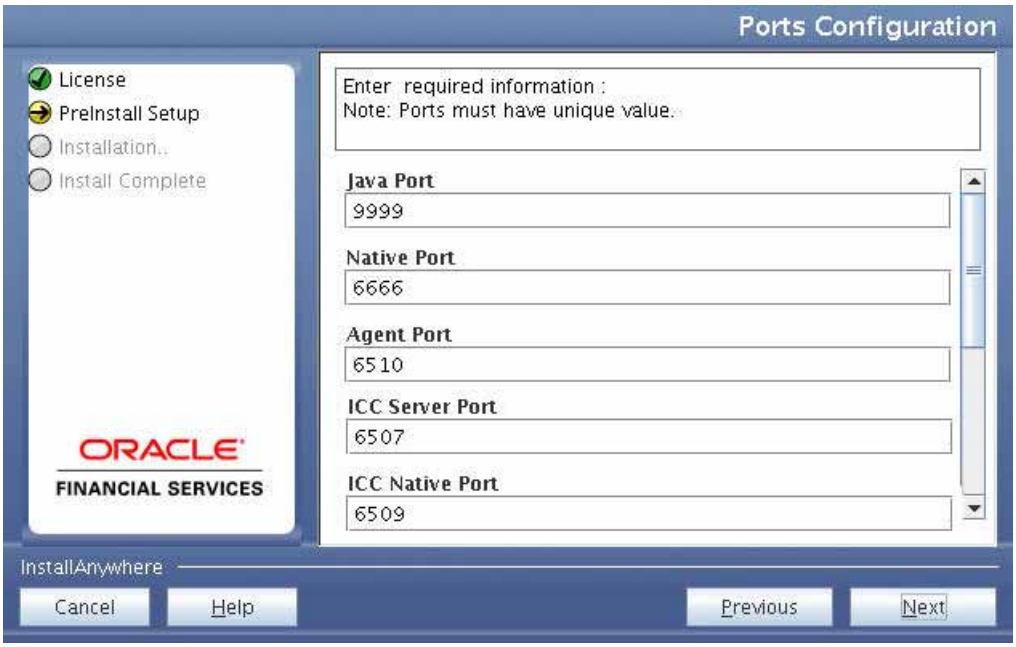
30. Click **Next**. The Ports Configuration window is displayed.

Figure 4–25 Ports Configuration

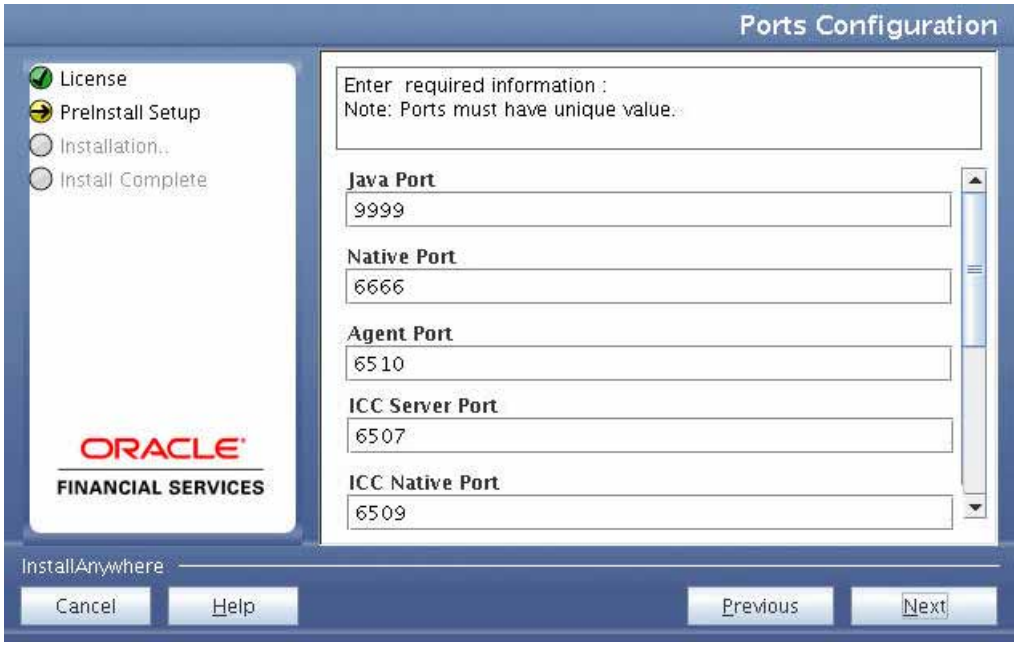


Note: The Port, Native Port, Agent Port, ICC Server Port, and ICC Native Ports are auto-populated. You can also configure the Ports settings.

---

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

Figure 4–26 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.

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

Figure 4–27 Default Infrastructure Administrator and Authorizer User Password

33. Enter the passwords for default System Administrator and System Authorizer users.
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 being installed, has either FTP / 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 Repository 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 over 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

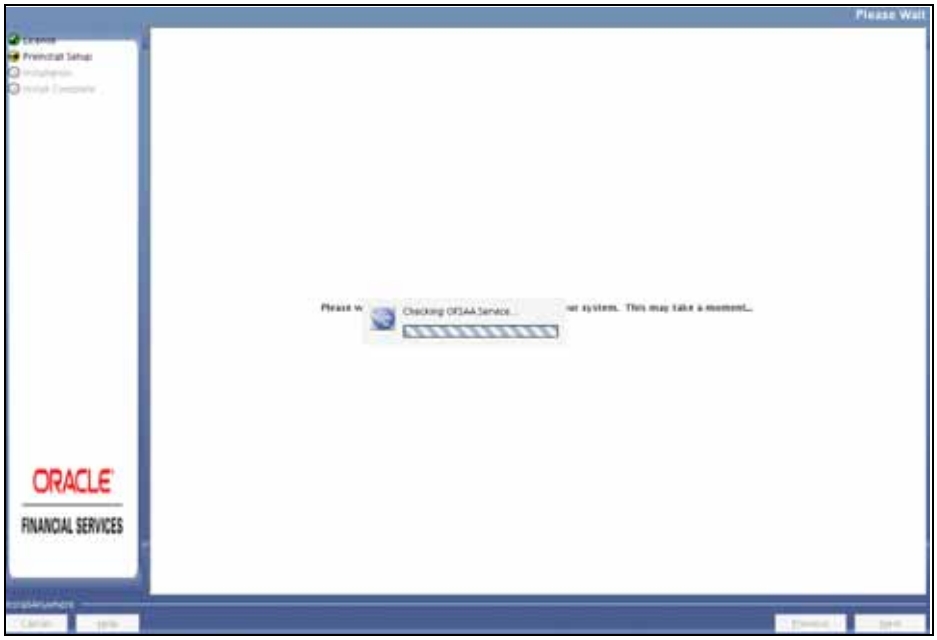
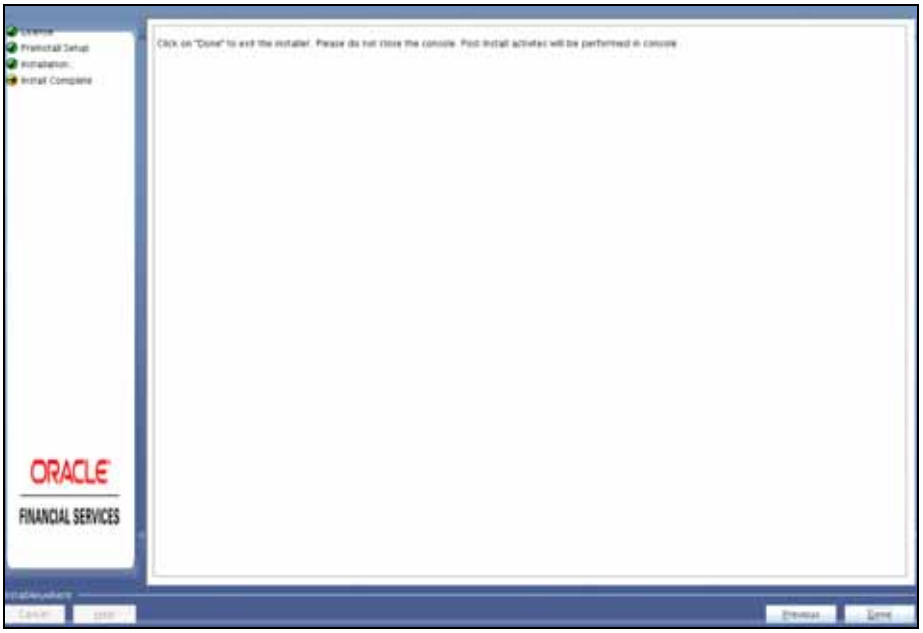


Figure 4–34 Installation Complete



42. Click **Done**.

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

Verifying the Installation

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

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

Note: Ensure that you apply the following two patches before deploying the application:

- Patch **21865079** has to be applied for for Java 8 + Weblogic 12.1.3 combination.
- Patch **21535620**

5

Post Installation Configuration

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

This chapter includes the following sections:

- Creating and Deploying the Applications Pack Web Archive
- Installing Scenario Manager
- Deploying Analytic Reports and Threshold Analyzer
- Configuring Resource Reference
- Configuring Web Application Server
- Configurations for Java 8
- Installing lower version of OFS BD on a higher version of OFSAA Infrastructure (OFS AAI)

> **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, refer to the *Clearing Application Cache* section.

Creating and Deploying the Applications Pack Web Archive

OFSBD Application 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, refer Deploying EAR/WAR File.

Admin Tools Deployment

The following deployment steps must be performed if installed applications are AML/FR/TC/BC/ECTC/Fraud-EE/TB.

To deploy Admin Tools, follow these steps:

1. Create two data sources, one each for Analyst and Miner. The name of these data sources should match with the ones entered during the installation.
2. Go to `$FIC_HOME/ficweb/AM` installed directory and run the script file `./ant.sh`
3. Deploy the `<admin_tool_context-name>.war` (for example, admin_tools.war) available at `$FIC_HOME/AM directory`, as an application on your Web Application Server.

> **Note:**
>
> - While deploying war file, keep same context name as updated against variable ADMIN_CONTEXT_NAME in InstallConfig.xml File located at <download_dir>/ OFS_BD_PACK/OFS_BD/conf.
> - Refer to Post Deployment Configuration for more details.

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: Refer to 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.
    1. Click Delete Files to clear the Java cache.

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 F`IC_HOME/ingestion_manager/scripts directory` and 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. Modify a script to set up environment variables in the web application server. The respective script should be created (or modified if it already exists) as:

```
#!/bin/sh

FIC_HOME=<Service Deployed Directory>

ORACLE_HOME=<Oracle Home>

export FIC_HOME 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/log4

j-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, this file is <Tomcat Directory>/bin/setenv.sh.

For WebLogic, this file is <WebLogic

Directory>/user_projects/domains/<user_domain>/bin/setDomainEnv.sh.

6. Modify the script from step5, replacing <Service Deployed Directory> and <Oracle Home> with their respective values.

7. Restart the web application server.

Create the Post Alert Service .war file by following the steps provided below.

To configure and deploy Services, follow these steps:

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

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, please use the URL:
<protocol>:/ /<Server>:<port> / mantasServ / services / AlertManagementService

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

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 5–1 is installed and configured on the workstation.

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

Table 5–1 Prerequisite Third-Party Software Products for the Scenario Manager Workstation

Component	Product	Verison	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 5–2 to verify the database connection information, as well as user and owner names you must provide to the Scenario Manager Installation Program.

Table 5–2 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
Oracle Database Connection String*	TNS name 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	
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. Refer to 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.

The Enter the Name of Server that Oracle Database Resides On screen displays.

5. Type the following in their respective text boxes:

Table 5–3 Prerequisite Third-Party Software Products for the Scenario Manager Workstation

Component ProductVerison Vendor	<enter user name for (kdd_schema_owner)>
The Firm Schema database owner's name.	<enter user name for (mantas_schema_ owner)>
The KDD Miner user's name.	<enter user name for (tools_user)>

Note: Refer to 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.
4. Click Login.

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
- Installing OBIEE Windows Administration Client
- Disabling the Cache Feature in OBIEE Server
- Change Default Repository Password
- Configuring OBIEE Connection Pool
- Deploying OFS BD Report Analytics
- Post Installation Steps
- Accessing Reports through OFS BD Application

Installing OBIEE Server

To install the Oracle Business Intelligence Enterprise Edition (OBIEE) server, refer to Oracle® Fusion Middleware Installation Guide for Oracle Business Intelligence11g Release 1 (11.1.1.7.1). After installation, get the Enterprise Manager URL, Username, Password, and OBIEE installed directory from the system administrator.

Installing OBIEE Windows Administration Client

To install the OBIEE repository administration client for Windows machine, refer to Oracle® Fusion Middleware Installation Guide for Oracle Business Intelligence11g Release 1 (11.1.1.7.1).

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 Get Started and select Download BI Desktop Tools.

Disabling the Cache Feature in OBIEE Server

Login to the Enterprise Manager and perform the following steps:

1. Click Business Intelligence folder from the left hand side menu and select coreapplicaiton. For more information, refer Figure 1.
2. Click Capacity Management and then select the Performance tab.
3. Click Lock and Edit Configuration tab.
4. To disable the Cache, uncheck the Cache Enabled Option.
5. Click Apply and Activate Changes.
6. Click Restart to apply recent changes.

Change Default Repository Password

Copy `OBI_8.0.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 – `OBI_8.0.rpd` windows is displayed.
2. Enter default Repository password: Mantas61

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

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 - OBI_8.0.rpd windows is displayed.
2. Expand the D4010S10 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 Alert Management schema user in the User name text box.
6. Enter the Alert Management 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:
   - D4010S10 > Atomic Schema

- D5011S10 > Atomic Schema (refer report_user in <OFSBDP Installed Directory> / database / db_tools / mantas_cfg / db_variables.cfg file. For more details, refer to the Installation Guide - Stage 1).
- Fraud Analytics > Atomic Schema
- KYC1.1DEV-179 >Atomic Schema
- Initial block and connection pool: both should point towards the atomic schema.
- MNTS583 > Atomic Schema
- RD > CaseMng connection pool > Atomic Schema
- RD > Security connection pool->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

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. Copy ANALYTICS_REPORT folder from $FIC_HOME / OBIEE and place under <OBIEE Installed Directory> / instances / instance1 / bifoundation / OracleBIPresentationServicesCom ponent / coreapplication_obips1 / catalog.
4. Login into Enterprise Manager, click the Business Intelligence folder at left hand side and select coreapplication, and then click on Deployment tab.
5. Click the Repository tab.
6. Click on Lock and Edit Configuration tab.
7. Click Close on the Confirmation pop-up window.

8. In the Upload BI Server Repository Section, browse the repository file from the Windows machine.
9. Enter the new repository password in the Repository Password and Confirm Password text boxes.
10. In BI Presentation Catalog section, provide the Catalog Location as <OBIEE Installed Directory>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog/ANALYTICS_REPORT
11. Click Apply.
12. Click Activate Changes and close the activate changes pop-up window.
13. Click Close on the Confirmation pop-up window.
14. Modify <OBIEE Installer Directory>/instances/instance1/config/OracleBIPresentationServicesComponent/coreapplication_obips1/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>

15. Restart OBIEE server.
16. Modify Instanceconfig.xml available at<FMW_HOME>/instances/instance1/config/OracleBIPresentationServicesComponent/coreapplication_obips1/instanceconfig.xml location

    Add the tag under the Security Section in Instance Config.xml

    <InIFrameRenderingMode>allow</InIFrameRenderingMode>

    So that it looks like the following after adding above tag:

    <Security>

    <!--This Configuration setting is managed by Oracle Enterprise Manager Fusion Middleware Control-->

    <ClientSessionExpireMinutes>210</ClientSessionExpireMinutes>

    <InIFrameRenderingMode>allow</InIFrameRenderingMode>

    </Security>

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

    ./opmnctl startall

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, refer to the Alert Management User Guide.

Note: For Bug 13713131: An error displays when a user clicks on the pie chart or tries to access the Threshold Analyzer reports.

This is an issue with Solaris OS. Apply Solaris patch #13055819 to solve this issue

Configuring Resource Reference

This section describes the details for configuring the resource reference in WebSphere, Weblogic, and Tomcat Application Servers. For detailed information, refer to *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, refer to *Configuring Web Application Servers*.

Configurations for Java 8

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

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

   For more informaiton on downloading the patch files, refer Prerequisite Information section >> Category - Others >> Sub-Category - OFSAA.

2. Follow the instructions given in the Readme to apply the patch.

3. If the Oracle Database version is 12c, copy `ojdbc7.jar` from `$ORACLE_HOME/jdbc/lib` to the following locations:

   - `$FIC_HOME/utility/OFSAAGenerateRepository/lib/`
   - `$FIC_HOME/realtime_processing/WebContent/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/lib/`
   - `$FIC_HOME/ficapp/icc/lib/`
   - `$FIC_HOME/ficapp/common/FICServer/lib/`
   - `$FIC_HOME/FMStandalone/FormsManager/WEB-INF/lib/`
   - `$FIC_HOME/ficweb/webroot/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/etl/classes/`

4. If the Oracle Database version is 11g, copy `ojdbc6.jar` from `$ORACLE_HOME/jdbc/lib` to the following locations:

   - `$FIC_HOME/utility/OFSAAGenerateRepository/lib/`
   - `$FIC_HOME/realtime_processing/WebContent/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/lib/`
   - `$FIC_HOME/ficapp/icc/lib/`
   - `$FIC_HOME/ficapp/common/FICServer/lib/`
   - `$FIC_HOME/FMStandalone/FormsManager/WEB-INF/lib/`
   - `$FIC_HOME/ficweb/webroot/WEB-INF/lib/`
   - `$FIC_HOME/ficdb/etl/classes/`

Installing lower version of OFS BD on a higher version of OFSAA Infrastructure (OFS AAI)

In case of installation of OFS BD Application Pack 8.0.1.0.0 release on an existing OFSAA instance where the OFSAA infrastructure (OFS AAI) is already upgraded to a higher release, for example, 8.0.2.0.0, perform the below steps:

1. Navigate to `$FIC_HOME/Post_AAI_Migration` folder.

2. Execute `./aaipi.sh`

6

Start And Stop of Services

This chapter details about how to start and stop Infrastructure services. This chapter includes the following topics:

Starting Infrastructure Services

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

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

   ```
   ./startofsaai.sh
   ```

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

2. Select the required webserver start up option from the following table:

Table 6–1 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`

3. Start ICC server:

   a. On the machine in which Infrastructure default Application components have been installed, navigate to $FIC_HOME/ficapp/icc/bin and execute the command:

   ```
   ./iccserver.sh
   ```

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

4. To start Back-end Services:

   a. 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.

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
   ```

7

Post Deployment Configuration

Accessing the OFSAA Application

1. From a client workstation, open the client browser and provide the URL as http or https://<IP address>:<servlet port>/<context-name>/login.jsp.

   For example, http://11.111.111.111:1111/ofsaai/login.jsp

   Note: If https configuration is enabled, the client browser will must disable the proxy servers through the client browser's internet options.

2. The OFSAAI login screen is displayed.

Figure 7–1 OFSAAI Login Page

3. There are two in-built system administration users profiles configured in the system:
   - SYSADMN
   - SYSAUTH
4. You can login to the system 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.

Creating Users

This section explains steps to create users. For more information refer user creation section from the Oracle Financial Services Analytical Applications Infrastructure User Guide.

Mapping the User to User Group

This section explains steps to map user to user group. For more information, refer to the mapping user creation section from the *Oracle Financial Services Analytical Applications Infrastructure User Guide.*

Perform 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.

Perform 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

Perform 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:

- Log in as an ECM Administrator/Supervisor user.
- Navigate to Home page.
- Click on logged in user name in the right top corner
- Click on Preference and it will open new page
- Select Enterprise Case Management as your default page and click Save

Configuring the Alert or Case Auto Assignment

For configuring the Auto Assignment for Alerts and Cases, refer to section Configuring the Alert/Case Auto Assignment Web Service in Configuration Guide.

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: The DataIngest.properties 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, refer to the Oracle Financial Services Behavior Detection Application Pack Administration Guide.
- DataIngest.xml: The DataIngest.xml file (which resides in the /<OFS BD Installed Directory>/ingestion_manager/config sub-directory) contains configuration settings that are 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, refer to the Oracle Financial Services Behavior Detection Application Pack Administration Guide.

Configurations if FSDF pack installed after OFSBD application pack

FSDF Staging Schema (BD Pack) needs to be dropped, Apply Patch for SR 3-9830680021(Bug 20066387) contact Oracle support for assistance.

A

Appendix

This chapter covers the following topics:

- Configuring Web Server
- Configuring Web Application Servers

Configuring Web Server

The Web Server (HTTP Server) supported in this release of OFSAA are Oracle HTTP Server, Apache HTTP Server, and IBM HTTP Server.

Refer 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.

Note: Refer OFSAA Secure Configuration Guide / Security Guide for additional information on securely configuring your Web Server.

Configuring Web Application Servers

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

This section includes the following topics:

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

Note: Refer OFSAA Secure Configuration Guide / Security Guide for additional information on securely configuring your Web Application Server.

Configuring WebSphere for Application Deployment

Applicable only if the web container is WebSphere.

You can deploy multiple Infrastructure 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 below. A profile is the set of files that define the runtime environment. At least one profile must exist to run WebSphere Application Server.

This section covers the following topics:

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

Creation of New Profile in WebSphere

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

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

```
manageprofiles.sh -create -profileName <profile> -profilePath <profile_
path> -templatePath <template_path> -nodeName <node_name> -cellName <cell_
name> -hostName <host_name>
```

Example:

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

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

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

Example:

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

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

Manage Applications in WebSphere

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

1. Open the administrator console using the following URL:

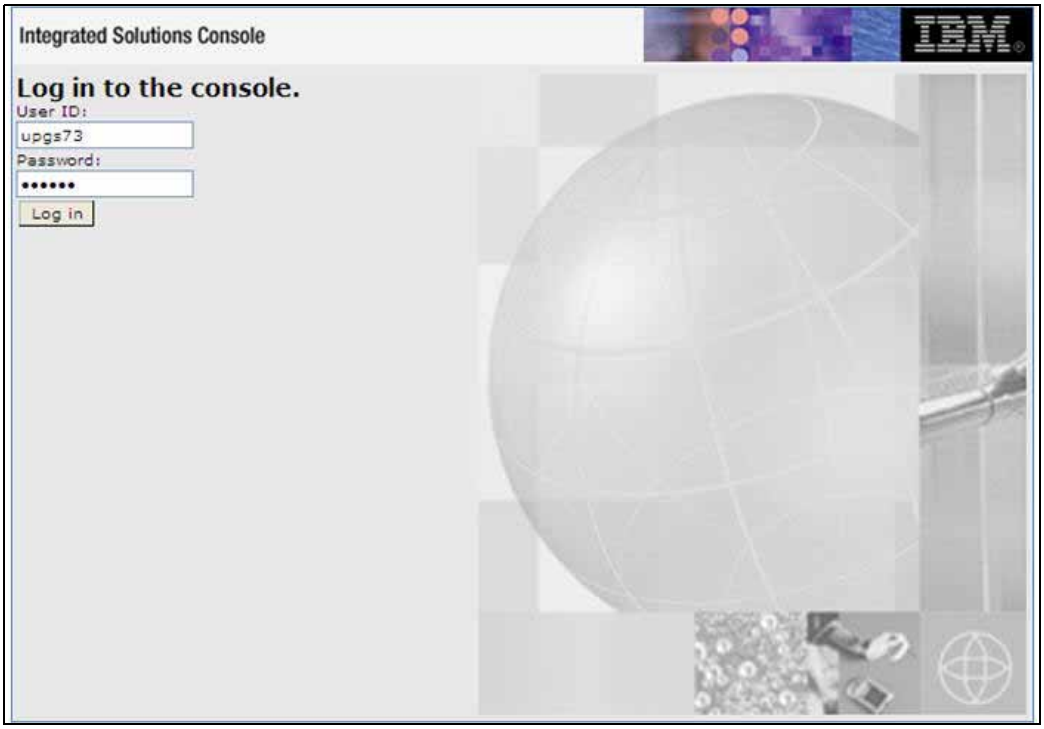
   `http://<ipaddress>:<Administrative Console Port>/ibm/console`

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

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

   The *Integrated Solutions Console Login* window is displayed.

Figure 7–2 Integrated Solutions Console Login

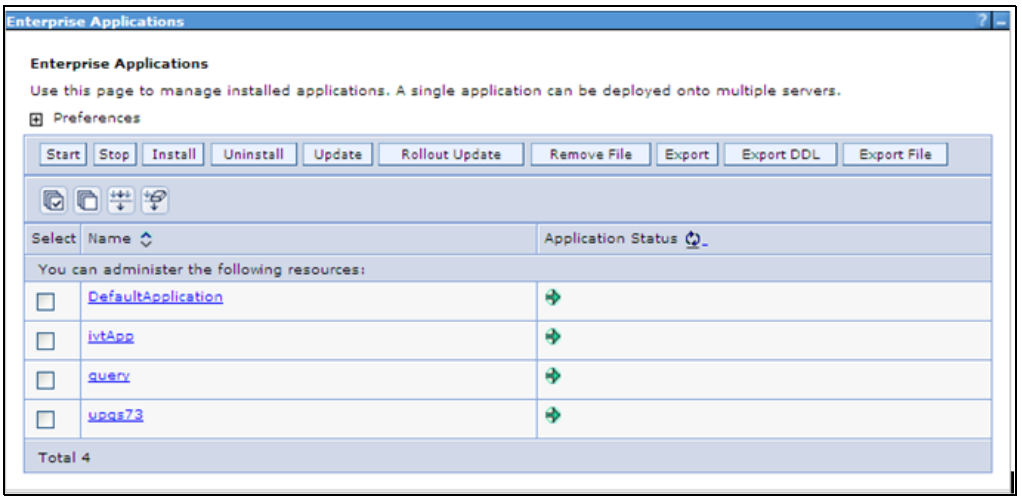


2. Log on with the **User ID** provided with the admin rights.

3. From the LHS menu, expand the **Applications** > **Application Type**> **WebSphere Enterprise Applications**.

   The *Enterprise Applications* screen is displayed.

Figure 7–3 Enterprise Applications



This Enterprise Applications screen helps you to:

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

Delete WebSphere Profiles

To delete a WebSphere profile, do the following:

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

   `<WebSphere_Installation_Directory>/AppServer/bin/`

4. Execute the command:

   `manageprofiles.sh -delete -profileName <profile_name>`

5. Delete profile folder.

   Example: `<WebSphere_Installation_Directory>/AppServer/profiles/<profile_name>`

6. Execute the command:

   `manageprofiles.sh -validateAndUpdateRegistry`

WebSphere HTTPS Configuration

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

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

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

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

WebSphere Memory Settings

To configure the WebSphere Memory Settings:

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

   `Initial heap size` = 512

   `Maximum heap size` = 3072

Configuring WebLogic for Application Deployment

Applicable only if the web container is WebLogic.

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
- Delete Domain in WebLogic
- WebLogic Memory Settings

Creating Domain in WebLogic Server

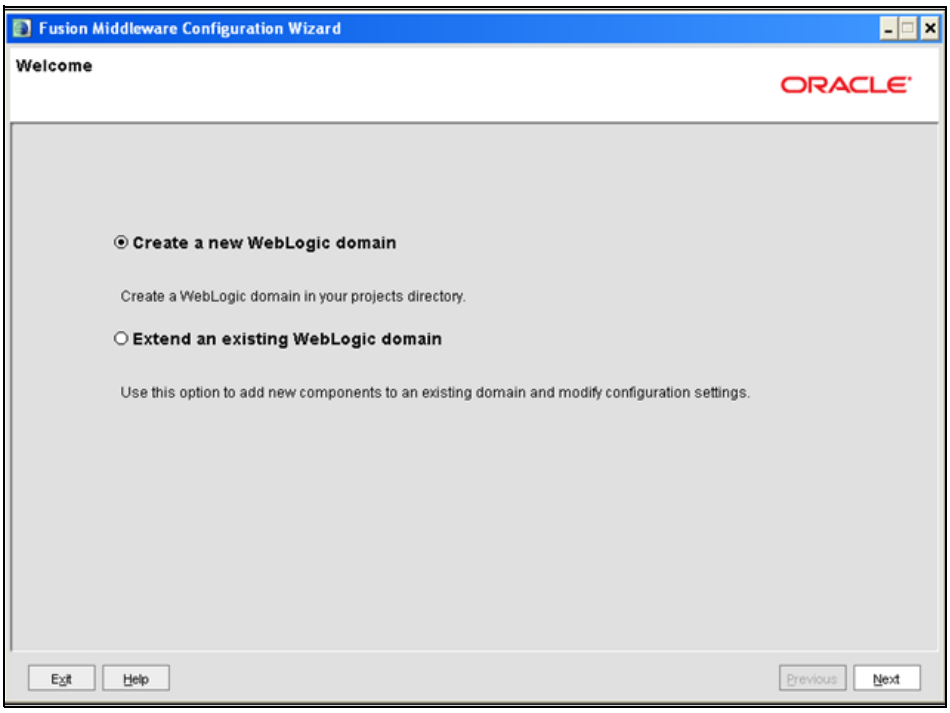
To create a new domain using Configuration Wizard in WebLogic, do the following:

1. Navigate to the directory `<weblogic_Home Directory>/wlserver_10.3/common/bin` and execute the command:

   `.\config.sh`

   The Welcome window of the Configuration Wizard is displayed.

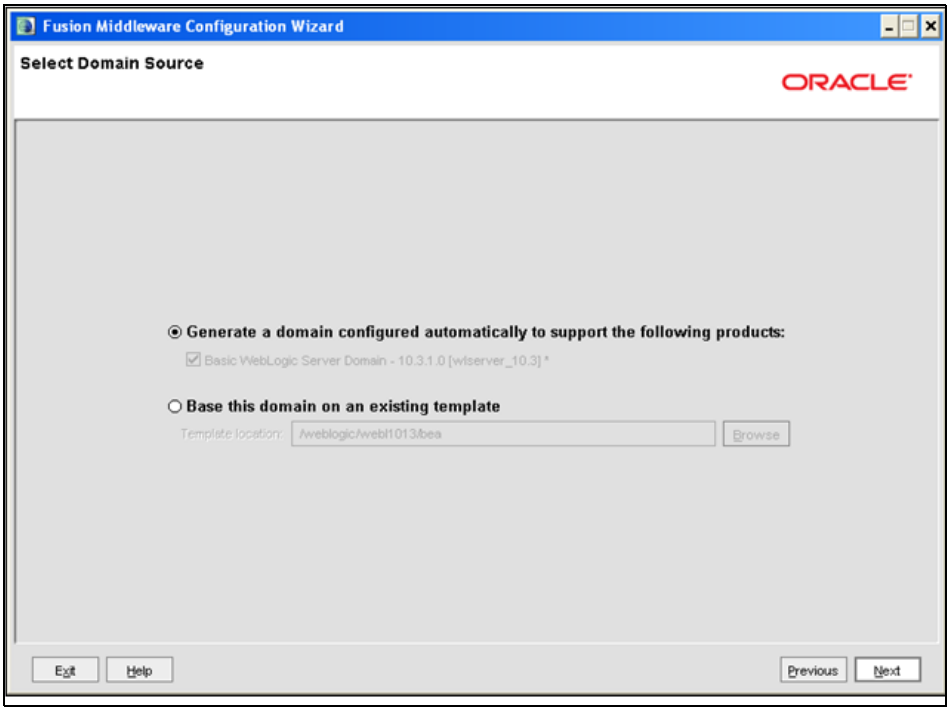
Figure 7–4 Welcome



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

   The *Select Domain Source* window is displayed.

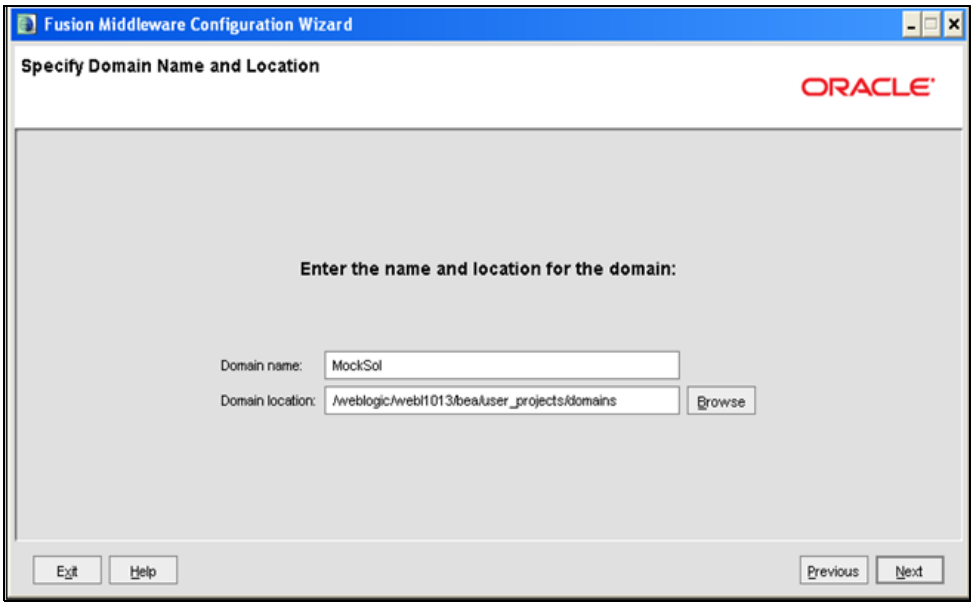
Figure 7–5 Select Domain Source



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.

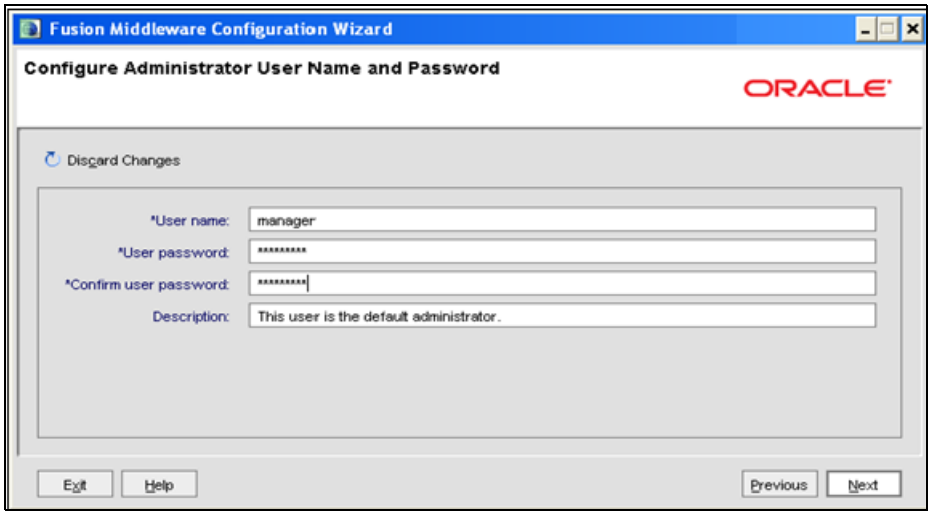
Figure 7–6 Specify Domain Name and Location



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.

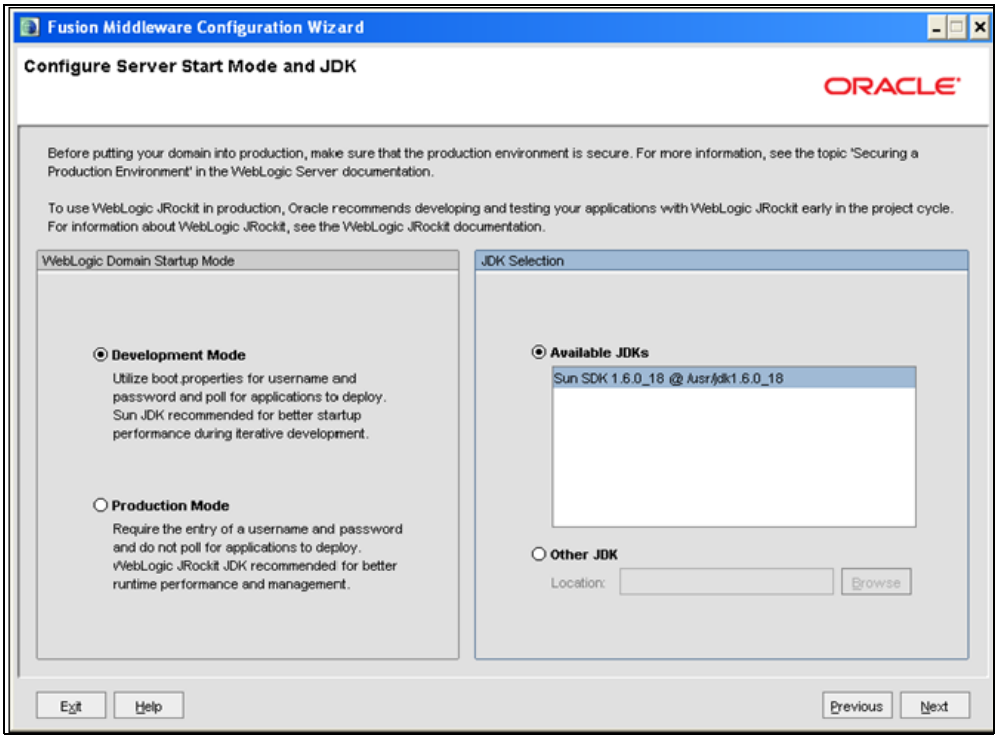
Figure 7–7 Configure Administrator Username and Password



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 7–8 Configure Server Start Mode and JDK



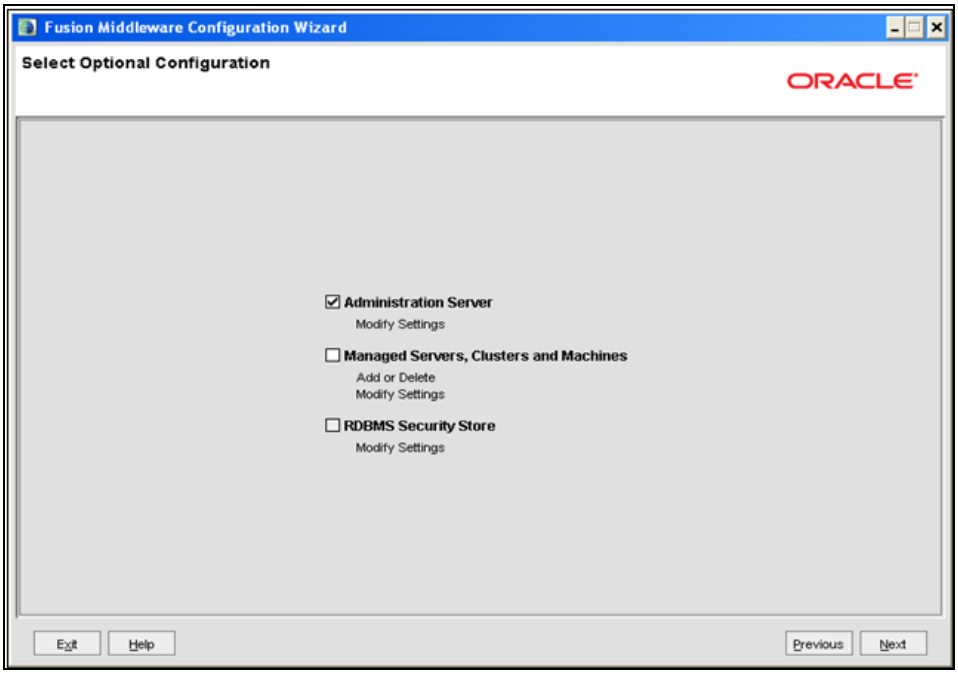
7. Select the following options:

   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.

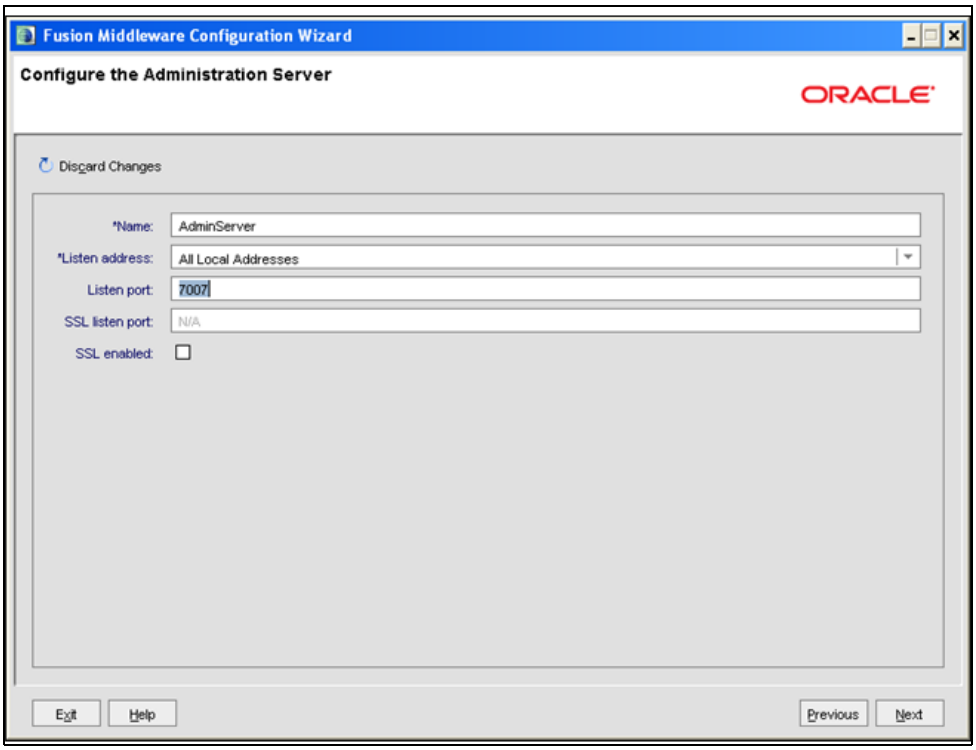
Figure 7–9 Select Optional Configuration



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 7–10 Configure the Administration Server

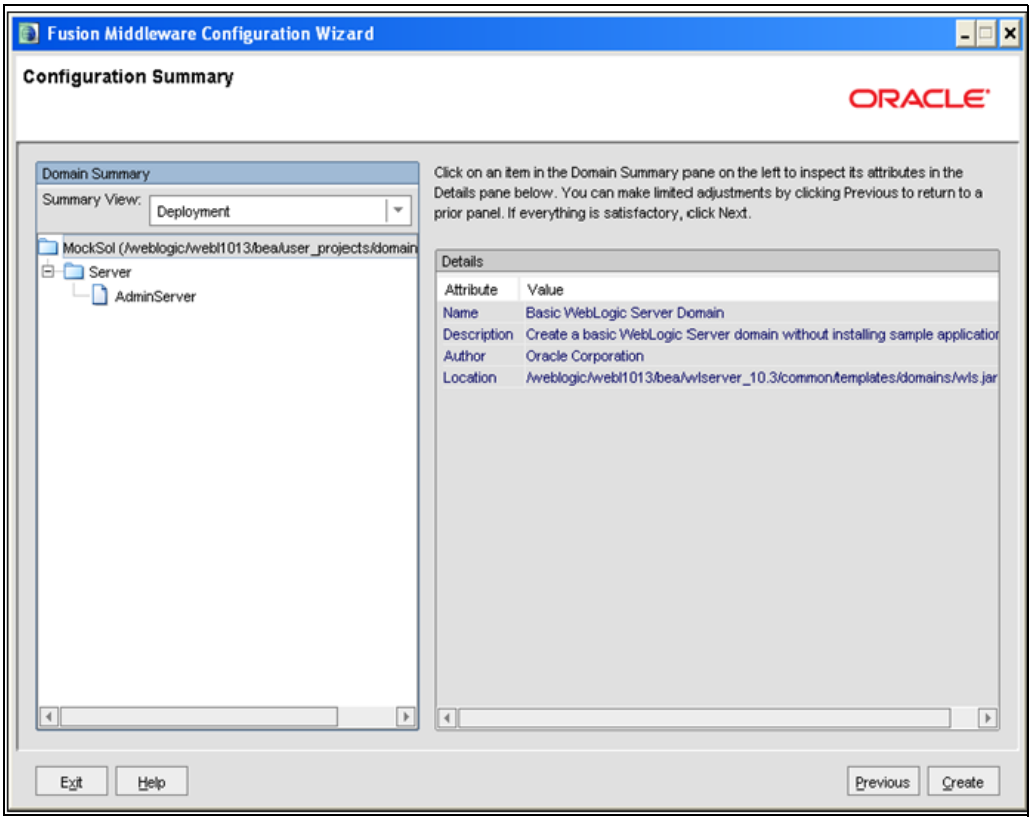


9. Enter Administration Server details such as the Name, Listen address, Listen Port, SSL listen port, and SSL enabled (for secure login using https) check box. Click **Next**.

   The Configuration Summary window is displayed.

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

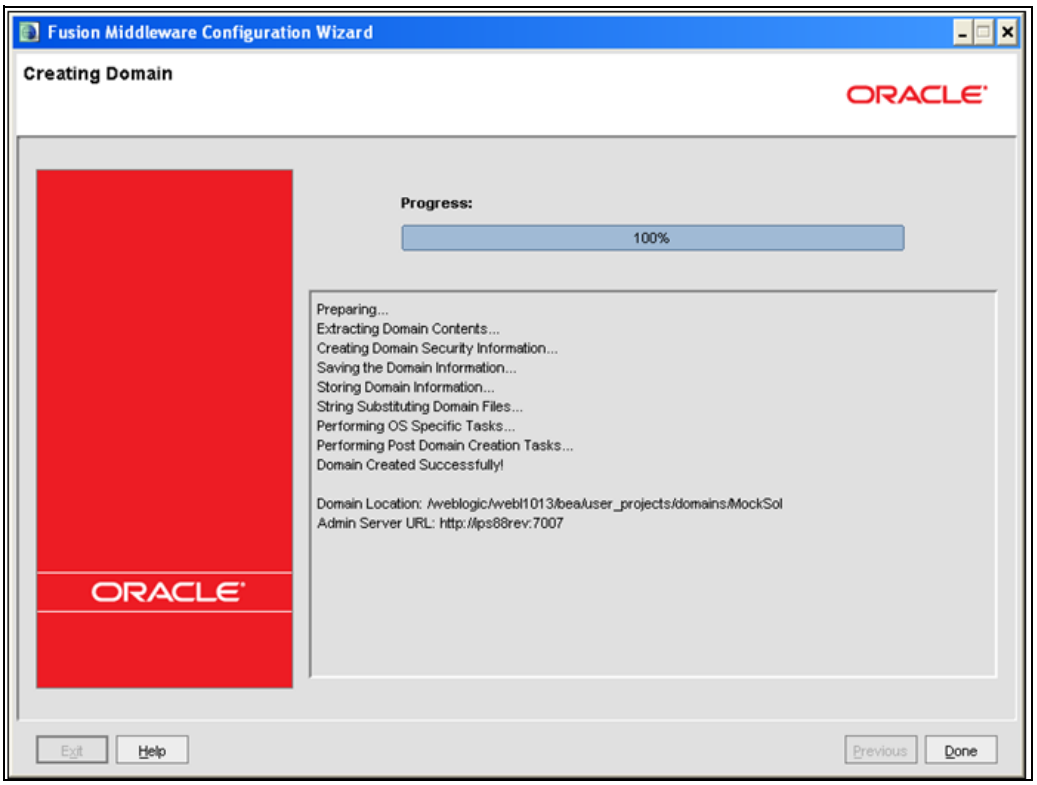
Figure 7–11 Configure Server Start Mode and JDK



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 7–12 Configure Server Start Mode and JDK



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

Delete Domain in WebLogic

1. Navigate to the following directory:

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

2. Execute **stopWebLogic.sh** to stop the Weblogic domain.

3. Delete the Weblogic domain.

WebLogic Memory Settings

To configure the WebLogic Memory Settings:

1. Change the memory setting for Java Heap to `-Xms512m -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 covers the following topics:

- Tomcat User Administration
- Configure Tomcat to use JAVA 64 bit Executables
- Configure Servlet Port
- Create Tomcat WAR Files
- SSL Port Configuration
- Apache Tomcat Memory Settings
- Configuration for Axis API

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 example above.
2. Use the same username/password to which the manager role has been assigned to access the Tomcat Application Manager.
3. If the Tomcat server is already running, it requires a re-start after the above configuration is done.

Configure Tomcat to use JAVA 64 bit Executables

1. Navigate to the "`$CATALINA_HOME/bin`" folder.
2. Edit the setclasspath.sh as explained below:
3. Under 'Set standard commands for invoking Java', change "`$JAVA_HOME`"/bin to "`$JAVA_BIN`".

Example:

Edit the following block of text:

```
# Set standard commands for invoking Java.

_RUNJAVA="$JAVA_HOME"/bin/java

if [ "$os400" != "true" ]; then

_RUNJDB="$JAVA_HOME"/bin/jdb
```

Change it to:

```
# Set standard commands for invoking Java.

_RUNJAVA="$JAVA_BIN"/java

if [ "$os400" != "true" ]; then

_RUNJDB="$JAVA_BIN"/jdb
```

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

Configure Servlet Port

The Servlet Port specified during the Infrastructure installation process must be configured if your Web Application Server is Tomcat. If you are using the default port (8080), then you are not required to configure the same, since it is already configured.

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

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

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

2. Against this tag, a parameter is specified 'Connector port = "8080" '. Edit this value to the new port number that was used during the Infrastructure installation process.

3. Save your changes in "server.xml".

Create Tomcat WAR Files

The WAR files are required to assemble servlets, .jsp files, web pages, and other static content into a deployable unit.

The following steps will guide you through the WAR files creation process:

1. On the machine in which Infrastructure Web components have been installed, navigate to the path $FIC_WEB_HOME.

2. Execute the command:

   ./ant.sh

   This will trigger the creation of WAR file - <contextname>.war. The <contextname> is the name given during installation.

3. On completion of the WAR files creation, a confirmation message will be displayed and you will be returned to the prompt.

4. The WAR file - <contextname>.war- is created on the machine on which Infrastructure Web components are installed under $FIC_WEB_HOME directory.

Note the following:

- This process will not overwrite any existing version of WAR file that exists in the path. Rename / delete any existing war file.
- Proceed with the Tomcat WAR Files Deployment.
- Log on to the server in which Tomcat is installed.

SSL Port Configuration

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: The port mentioned as connector port is the Web Application Server port or servlet port in Infrastructure.

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

Apache Tomcat Memory Settings

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

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

Configuration for Axis API

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

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

B

Appendix

Configuring Resource Reference in Web Application Server

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.

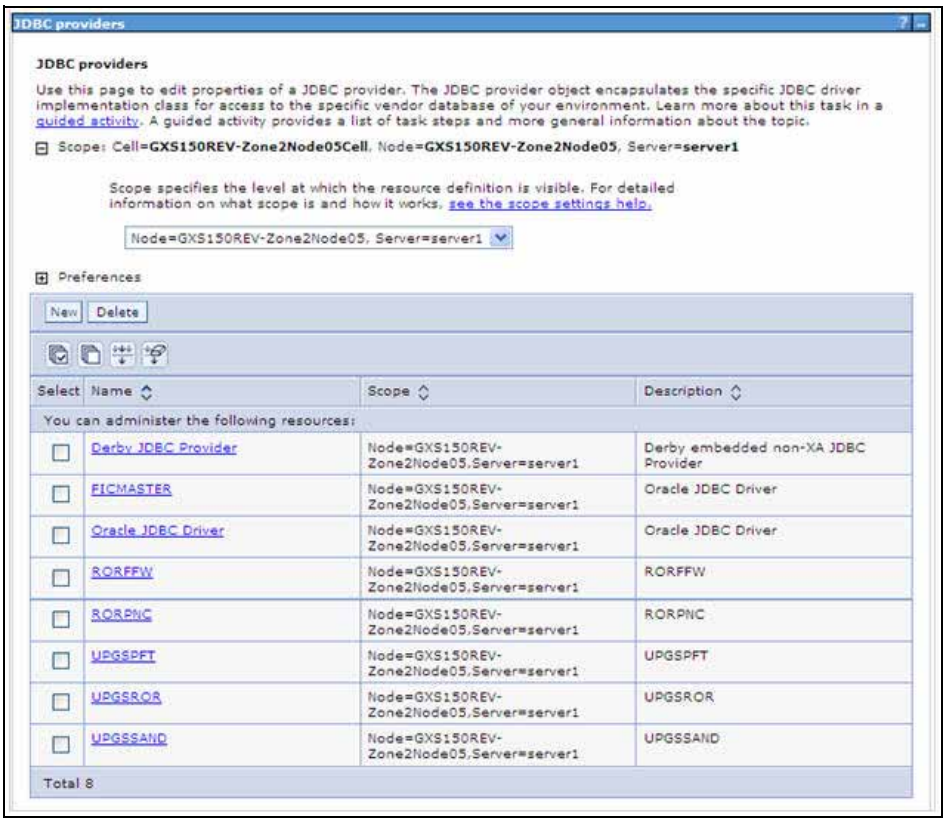
This section covers the following topics:

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

Creating JDBC Provider

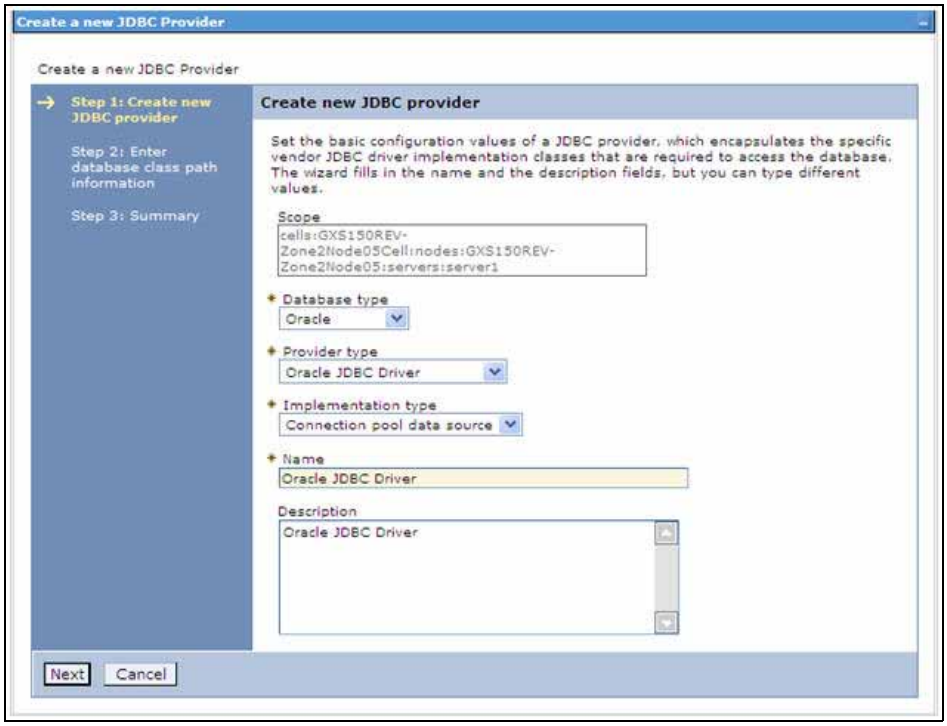
1. Open the WebSphere admin console in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC**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

Figure 7–13 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 7–14 Create a new JDBC Provider



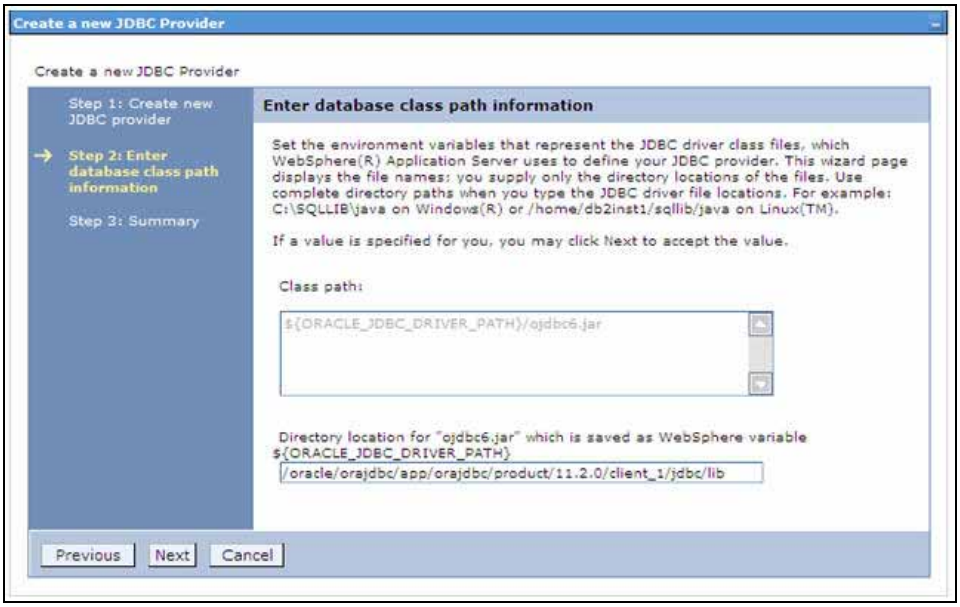
6. Enter the following details:

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 7–15 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.

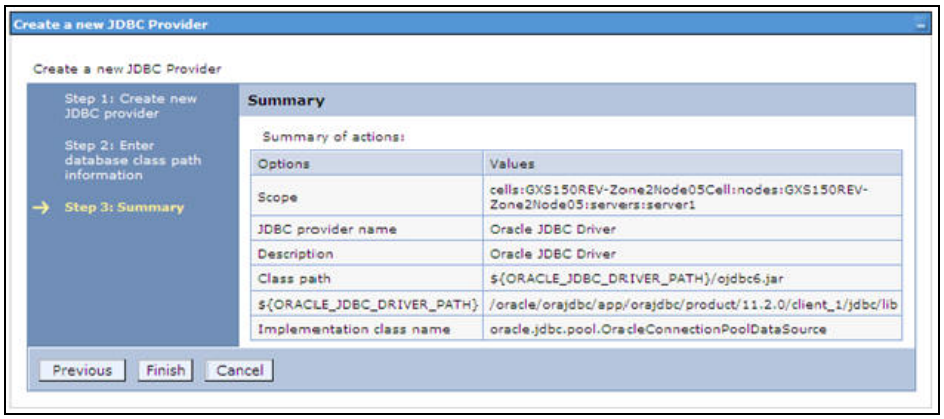
   The Oracle JDBC driver (Download `ojdbc<version>.jar`) file corresponding to the required version of Oracle Client can be downloaded from Oracle Download site.

- **NOTE:** Refer to Appendix J for identifying the correct "ojdbc<version>.jar" version to be copied.

  Once downloaded, you need to place the file in the required folder in your system. While creating the JDBC Provider, ensure that the path to the jar file in the folder is specified in the **Class path** field in the previous window.

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

Figure 7–16 Summary



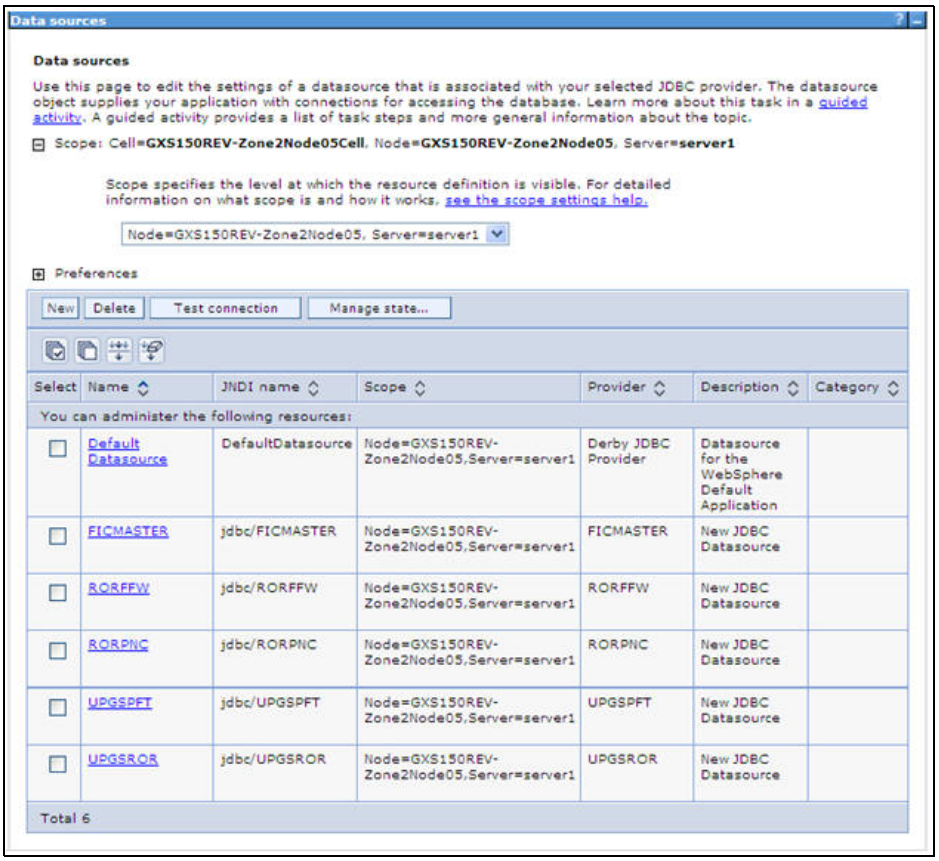
10. Verify the details and click **Finish** to create the JDBC Provider.
11. The options to **Save** and **Review** are displayed. Click **Save**.

Creating Data Source

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

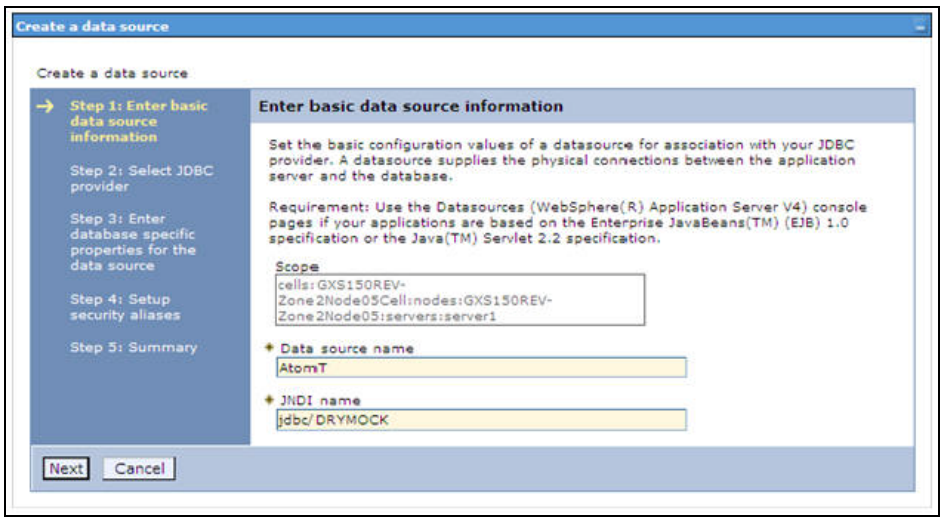
1. Open this URL in the browser window: `http://<ipaddress>:<administrative console port>/ibm/console`. (https if SSL is enabled). The *Login* window is displayed.
2. Login with the user id that has admin rights.
3. Expand the **Resources** option in the LHS menu and click **JDBC** > **Data sources**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

Figure 7–17 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 7–18 Create a data source

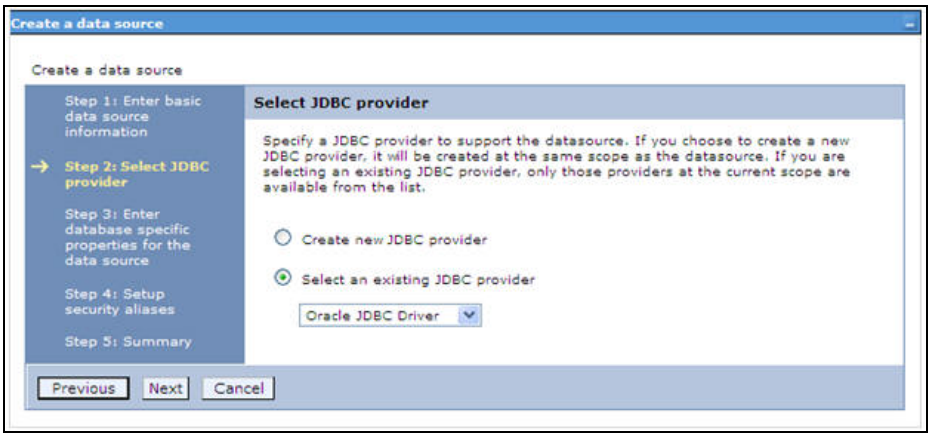


6. Specify the **Data Source name** and **JNDI name** for the new "Data Source".

   The **JNDI** and **Data Source** name are case sensitive and ensure that JNDI name is same as the "Information Domain" name.

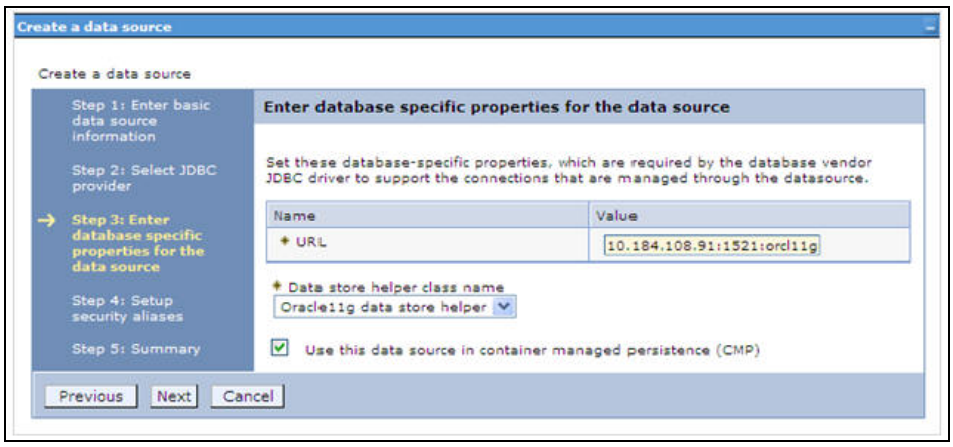
7. Click **Next**. The Select JDBC provider window is displayed.

Figure 7–19 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 7–20 Enter database specific properties



9. Specify the database connection URL.

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

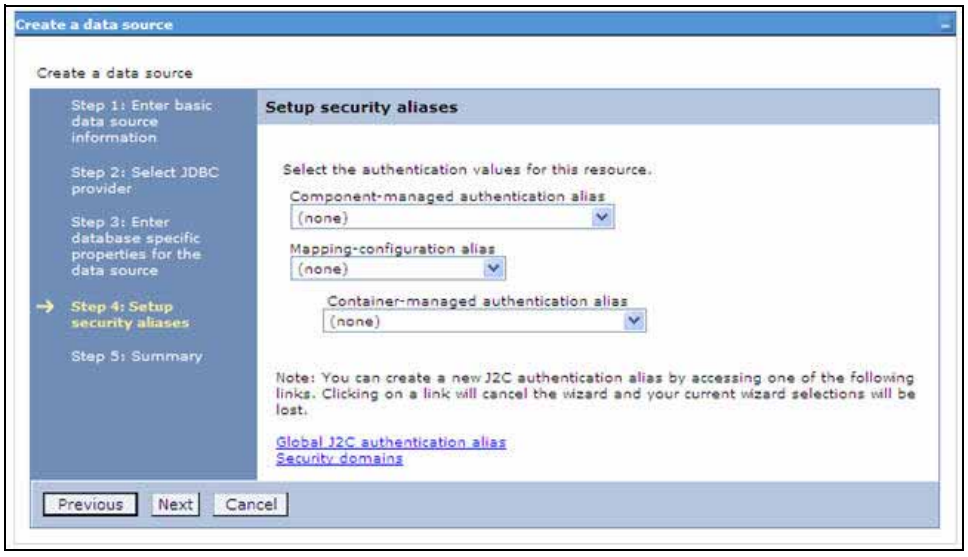
10. Select **Data Store Helper Class Name** from the drop-down list and ensure that the checkbox **Use this data source in container managed persistence (CMP)** is selected.

> **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)))`

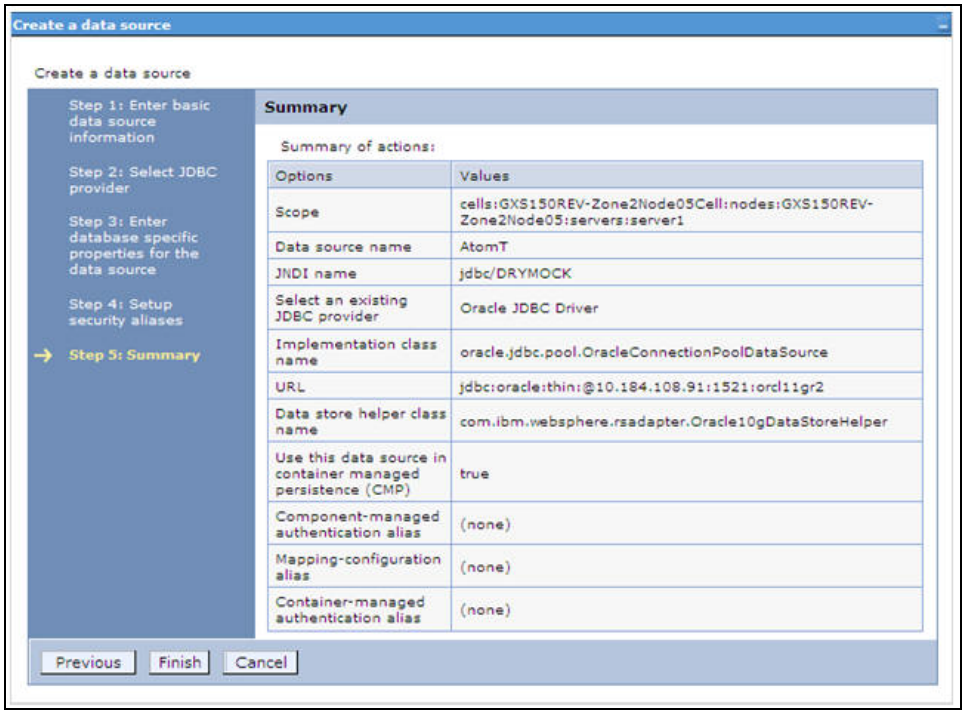
11. Click **Next**.

Figure 7–21 Setup security aliases



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

Figure 7–22 Summary



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

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

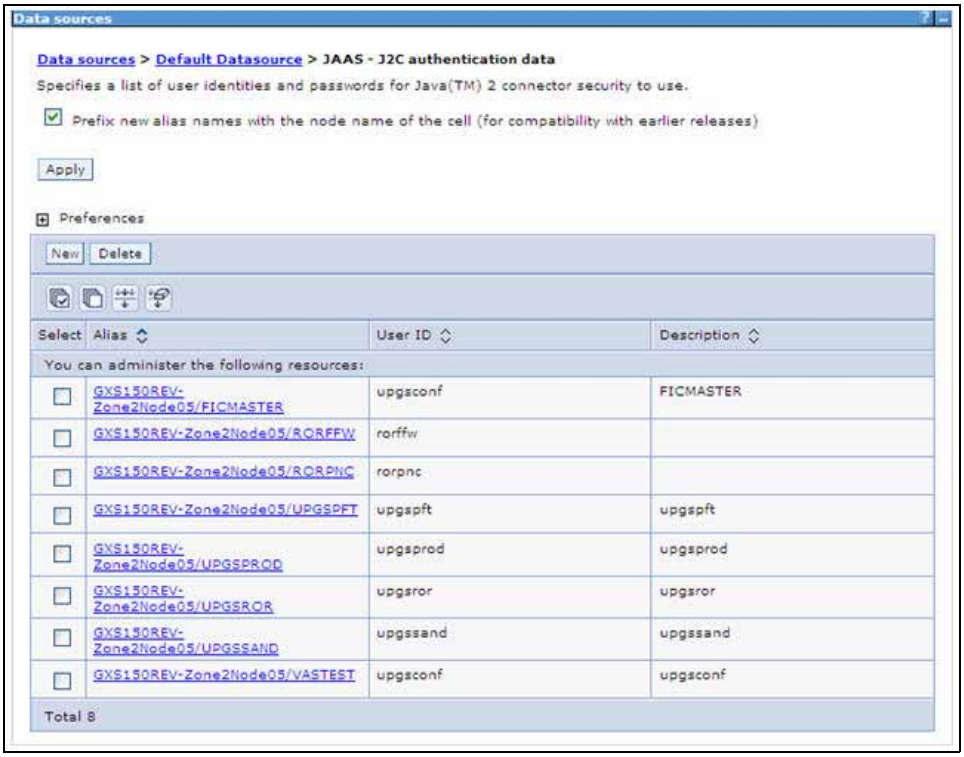
J2C Authentication Details

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

To create J2C Authentication details:

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

   JAAS- J2C authentication data



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

Figure 7–23 JAAS- J2C authentication data- New

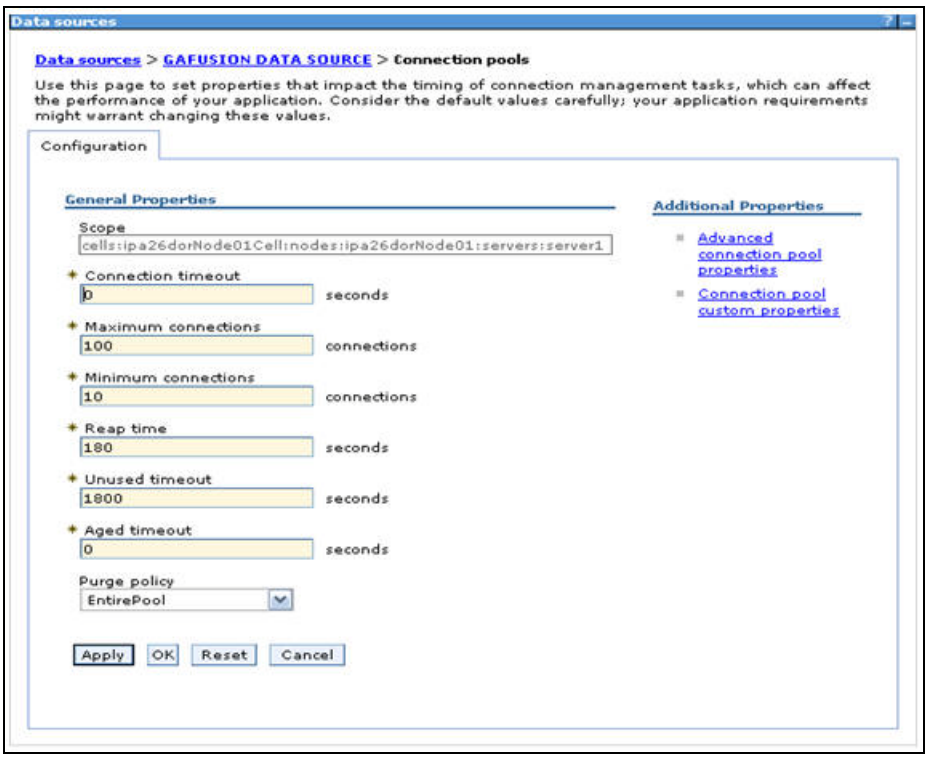
3. Enter the **Alias**, **User ID**, **Password**, and **Description**. Ensure the following:
   - User ID is the Oracle user ID created for the respective CONFIG and ATOMIC Schema for the "Information Domain".
   - Specify the CONFIG database user ID and password information for the jdbc/FICMASTER data 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.

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–1 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:

- Create Data Source
- Create GridLink Data Source
- Configure Multi Data Sources
- Advanced Settings for Data Source
- JDBC Connection Pooling
  - For a Non RAC Database instance, Generic Data Source can be created. See Creating Data Source.

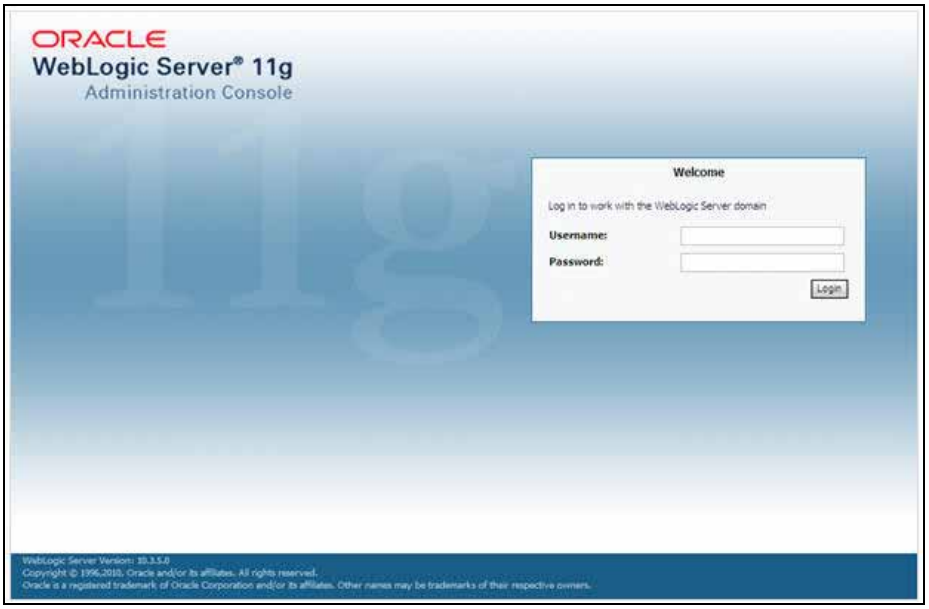
- For a RAC Database instance, Gridlink Data Source has to be created. See Create GridLink Data Source.
- When Load Balancing / Fail over is required, Multi Data Source has to be created. See Configure Multi Data Sources.

Create Data Source

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

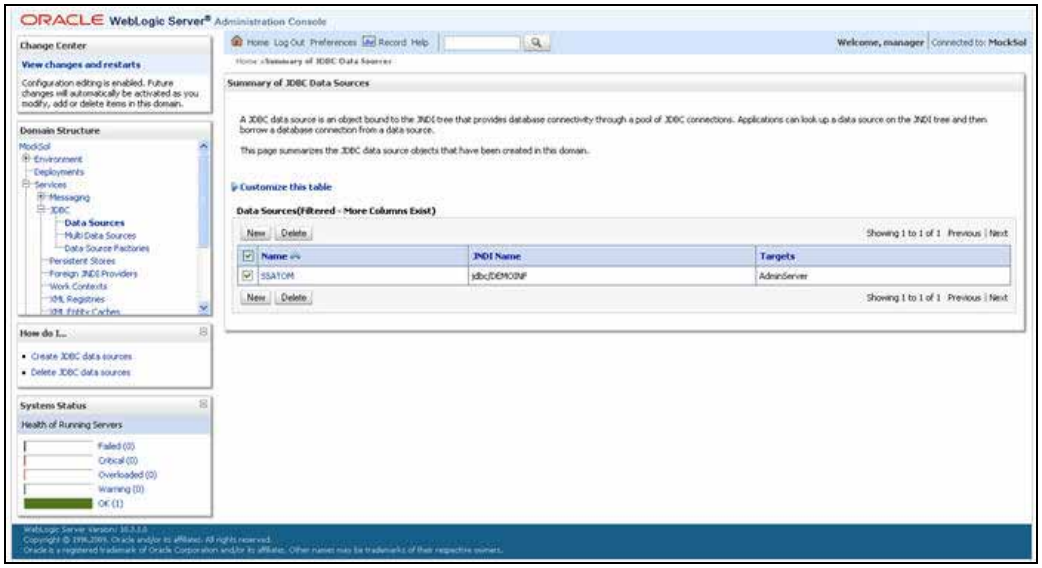
1. Open the following URL in the browser window: `http://<ipaddress>:<administrative console port>/console`. (https if SSL is enabled). The Welcome window is displayed.
2. Login with the Administrator **Username** and **Password**.

Figure 7–24 Welcome



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

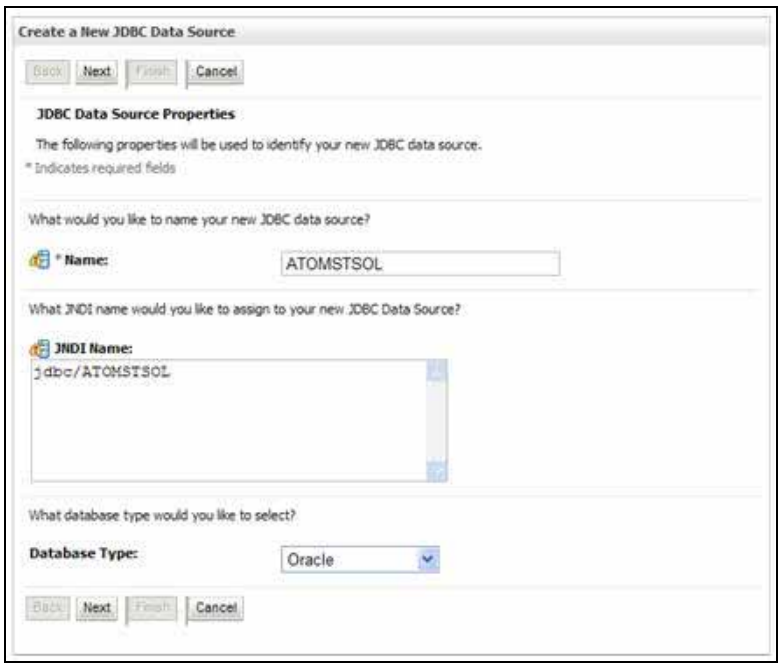
Figure 7–25 Summary of JDBC Data Sources



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 Configure Multi Data Sources.

Figure 7–26 Create a New JDBC Data Source

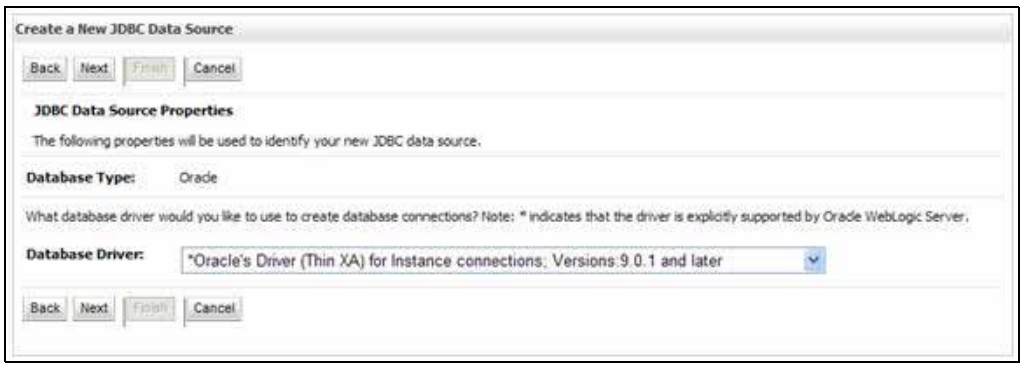


5. Enter JDBC data source **Name**, **JNDI Name**, and select the **Database Type** from the drop-down list. Click **Next**.

   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 7–27 JDBC Data Source Properties

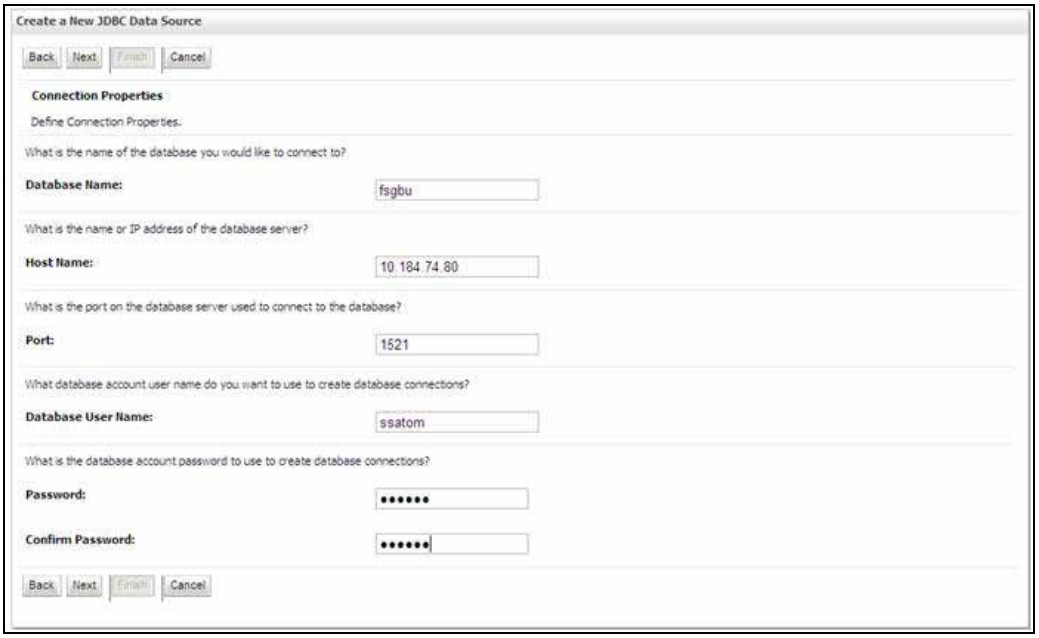


6. Select the **Database Driver** from the drop-down list. You need to select the Database Driver depending on database setup, that is, with or without RAC. Click **Next**.

Figure 7–28 Transaction Options

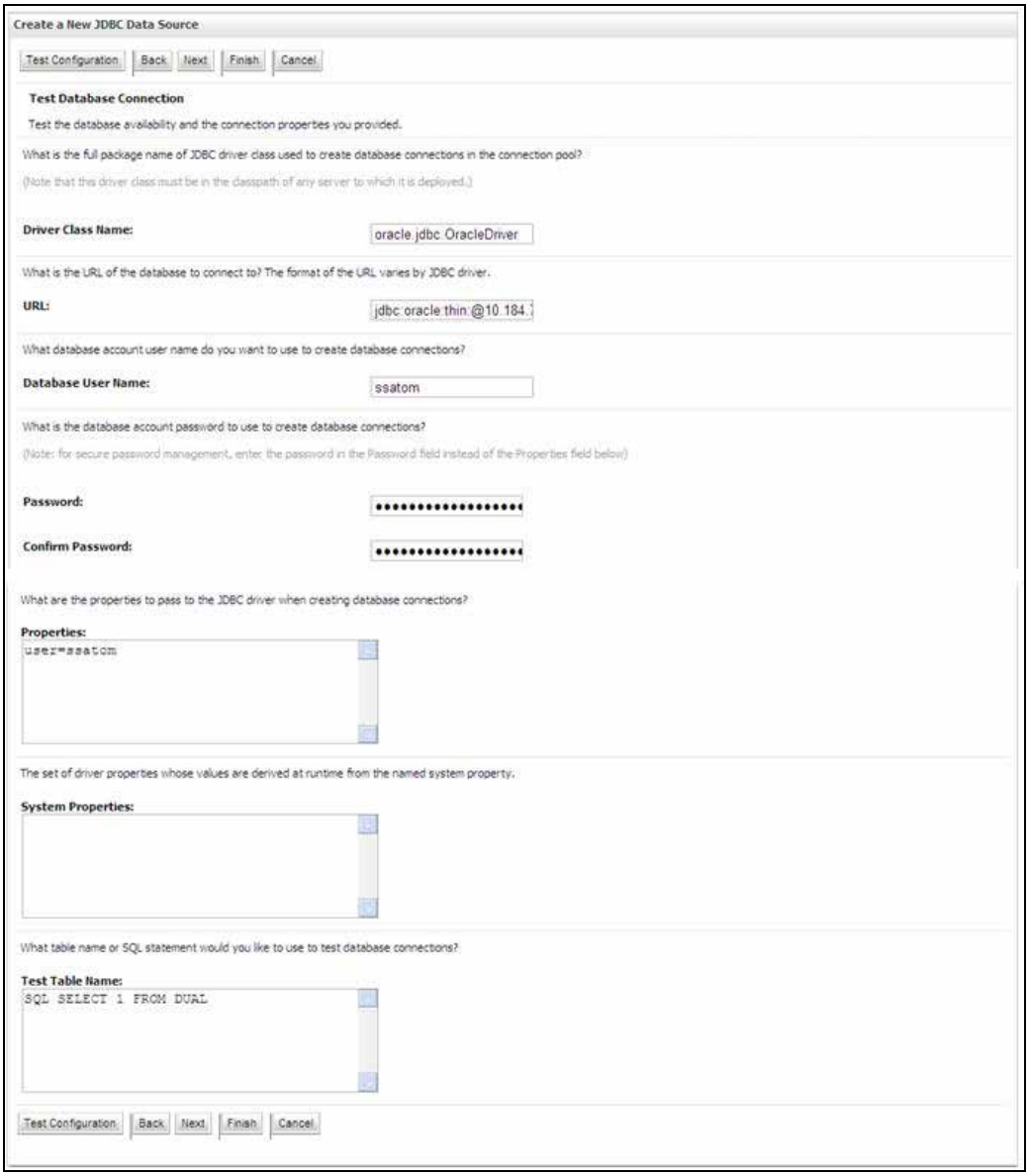
7. Select the **Supports Global Transactions** check box and the **One-Phase Commit** option.
8. Click **Next**. The Connection Properties window is displayed.

Figure 7–29 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 7–30 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."

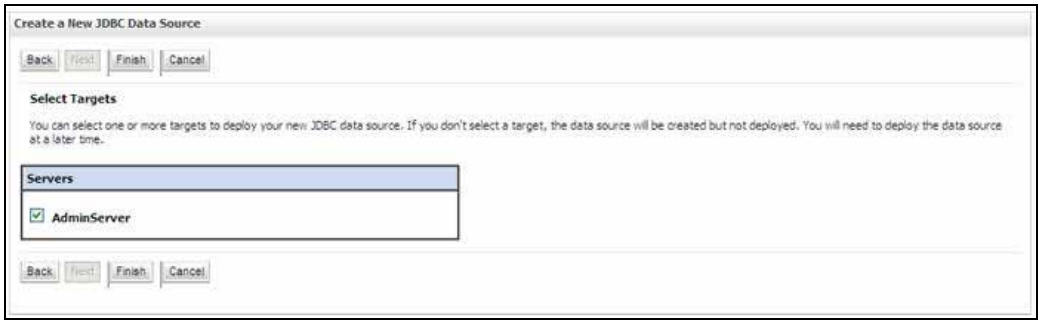
12. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

Note the following:

- "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 7–31 Select Targets

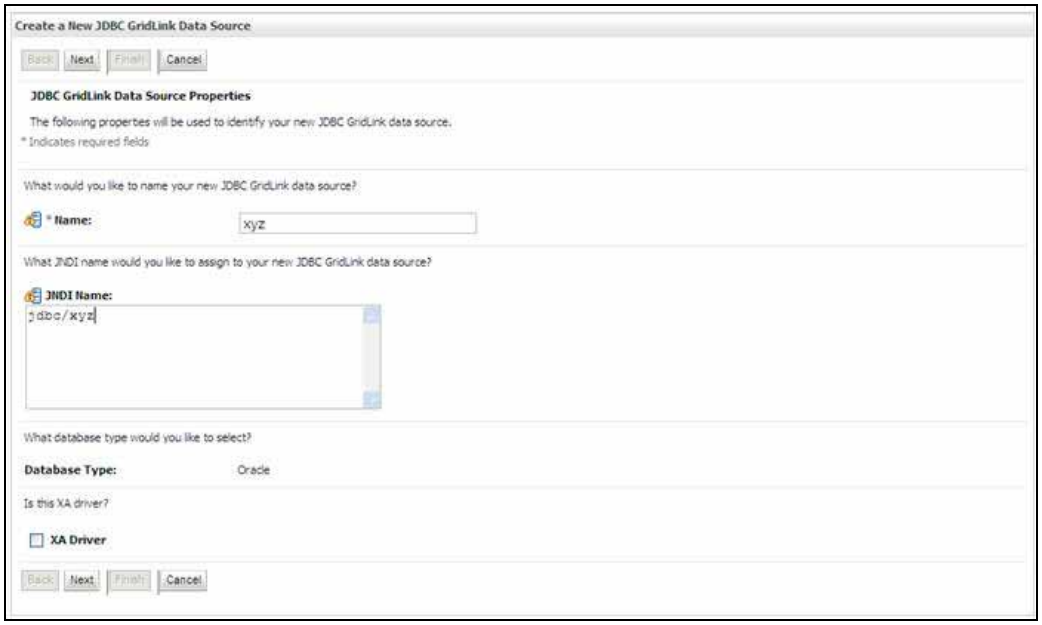


14. Select the **AdminServer** option and click **Finish**.

Create 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.

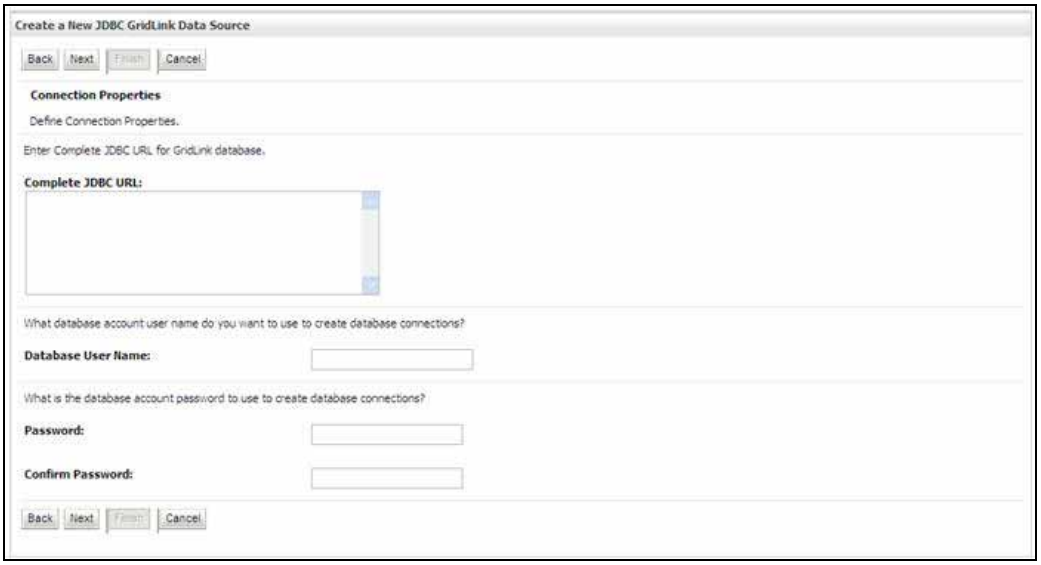
Figure 7–32 Create a New JDBC GridLinkData Source



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** check box is not selected. Click **Next**.

Figure 7–33 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.

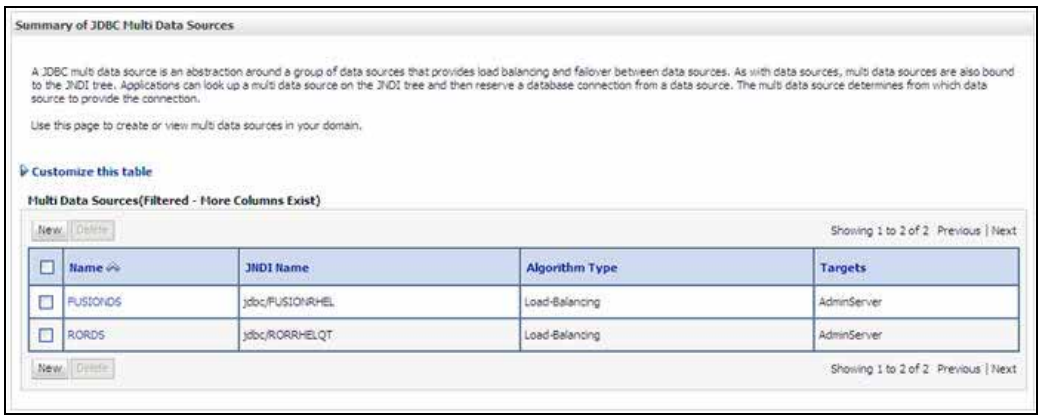
Configure Multi Data Sources

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.

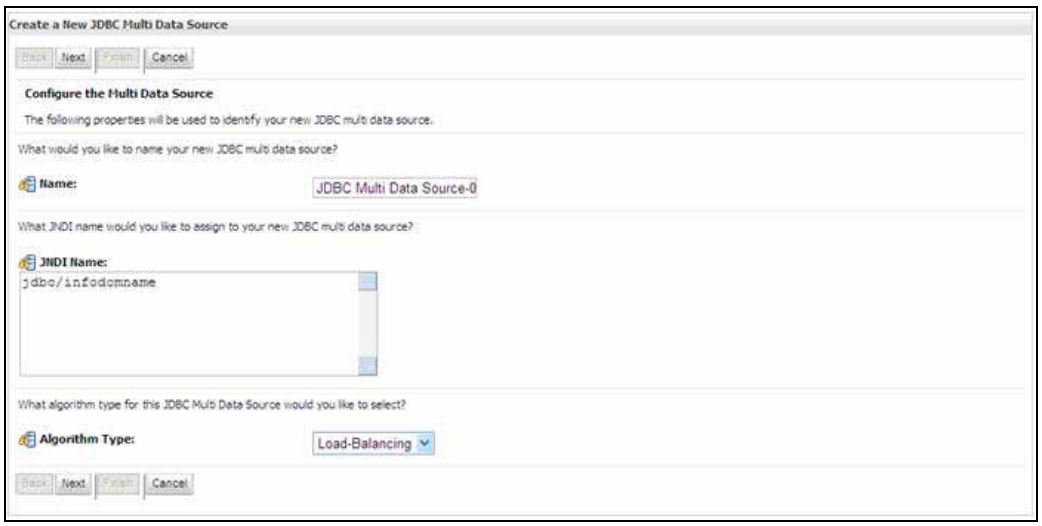
Figure 7–34 Summary of JDBC Multi Data Sources



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 7–35 Configure the Multi Data Source



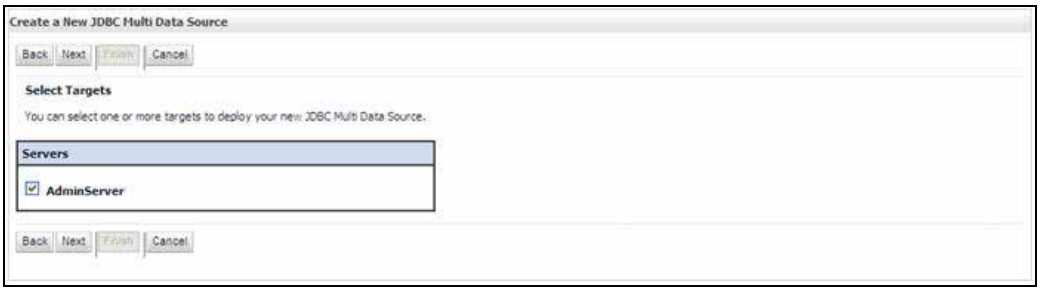
5. Enter the JDBC Source **Name**, **JNDI name**, and select the **Algorithm Type** from the drop-down list. Click **Next**.

Note the following:

- 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 7–36 Select Targets



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

Figure 7–37 Select Data Source Type

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

Figure 7–38 Add Data Sources

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

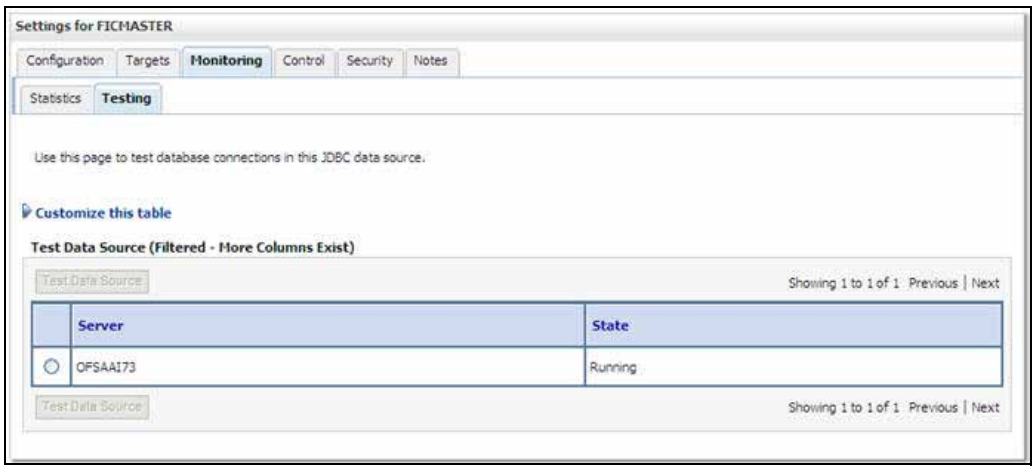
   The New JDBC Multi Data Source is created with added data sources.

Advanced Settings for Data Source

1. Click the new Data Source 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 7–39 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.

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.

Copy the JDBC driver file depending on your Oracle database version. As OFSAAI is certified on Oracle 11gR2, copy the Oracle JDBC driver file, ojdbc<version>.jar from `<Oracle Home>/jdbc/lib` and place it in `<Tomcat Home>/lib`.
NOTE: Refer to Appendix J for identifying the correct "ojdbc<version>.jar" version to be copied.

This section covers the following topics:

- Create Data Source
- JDBC Connection Pooling

Create Data Source

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

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

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

```
<Context path ="/<context name>" docBase="<Tomcat Installation
Directory>/webapps/<context name>" debug="0" reloadable="true"
crossContext="true">

<Resource auth="Container"

    name="jdbc/FICMASTER"

    type="javax.sql.DataSource"

    driverClassName="oracle.jdbc.driver.OracleDriver"

    username="<user id for the configuration schema>"

    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 following:

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

JDBC Connection Pooling

To define the JDBC connection pooling, do the following:

1. Copy $ORACLE_HOME/jdbc/lib/ojdbc<version>.jar to the path $TOMCAT_DIRECTORY/lib/.
   NOTE: Refer to Appendix J 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:

- $TOMCAT_DIRECTORY$ should be replaced by Tomcat application installed path.
- $CONTEXTNAME$ should be replaced by OFSAAI context name.
- $APP_DEPLOYED_PATH$ should be replaced by OFSAAI application deployed path.
- $INFODOM_NAME$ should be replaced by Infodom Name.
- $ATOMICSCHEMA_USERNAME$ should be replaced by Atomic schema database user name.

- $ATOMICSCHEMA_PASSWORD$ should be replaced by Atomic schema database password.
- $JDBC_CONNECTION_URL should be replaced by JDBC connection string jdbc:Oracle:thin:<IP>:<PORT>:<SID>. For example, jdbc:oracle:thin 10.80.50.53:1521:soluint
- The User-IDs for configuration / atomic schemas have the prefix of setupinfo depending on the value set for PREFIX_SCHEMA_NAME in <<APP Pack>>_SCHEMA_IN.XML file of Schema Creator Utility.
  For example: if the value set for PREFIX_SCHEMA_NAME is DEV and the schema name was mentioned as ofsaaconf, then the actual schema created in the database would be DEV_ofsaaconf.

Class loader configuration for Apache Tomcat

Add tag <Loader delegate="true" /> within the <Context> tag, above the <Resource> tag in server.xml file.
NOTE: This configuration is required if Apache Tomcat version is 8.

Deploy EAR/WAR File

This section covers the following topics:

- Deploy WebSphere EAR Files
- Deploy EAR / WAR file for WebLogic
- Deploy Tomcat WAR Files

Deploy WebSphere EAR Files

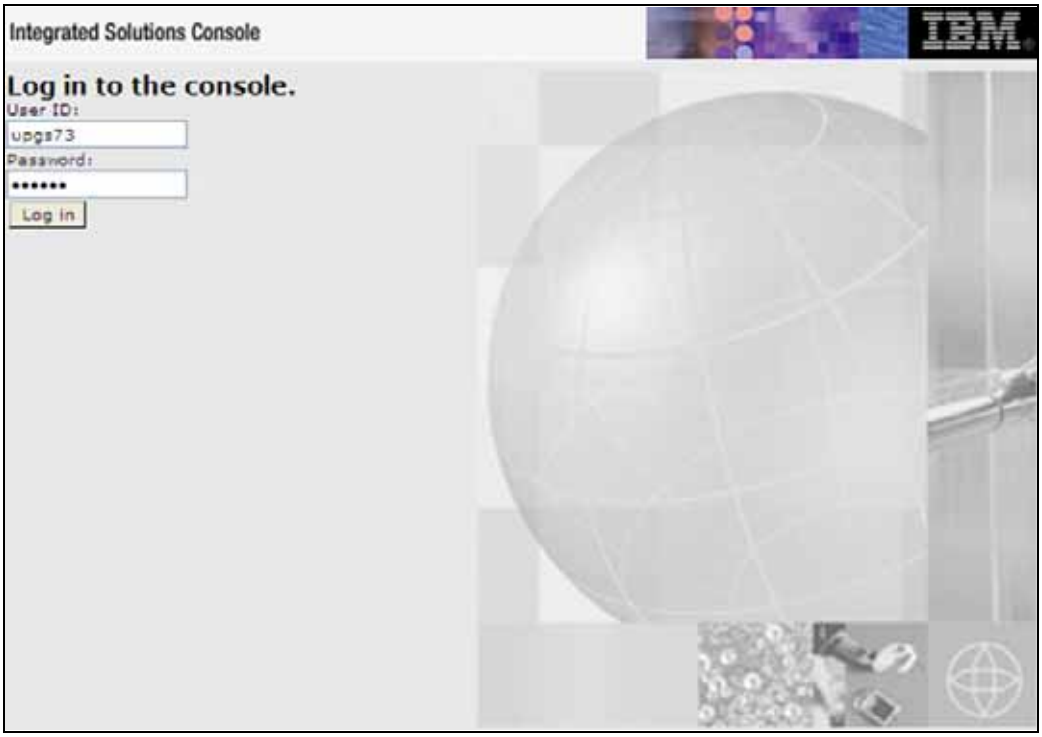
To deploy Infrastructure application in WebSphere:

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
   ```

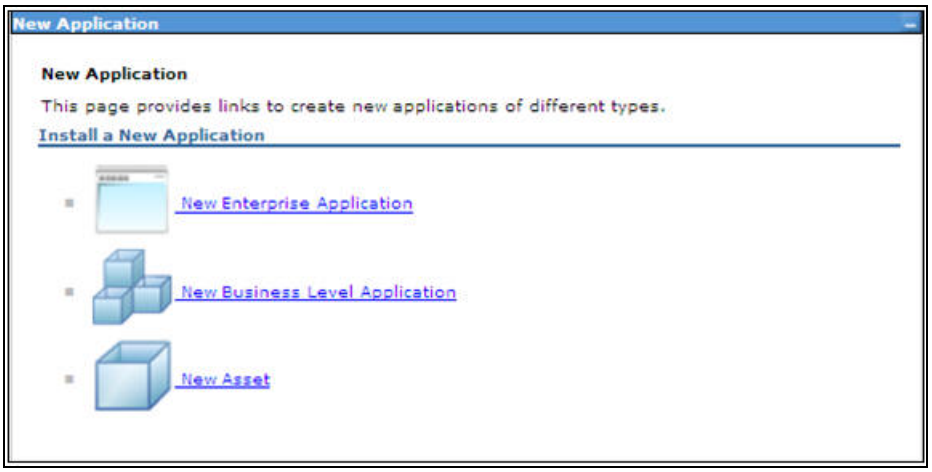
2. Open the following URL in the browser: http://<ipaddress>:<Administrative Console Port>/ibm/console. (https if SSL is enabled). The login screen is displayed.

Figure 7–40 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 7–41 New Application

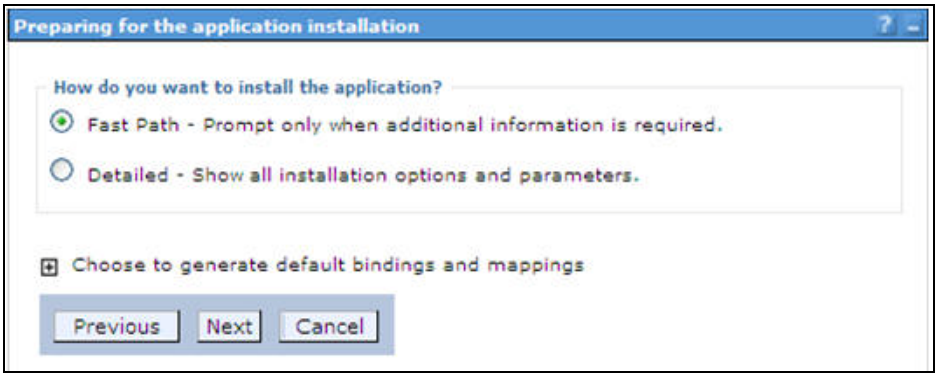


5. Click **New Enterprise Application**. The Preparing for the application installation window is displayed.

Figure 7–42 Preparing for the application installation

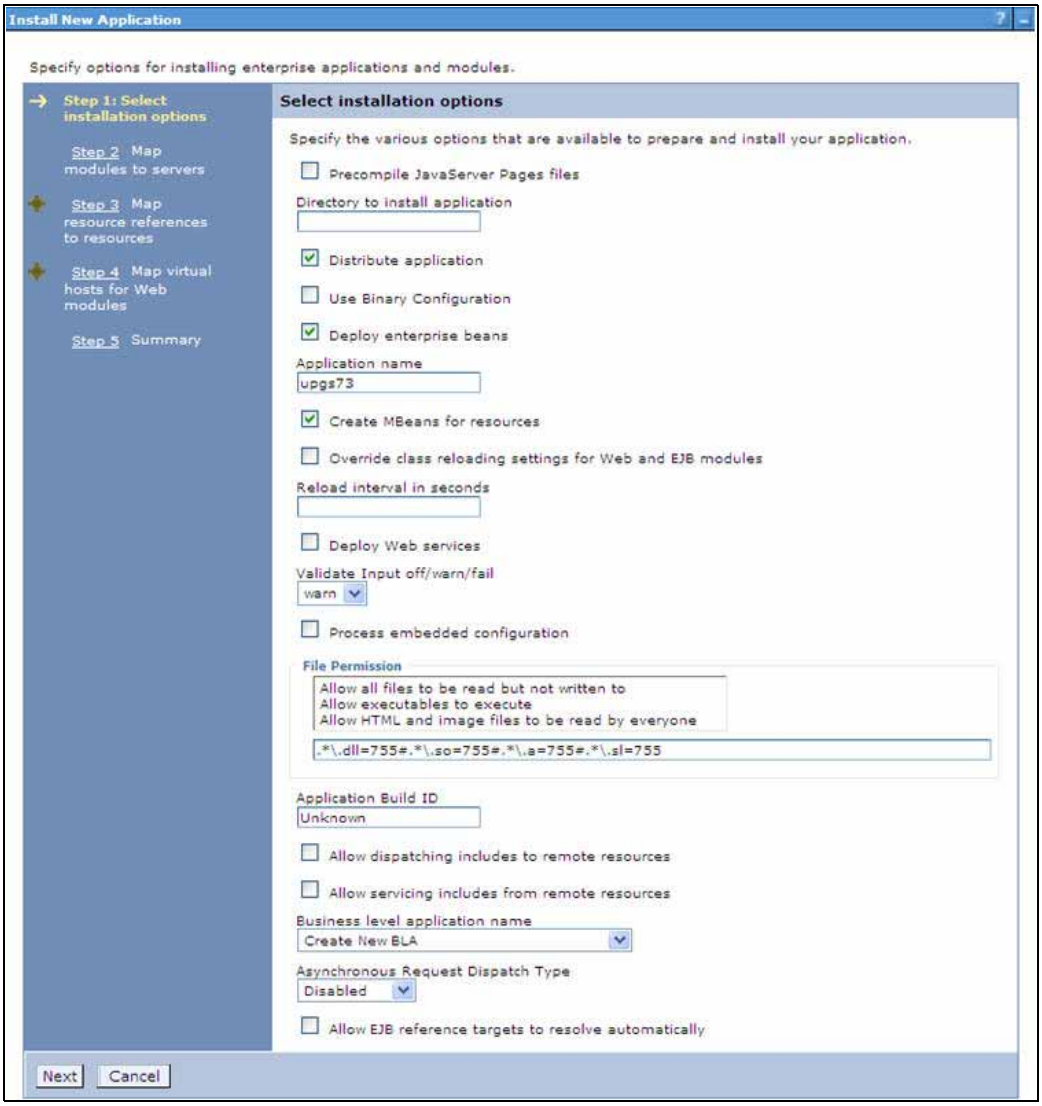
6. Select **Remote File System** and click **Browse**. Select the EAR file generated for OFSAAI to upload and install. Click **Next**.

Figure 7–43 Installation Options



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

Figure 7–44 Install New Application

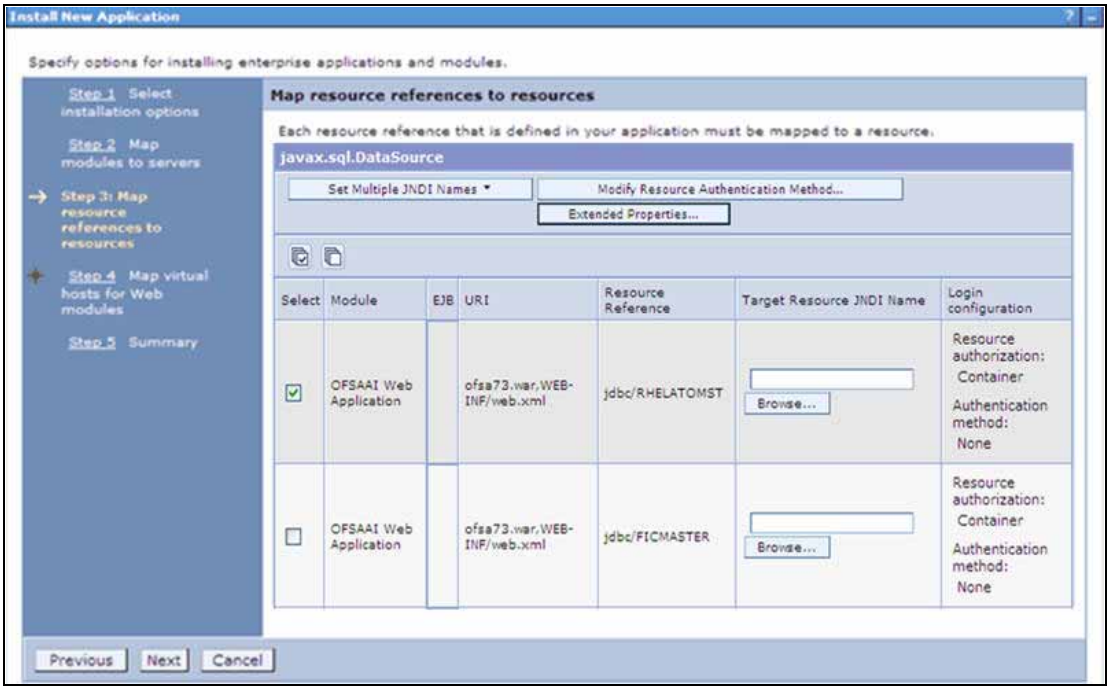


8. Enter the required information and click **Next**. The Map Modules to Servers window is displayed.

Figure 7–45 Map Modules to Servers

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

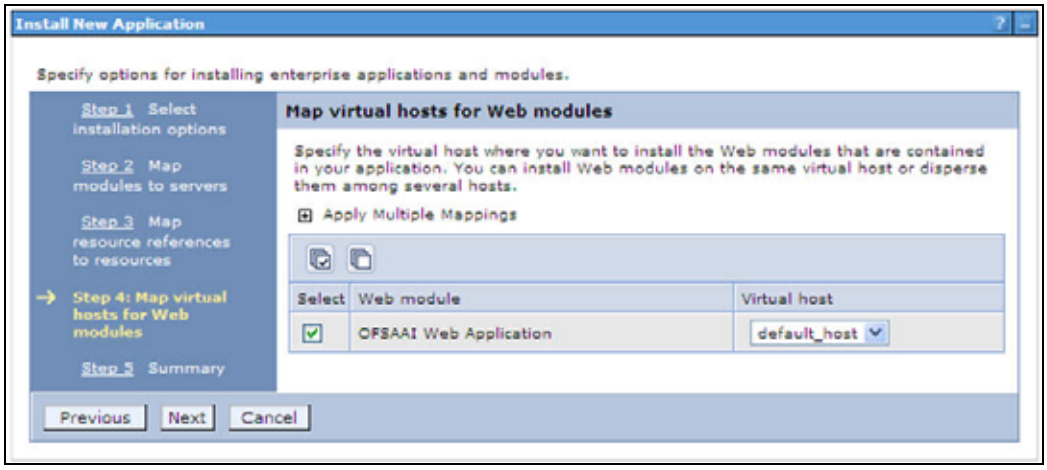
Figure 7–46 Map Resource References to Resources



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.

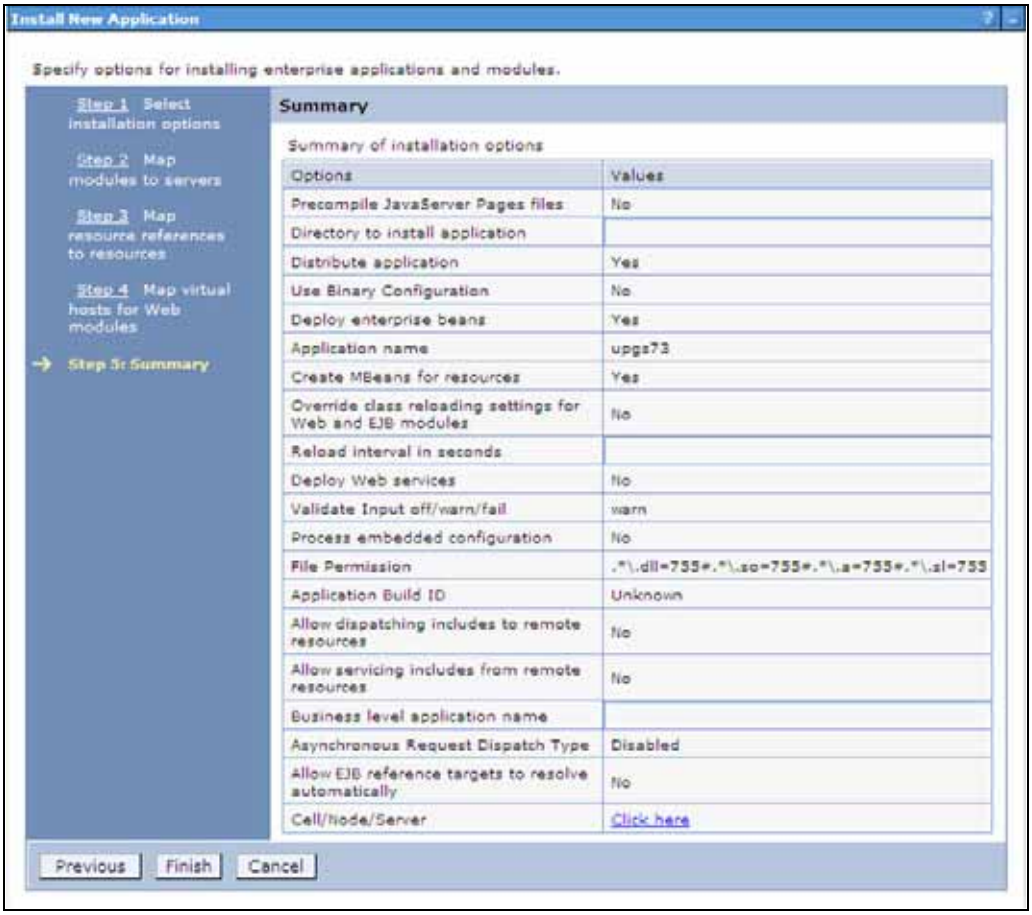
    You can specify "config" for FICMASTER resource or "atomic" for atomic resource as the authentication method.
12. Select the **OFSAAI Web Application** check box and click **Next**. The Map Virtual hosts for Web Modules window is displayed.

Figure 7–47 Map Virtual host for Web Modules



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

Figure 7–48 Summary



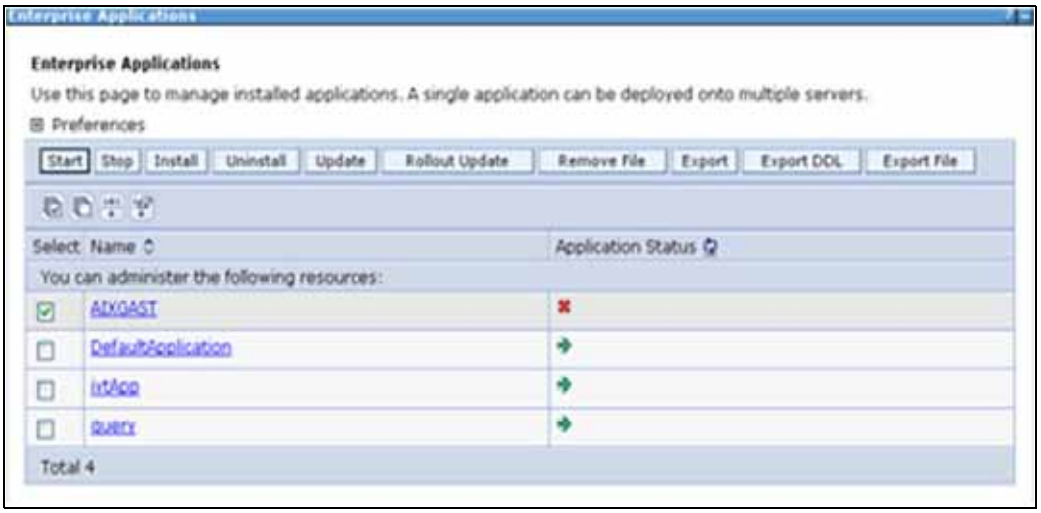
14. Click **Finish** and deploy the Infrastructure Application on WebSphere.

15. On successful installation, a message is displayed. Click **Save** and save the master file configuration. The details are displayed in the Master File Configuration window.

To start the application:

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

Figure 7–49 Enterprise Applications



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

Note:

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

WebSphere HTTPS Configuration

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

1. Create a profile using the Profile Creation Wizard in WebSphere.
2. Note down the https port specified during this process and use the same as servlet port or web server port during OFSAAI installation.
3. To enable https configuration on Infrastructure, assign value 1 to "`HTTPS_ENABLE`" in OFSAAI_InstallConfig.xml for Silent mode OFSAAI installation. See "Configuring OFSAAI_InstallConfig.xml"

Deploy EAR/WAR file 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:

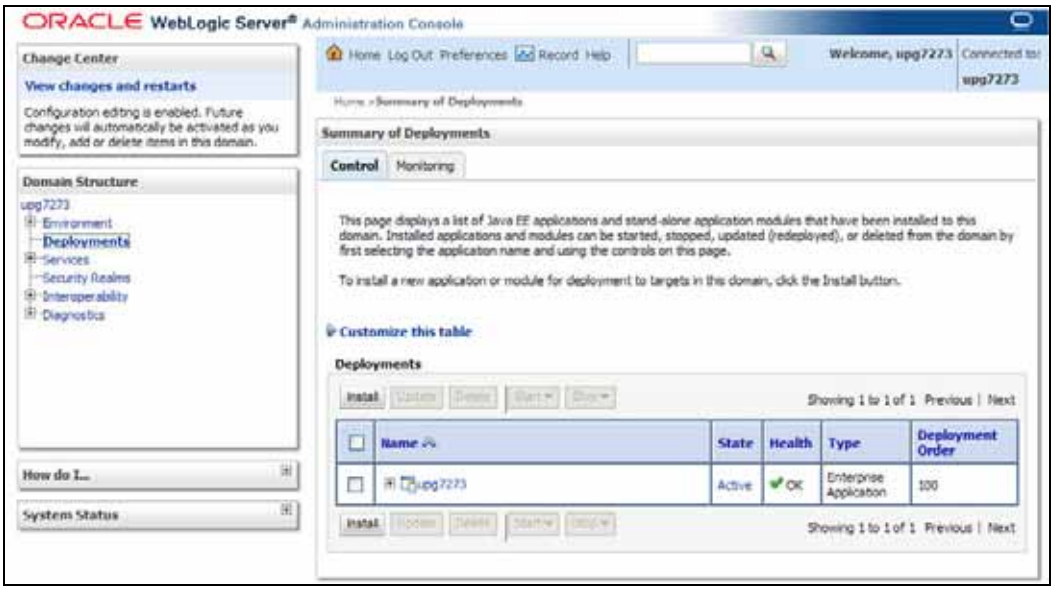
   ```
   ./startWebLogic.sh -d64 file
   ```

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 "./reveleusstartup.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 7–50 Summary of Deployments



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

Explode EAR

To explode EAR, follow the below steps:

1. Create the "applications" folder under domain name. For example, "/Bea/user_projects/domains/ <Domain _name>/applications".
2. Create <context_name>.ear folder under "applications" folder.

3. Copy the <$FIC_WEB_HOME/<context_name>.ear file to <WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/.
4. Explode the <context_name>.ear file by executing the command:

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

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

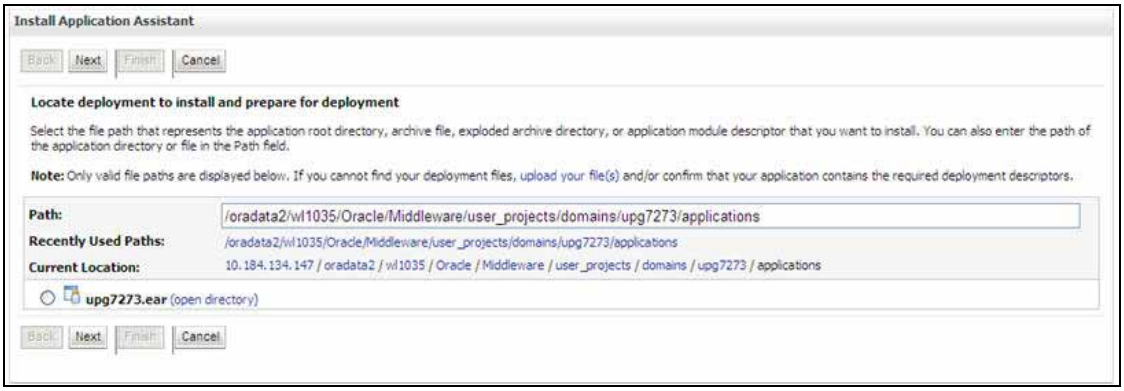
   ```
   jar -xvf <context_name>.war
   ```

Install Application

To install Application:

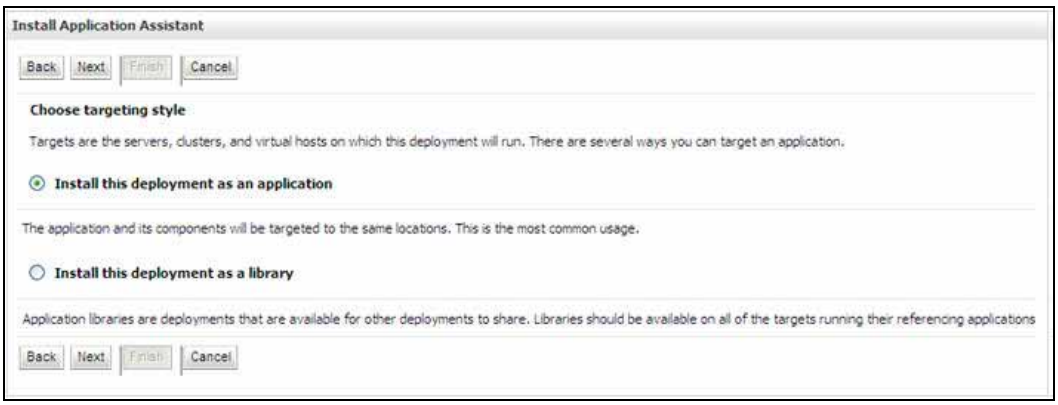
1. Open the Install Application Assistant.

Figure 7–51 Install Application Assistant



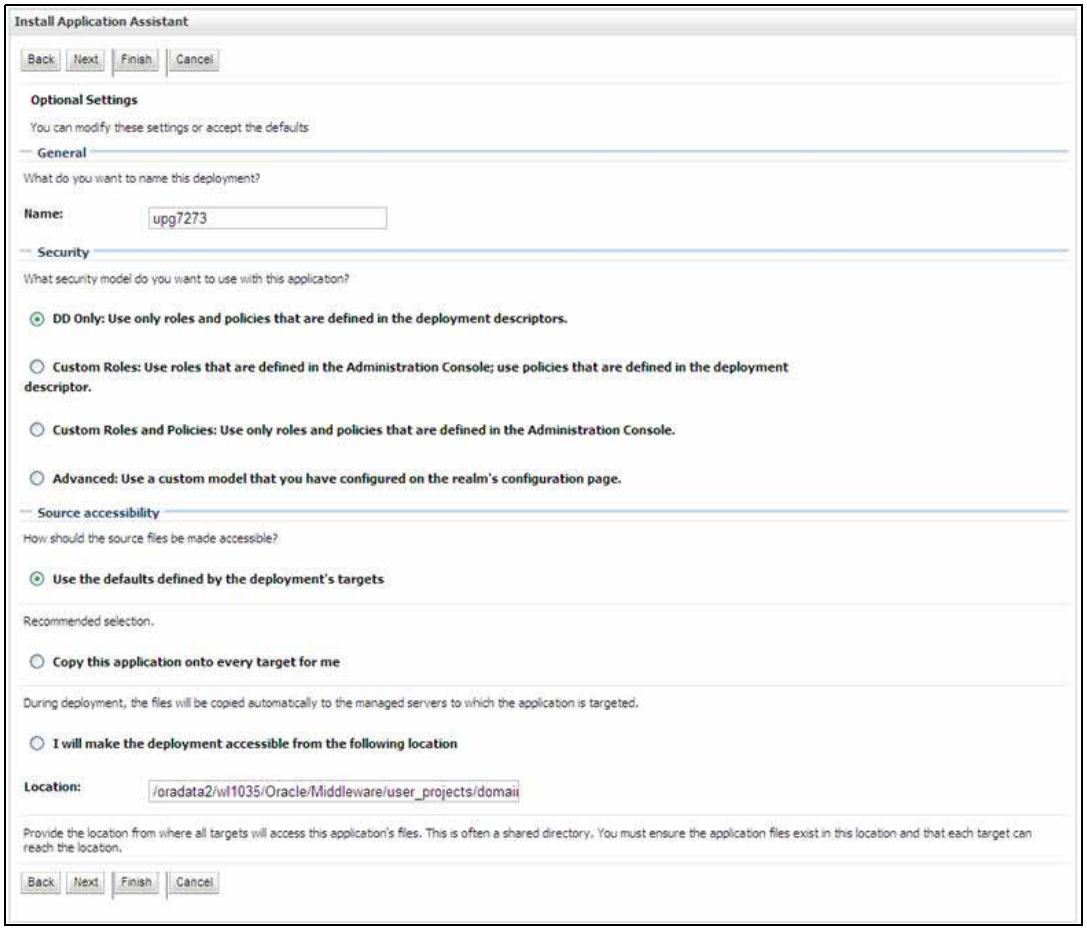
2. Click **Next**.

Figure 7–52 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 7–53 Optional Settings

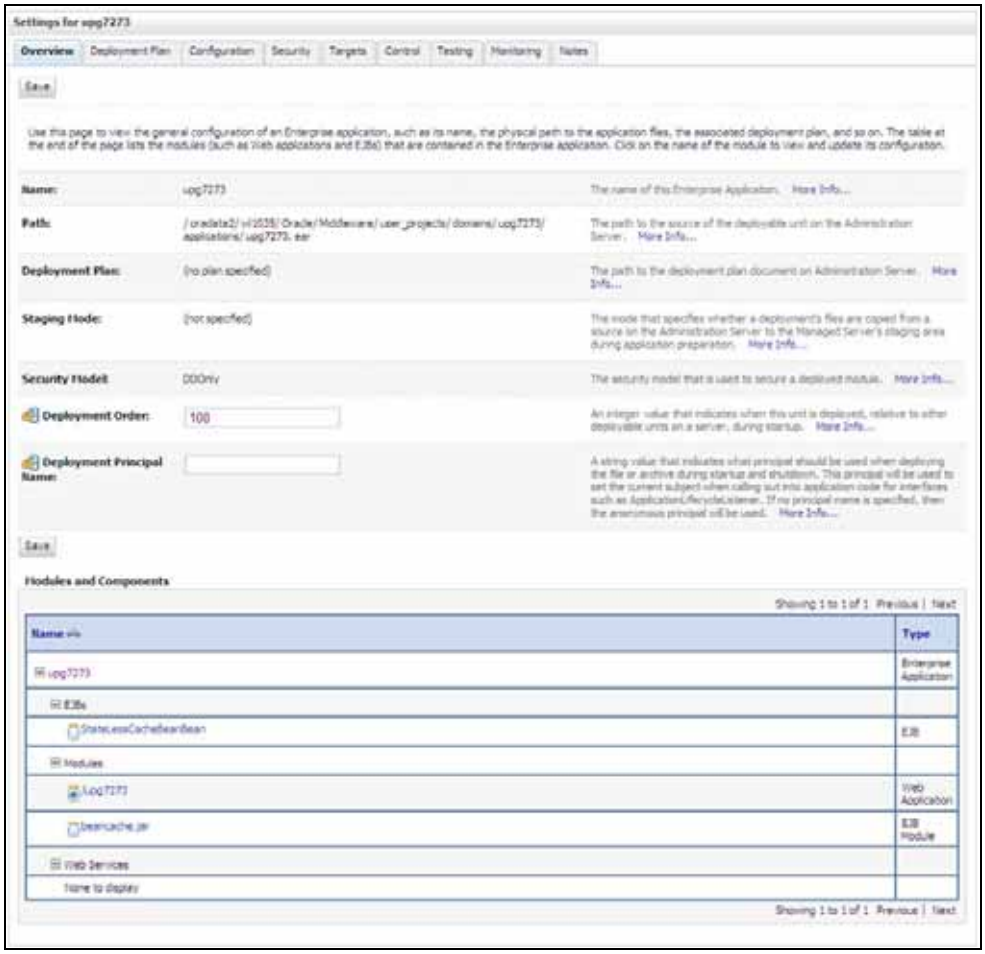


4. Enter a **Name** for the deployment if required.
5. Under the Security section, select the **DD only** option to specify that only roles and policies that are defined in the deployment descriptors should be used.
6. Select the **I will make the deployment available from the following location** option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

Figure 7–54 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 7–55 Settings for <Deployment Name>

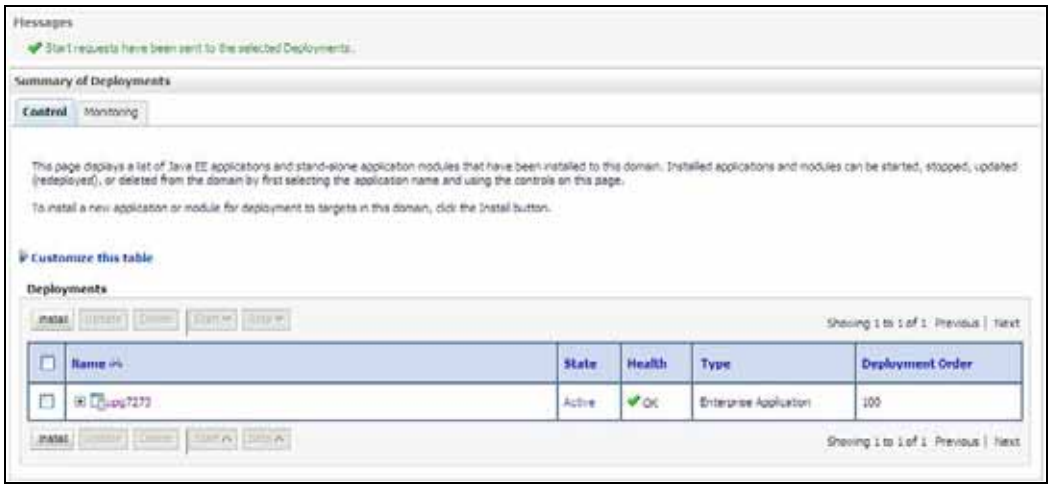


9. Review the general configuration details of the deployment. You can also update the configuration of the deployment in this window. In the Overview tab, you can view the complete deployment configuration.
10. Click **Save** to update the changes, if any.
11. From the LHS menu, click **Deployments**.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

Figure 7–56 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 7–57 Summary of Deployments



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

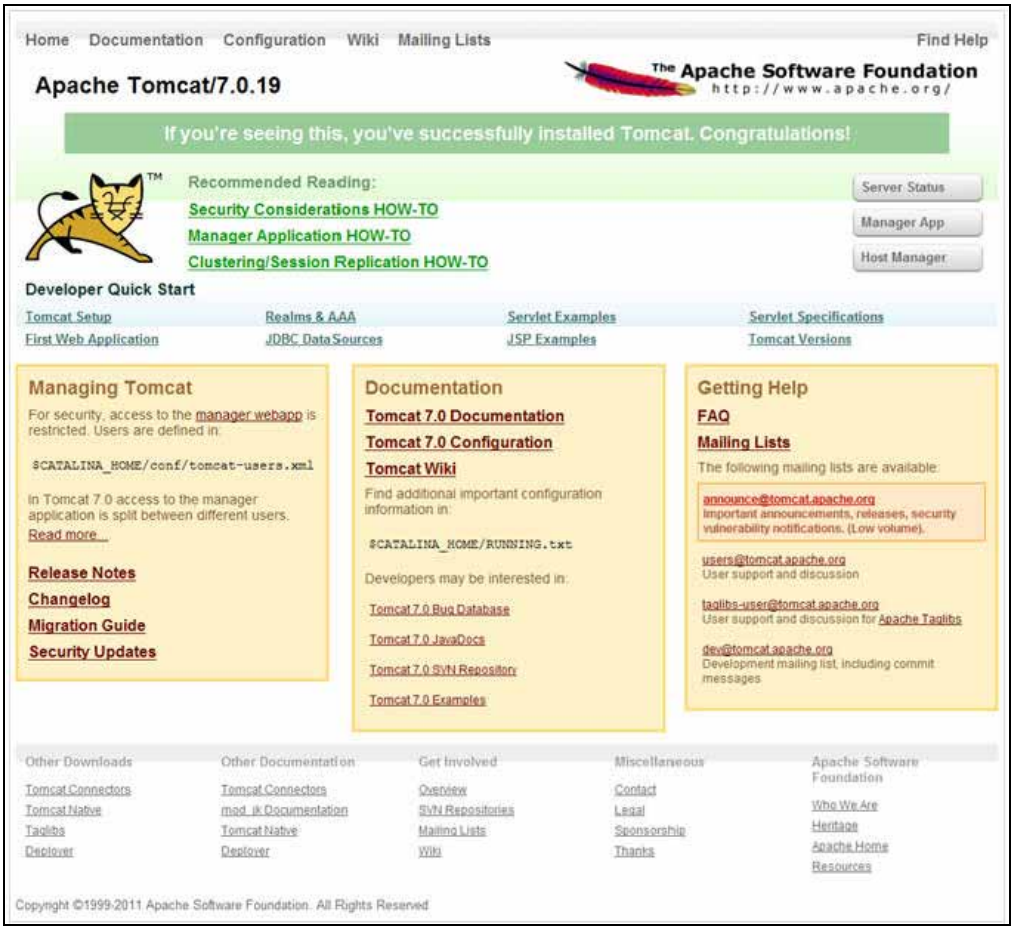
Deploy Tomcat WAR Files

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

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

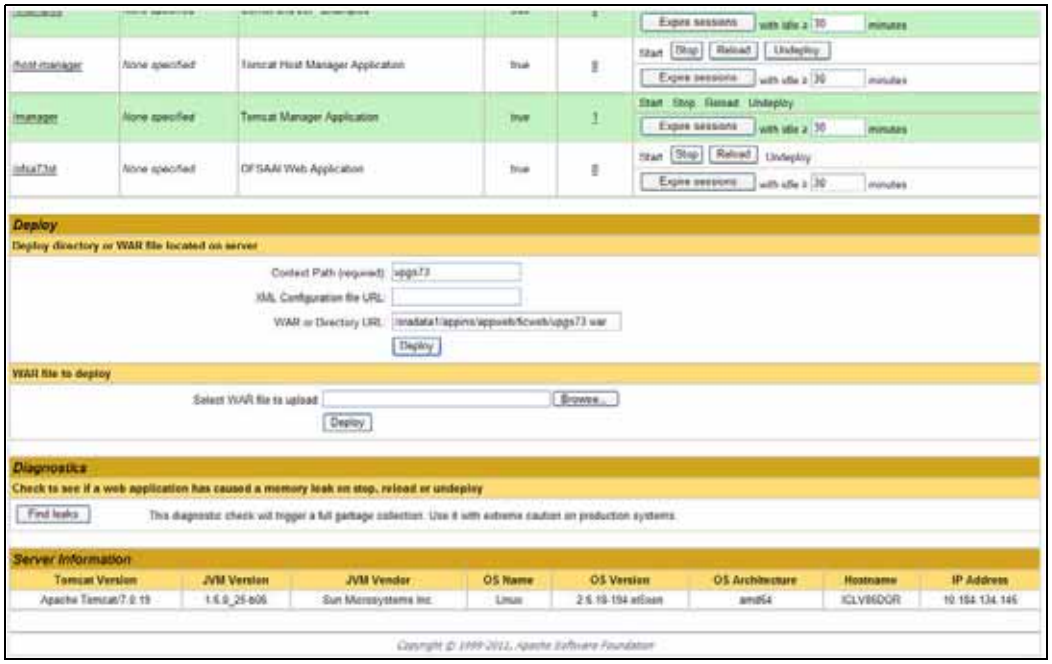
1. Open the URL in Browser window: `http://<IP address>:<Tomcat server port>`. (https if SSL is enabled). The Tomcat home window is displayed.

Figure 7–58 Tomcat home



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 "Tomcat User Administration". The Tomcat Web Application Manager window is displayed with the list of all the applications deployed.

Figure 7–59 Tomcat Web Application Manager



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

On successful application deployment, a confirmation message is displayed.

- For information on starting the Tomcat server, see Starting Infrastructure Services.

C

Appendix

This appendix covers the following topics:

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

Creating EAR/WAR File

This section includes the following topics:

- Creating WebSphere EAR / WAR File
- Creating WebLogic EAR / WAR File
- Creating Tomcat EAR / WAR File

Creating WebSphere EAR/WAR File

The EAR files are required to assemble servlets, .jsp files, web pages, and other static content into a deployable unit. The EAR file is created to reflect the changes made to the **web.xml** file.

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

1. Navigate to the "`$FIC_WEB_HOME`" directory on the machine in which Infrastructure Web components have been installed and execute the command:

   `./ant.sh`

2. This triggers the creation of EAR file -`<contextname>.ear`. The `<contextname>` is the name given during installation.
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.
4. The EAR file - `<contextname>.ear` - is created on the machine on which Infrastructure Web components are installed under `$FIC_WEB_HOME` directory.

Note: This process overwrites any existing version of EAR file that exists in the path.

Creating WebLogic EAR/WAR File

The EAR files are required to assemble servlets, .jsp files, web pages and other static content into a deployable unit. This EAR file creation is required to reflect the changes made to the **web.xml** file.

To create WebLogic EAR / WAR File, follow these steps:

1. Navigate to the path "<WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/bin/".
2. Start WebLogic Domain by executing the command:

   ```
   ./startWeblogic.sh -d64
   ```

3. Navigate to the "$FIC_WEB_HOME" directory in the machine in which Infrastructure Web components have been installed.
4. Execute the command:

   ```
   ./ant.sh
   ```

   This will trigger the creation of EAR file - <contextname>.ear. Here <contextname> is the context name given during installation.
5. On completion of the EAR files creation, the "BUILD SUCCESSFUL" and "Time Taken" message is displayed and you will be returned to the prompt.
6. The EAR file - <contextname>.ear - is created on the machine on which Infrastructure Web components are installed under "$FIC_WEB_HOME" directory.

Note: This process overwrites any existing version of EAR file in the path.

Creating Tomcat EAR/WAR File

The WAR files are required to assemble servlets, .jsp files, web pages, and other static content into a deployable unit.

To create Tomcat EAR / WAR File, follow these steps:

1. On the machine in which Infrastructure Web components have been installed, navigate to the path $FIC_WEB_HOME.
2. Execute the command:

   ```
   ./ant.sh
   ```

   This will trigger the creation of WAR file - <contextname>.war. The <contextname> is the name given during installation.
3. On completion of the WAR files creation, a confirmation message will be displayed and you will be returned to the prompt.
4. The WAR file - <contextname>.war- is created on the machine on which Infrastructure Web components are installed under $FIC_WEB_HOME directory.

Note the following:

- This process will not overwrite any existing version of WAR file that exists in the path. Rename / delete any existing war file.
- Proceed with the Tomcat WAR Files Deployment.

- Log on to the server in which Tomcat is installed.

Deploying EAR/WAR File

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, refer Clearing Application Cache section.

Deploying EAR/WAR Files on WebSphere

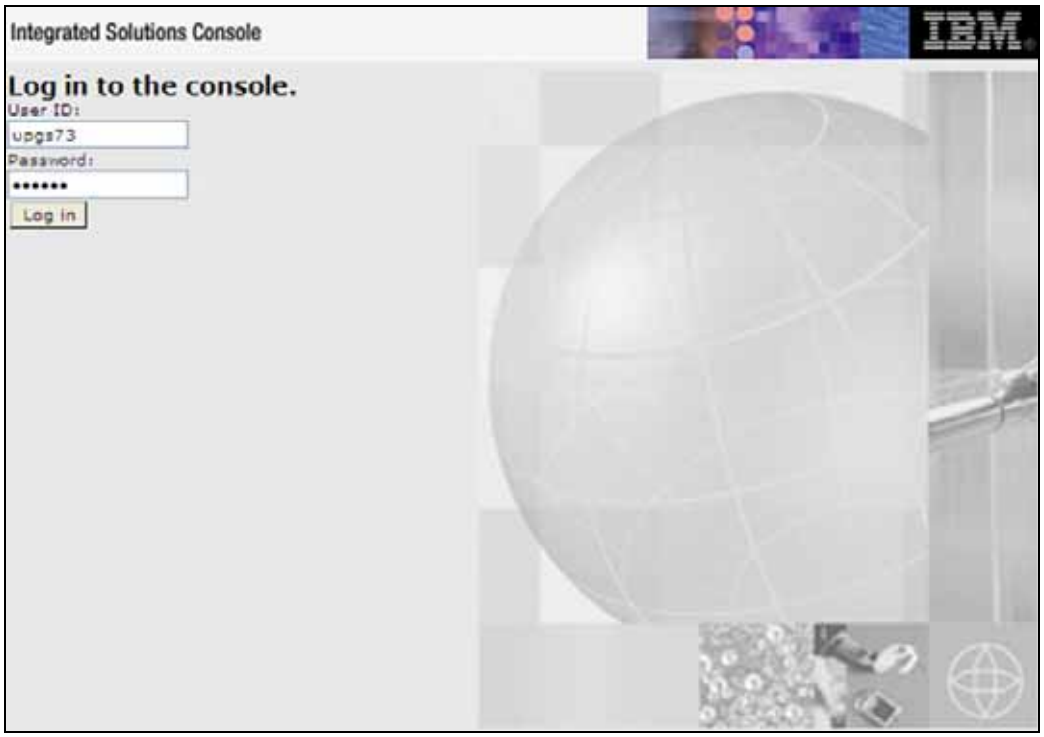
To deploy Infrastructure application in WebSphere:

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
   ```

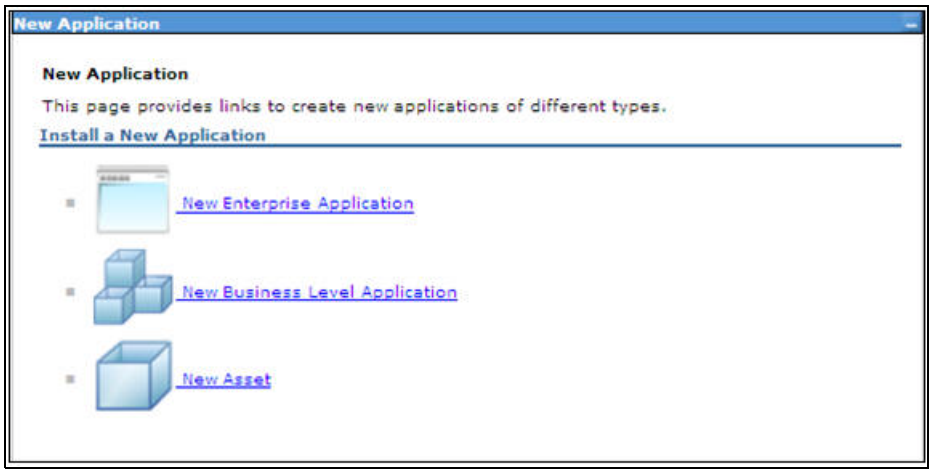
2. Open the following URL in the browser: `http://<ipaddress>:<Administrative Console Port>/ibm/console`. (https if SSL is enabled). The login screen is displayed.

Figure 7–60 Login Window



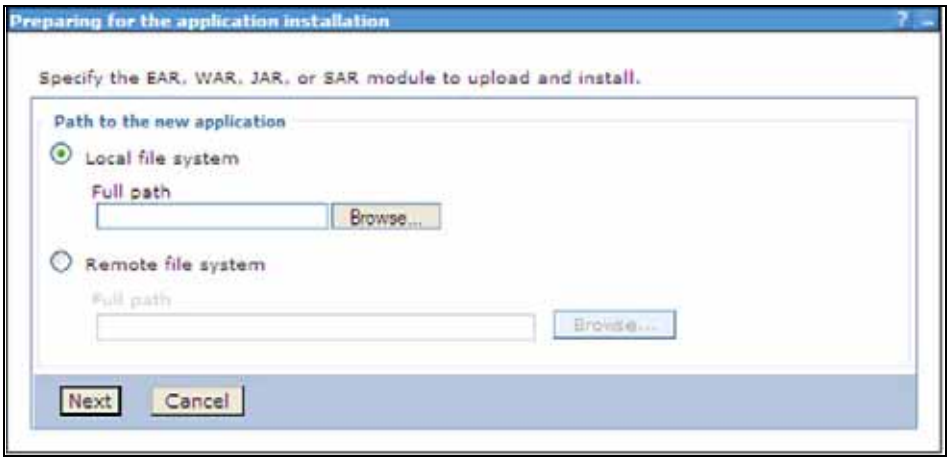
3. Enter the user credentials which has administrator rights and click **Log In**.
4. From the LHS menu, select **Applications** and click **New Application**. The New Application window is displayed.

Figure 7–61 New Application



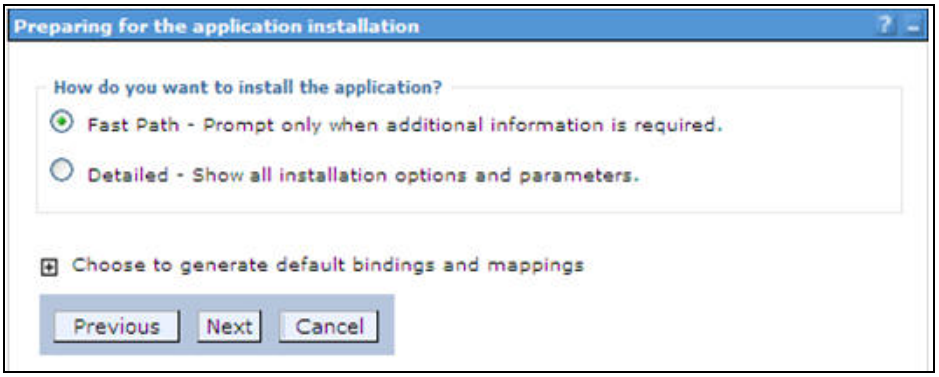
5. Click **New Enterprise Application**. The Preparing for the application installation window is displayed.

Figure 7–62 Preparing for the application installation



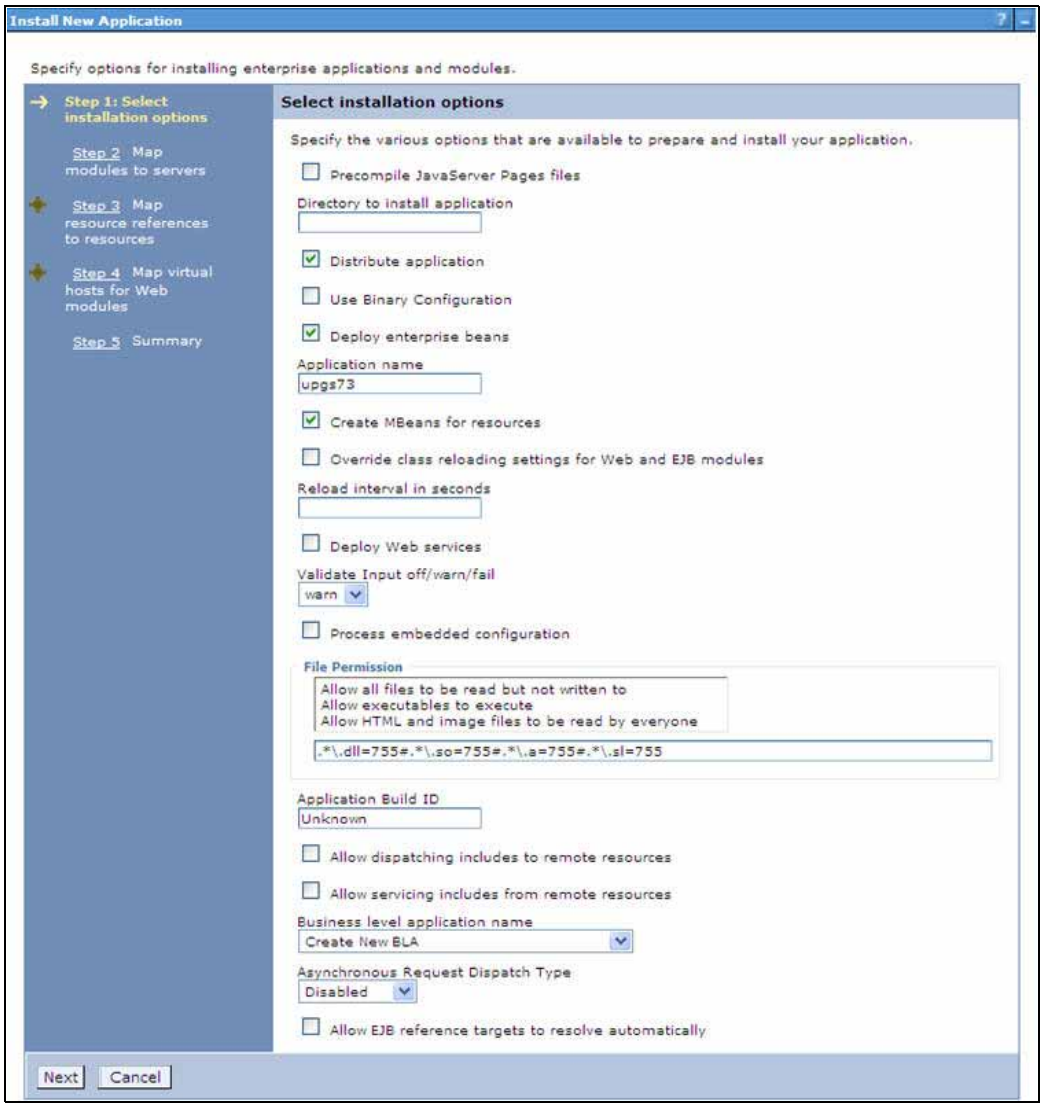
6. Select **Remote File System** and click **Browse**. Select the EAR file generated for OFSAAI to upload and install. Click **Next**.

Figure 7–63 Installation Options



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

Figure 7–64 Install New Application

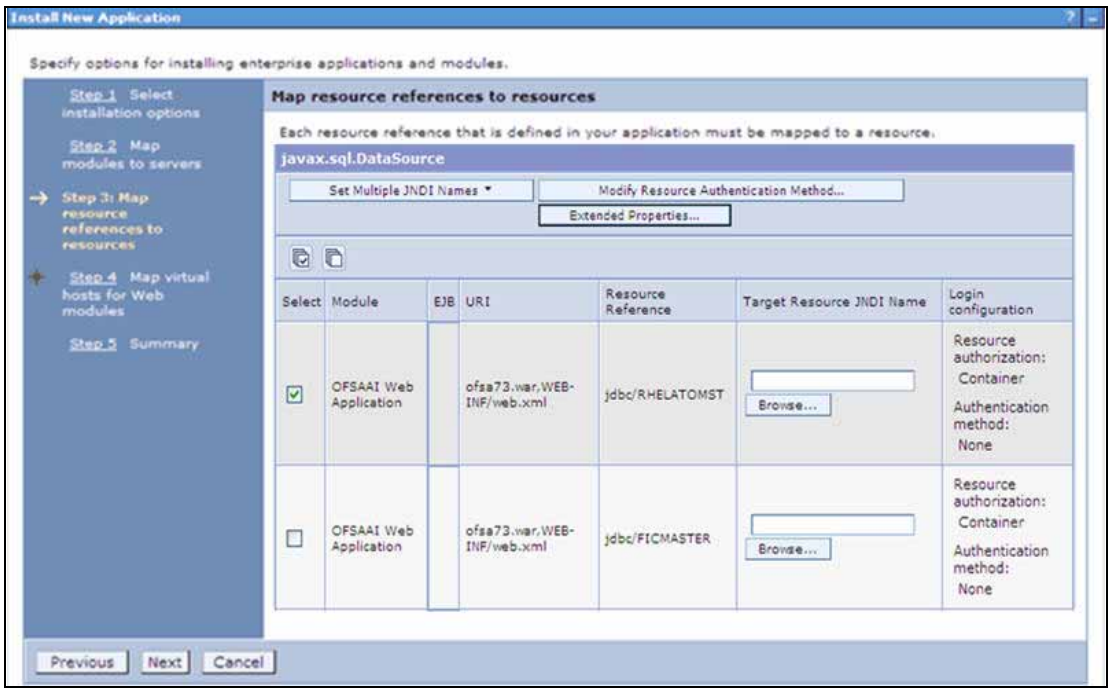


8. Enter the required information and click **Next**. The Map Modules to Servers window is displayed.

Figure 7–65 Map Modules to Servers

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

Figure 7–66 Map Resource References to Resources



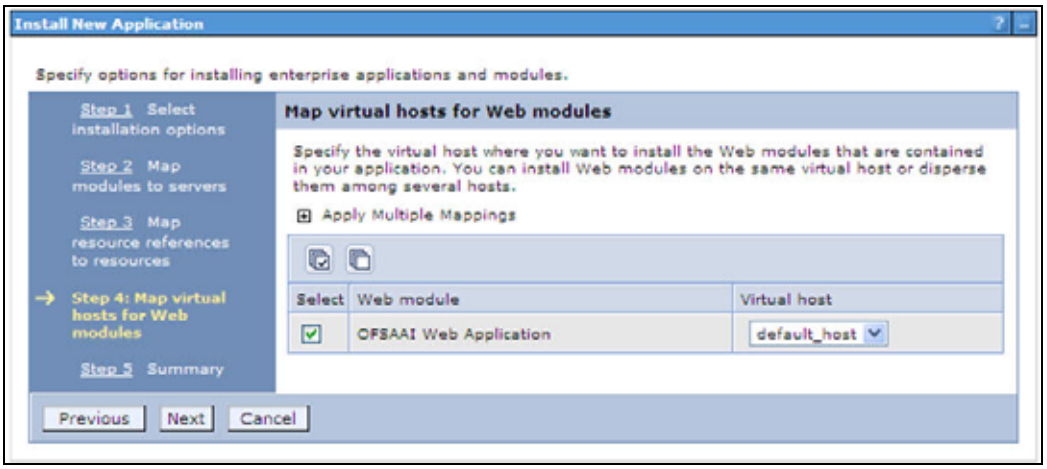
10. Map each resource defined in the application to a resource JNDI name defined earlier.

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.

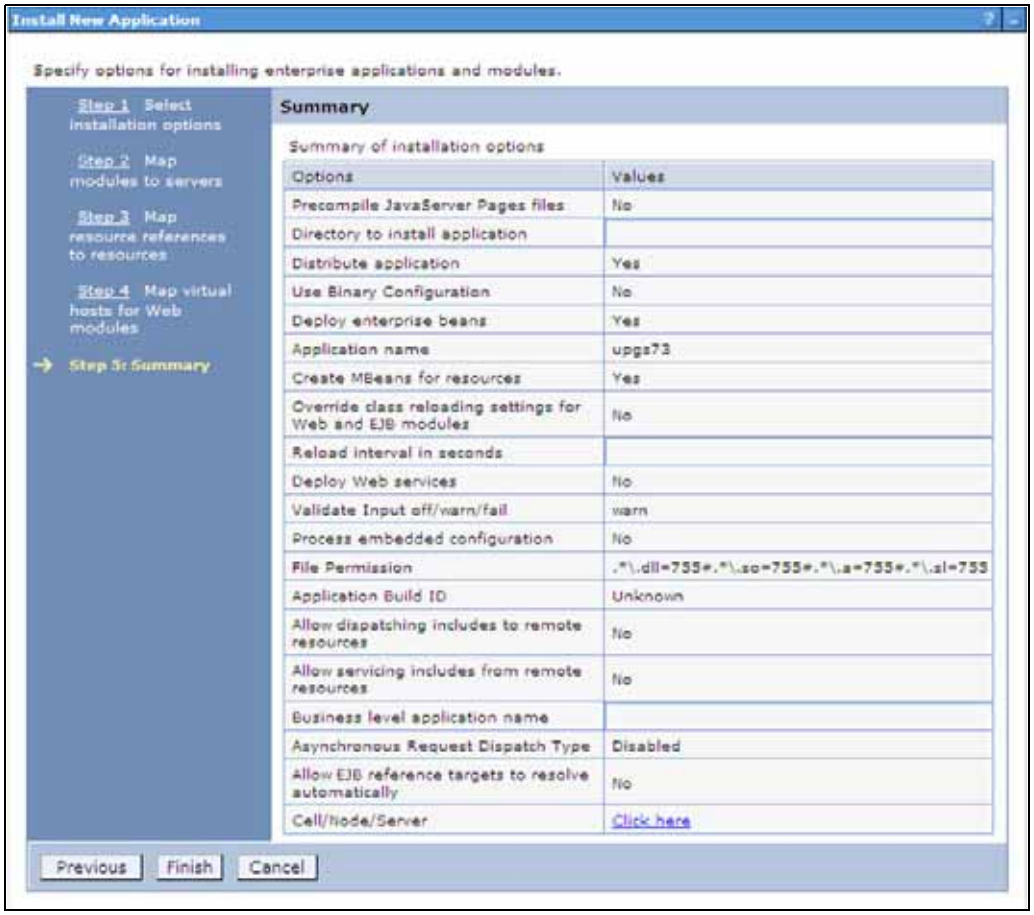
12. Select the **OFSAAI Web Application** check box and click **Next**. The Map Virtual hosts for Web Modules window is displayed.

Figure 7–67 Map Virtual host for Web Modules



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

Figure 7–68 Summary

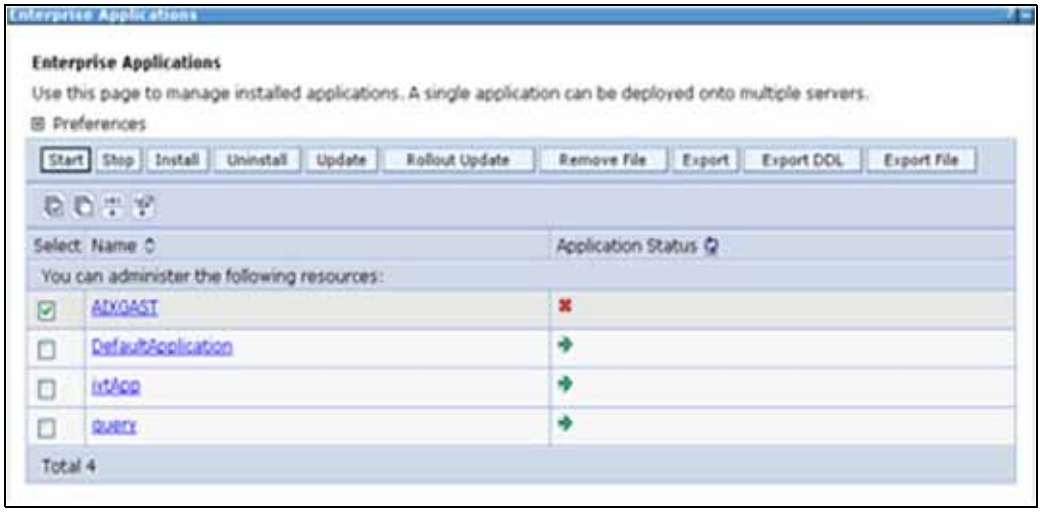


14. Click **Finish** and deploy the Infrastructure Application on WebSphere.
15. On successful installation, a message is displayed. Click **Save** and save the master file configuration. The details are displayed in the Master File Configuration window.

To start the application:

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

Figure 7–69 Enterprise Applications



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

Note:

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

Deploying EAR/WAR 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:

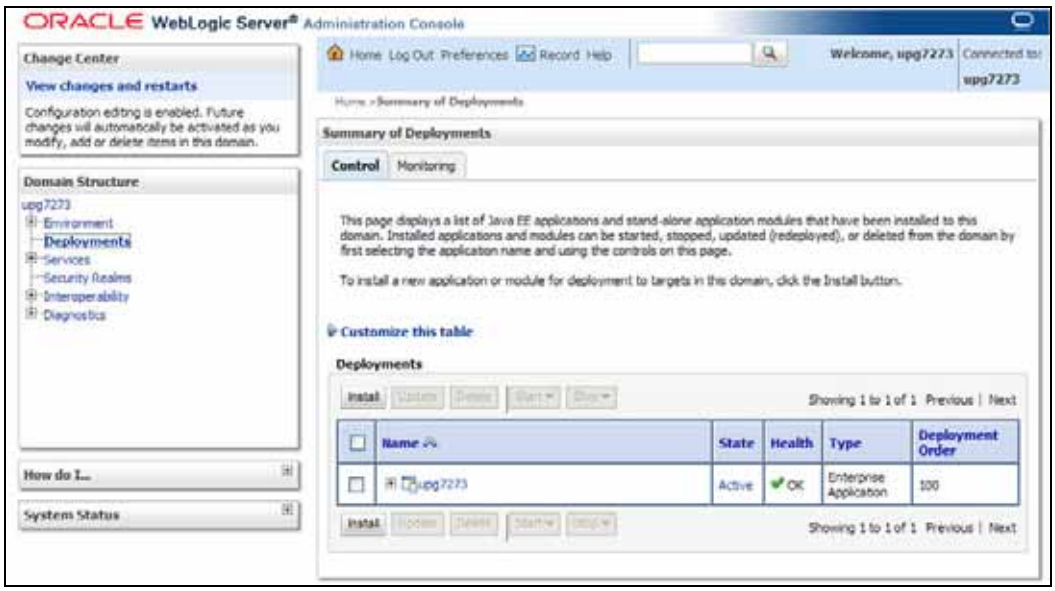
   `./startWebLogic.sh -d64 file`

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 "./reveleusstartup.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 7–70 Summary of Deployments



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

Explode EAR

To explode EAR, follow these steps:

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

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

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

7. Copy <$FIC_WEB_HOME/<context_name>.war file to <WEBLOGIC_INSTALL_DIR>/Bea/user_projects/domains/<DOMAIN_NAME>/applications/<context_name>.ear/.
8. Explode the <context_name>.war file by executing the following command to get the directory structure:

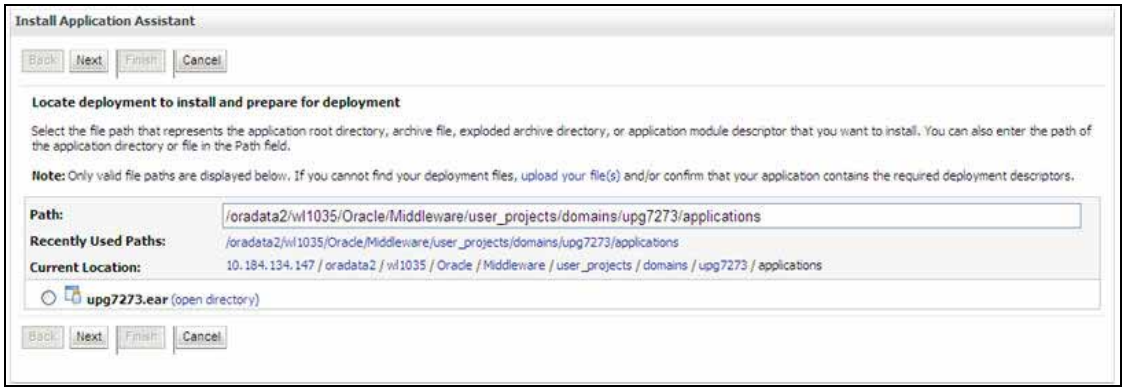
   ```
   jar -xvf <context_name>.war
   ```

Install Application

To install Application:

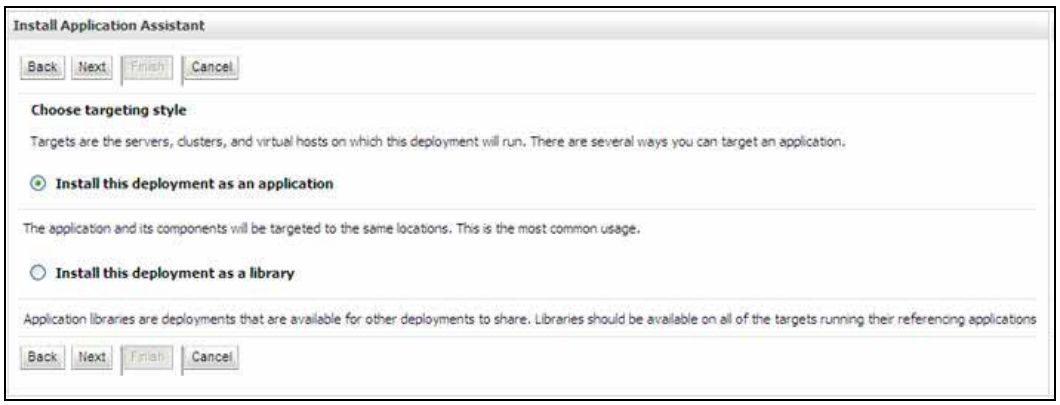
1. Open the Install Application Assistant.

Figure 7–71 Install Application Assistant



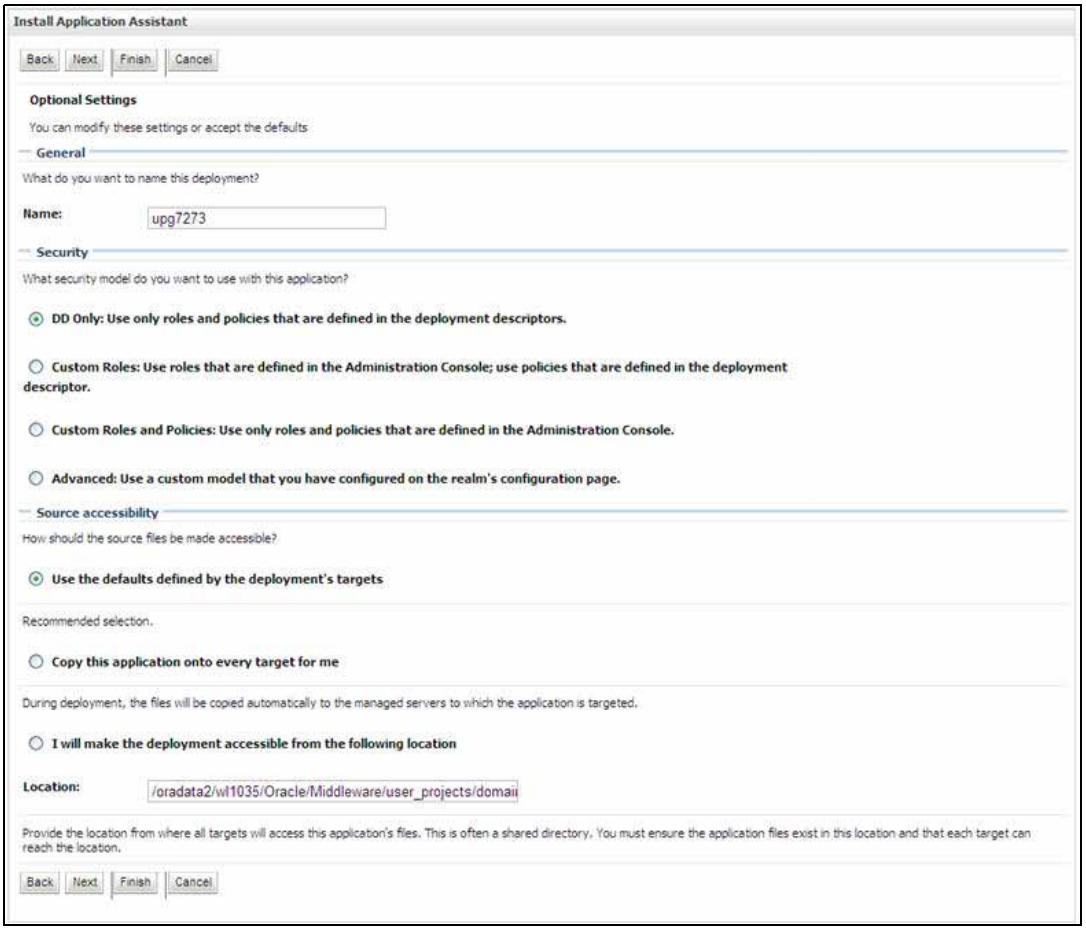
2. Click **Next**.

Figure 7–72 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 7–73 Optional Settings

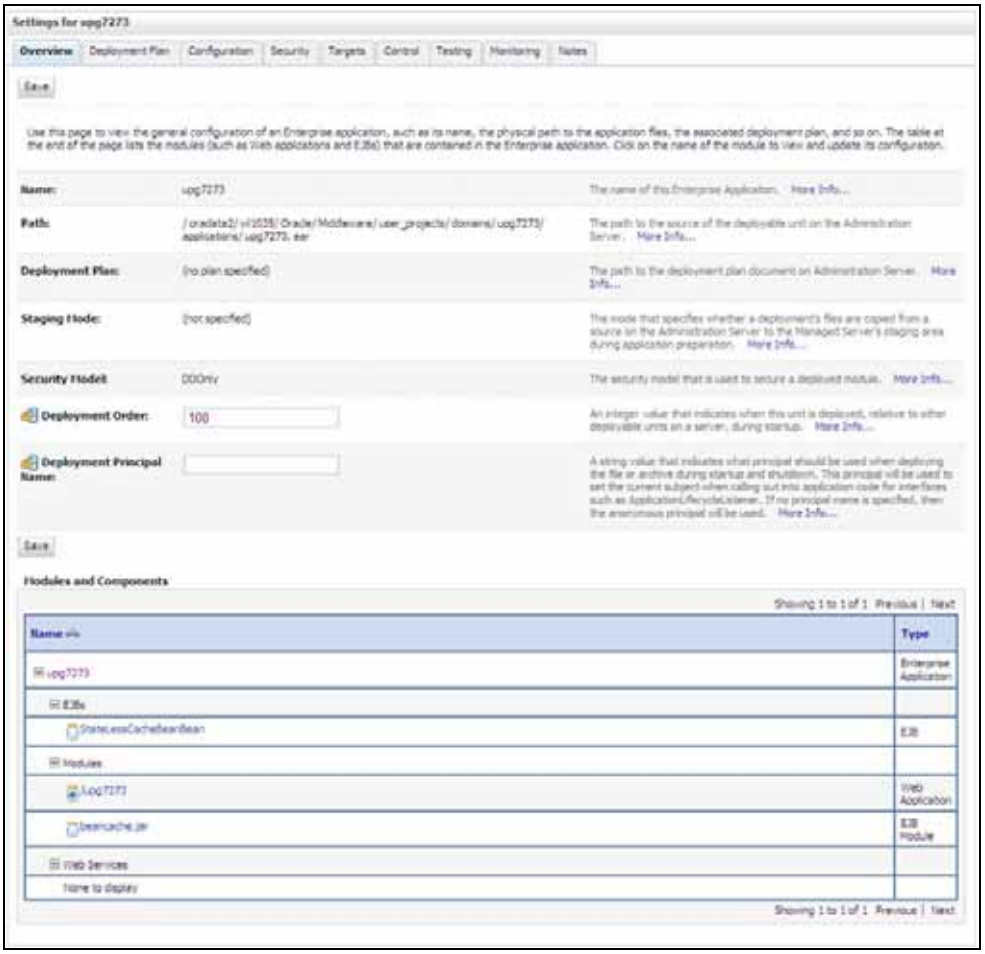


4. Enter a **Name** for the deployment if required.
5. Under the Security section, select the **DD only** option to specify that only roles and policies that are defined in the deployment descriptors should be used.
6. Select the **I will make the deployment available from the following location** option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

Figure 7–74 Deployment Summary

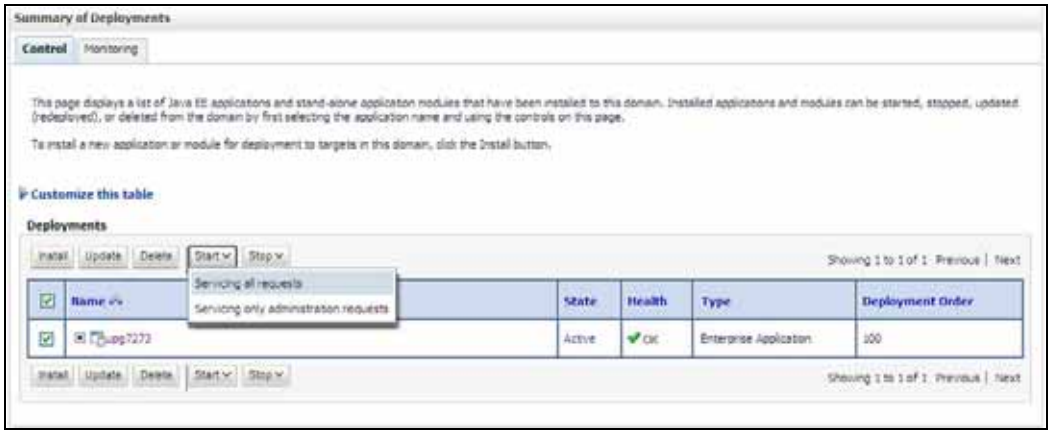
8. Select the **Yes, take me to the deployment's configuration screen** option and click **Finish**. The Settings for <Deployment Name> window is displayed.

Figure 7–75 Settings for <Deployment Name>



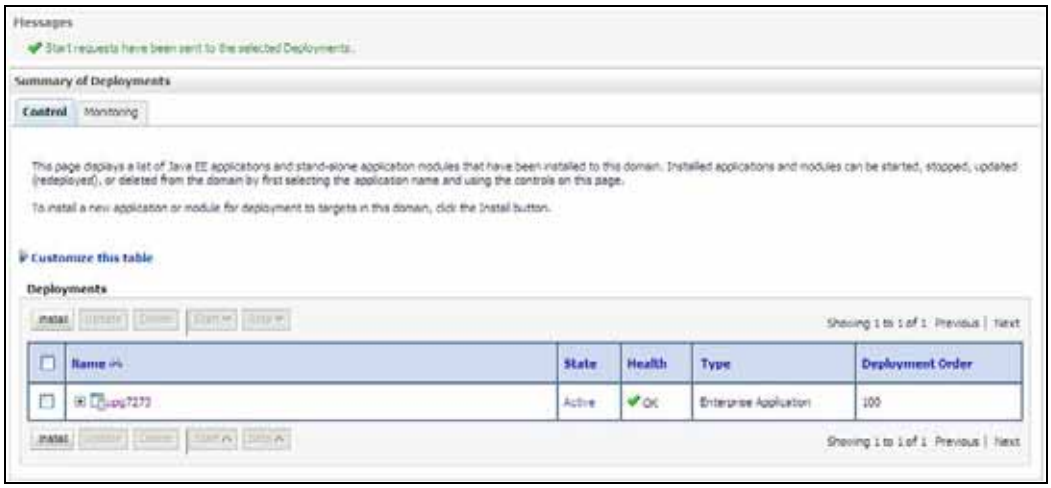
9. Review the general configuration details of the deployment. You can also update the configuration of the deployment in this window. In the Overview tab, you can view the complete deployment configuration.
10. Click **Save** to update the changes, if any.
11. From the LHS menu, click **Deployments**.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

Figure 7–76 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 7–77 Summary of Deployments



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

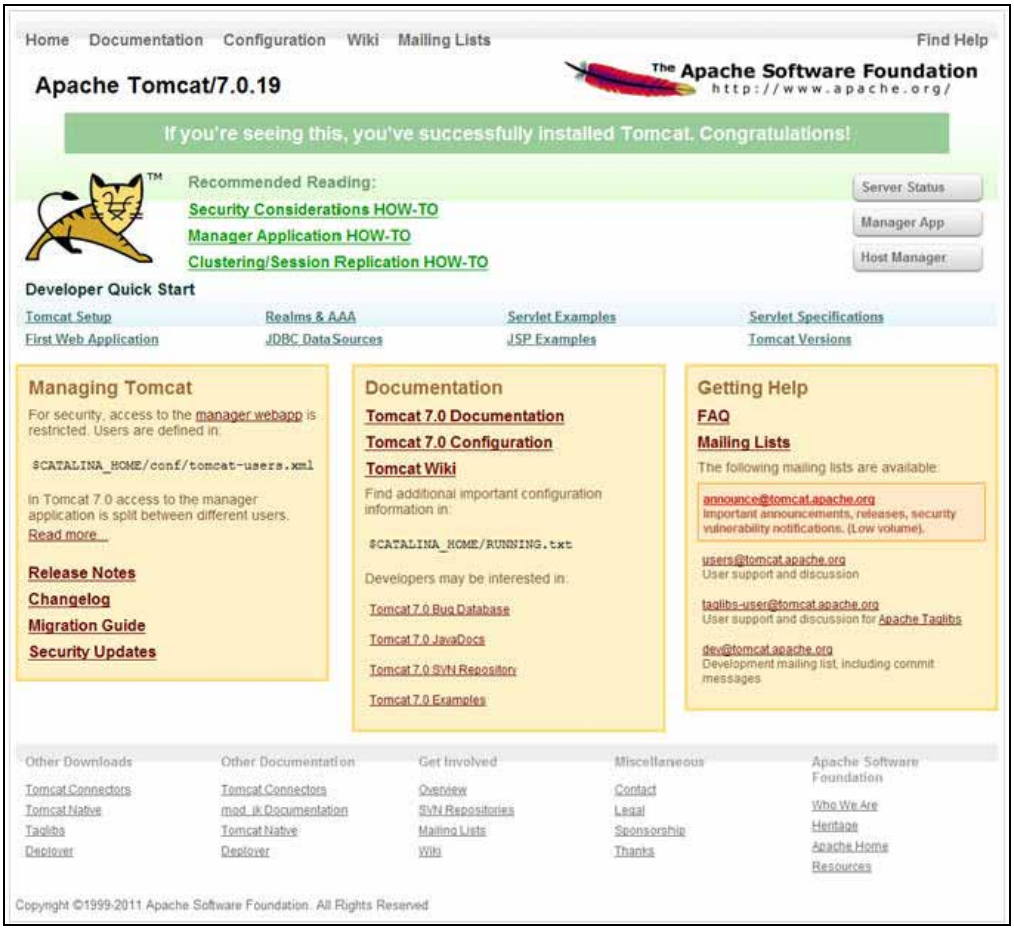
Deploying Tomcat WAR Files on Tomcat

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 the steps outlined to deploy Infrastructure application:

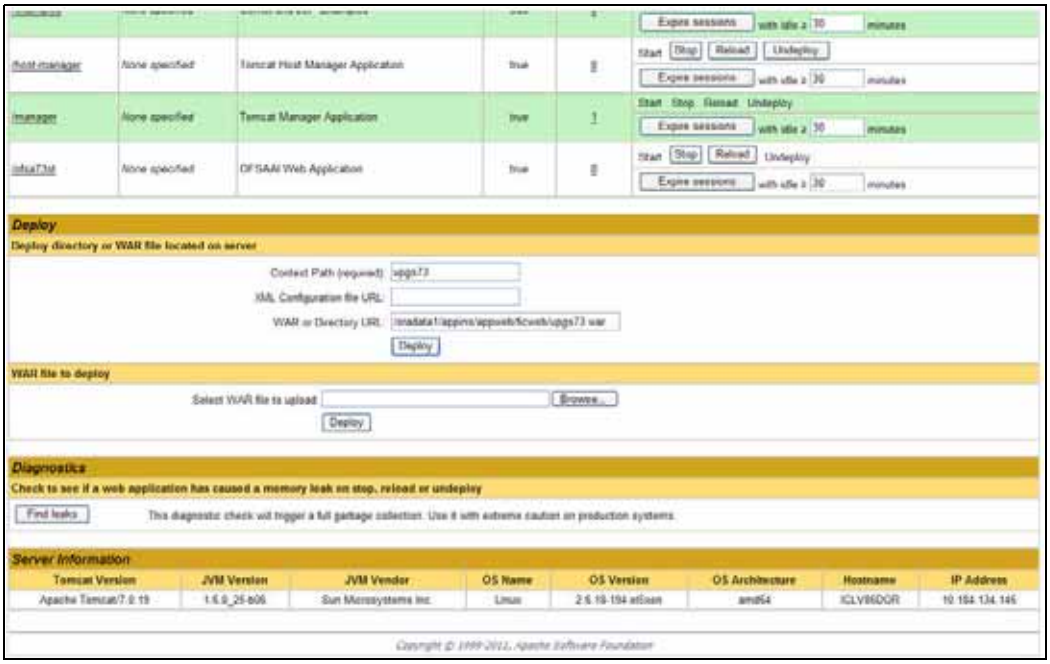
1. Open the URL in Browser window: `http://<IP address>:<Tomcat server port>`. (https if SSL is enabled). The Tomcat home window is displayed.

Figure 7–78 Tomcat home



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 "Tomcat User Administration". The Tomcat Web Application Manager window is displayed with the list of all the applications deployed.

Figure 7–79 Tomcat Web Application Manager



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

On successful application deployment, a confirmation message is displayed.

- For information on starting the Tomcat server, see Starting Infrastructure Services.

D

Appendix

This appendix includes the following sections:

- Additional Configurations
- OFSAA Landing Page
- Cleaning up the environment

Additional Configurations

Refer to the following sections for detailed module specific post installation configurations.

This section covers the following topics:

- FTP / SFTP Configuration for Excel / Document Upload
- Configuration for Dimension and Hierarchy Management
- Configure Infrastructure Server Memory
- Internet Explorer Settings
- OLAP Data Server Configuration
- Configure Infrastructure Ports
- Configure OFSAAI Web Services
- Configure OFSAAI Web Services
- Deploy OFSAAI Web Services
- Configuration to Enable Parallel Execution of DML statements
- Configure Message Details in Forms Designer
- Clearing Application Cache
- Changing the CONFIG / ATOMIC Schema passwords
- Configure Java Virtual Machine

FTP/SFTP Configuration for Excel/Document Upload

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.

Example: `<App Layer path>scp nohup.out <user>@<Web Server path>:/export/home/<user>`

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

Configuration for Dimension and Hierarchy Management

These configuration changes are applicable when Dimension Management features provided in OFSAAI are used. You can open `AMHMConfig.properties` file present in the `$FIC_WEB_HOME/webroot/conf` directory to set the properties for the following:

- Configure Member Deletion
- Configure Attribute Default Date Format
- Configure Members Reverse Population
- Configure Members Reverse Population
- Configure Maximum Levels allowed in Hierarchies
- Configure Node Limit for a Hierarchy Tree

Configuration for Dimension and Hierarchy Management has to be done only after the application / solution installation is done. The properties specific to Information Domain are:

- `$INFODOM$`=<Name of the Information Domain>
- `$DIMENSION_ID$`=<Dimension ID for which the property to be set>

Configure Member Deletion

This property should be set to allow the user to delete the Members for the Dimension.

Table D–1 Member Deletion Configuration

Value	Code	Example
# Member Deletion Configuration - VALUE-Y / N	MEMBER_DEL-$INFODOM$-$DIMENSION_ID$=$VALUE$	MEMBER_DEL-ORAFUSION-1=Y

Configure Attribute Default Date Format

This property should be set to display the Default Date Format for Date type Attribute in *Attributes* window.

Table D–2 Attribute Default Date Format

Value	Code	Example
# Attribute Default Date Format - DB_DATE_FORMAT:DD-MON-YYYY	ATTR_DEF_DATE_FORMAT-$INFODOM$=DB_DATE_FORMAT	ATTR_DEF_DATE_FORMAT-ORAFUSION=DD / MON / YYYY

Configure Members Reverse Population

This property should be set for reverse population of Members for the Dimensions in required Information Domains.

Table D–3 Members Reverse population

Value	Code	Example
# Members Reverse population - VALUE- Y / N	MEMBER_REVERSE_ POP-$INFODOM$-$DIME NSION_ID$=$VALUE$	MEMBER_REVERSE_ POP-ORAFUSION-1=Y

Configure Hierarchy Reverse Population

This property should be set for reverse population of Hierarchies for the Dimensions in required Information Domains.

Table D–4 Hierarchy Reverse population

Value	Code	Example
#Hierarchy Reverse population - VALUE- Y / N	HIERARCHY_REVERSE_ POP-$INFODOM$-$DIME NSION_ID$=$VALUE$	HIERARCHY_REVERSE_ POP-ORAFUSION-1=Y

Configure Maximum Levels allowed in Hierarchies

This property is required to set the maximum levels allowed to build the Hierarchies tree structure.

Table D–5 Hierarchy Maximum level allowed

Value	Code	Example
#Hierarchy Maximum level allowed for the hierarchy in particular Information Domain - VALUE - Integer number	MAX_ DEPTH-$INFODOM$=$VA LUE$	MAX_DEPTH-FUSION=15

The Maximum Levels allowed in the hierarchies is less than or equal to 15. If the Hierarchy Reverse population is set as "**Y**" and more than 15 levels are created. Then an alert is displayed as "*The number of levels exceeding the limit*".

If the maximum level allowed is set as more than 15 and hierarchy reverse population is set as "**Y**" then an error is displayed as "*Error occurred in Reverse populating the hierarchy*".

Configure Node Limit for a Hierarchy Tree

This property is required to display the Hierarchy as a small or a large hierarchy. If the tree node limit exceeds the set limit, the Hierarchies are treated as large Hierarchy.

Table D–6 Hierarchy Tree node limit

Value	Code	Example
#Tree node limit for the hierarchy - Values is Integer number	TREE_NODE_ LIMIT=$VALUE$	TREE_NODE_LIMIT=30

BlowFish Algorithm Setting for Solaris 5.11

Note: This setting is required and applicable only if the OFSAA 8.0.0.0.0 Java 6 release is used.

OFSAA client call uses blowfish-cbc, 3des-cbc algorithm during SFTP. But BlowFish algorithm is not supported on Solaris 11 operating system. Perform the following steps manually to enable it:

1. Login as a root user.
2. Append the following line to /etc/ssh/sshd_config

   ```
   Ciphers
   aes128-ctr,aes192-ctr,aes256-ctr,arcfour128,arcfour256,arcfour,blowfish
   -cbc,3des-cbc
   ```

3. Restart ssh daemon:

   ```
   svcadm -v restart ssh
   ```

Configure Infrastructure Server Memory

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

Infrastructure Application Server Memory Settings

You can configure the Infrastructure Application Memory settings as follows:

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

   This has a default value `X_ARGS="-Xms200m"`

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

Note: This parameter is modified in 7.3.2 IR and you need to modify `X_ARGS_APP` variable in the `.profile` file to customize Java Memory Settings for Model Upload based on the Data Model size.

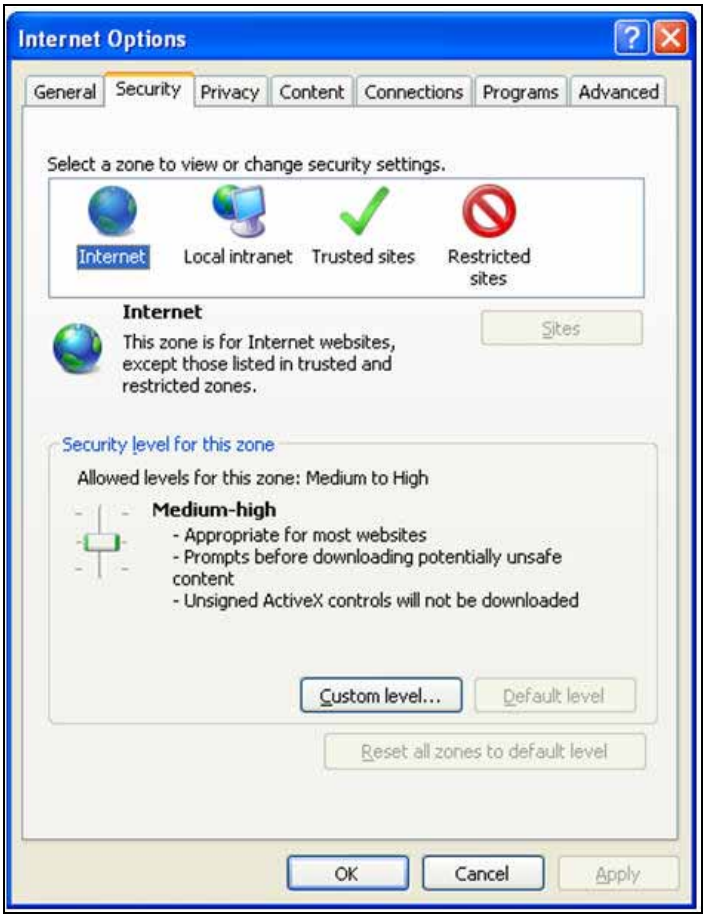
Internet Explorer Settings

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

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

1. In the *Internet Options* window, select the **Security** tab and select the **Internet option** under **Select a zone to view or change the security** settings.

Figure D–1 Internet Options



2. Click **Default Level** under **Security level for this zone**.
3. Click **OK** to save.
4. Click **Internet Explorer >> Tools >> Compatibility View Settings**.
5. Enter the OFSAA setup URL in the **Add this website** field.
6. Click **Add**.
7. Ensure the URL is listed under **Websites you've added to Compatibility View**.
8. In the Internet Options window, select the **General** tab and select **Settings** in the Browsing History section.
9. Click the **Every Time I visit the webpage** option. Click **OK**.

OLAP Data Server Configuration

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

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

Example:

Process Memory Limit

Max Thread Stack Size

Max Number of Threads per Process

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

Configure Infrastructure Ports

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

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

- GUI
- CMD

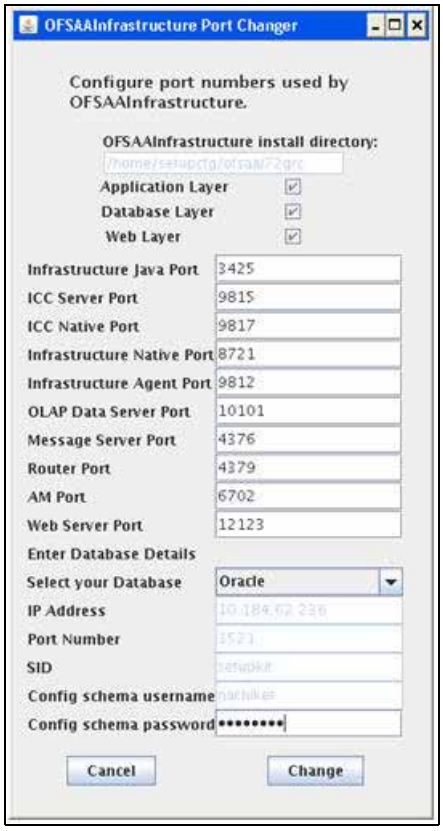
To execute "PortC.jar" in GUI mode, ensure that the "Hummingbird Exceed" to be running and do the following:

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

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

   The *OFSAA Infrastructure Port Changer* window is displayed.

Figure 7–80 OFSAA Infrastructure Port Changer



The OFSAA Infrastructure Port Changer window displays the following:

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

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

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

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

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

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

To execute `PortC.jar` in CMD mode:

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

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

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

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

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

OFSAAI Setup Information Fetching Tool

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

To execute "`SetupInfo.jar`" in console:

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

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

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

Encryption Changer

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

To execute `EncryptC.jar` in console:

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

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

A confirmation message is displayed after execution.

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

Infrastructure LDAP Configuration

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

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

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

Configure Infrastructure "Configuration Schema"

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

Table D–7 Configuration Schema

PARAMNAME	Description	PARAM Value Example
AUTHENTICATIONTYPE	Authentication type	**2** - AUTHENTICATIONTYPE value must be **2** for LDAP
ROOTCONTEXT	The Root Context for the LDAP Directory	`dc=<Reveleus>, dc=<com>`
ROOTDN	The Root dn for LDAP directory	`cn=<Manager>, dc=<Reveleus>, dc=<com>`
ROOTPASS	Password for the Root	<secret>
LDAPURL	LDAP URL	`<ldap://10.80.193.35:389/>`
LDAP_SSL_MODE	LDAP in SSL Mode	**N** for non - SSL and **Y** for SSL
HASHPASS	Should the user password be Hashed	**FALSE** or **TRUE**. When `HASSPASS` is set as **FALSE**, we need to have the `ROOTDN` value as "`uid=ORCLADMIN, ou =Users, dc=OFSAAI, dc=com`". ORCLADMIN is a dummy user, it will be replaced dynamically with the logged in user. When `HASSPASS` is set as **TRUE**, we need to have the `ROOTDN` value as "`cn=orcladmin, cn=Users, dc=i-flex,dc=com`" and proper oracladmin LDAP password as `ROOTPASS`. First OFSAAI connects to LDAP directory using **orcladmin** user and fetches the login user details and verifies the entered password.

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

Configure OpenLDAP Files

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

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

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

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

5. In the command prompt, navigate to the LDAP installation directory and execute the command "ldapadd -D"ROOTDN" -w ROOTPASS -f/data/Reveleus.ldif"

   This is for creating the entries for Users, User Groups, Functions, Profiles, Segments, Domains, Roles, and HolidayMaster in the Data information Tree of LDAP.
6. Make an entry in the Domains.ldif file for each Information Domain that is created through the Infrastructure UI.

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

Note: DSNID refers to Information Domain name.

```
dn: DSNID=<DSN ID>,ou=Domains,@LDAP_DIRECTORY_ROOTCONTEXT@

changetype: add

mappedsegments: <Mapped segments/~>

dsnid: <DSN ID>

infodomname: < Information Domain Name>

objectClass: Infodom

objectClass: top

infodomdescription: < Information Domain Description>
```

Example:

```
dn: DSNID=FUSIONMOCK, ou=Domains, dc=FTP1,dc=com

mappedsegments: ~

dsnid: FUSIONMOCK

infodomname: FUSIONMOCK

objectClass: Infodom

objectClass: top

infodomdescription: FUSIONMOCK
```

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

> **Note:** You can add entries for multiple Information Domains at the same time.

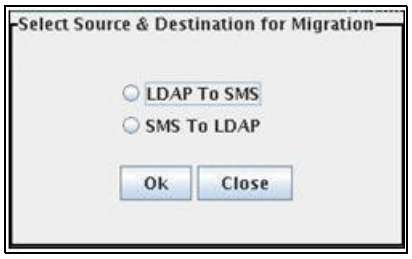
Migrate Data from CSSMS tables to LDAP server

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

To migrate data from CSSMS tables to LDAP server:

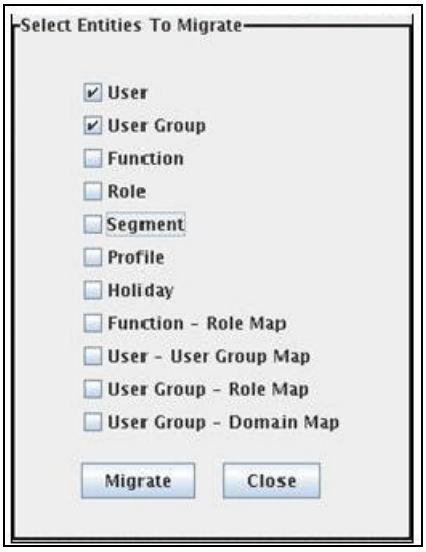
1. Invoke the `LDAP_Migration.sh` file in `$FIC_HOME/MigrationUtilities/Migration_LDAP/ bin` folder. The *Select Source & Destination for Migration* window is displayed with the option to migrate the data from SMS to LDAP or vice versa.

Figure 7–81 Select Source & Destination for Migration



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

Figure 7–82 Select Entities to Migrate



You can select the data that you wish to migrate such as Users, User Groups, Functions, Roles, Segment, Profiles, Holiday Master, Function Role Maps, User - User Group Maps, User Group Role Map, and User Group- Domain Map.

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

   You can verify the data migrated to LDAP server through the LDAP Browser.

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

Configure OFSAAI Web Services

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

Configure DynamicWSConfig.xml File

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

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

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

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

This template is given below:

```
<XML>
```

```
<WEBSERVICES>
<WEBSERVICE CODE="$CODE"
ENDPOINT="$ENDPOINT" TARGETNAMESPACE="$TARGETNAMESPACE"
XMLNS_XSD="$XMLNS_XSD" ENCODINGSTYLE="$ENCODINGSTYLE"
SERVICENAME="$SERVICENAME" PORTTYPENAME="$PORTTYPENAME"
SESSION_MAINTAIN_PROPERTY="$SESSION_MAINTAIN_PROPERTY"
USERNAME="$USERNAME"
PASSWORD="$PASSWORD" STYLE="$WEBSERVICESTYLE"
STUBIMPLEMENTATION="$STUBIMPLEMENTATION">
<OPERATION CODE="$CODE"
NAME="$NAME"
SOAPACTION="$SOAPACTION"
STYLE="$STYLE"
PACKAGENAME="$PACKAGENAME">
<INPUT ORDER="$ORDER"
PARAMNAME="$PARAMNAME"
ARGTYPE="$ARGTYPE"
CLASSNAME="$CLASSNAME"/>
<OUTPUT PARAMNAME="$PARAMNAME"
RETURNTYPE="$RETURNTYPE"
CLASSNAME="$CLASSNAME"/>
</OPERATION>
</WEBSERVICE>
</WEBSERVICES>
</XML>
```

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

Attributes for WEBSERVICE tag

Table D–8 WEBSERVICE tag

Placeholder	Description
`$CODE`	Unique number within the xml file and cannot be 999 or 0.
`$ENDPOINT`	`soap: address` location in the `wsdl: service name` tag of the `wsdl` file.
`$TARGETNAMESPACE`	The attribute value for the `targetNamespace` of the `wsdl: definitions` tag.

Table D–8 (Cont.) WEBSERVICE tag

Placeholder	Description
$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 for OPERATION tag

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

Table D–9 OPERSTION tag

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

Attributes for INPUT tag

Table D–10 INPUT tag

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

Attributes for OUTPUT tag

Table D–11 OUTPUT tag

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

web.xml Entries

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

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

```
<?xml version='1.0' encoding='UTF-8'?>

<web-app id="WebApp_ID" version="3.0"

xmlns="http://java.sun.com/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://java.sun.com/xml/ns/javaee

http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd"
metadata-complete="true">
```

with

```
<?xml version='1.0' encoding='UTF-8'?>

<web-app xmlns="http://java.sun.com/xml/ns/j2ee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

Entry for WSConfig File

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

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

```
<context-param>

<description>WebServices Configuration File</description>

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

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

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

```
</context-param>
```

Proxy Settings

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

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

```
<context-param>
    <description>http Proxy Host</description>
    <param-name>http.proxyHost</param-name>
    <param-value>$PROXYHOST$</param-value>
    <!-- Specify the IP address or hostname of the http proxy server-->
</context-param>
<context-param>
    <description>http Proxy Port</description>
    <param-name>http.proxyPort</param-name>
    <param-value>$PROXYPORT$</param-value>
    <!--Port Number for the Proxy Server-->
</context-param>
<context-param>
    <description>http proxy UserName</description>
    <param-name>http.proxyUserName</param-name>
    <param-value>$PROXYUSERNAME$</param-value>
    <!-- User ID To get authenticated by proxy server-->
</context-param>
<context-param>
    <description>http proxy Password</description>
    <param-name>http.proxyPassword</param-name>
    <param-value>$PROXYPASSWORD$</param-value>
    <!-- User Password To get authenticated by proxy server-->
</context-param>
<context-param>
    <description>http non-ProxyHosts</description>
    <param-name>http.nonProxyHosts</param-name>
    <param-value>$NONPROXYHOST$</param-value>
    <!--Hosts for which the proxy settings should get by-passed (Note:
    Separate them by "|" symbol) -->
</context-param>
```

OFSAAI Home Entry

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

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

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

DynamicWSConfig.xml

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

Deploy OFSAAI Web Services

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

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

   ./ant.sh

   This will trigger the EAR/WAR file creation, which is required for the deployment.
3. Deploy the generated EXEWebService.EAR/EXEWebService.WAR file into the WebServer.

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

Configuration to Enable Parallel Execution of DML statements

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

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

Configure Message Details in Forms Designer

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

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

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

Table D–12 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, navigate to the following path depending on the WebServer configured and clear the cache:

- **Tomcat**: <Tomcat installation folder>/work/Catalina/localhost/<Application name>/org/apache/jsp
- **WebLogic**: <Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>/qaelce/jsp_servlet

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

Changing the CONFIG/ ATOMIC Schema passwords

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

OFSAA Infrastructure Config Schema password modification

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

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

   ```
   cd $FIC_APP_HOME/common/FICServer/bin
   ./reveleusshutdown.sh
   ```

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

   ```
   ./reveleusstartup.sh
   ```

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

OFSAA Infrastructure Atomic Schema password modification

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

1. Change the Atomic schema User Password in the database.
2. Login to the application from the browser using SYSADMN account or any user id, which has System Administrator role mapped.
3. Navigate to *System Configuration* > *Database Details* window. Select the appropriate connection and edit the password.
4. Navigate to *Unified Metadata Manager* > *Technical Metadata*> *Data Integrator* > *Define Sources* window. Update the appropriate Source details.
5. If you are using Apache Tomcat as Web server, update the `<Context> -> Resource` tag details in `Server.xml` file from the `$CATALINA_HOME/conf` folder. (In case of Tomcat only Atomic <Resource> will exist).

   If you are using WebSphere as Web server:

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

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

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

   If you are using WebLogic as Web server:

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

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

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

6. Restart the OFSAAI services.

Configure Java Virtual Machine

While running several database intensive tasks in parallel, fetching the database connection from connection pool may face an error. To ensure no such error is encountered, add the line `securerandom.source=file:/dev/./urandom` in the **`java.security`** configuration file available in `$JAVA_HOME/jre/lib/security/ path`.

This needs to be configured only on the machine where the OFSAAI database components (ficdb layer) are installed.

OFSAA Landing Page

Depending on the user configuration, user can view the country-specific menus.

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

Appendix

OFS_BD_PACK.xml file

The OFS_BD_PACK.XML file holds details on the various OFSAA products that are packaged together in a particular Application Pack.

This section details the various tags/ parameters available in the file and the values that need to be updated. Prior to installing the OFSBD Application Pack in SILENT mode, it is mandatory to update this file.

You can skip updating this file if you are installing in the GUI mode.

Table E–1 OFS_BD_PACK.XML Parameters

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

Table E–1 OFS_BD_PACK.XML Parameters

Tag Name/Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
APP_ID / PREREQ	Prerequisite Application / Product	Y	Unique Seeded Value	For most applications Infrastructure would be the prerequisite set. For certain other applications, an appropriate Application ID would be set. DO NOT modify this value.
APP_ID / DEF_ SEL_FLAG	Default Selected Flag	Y	Default - YES	In all Application Packs, Infrastructure would have this value set to "YES". DO NOT modify this value.
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.

Table E–2 OFS_BD_PACK.XML Parameters

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

Table E–2 OFS_BD_PACK.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/ N)	Default Value/ Permissible Value	Comments
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.

F

Appendix

OFS_BD_SCHEMA_IN.xml file

This chapter provides detailed information about the OFS_BD_SCHEMA_IN.xml file.

Table F–1 <<APP PACK>>_PACK_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
APP_PACK_ID	Unique Application Pack Identifier	Y	Unique Seeded Value	DO NOT modify this value.
JDBC_URL	JDBC URL to the Database	Y	Any one of the below formats are supported: 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]))) jdbc:oracle:thin:@//dbhost.server.com:1521/service1 or jdbc:oracle:thin:@//dbshostserver.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)))	

Table F–1 <<APP PACK>>_PACK_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
JDBC_DRIVER	JDBC Driver Class Name	Y	Default - oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. DO NOT modify this value.
HOST	HOSTNAME/ IP Address of the server on which OFSAA is being installed.	Y	Permissible - Any valid HOSTNAME/ IP Address	
SETUPINFO/ NAME	Name given to the OFSAA setup being installed. Prefix to the schemas being created.	Y	Default - DEV Permissible - Upto 4 character string. For example, UAT, SIT, PROD, TEST	This name would appear in the OFSAA Landing Page as "Connected To: xxxx" The schemas being created would get this prefix. For example, dev_ ofsaaconf, uat_ ofsaaconf, and so on.
PASSWORD/ APPLYSAMEFORALL	Flag to identify if the password specified in DEFAULT attribute should be applied for all schemas.	Y	Default - N Permissible - Y or N	If set to N, need to specify PASSWORD value for every SCHEMA.
TABLESPACE/ NAME	Attribute used to update the table space place holder.	Y	Unique Seeded Value	DO NOT modify this value.
TABLESPACE/ VALUE	Table Space Name to be created	Y	Default Value provided and User can modify according to the Oracle Db table space naming conventions.	User can modify according to their DB naming Conventions and Oracle standards.
TABLESPACE/ DATAFILE	Table Space DATA FILE Creation Path	Y	User need to replace the place holder <CHANGE_ ME>with absolute path of the DATA FILE	
ROLE/ NAME	Database Role Name attribute used to update place holders	Y	Unique Seeded Value	DO NOT modify this value.
DIRECTORY/ID	External Directory ID value used to update place holders	Y	Unique Seeded Value	DO NOT modify this value.

Table F–1 <<APP PACK>>_PACK_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
DIRECTORY / NAME	External Directory Name created by the utility	Y	Unique Seeded Value	DO NOT modify this value.
DIRECTORY / VALUE	External Directory Path	Y	User need to provide the absolute Path	This value can be any directory that both the database server and application server have access to and Oracle user with which Oracle Database is installed) must have read / write access to this named directory.
SCHEMA / TYPE	Various OFSAA schema types supported.	Y	Permissible Values - CONFIG, ATOMIC, SANDBOX, ADDON	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.

Table F–1 <<APP PACK>>_PACK_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
SCHEMA / NAME	Physical Name given to the schema being created	Y	Permissible - Any permissible value as per Oracle Database standards.	SETUPINFO / NAME attribute value would be prefixed to the schema name being created. For example if name is set as 'ofsaaatm' and setupinfo as 'uat' then schema being created would be 'uat_ofsaaatm'. NAME should be same where APP_ GRP=1 for all SCHEMA tags (Not applicable for this Application Pack). **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 vaue 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	Password to be set for the schema	Y	Permissible - Any permissible value as per Oracle Database standards.	Takes precedence over DEFAULT attribute value of <PASSWORD> tag.

Table F–1 <<APP PACK>>_PACK_IN.XML Parameters

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
SCHEMA / APP_ID	Unique Application Identifier	Y	Unique Seeded Value.	Identifies the Application / Product for which the schema is being created. DO NOT modify this value.
SCHEMA / DEFAULTTABLESPACE	Default tablespace name to be set.	Y	Default - USERS Permissible - Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.
SCHEMA / TEMPTABLESPACE	Temporary tablespace name to be set.	Y	Default - TEMP Permissible - Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
SCHEMA / QUOTA	Quota size to the database schema	Y	Default - EMPTY Permissible - Any valid quota limit. For example. 500M, 20G, UNLIMITED	Modify this value to grant the specified quota on the mentioned tablespace to the user.
SCHEMA / APP_GRP=1	This flag indicates group of APP_ID and type=Atomic share same atomic schema and Infodom	Y	Unique Seeded Value	DO NOT modify this value.
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. Note: Entering information domain is required only for SILENT mode of installation.	Valid string with up to 11 characters. Mandatory for Silent Installation Mode
SETUPINFO / PREFIX_ SCHEMA_NAME	Identifies if the value specified in <SETUPINFO> / NAME attribute should be prefixed to the schema name.	Y	YES or NO	Default value is YES.

G

Appendix

Tunable Database Parameters

This section 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 G–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	char	char
	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 G–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 G–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 G–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	inetger	0		
	OPTIMIZER_INDEX_COST_ADJ	inetger	100	30	
	QUERY_REWRITE_ENABLED	string	TRUE	FALSE	FALSE
	STAR_TRANSFORMATION_ENABLED	string	FALSE	FALSE	FALSE

H

Appendix

Patching Your OFSAA Infrastructure Installation

Oracle strongly recommends installing the latest available patch set so as to be up to date with the various releases of the OFSAA product.

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

I

Appendix

This Appendix discusses the following sections:

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

Grants for Atomic Schema

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

The following are the Grants for Atomic Schema:

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

```
/
```

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

Grants for Config Schema

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

The following are the Grants for Config Schema:

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

Grants 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
/
```

J

Appendix

This section of the document describes the ojdbc<version>.jar file.

ojbc<version>.jar

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

Table J–1

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

K

Appendix

This appendix provides detailed instructions to migrate for excel upload.

Prerequisites

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

Migration for Excel Upload

To migrate, 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.

L

Appendix

This section of the document consists of resolution to the frequently asked questions and error codes noticed during OFSAAI installation.

- Frequently Asked Questions
- Error Dictionary

OFSAAI installer performs all the pre-requisite validation check during installation. Any errors encountered in the process is displayed with an appropriate Error Code. You can refer to the Error Dictionary to find the exact cause and resolution to rectify the error.

Frequently Asked Questions

You can refer to the Frequently Asked Questions which has been developed with the interest to help you resolve some of the OFSAAI Installation and configuration issues. This intends to share the knowledge of problem resolution to a few of the known issues. This is not an official support document and just attempts to share the knowledge of problem resolution to a few of the known issues.

OFSAAI FAQs

What are the different components that get installed during OFSAAI?

The different components of OFSAAI are illustrated in Figure 1–2, "Components of OFSAAI".

If OFS AAI/ AAAI needs to be installed on different versions of an Operating System, which installer needs to be downloaded?

OFS AAI / AAAI installer downloaded for a specific Operating System can be used to install on all its supported versions.

For Solaris OS, only one installer OFSAAI_73300_Solaris is available and it can be used to install OFSAAI on both versions of Solaris, that is, v5.10 or v5.11. Similarly, the installer OFSAAI_73300_Linux can be used to install OFSAAI on all supported versions of Oracle Linux, that is, v 5.3 up to 5.10 and v6.0 and above. The installer OFSAAI_73300_AIX can be used to install OFSAAI on all supported versions of AIX, that is, v5.3 and v6.1.

Same is applicable for OFSAAAI installers available for specific Operating Systems.

What are the different modes of OFSAAI installation?

OFSAAI can be installed in two modes, Silent Mode, and GUI mode.

What deployment options does OFSAAI recommend?

OFSAAI recommends to install all OFSAAI components on a single machine Single tier architecture, that is, all the Infrastructure components such as the Application, Web, and Database components are installed on a single machine. This option further has two types:

- Type I: Single Tier Installation with database engine on Remote Machine - where Infrastructure Application, Database, and Web components are on one machine and the Database Engine is pointed to another machine.
- Type II: Single Tier Installation with Web Server on remote Machine - where Infrastructure Application, Database, and Web components are on one machine and Infrastructure Web Application files or EAR/WAR files are deployed on to a the Web server installed on another machine.

What are the other deployment options for OFSAAI?

Multi Tier Installations are possible in OFSAAI, however single tier installation is recommended.

There are four types of Multi Tier Installation option:

Option I: Infrastructure Application, Database, and Web Components are all in different machines.

Option II: Infrastructure Application and Database components in one machine and Web components in another machine.

Option III: Infrastructure Application and Web components in one machine and Database components in another machine.

Option IV: Infrastructure Web and Database components in one machine and Application components in another machine.

Is JDK (Java Development Kit) required during installation of OFSAA? Can it be uninstalled after OFSAA installation?

JDK is not required during installation of OFSAA and only a run time is needed for details. Refer Table 2–1, Java Runtime Enviroment section.

Is JRE required during installation of OFSAA? Can it be uninstalled after OFSAAI installation?

Only JRE (Java Runtime Environment) is required during installation of OFSAA and cannot be uninstalled as the JRE is used by the OFSAA system to work.

How do I know what is the Operating system, webservers and other software versions that OFSAA supports?

Refer to OFSAA Technology Stack Matrices.

What are the different files required to install OFSAAI?

The following files are required:

- setup.sh.
- envCheck.sh
- preinstallcheck.sh
- VerInfo.txt
- OFSAAInfrastructure.bin
- validatedXMLinputs.jar

- MyResources_en_US.properties
- log4j.xml
- OFSAAI_PostInstallConfig.xml
- OFSAAI_InstallConfig.xml
- privileges_config_user.sql
- privileges_atomic_user.sql
- XML_Utility.jar

Is OFSAAI license specific to Applications?

No, OFSAAI license is not specific to any application.

Where can I reach out for the license key for installations?

OFSAAI 7.3.3.0.0 installer does not need a license code or a license file. With the license agreement acceptance, one could proceed with the installation.

During installation, when one gets an error message, "Execute Permission denied", what is to be done?

Please check whether all the files provided for OFSAAI installation has execute permissions.

To give execute permissions,

- Navigate to the path `OFSAAI_73300` and execute the command

  ```
  chmod 755
  ```

"Graphical installers are not."

If error resembles "Graphical installers are not supported by the VM. The console mode will be used instead..." then check whether any of the X-windows software has been installed.

Example: Hummingbird Exceed is started and configured to Graphical mode installation.

Note: Type '`xclock`' from prompt and this should display clock in graphical mode.

"No Java virtual machine could be..."

If the error message reads "No Java virtual machine could be found from your PATH environment variable. You must install a VM prior to running this program", then

- Check whether "java path" is set in PATH variable. See the Table 3–1, " Prerequisite Information"section in this document.
- Check whether sufficient temporary space is available.
- Ensure that the movement of OFSAAI Installer text files to the target system is done in the Text mode so that `setup.sh` file does not contain control line feed characters (^M).

During the installation, what should one do if the error message shows "OracleDriver Files Not Found, Please Choose the Right Path To Continue"?

Check whether the provided path for Oracle Driver files is correct and whether the user has permissions to access the files.

During installation, what is to be done if the error always reads "User must have CREATE TABLE, CREATE VIEW, CREATE TRIGGER, CREATE INDEX, CREATE SEQUENCE, CREATE PROCEDURE" even though the oracle schema user created has the mentioned privileges?

OFSAAI installer validates the database details provided during installation, so ensure:

- Whether the oracle schema user has the required set of privileges for successful installation.
- Whether the oracle schema user has been created with quota privileges on tablespace to create database objects.

See the Table 3–1, " Prerequisite Information"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 5, "Post Installation Configuration".

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 Chapter 8, "Uninstalling OFSAA Infrastructure" in the OFS AAAI Installation and Configuration Guide Release 8.0.

How to grant privileges if a new information domain is created?

If you are creating a new information domain, provide a set of privileges (database permissions) to the new Atomic schema.

- Log into the database as **sys** and connect as **sysdba** user.
- Execute the file `privileges_config_user.sql` available under `$FIC_HOME` directory
- Enter the database schema for which you want to grant privileges.

When should I run the MLS utility?

See the Multiple Language Support (MLS) Utility section in *OFSAAI Administration Guide* in the Related Documents section.

Does OFSAAI support Oracle Linux versions other than 5.5?

OFSAAI supports the Oracle Linux versions from 5.5 up to 5.10.

On the UNIX System terminal, error message shows "Insert New Media. Please insert Disk1 or type it's location" while executing ./setup.sh, what should be done?

1. Login as root user on the Unix machine where OFSAAI is getting installed.
2. Navigate to the path `/etc/security/`.

3. Edit the file `limits.conf` to add/edit a row for the unix user installing OFSAA:

   ```
   <Unix User> soft nofile 9216
   ```

4. After saving the changes, log in as unix user with which OFSAAI is getting installed and execute the command:

   ```
   ulimit -n
   ```

   The command should return the value 9216.

How does one verify if the system environment is ready for OFSAAI installation?

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

See Verifying the System Environment section for additional information.

How does one know if the installation is completed successfully?

The OFSAA Infrastructure installation performs a post install health check automatically on successful installation of the product. To rerun the post install verification at a later time, perform the following steps:

1. Navigate to the path `$FIC_HOME` (Product Installation Directory).
2. Execute the command:

   ```
   ./piverify.sh
   ```

What should one do if the installation in GUI mode is not invoked?

There are set of configuration steps required to be performed during the installation in GUI mode. Verify whether the steps mentioned under Configuration for GUI Mode Installation section are done correctly.

What should one do if there are any exceptions or errors in installation and how to proceed?

1. Please backup the installation logs.
2. Share the backup logs with Oracle support.

On Solaris 11 system, if one gets the following error message during OFSAAI installation, what should be done:

"Error: OFSAAI-1108

ORA-00604: error occurred at recursive SQL level 1

ORA-01882: timezone region not found"

Or

"Time zone cannot be set as null or 'localtime' "

This happens if the time zone is not set, that is NULL or it is set as 'localtime'. Set the environment variable TZ to a valid time zone region in the `.profile` file. For example,

```
TZ=Asia/Calcutta
```

```
export TZ
```

What happens if the installation process is abruptly terminated or aborted? What should one do?

If the installation is abruptly terminated, then the installation process will be incomplete. To recover from this, follow the below steps:

1. Drop the DB objects in the config schema created by OFSAAI installation.
2. Open the `.profile` and remove the entries made by the OFSAAI installation which are made between the comment statements, #Beginning of entries by OFSAA Infrastructure installation and #End of entries by OFSAA Infrastructure installation.
3. Delete the OFSAA install directory created by the OFSAAI installer.
4. Perform the OFSAAI installation again.

Would OFSAA support any other web server types, other than the ones stated in tech matrix and installation guide?

No, all the supported software and versions are stated in the OFSAA Technology Stack Matrices.

What should one do if the database connection from connection pool throws an error "java.sql.SQLRecoverableException: IO Error: Connection reset"?

This happens while running several database intensive tasks in parallel. To correct this error, add the line `securerandom.source=file:/dev/./urandom` in the `java.security` configuration file available in `$JAVA_HOME/jre/lib/security/` path.

Note: This needs to be configured on all the machines or VMs where the OFSAAI components are installed.

If the issue is not resolved even with the above settings, check the MTU(Maximum Transmission Unit) settings on the linux box. For details on MTU settings and updating them, contact your system Administrator.

When I invoke setup.sh file from my install archive, it throws syntax errors/file not found error messages, what should I do?

This could mostly happen:

- When installer was not unzipped rightly or corrupted during unzip.
- setup.sh file which resides within the install archive was not transferred in ASCII or text mode, which could have corrupted the file.

To correct this, follow the steps:

1. Copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.
2. Unzip the installer using the command:

   `unzip <OFSAAI_Installer>.zip`
3. The corrupted `setup.sh` file would have introduced certain ^M characters into the file. You can remove ^M characters from setup.sh file by following the below steps:
   a. Login to the server where the installer is copied.
   b. Navigate to the directory `OFSAAI_73300`.
   c. Open the `setup.sh` file in the **vi** editor using the command: `vi setup.sh`.

d. Inside vi editor in Esc mode, type: **%s/^M//g**

Note: To enter ^M, hold the CTRL key then press V and M in 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.

On the UNIX System terminal, Error message shows "./reveleusstartup.sh: /java: Execute permission denied" while executing./reveleusstartup.sh file. What is to be done?

- Ensure JAVA_BIN environment variable path is set on the "unix user" terminal from where the `reveleusstartup.sh` file is invoked.
- Ensure the `.profile` where the environment / path settings are made has been executed successfully.

OFSAAI Login page does not come up, error message "Could not retrieve list of locales" is displayed. What should one do?

This could be due to 2 reasons:

- System is unable to resolve the hostname configured.
- Conflict with the ports configured.

To correct them, follow the below steps:

A. Steps to replace the hostnames with IP address:

1. Stop all the OFSAA services. See Stopping Infrastructure Services section on how to stop the services.
2. Replace all the hostnames with the IP address in all the places mentioned in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 7.2 Installation (DOC ID 1500479.1)).
3. Restart all the OFSAAI services. See Starting Infrastructure Services section.

B. Steps to correct the port number conflicts

1. Stop all the OFSAA services.
2. Refer to the port numbers stated in the document (Where to find port, IP address, HTTPS Configuration for OFSAAI 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, refer on to the Revappserver log in `$FIC_APP_HOME/common/FICServer/logs` directory or the Web Server log files.

Is it necessary to provide the specified grants to the Oracle schema user before installation? If yes, can it be revoked after completion of installation?

The "Oracle schema" user requires the necessary grants specified before, during, and after the installation process. Grants provided should never be revoked as the application makes use of these grants all the time.

Can we have distributed OFSAAI Application Server for load balancing?

OFSAAI Application server can be scaled out / distributed across different JVM's (machines) based on the various services and Information Domains, in other words, Load balancing could be achieved with distribution of services.

Why do we need Ftpshare? Why is it needed 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, refer Configure Infrastructure Ports section.

Are there any in-built system administration users within OFSAAI Application?

The three in-built system administration users are provided to configure and setup OFSAAI.

- SYSADMN
- SYSAUTH
- GUEST

Does OFSAAI Application support both FTP and SFTP?

OFSAAI supports both FTP and SFTP configuration.

Is it necessary to enable the FTP/SFTP services to use the OFSAAI?

Yes, enabling of FTP / SFTP services and its ports is a pre-requisite step towards using the OFSAAI.

OFSAAI Configuration: Unable to save the server details?

- Ensure the input User ID, Password, and Share Name are correct.
- Ensure FTP / SFTP services are enabled.
- Have a test FTP / SFTP connection made and confirm if they are successful.

During Information Domain creation, the message "Please create a database and then create the information domain" appears. What should be done?

Information Domain is mapped to only one Database; and thus before the creation of Information Domain, at least one database details would need to exist.

The message "ConnectToDatabase: FatalError, could not connect to the DB server" appears during startup of backend engine message server. What does one need to do?

- Verify whether connection to the "configuration schema" can be established through sqlplus.
- Verify "configuration schema" password is modified post installation.
- Ensure oracle database alias name created for oracle instance and oracle service name are same.
- On a multi tier Installation mode, ensure TNSNAME and SID are the same in both the Application and Database Layers.

The message "Fatal Error, failed to get user ID from LibSmsConnect" appears during the startup of backend engine message server. What has to be done?

Ensure Reveleus.sec file exist under the $FIC_HOME / conf directory where the Database components are installed.

Does OFSAAI Application support LDAP authentication?

OFSAAI supports LDAP configuration and authentication.

Does OFSAAI support multiple languages?

Yes, OFSAAI supports multiple languages.

Does OFSAAI provide any data back-up features?

OFSAAI does not have built-in back up facility. External Storage Infrastructure is recommended for back-up.

What kind of security features does the OFSAAI provides?

OFSAAI provides security at:

- Segment Level - Users can access only the segment they are mapped to.

- Application Level - Users can perform an operation only if mapped to appropriate role and functions.

Does OFSAAI have the ability to enforce periodic password change?

OFSAAI provides configurable parameters to define number of days after which the user password would expire and then the user is forced to change the password after expiration period.

What is the password policy followed in OFSAAI?

OFSAAI enforces a minimum password length with a combination of Upper and Lower case characters and alpha-numeric strings.

Which version of Erwin Data Modeller does OFSAAI support?

OFSAAI now supports ERwin version 9.2 and 9.5 generated xmls in addition to ERwin 4.1, ERwin 7.1, ERwin 7.3 and ERwin 9.0 formats.

Does OFSAAI provide the mechanism to upload Business Data model?

OFSAAI provides two mechanisms for business data model upload:

- Easy to use GUI based Model upload mechanism to upload the Business Data Model through Unified Metadata Manager --> Import Model.
- OFSAAI also provides a model upload utility "`upload.sh`" for uploading the business data model through the command line parameter by executing this shell script file under the path `<FIC_HOME>/ficapp/common/FICServer/bin`.

See Run the Model Upload Utility section for details.

The Business Data model undergoes changes; how does this incremental change get applied to the existing model?

Modified data model can be uploaded into the system and OFSAAI has the ability to compare the changes within the data model with respect to the one already present in the system and enables propagation of incremental changes in a consistent manner.

What are the different types of uploading a business data Model?

OFSAAI supports uploading of business data model from client desktop and also by picking up the data model from the server location.

Can the OFSAAI "Configuration Schema" password be modified post installation?

The OFSAAI "configuration schema" password can be modified post installation. OFSAAI application stores the password in the database and few configuration files, thus any changes to the "configuration schema" password would necessitate updating in these. Contact OFSAAI support for more details.

Can the OFSAAI "Atomic Schema" password be modified?

The OFSAAI "Atomic Schema" password can be modified. OFSAAI application stores the atomic schema password in the database and few configuration files, thus any change to the atomic schema password would necessitate updating the password.

To change the Atomic Schema password, follow the steps:

1. Login to OFSAA.
2. Navigate to System Configuration > Database Details window. Select the appropriate connection, provide the modified password and save.

3. Navigate to Unified Metadata Manager > Technical Metadata> Data Integrator > Define Sources window. Update the appropriate Source details.

   a. If you are using Apache Tomcat as Web server:

   * Update the <Context> -> Resource tag details in `server.xml` file from the `$CATALINA_HOME/conf` folder. (In case of Tomcat only Atomic <Resource> will exist).

   b. If you are using WebSphere as Web server:

   * Login to the WebSphere Administration Console from the left side menu.

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

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

   c. If you are using WebLogic as Web server:

   * Login to the WebLogic Administration Console from the left side menu.

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

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

4. Restart the OFSAAI services

Note: If the modified passwords are not updated, OFSAAI logs displays the message ORA-28000: the account is locked.

Does the upload of Business Data model depend on Java Memory?

Business data model upload through OFSAAI depends on the Java memory settings on the client and server machines. Java memory setting varies with the data model size and the available RAM. Contact OFSAAI support for more details.

Why do the Business Metadata Management screens (Business Processors screen) in User Interface, takes longer time to load?

The Log file in `DynamicServices.xml` which resides in `$FIC_HOME/conf` is continuously being updated / refreshed to cache metadata. This can be observed when you are starting `reveleusstartup.sh` and if any of the log file (Ex: SMSService.log) in `DynamicServices.xml` is being continuously refreshed for longer time.

By default, the Metadata Log file cache size is set to 1000. If in case the log is being updated beyond this limit, retrospectively the preceding entries are overwritten. For example, the 1001th entry is overwritten by deleting the first entry. This results in the application screen taking a longer time to load.

Increase the cache size limit in `Dynamicservices.xml` located at `<FIC_HOME>/conf`, depending on the currently logged count for the specific metadata.

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 refer to "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 Configuring Web Application Servers.

What should I do if my Hierarchy filter is not reflecting correctly after I make changes to the underlying Hierarchy?

In some cases, the Hierarchy Filters do not save the edits correctly if the underlying Hierarchy has been changed. This can occur in hierarchy maintenance, where you have moved a member to another hierarchy branch, and that member was explicitly selected in the Filter and is now a child of a node which is already selected in the Filter.

Please refer to Support Note for the workaround.

How do you turn off unused information domains (infodoms) from cache?

Follow the below steps to turn off unused infodoms from cache:

Navigate to `$FIC_HOME/conf` in the APP layer of your OFSAAI installation.

1. In the `DynamicServices.xml` file, identify the section for <Service code="20">.
2. Modify the value of parameter CACHE_ON_STARTUP to 0 (default is 1).
3. Repeat the same in the WEB layer too. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, see Configuring Web Application Servers.
4. Restart the OFSAAI Services (APP and WEB). For more information, see Start And Stop of Services chapter.

Note: This setting will cache the Infodom metadata only for the infodoms that get accessed upon user login. Infodoms which do not get accessed, will not be cached.

Sample code is pasted below:

```
<SERVICE CODE="20"
CLASS="com.iflex.fic.metadata.services.MetadataServiceProvider"
NAME="BMD"
SERVERID="DEFAULT" PATH=" " LOGGERNAME="UMMLOGGER" LOGGERLEVEL="10">
<PARAMETERS>
<PARAMETER NAME="CACHE_ON_STARTUP" VALUE="0" />
<PARAMETER NAME="BACKUP_XML" VALUE="1" />
<PARAMETER NAME="MAX_BACKUP_XML" VALUE="2" />
<PARAMETER NAME="PC_NONBI_BI_SWITCH" VALUE="2048" />
<PARAMETER NAME="HIERARCHY_NODE_LIMIT" VALUE="2000" />
<PARAMETER NAME="ALIAS_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="DATASET_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="MEASURE_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="HIERARCHY_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="DIMENSION_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="HIERARCHYATTRIBUTE_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="CUBE_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="RDM_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="BUSINESSPROCESSOR_CACHE_SIZE" VALUE="2000" />
<PARAMETER NAME="DERIVEDENTITY_CACHE_SIZE" VALUE="1000" />
<PARAMETER NAME="LOG_GET_METADATA" VALUE="false" />
<PARAMETER NAME="METADATA_PARALLEL_CACHING" VALUE="0" />
</PARAMETERS>
</SERVICE>
```

Error Dictionary

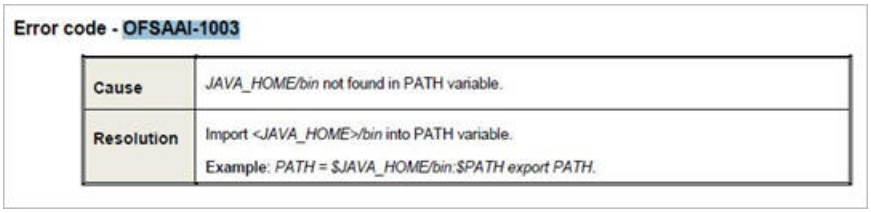
This contents of this section has been created with the interest to help you resolve the installation issues if any. There is a compilation of all the possible errors that might arise during the installation process with the possible cause and the resolution to quickly fix the issue and proceed further with the installation.

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 7–83 *Error Dictionary*



View the details of the issues, its cause, and resolution specific to the error code. Repeat the step to find an answer to any other errors that you notice during installation. If you are not able to resolve the issue even after following the steps provided in resolution, you can contact support.oracle.com along with log files and appropriate screen shots.

Error Code Dictionary

Error code - OFSAAI-1001

Cause	Unix shell is not "korn" shell.
Resolution	Change the shell type to "korn". Use chsh unix command to change SHELL type. Shell type can also be changed by specifying shell path for the Unix user in `/etc/passwd` file. Note: chsh command is not available in Solaris OS.

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

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

Cause	File `OFSAAInfrastructure.bin` is not present in current folder.
Resolution	Copy `OFSAAInfrastructure.bin` into installation kit directory.

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

Cause	File `OFSAAI_InstallConfig.xml` is not present in current folder.
Resolution	Copy `OFSAAI_InstallConfig.xml` into installation kit directory.

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

Cause	File `log4j.xml` is not present in current folder.
Resolution	Copy `log4j.xml` into installation kit directory.

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

Cause	XML validation failed.
Resolution	Check InfrastructurePreValidations.Log for more details.

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

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

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

Cause	XML is not well formed.
Resolution	Execute the command dos2unix OFSAAI_InstallConfig.xml to convert plain text file from DOS/MAC format to UNIX format. OR Make sure that OFSAAI_InstallConfig.xml is valid. Try to open the file through Internet Explorer for a quick way to check validity. If it is not getting opened, create new OFSAAI_InstallConfig.xml using the XML_Utility.jar.

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

Cause	User installation directory is invalid.
Resolution	Provide a valid installation path. Check if you are able to create the directory mentioned in USER_INSTALL_DIR tag value of OFSAAI_InstallConfig.xml file.

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Appendix

Tunable Database Parameters

This section 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 M–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	char	char
	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 M–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 M–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 M–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	inetger	0		
	OPTIMIZER_INDEX_COST_ADJ	inetger	100	30	
	QUERY_REWRITE_ENABLED	string	TRUE	FALSE	FALSE
	STAR_TRANSFORMATION_ENABLED	string	FALSE	FALSE	FALSE