# Oracle® Financial Services Profitability Management Pack Installation and Configuration Guide





Oracle Financial Services Profitability Management Pack Installation and Configuration Guide, Release 8.1.2.0.0

F50796-05

Copyright © 2021, 2023, Oracle and/or its affiliates.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software, software documentation, data (as defined in the Federal Acquisition Regulation), or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software," "commercial computer software documentation," or "limited rights data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle®, Java, and MySQL are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

## Contents

1.1	Audience	1-1
1.2	Access to Oracle Support	1-1
1.3	Related Documents	1-1
1.4	Additional Documents to Read	1-2
1.5	Conventions	1-2
1.6	Abbreviations	1-3
	out Oracle Financial Services Advanced Analytical Applications astructure (OFSAAAI) Application Pack	
2.1	Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)	2-2
2	2.1.1 Components of OFSAAI	2-2
2	2.1.2 OFSAA Infrastructure High Availability	2-2
2	2.1.3 Deployment Topology	2-3
2.2	About Oracle Financial Services Analytical Applications Infrastructure Extension Pack	2-3
2.3	Installation Overview	2-4
2.4	OFS Profitability Management Pack (OFS PAM Pack)	2-4
Coi	mplete Installation Checklist	
	rdware and Software Requirements	
	rdware and Software Requirements  Third-party Licensing Information	4-1
Har	<u> </u>	
Har 4.1	Third-party Licensing Information	4-1
Har 4.1 4.2 4.3	Third-party Licensing Information  Verify System Environment	4-1
Har 4.1 4.2 4.3	Third-party Licensing Information Verify System Environment Web Server Settings	4-1 4-1 4-1 5-1



5.2.1	Download the OFS Profitability Management Pack Installer and Erwin Data Models	5-2
5.2.2	2 Prerequisites for Installation	5-3
5.3 Co	ompatibility Matrix	5-4
Install	ation	
6.1 Ins	stallation Checklist	6-1
6.2 Ex	tract the Software	6-1
6.3 Co	onfigure the OFS_PAM_PACK.xml File	6-2
6.4 Co	onfigure the Schema Creator Utility	6-3
6.4.1	Prerequisites	6-4
6.4.2	Configure the Schema Creator Utility for RDBMS Installation	6-4
(	6.4.2.1 Configure the OFS_PAM_SCHEMA_IN.xml File	6-4
6.5 Ex	ecute the Schema Creator Utility	6-12
6.5.1	Execute the Schema Creator Utility in Offline Mode	6-13
6.5.2	2 Execute the Schema Creator Utility in Online Mode	6-14
6.5.3	B Execute the Schema Creator Utility in TCPS Mode	6-15
(	5.5.3.1 Prerequisites	6-15
(	5.5.3.2 Execute the Schema Creator Utility	6-16
6.5.4	Execute the Schema Creator Utility when Installing the Subsequent	
	Applications Pack	6-17
6.6 Co	onfigure the OFSAAI_InstallConfig.xml File	6-19
6.6.1	Set Up the SFTP Private Key	6-37
6.7 Co	onfigure the Silent.props File	6-38
6.8 Ins	stall the OFS Profitability Management Pack (OFS PAM Pack)	6-41
Post-i	nstallation	
7.1 Pc	st-installation Checklist	7-1
7.2 Ve	rify the Log File Information	7-2
7.3 Pa	tch OFSAA Infrastructure Installation	7-3
	ckup SCHEMA_CREATOR_IN.xml, OFS_PAM_SCHEMA_OUTPUT.xml, and ent.props Files	7-3
اد		7-4
	op the Infrastructure Services	, -
7.5 St	op the Infrastructure Services eate and Deploy the EAR/WAR Files	7-4
7.5 St	eate and Deploy the EAR/WAR Files	
7.5 St 7.6 Cr 7.6.1	eate and Deploy the EAR/WAR Files	7-4
7.5 St 7.6 Cr 7.6.2	eate and Deploy the EAR/WAR Files  Create the EAR/WAR File	7-4 7-4
7.5 St 7.6 Cr 7.6.1	eate and Deploy the EAR/WAR Files  Create the EAR/WAR File  7.6.1.1 Non-TCPS Installed Setup  7.6.1.2 TCPS Installed Setup	7-4 7-4 7-5
7.5 Str 7.6 Cr 7.6.1	eate and Deploy the EAR/WAR Files  Create the EAR/WAR File  7.6.1.1 Non-TCPS Installed Setup  7.6.1.2 TCPS Installed Setup	7-4 7-4 7-5 7-5



	7.6	5.3.1	Clear the Application Cache	7-11
	7.6	.3.2	Deploy the EAR/WAR Files on WebSphere	7-12
	7.6	5.3.3	Deploy the EAR/WAR Files for WebLogic	7-17
	7.6	3.4	Deploy WAR Files on Tomcat	7-18
7.7	Assiç	gn Gra	ants for Schemas	7-20
	7.7.1	Assi	gn Grants for Atomic Schema	7-20
	7.7.2	Assi	gn Grants for Config Schema	7-20
	7.7.3	Assi	gn Grants for Config Schema Entities for Atomic Users	7-21
7.8	Start	the In	nfrastructure Services	7-25
	7.8.1	Start	the Web Application Servers	7-26
7.9	Conf	igure 1	the Web Server	7-27
	7.9.1	Conf	igure WebSphere Application Server for Application Deployment	7-28
	7.9	.1.1	Create a New Profile in WebSphere	7-28
	7.9	.1.2	Manage IBM WebSphere SDK Java Technology Edition Versions	7-29
	7.9	.1.3	Manage Applications in WebSphere	7-31
	7.9	).1.4	Configure WebSphere Application Server to Initialize Filters before Initializing Load-On-Startup Servlets and Allowing Empty Servlets Maps	7-33
	7.9	).1.5	Configure WebSphere Application Server Persistence to JPA Specification 2.0	7-34
	7.9	0.1.6	Configure WebSphere Application Server to Use a Load Balancer or Proxy Server	7-34
	7.9	.1.7	Delete WebSphere Profiles	7-35
	7.9	.1.8	Configure WebSphere HTTPS	7-36
	7.9	.1.9	Configure WebSphere Memory Settings	7-36
	7.9	.1.10	Configure WebSphere for Rest Services Authorization	7-36
	7.9.2	Conf	igure WebLogic for Application Deployment	7-36
	7.9	.2.1	Create Domain in WebLogic Server	7-37
	7.9	.2.2	Delete Domain in WebLogic	7-43
	7.9	.2.3	Configure WebLogic Memory Settings	7-43
	7.9.3	Conf	igure Apache Tomcat Server for Application Deployment	7-44
	7.9	.3.1	Tomcat User Administration	7-44
	7.9	.3.2	Configure Servlet Port	7-44
	7.9	.3.3	Configure SSL Port	7-44
	7.9	.3.4	Configure Apache Tomcat Memory Settings	7-45
	7.9	.3.5	Configure Tomcat for User Group Authorization	7-45
	7.9	.3.6	Uninstall WAR Files in Tomcat	7-45
	7.9.4	Addi	tional Configurations for Web Servers	7-46
	7.9	.4.1	Configure Application Security in WebSphere	7-46
	7.9	.4.2	Configure WebSphere Shared Library to Support Jersey 2x and Jackson 2.9x Libraries	7-46
7.1	0 Cor	nfigure	e Application Security in WebSphere	7-49
	7.10.1	Cor	nfigure Resource Reference in WebSphere Application Server	7-49



	7.10.1.1	Create a JDBC Provider	7-49
	7.10.1.2	Create Data Source	7-52
	7.10.1.3	Create J2C Authentication Details	7-56
	7.10.1.4	Define JDBC Connection Pooling	7-57
7.2	LO.2 Con	figure Resource Reference in WebLogic Application Server	7-58
	7.10.2.1	Create Data Source	7-59
	7.10.2.2	Create GridLink Data Source	7-63
	7.10.2.3	Configure Multi-data Sources	7-64
	7.10.2.4	Configure Advanced Settings for Data Source	7-67
	7.10.2.5	Configure JDBC Connection Pooling	7-67
	7.10.2.6	Create Workmanager	7-68
7.2	LO.3 Con	figure Resource Reference in Tomcat Application Server	7-69
	7.10.3.1	Create Data Source	7-69
	7.10.3.2	Define JDBC Connection Pooling	7-70
	7.10.3.3	Configure ClassLoader for Apache Tomcat	7-71
7.11	Configure	Work Manager in Web Application Servers	7-71
7.2	l1.1 Conf	figure Work Manager in WebSphere Application Server	7-71
	7.11.1.1	Create Work Manager	7-71
	7.11.1.2	Map Work Manager to OFSAA WebSphere Instance	7-74
7.2	l1.2 Conf	figure Work Manager in WebLogic Application Server	7-78
7.12	Updating A	Atomic Schema Data Source in Web Logic	7-80
7.13	Disabling I	Data Types in Web Logic	7-80
7.14	Access the	e OFSAA Application	7-81
7.15	OFSAA La	anding Page	7-81
7.16	Configure	the excludeURLList.cfg File	7-82
7.17	•	g Tomcat for User Group Authorization, Data Mapping, and Disabling the Web Service	7-82
7.18	Change th	e ICC Batch Ownership	7-83
7.19	Create Ap	plication Users	7-84
7.20	Map Appli	cation User(s) to User Group	7-84
7.21	Changes i	n .profile file for Solaris Operating System	7-85
7.22	View OFS	AA Product Licenses after Installation of Application Pack	7-85
7.23	Configurat	ion for Dimension Management	7-86
7.24	Changes f	or Oracle Database Server 18c and 19C	7-86
7.25	Excel Uplo	pad Mapping and Template	7-86
7.26	Prerequisi	tes	7-87
7.27	Transpare	nt Data Encryption (TDE)	7-87
7.2	27.1 Con	figure a Software Keystore and Encrypted Tablespace Creation	7-88
	7.27.1.1	Set the Software Keystore Location in the sqlnet.ora File	7-89
	7.27.1.2	Create the Software Keystore	7-90
	7.27.1.3	Open the Software Keystore	7-91



	7.27.1.4 Set the Software TDE Master Encryption Key	7-91
	7.27.1.5 Encrypt your Data	7-92
	7.27.1.6 Test the Encryption	7-94
	7.28 Data Redaction	7-94
8	Additional Configuration	
	8.1 Add FTP/SFTP Configuration for File Transfer	8-1
	8.2 Configure Infrastructure Server Memory	8-2
	8.3 Retrieve Patch Information	8-2
	8.4 Set OLAP Data Server Configuration	8-2
	8.5 Change IP/ Hostname, Ports, Deployed Paths of the OFSAAInstance	8-3
	8.6 Set Infrastructure LDAP Configuration	8-3
	8.7 Configure OFSAAI Web Services	8-3
	8.7.1 Configure DynamicWSConfig.xml File	8-3
	8.7.2 Configure WSConfig File	8-6
	8.7.3 Configure Proxy Settings	8-6
	8.7.4 Configure OFSAAI Home Entry	8-7
	8.7.5 Configure DynamicWSConfig.xml File	8-7
	8.7.6 Deploy OFSAAI Web Services	8-7
	8.8 Enable Parallel Execution of DML statements	8-8
	8.9 Configure Message Details in Forms Designer	8-8
	8.10 Clear the Application Cache	8-9
	8.11 Configure Password Changes	8-9
	8.11.1 Modify OFSAA Infrastructure Config Schema Password in a Non Wallet- Based Setup	8-9
	8.11.2 Modify OFSAA Infrastructure Atomic Schema Password in a Non Wallet- Based Setup	8-10
	8.11.3 Modify the OFSAA Infrastructure Config Schema Password in a Wallet-Based Setup	8-12
	8.11.4 Modify the OFSAA Infrastructure Atomic Schema Password in a Wallet-Based Setup	8-12
	8.12 Configure Java Virtual Machine	8-13
	8.13 Configure Internal Service (Document Upload/ Download)	8-13
	8.14 Update the OFSAA 8.1.2.x Java 8 Instance to Java 11	8-14
	8.14.1 Prerequisites	8-14
	8.14.2 Update the OFSAA 8.1.2.x Java 8 Instance to Java 11	8-14
	8.14.3 Apply OFSAA Generic Configurations	8-14
	8.14.3.1 Configure User '.profile' Settings	8-15
	8.14.4 Configure the Web Application Server	8-15
	8.14.4.1 Upgrade Java 8 to Java 11 for Oracle WebLogic Server 14.1.1.0	8-15
	8.14.4.2 Upgrade Java 8 to Java 11 for Apache Tomcat Server	8-16



8.14.5	Configure OF	SAA for the New	Web Application	Server Installation

_		
O	- 1	
$\sim$	- 1	

9	Upgrade			
	9.1 Upgrade Scenarios	9-1		
	9.2 Prepare for Upgrade	9-1		
	9.2.1 Update the Silent.props File	9-3		
	9.2.2 Trigger the Installation	9-4		
	9.2.3 Verify the Log File Information	9-5		
	9.3 Post Upgrade Steps	9-5		
	9.3.1 Remove ContextDocLoader from the web.xml File	9-5		
	9.3.2 Verify FSI_DB_INFO Entries	9-6		
	9.4 Changes in .profile file for Solaris Operating System	9-6		
	9.5 View OFSAA Product Licenses after Installation of Application Pack	9-6		
11	Migrato Excel Upload Eunctionality			
11	Migrate Excel Upload Functionality			
	11.1 Prerequisites	11-1		
	11.2 Migrate Excel Upload	11-1		
12	Frequently Asked Questions (FAQs) and Error Dictionary			
	12.1 OFSAAI FAQs	12-1		
	12.2 Application Pack 8.1.2.0.0 FAQs	12-17		
	12.3 Error Dictionary	12-20		

12.3.1 Access the Error Dictionary

12.3.2 Error Code Dictionary



12-21

12-21

#### **Preface**

This section provides information about the Oracle Financial Services Profitability Management Pack (OFS PAM Pack) Installation and Configuration Guide.

You can find the latest copy of this document in the OHC Documentation Library which includes all the recent additions and revisions (if any) done to date.

Before you begin the installation, ensure that you have access to My Oracle Support with the required login credentials to quickly notify us of any issues at any stage.

#### Topics:

- Audience
- Access to Oracle Support
- Related Documents
- Additional Documents to Read
- Conventions
- Abbreviations

#### 1.1 Audience

The Oracle Financial Services Profitability Management Pack Installation and Configuration Guide is intended for administrators, and implementation consultants who are responsible for installing and maintaining the application pack components.

Anyone performing the installation is expected to be experienced in installing enterprise components and possess basic knowledge of the following:

- OFS Profitability Management Application Pack components
- OFSAA architecture
- UNIX commands
- Database concepts
- Web server or web application server

#### 1.2 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For more information, visit My Oracle Support or visit Oracle Accessibility Learning and Support if you are hearing impaired.

#### 1.3 Related Documents

We strive to keep this document and all other related documents updated regularly.

Visit the OHC Documentation Library to download the latest version available. The list of related documents is provided here:

- OFS Profitability Management Release Notes, Release 8.1.2.0.0
- OFS Profitability Management User Guide Release 8.1.2.0.0
- Oracle Financial Services Profitability Management Security Guide Release 8.1.x
- Oracle Financial Services Profitability Management Application Cloning Guide Release 8.1.x

#### 1.4 Additional Documents to Read

Oracle Financial Services Profitability Management Pack (OFS PFT Pack) is built on the Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAI).

See the following OFS AAI documents as no separate documents are required at the pack or application level for Oracle Financial Services Profitability Management Applications Pack.

The following OFS AAI documents are available at the OHC Documentation Library:

- OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0
- OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0
- OFS Analytical Applications Infrastructure Environment Check Utility Guide Release 8.1.x
- OFS Analytical Applications Infrastructure Application Pack Administration and Configuration Guide Release 8.1.x
- OFS AAAI Application Security Guide Release 8.1.x
- OFS Analytical Applications Infrastructure Cloning Guide Release 8.1.x
- OFSAA Licensing User Manual, Release 8.1.2.0.0

You can access the common document from the OHC Documentation Library:

- OFS Analytical Applications 8.1.2.0.0 Technology Matrix
- OFS Data Model Utilities Guide
- OFS Cash Flow Engine Reference Guide
- · OFS Asset Liability Management User Guide

#### 1.5 Conventions

The following text conventions are used in this document:

Table 1-1 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.



Table 1-1 (Cont.) Conventions Used in this Guide

Convention	Meaning
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, file names, text that appears on the screen, or text that you enter.
Hyperlink	Hyperlink type indicates the links to external websites, internal document links to sections.

#### 1.6 Abbreviations

The following table lists the abbreviations used in this document:

Abbreviation	Meaning
BDP	Big Data Processing
DBA	Database Administrator
DDL	Data Definition Language
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
FAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
FTP	File Transfer Protocol
HDFS	Hadoop Distributed File System
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2FF	Java 2 Enterprise Edition
JCE	Java Cryptography Extension
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
JVM	Java Virtual Machine
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MFA	Multi-Factor Authentication
MOS	My Oracle Support
OFSAA	Oracle Financial Services Analytical Applications
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OFSAAAI	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack
OHC	Oracle Help Center
OLAP	On-Line Analytical Processing



Abbreviation	Meaning
OLH	Oracle Loader for Hadoop
ORAAH	Oracle R Advanced Analytics for Hadoop
os	Operating System
RAM	Random Access Memory
RDBMS	Relational Database Management System
RHEL	Red Hat Enterprise Linux
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
WAR	Web Archive
XML	Extensible Markup Language



### About Oracle Financial Services Advanced Analytical Applications Infrastructure (OFSAAAI) Application Pack

Oracle Financial Services Advanced Analytical Applications Infrastructure (OFSAAAI) Application Pack provides integrated stress testing and modeling capabilities that you can readily apply across multiple risk areas enabling institutions to devise appropriate enterprise-wide and holistic risk and economic capital strategies.

OFSAAAI enables you to comply with regulatory requirements on stress testing, enables advanced customer and portfolio analytics, utilize multiple industry-standard techniques, test and model with complete data integrity.

OFSAAAI Application Pack includes the following applications:

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

**Financial Services Enterprise Modeling**: This application helps banking institutions to identify the business opportunities and to measure the risk prevailing in the competitive market to safeguard the regulatory and economic capital of banks.

**Financial Services Big Data Processing**: This option introduces, into the OFSAA platform (OFSAAI), the capability to run analytics on data stored in Hadoop Distributed File System (HDFS).

With the Big Data Processing (BDP) add-on option, all core data management frameworks within OFSAA such as Data Management Framework (T2T/ F2T), Data Quality Framework, and Rules framework are enhanced to operate on both Oracle RDBMS data sources as well as Apache Hive data sources. An OFSAA Run definition can contain tasks that transform data held in the Hive. OFSAA applications that use these platform frameworks for expressing application logic automatically gain the ability to manage data held in the Hive. The OFSAA platform leverages HiveQL and Map Reduce to process data directly in the Hadoop cluster without having to stage data in a relational database.

**Financial Services Inline Processing Engine**: This application provides real-time monitoring, detection and interdiction of single and complex fraud events across multiple channels and lines of business.



# 2.1 Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)

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

#### 2.1.1 Components of OFSAAI

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

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

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

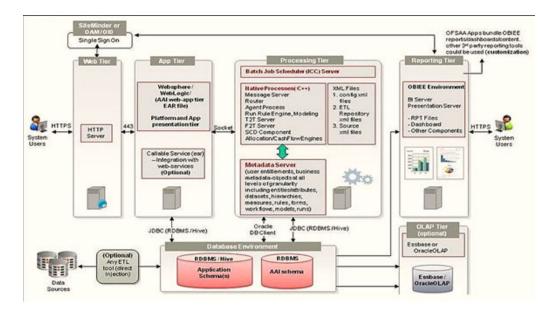


Figure 2-1 Components of OFSAAI

#### 2.1.2 OFSAA Infrastructure High Availability

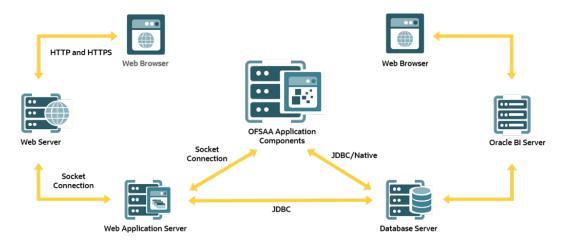
The current release of the OFSAA Infrastructure supports only the "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for

the Database Server and/ or the Web application server clustering and deployment are supported in this release.

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

#### 2.1.3 Deployment Topology

Figure 2-2 The logical architecture implemented for OFSAAAI Application Pack



# 2.2 About Oracle Financial Services Analytical Applications Infrastructure Extension Pack

The Oracle Financial Services Analytical Applications Infrastructure Extension (OFS AAIE) Pack adds a set of new advanced features for 8.1.2.0.0 Release across OFSAA applications. This pack can be installed on an OFSAA instance having one or more OFSAA application packs.

The Oracle Financial Services Analytical Applications Infrastructure Extension Pack includes the following advanced features and functionalities:

- Distributed Processing Capabilities
- Analytic Pipeline and Process models
- Attribution Analysis
- Content Management Interoperability Services



The pack is enabled by procurement of an additional license. For more information, see the OFS AAIE Release Notes and Installation Guide on the OHC

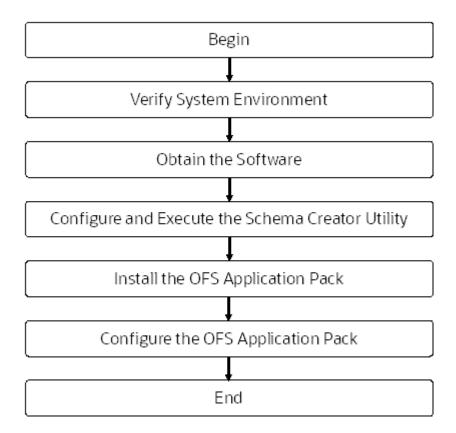


#### 2.3 Installation Overview

Release 8.1.2.0.0 of OFSAA Application Packs support the fresh installation.

The following illustration shows the sequence of steps you need to follow to perform the installation.

Figure 2-3 Installation Flow of OFSAA Application Packs



#### 2.4 OFS Profitability Management Pack (OFS PAM Pack)

OFS Profitability Management Pack (OFS PAM Pack) includes the following applications:

- Financial Services Analytical Applications Infrastructure: This application powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection, and manipulation of data and information required to analyze, understand and report on specific performance, risk, compliance, and customer insight issues by providing a strong foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of Risk, Performance, Compliance and Customer Insight.
- Oracle Financial Services Profitability Management: OFS Profitability
   Management helps Banks and Financial Services Institutions measure and
   manage profitability at the lowest level of detail the account level, allowing for a



rollup of profitability results across any dimension including customer, channel, product, or organizational unit. The application provides robust allocation functionality supporting both top-down and bottom-up allocation methodologies and allows the user to construct customized solutions to generate multidimensional Management Accounting profitability views including but not limited to the Organizational View, the Product View, the Customer View, and the Channel View.



# Complete Installation Checklist

For a successful installation, perform the steps listed in the Complete Installation Checklist. You can use this checklist to have a quick glance at everything that you will be doing to install this application. The link provided in each step takes you to a section either within this document or to another referenced document.

Table 3-1 Pre-installation Checklist

SI. No.	Pre-installation Activity	
1	Install all the prerequisite hardware and software given in the Tech Stack.	
2	Verify the System Environment using the Environment Check Utility.	
3	Configure the Database Instance settings.	
4	Install and configure the web application server.	
5	Configure the HTTP settings on the webserver.	
6	Create the Installation, Download, and Metadata Repository Directories:	
	Installation directory	
	<ul> <li>Temporary directory</li> </ul>	
	<ul> <li>Staging Area/Metadata Repository</li> </ul>	
	<ul> <li>Download directory</li> </ul>	
7	Configure the following Operating System and File System settings:	
	File Descriptor	
	<ul> <li>Total number of processes</li> </ul>	
	<ul><li>Port(s)</li></ul>	
	profile file permissions	
	<ul> <li>Add FTP/SFTP configuration for file transfer</li> </ul>	
8	Update the following Environment Settings required for the installation in the .profile file:	
	<ul> <li>Java Settings</li> </ul>	
	<ul> <li>Oracle Database Server and Client Settings</li> </ul>	
	<ul> <li>Add TNS entries in the tnsnames.ora file</li> </ul>	
	Oracle Essbase Settings	
	Time Zone Settings	
9	Download the installer kit and erwin data models.	

**Table 3-2 Installation Checklist** 

SI. No.	Installation Activity
1	Extract the installer kit.
2	Configure the OFS_PAM_PACK.xml file.
3	Configure the OFS_PAM_SCHEMA_IN.xml file.



Table 3-2 (Cont.) Installation Checklist

SI. No.	Installation Activity
4	Execute the Schema Creator Utility in Offline, Online, or TCPS, modes and verify the log file.
5	Configure the OFSAAI_InstallConfig.xml file.
6	Configure the Silent.props file.
7	Trigger the application installation.

Table 3-3 Post-installation Checklist

SI. No.	Post-installation Activity
1	Verify the installation logs.
2	Patch OFSAA Infrastructure Installation.
3	Back up the SCHEMA_CREATOR.xml, OFS_PM_SCHEMA_OUTPUT.xml, and Silent.props files.
4	Stop the OFSAA Infrastructure services.
5	Create and deploy EAR/WAR files.
6	Assign Grants for Schemas.
7	Start the OFSAA Infrastructure services.
8	Configure the Web Server.
9	Configure the Resource Reference in Web Application Servers.
10	Configure the Work Manager in the Web Application Servers.
11	Updating Atomic Schema Data Source in Web Logic
11	Disabling Data Types in WebLogic.
12	Access the OFSAA application.
13	OFSAA Landing Page
14	Configure the excludeURLList.cfg file.
15	Configuring Tomcat for User Group Authorization, Data Mapping, and Disabling WADL for the Web Service
16	Change the ICC batch ownership.
17	Create Application Users.
18	Map the Application User(s) to User Groups.
19	Changes in .profile file for Solaris Operating System
20	View OFSAA Product Licenses after Installation of Application Pack
21	Configuration for Dimension Management
22	Changes for Oracle Database Server 18c and 19C
23	Excel upload mapping and template.
24	Configure TDE and Data Redaction in OFSAAI.



**Table 3-4 Additional Configuration** 

SI. No.	Additional Configuration Activity
1	Add FTP/SFTP Configuration for File Transfer.
2	Configure the Infrastructure Server Memory.
3	Retrieve the Patch Information
4	Set OLAP Data Server Configuration
5	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
6	Configure the Infrastructure LDAP.
7	Configure and deploy the OFSAAI web services.
8	Enable the parallel execution of DML statements.
9	Configure the message details in the Forms Designer.
10	Clear the application cache.
11	Configure the password changes.
12	Configure the Java Virtual Machine.
13	Configure the internal service (Document Upload/ Download).
14	Update the OFSAA 8.1.2.x Java 8 Instance to Java 11



## Hardware and Software Requirements

See the Oracle Financial Services Analytical Applications 8.1.2.0.0 Technology Matrix for the hardware and software required for OFSAAI Release 8.1.2.0.0.

Table 4-1 Recommended Software Combination

Operating System	Database	Web Application Server	Web Server
Oracle Linux	Oracle Database	Oracle WebLogic Server/ Apache Tomcat Server	Oracle HTTP Server/ Apache HTTP Server
Oracle Solaris	Oracle Database	Oracle WebLogic Server/ Apache Tomcat Server	Oracle HTTP Server/ Apache HTTP Server

#### 4.1 Third-party Licensing Information

For details on the third-party software tools used in OFS Profitability Management (OFS PAM) Pack, see the OFSAA Licensing Information User Manual Release 8.1.2.0.0.

#### 4.2 Verify System Environment

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

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

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

#### 4.3 Web Server Settings

This is an optional requirement. If you have installed an HTTP Server, then configure the appropriate HTTP server settings:

Table 4-2 Web Server Settings

Description	Example Value
Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server	Configure the HTTP Server and note down the IP/ Hostname and Port details as you will be prompted to enter these details during installation.
	Note: See Configure the Web Server for web server configuration.



#### Pre-installation

This section contains the pre-installation requirements to install the OFS Profitability Management Pack (OFS PAM Pack).

#### Topics:

- Pre-installation Checklist
- · Preparing for Installation
- Compatibility Matrix

#### 5.1 Pre-installation Checklist

You can use this checklist to have a quick glance at everything that you will be doing before installing this application.

Table 5-1 Pre-installation Checklist

SI. No.	Pre-installation Activity	
1	Install all the prerequisite hardware and software given in the Tech Stack.	
2	Verify the System Environment using the Environment Check Utility.	
3	Configure the Database Instance settings.	
4	Install and configure the web application server.	
5	Configure the HTTP settings on the webserver.	
6	Create the Installation, Download, and Metadata Repository Directories:	
	<ul> <li>Installation directory</li> <li>Temporary directory</li> <li>Staging Area/Metadata Repository</li> <li>Download directory</li> </ul>	
7	Configure the following Operating System and File System settings:  File Descriptor  Total number of processes  Port(s)  profile file permissions  Add FTP/SFTP configuration for file transfer	
8	Update the following Environment Settings required for the installation in the .profile file:  Java Settings  Oracle Database Server and Client Settings  Add TNS entries in the tnsnames.ora file  Oracle Essbase Settings  Time Zone Settings	



Table 5-1 (Cont.) Pre-installation Checklist

SI. No.	Pre-installation Activity
9	Download the installer kit and erwin data models.

#### 5.2 Preparing for Installation

This section describes how to download the installer and the mandatory prerequisites you must ensure before installing the OFS Profitability Management Pack (OFS PAM Pack).

# 5.2.1 Download the OFS Profitability Management Pack Installer and Erwin Data Models

To download the OFS Profitability Management Pack (OFS PAM Pack) Installer Release v8.1.2.0.0, follow these steps:

- Log in to My Oracle Support. In the Patches & Updates tab, search for the Patch ID 33383864.
  - To perform a simple search using the Number/Name or Bug Number (Simple), type the Patch ID (33383864) in the Patch Name or Number field.

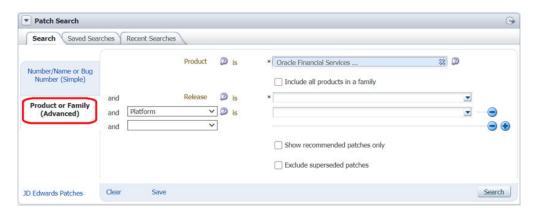
Figure 5-1 Patches & Updates Tab – Simple Search



To perform an advanced search using the Product or Family (Advanced)
name, type the product name (Oracle Financial Services Profitability
Management Pack) in the Product field, and then select the Release number.



Figure 5-2 Patches & Updates Tab – Advanced Search



- 2. Click Search.
- 3. Download the installer archive and copy (in Binary mode) to the download directory in the setup identified for OFS Profitability Management Pack (OFS PAM Pack) installation.
- 4. Download the following Erwin Data Model from My Oracle Support:
  - Search for the patch number in the Patches & Updates tab.
  - OFS Profitability Management Pack (OFS PAM Pack) erwin data model: Patch ID 33762501.

#### Note:

Data model patches are now released at the granularity of each application. This is in contrast to the strategy followed for OFS PFT Applications Pack 8.0.x releases, where data model patches were only released at the pack level. Customers must download the data models as per the application licenses they hold and merge with the custom data model.

- The installer will only upload the data model of the selected applications. Data models of the unselected or unlicensed applications will not be uploaded, that is data model upload is skipped for the unselected or unlicensed applications.
- The installer will only execute the installer scripts of the selected applications.
   Scripts of the unselected or unlicensed applications will not be executed and are skipped.
- If all applications in the pack are selected, then the installer handles both the data model upload and the installation scripts execution.

#### 5.2.2 Prerequisites for Installation

Before beginning the installation, ensure that:

- You have executed the .profile file.
- The FICServer is up and running. For information on restarting the services, see the Start the Infrastructure Services section in the OFS Advanced Analytical Applications Infrastructure Release 8.1.2.0.0 Installation and Configuration Guide.



#### 5.3 Compatibility Matrix

This table lists the applications or app combinations that must not be installed on a single Infodom (pack-on-pack scenario).

**Table 5-2 Compatibility Matrix** 

If you are installing	Do not install
OFS Profitability Management Pack (OFS PAM	OFS Behavior Detection (OFS BD)
PACK)	OFS Compliance Regulatory Reporting (OFS CRR)



If you are upgrading the OFSAA Application Pack to release v8.1.2.0.0, you must upgrade the other packs installed in the same environment to release v8.1.2.0.0, to ensure successful deployment.

For example, If you are upgrading the OFS Profitability Management Pack (OFS PAM Pack) to release v8.1.2.0.0, you must upgrade the other packs (ALM, IFRS, and so on) installed in the same environment to release v8.1.2.0.0, to ensure successful deployment.



#### Installation

Ensure that you install all the Oracle Enterprise Performance Management application packs on a single infodom.

This section provides detailed steps to install the OFS Profitability Management Pack (OFS PAM Pack).

#### Topics:

- Installation Checklist
- Extract the Software
- Configure the OFS\_PAM\_PACK.xml File
- Configure the OFS\_PAM\_SCHEMA\_IN.xml file.
- Execute the Schema Creator Utility in Offline, Online, or TCPS, modes and verify the log file.
- Configure the OFSAAI\_InstallConfig.xml file.
- Configure the Silent.props file.
- Trigger the application installation.

#### 6.1 Installation Checklist

You can use this checklist to have a quick glance at everything that you will be doing to install this application.

Table 6-1 Installation Checklist

SI. No.	Installation Activity	
1	Extract the installer kit.	
2	Configure the OFS_PAM_PACK.xml file.	
3	Configure the OFS_PAM_SCHEMA_IN.xml file.	
4	Execute the Schema Creator Utility in Offline, Online, or TCPS, modes and verify the log file.	
5	Configure the OFSAAI_InstallConfig.xml file.	
6	Configure the Silent.props file.	
7	Trigger the application installation.	

#### 6.2 Extract the Software

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

 If you already have an unzip utility to extract the contents of the downloaded archive, skip this step. Download the unzip utility (OS-specific) unzip\_<os>.Z and copy it in Binary mode to the directory that is included in your PATH variable. Uncompress the unzip installer file with the command:

uncompress unzip <os>.Z



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

2. Assign 751 permission to the file using the following command: chmod 751 unzip <OS>

For example: chmod 751 unzip sparc

3. Extract the contents of the OFS Profitability Management Pack (OFS PAM Pack) Release 8.1.2.0.0 installer archive file in the download directory using the following command:

```
unzip OFS PAM PACK.zip
```

4. Navigate to the download directory and assign 750 permission to the installer directory using the following command:

```
chmod -R 755 OFS PAM Pack
```

#### 6.3 Configure the OFS PAM PACK.xml File

This section provides information about the tags and parameters available in the OFS\_PAM\_PACK.xml file and the values you must update before installing the OFS Profitability Management Pack (OFS PAM Pack).

To configure the OFS PAM PACK.xml file, follow these steps:

- Navigate to the OFS\_PAM\_PACK/conf directory.
- Open the OFS\_PAM\_PACK.xml file in a text editor.

Figure 6-1 Sample OFS\_PAM\_PACK.xml File

```
<APP PACK CONFIG>
    <APP PACK ID>OFS PAM PACK</app PACK ID>
<APP PACK NAME>Financial Services Profitability Allocation Manager Pack</app PACK NAME>
    <APP PACK DESCRIPTION>Pack for Profitability Allocation Manager in the Banking and
    Financial Services Domain</APP_PACK_DESCRIPTION>
    <VERSION>8.1.2.0.0</VERSION>
    <APP>
        <APP ID PREREQ="" DEF SEL FLG="YES" ENABLE="YES">OFS AAI</APP ID>
        <APP NAME>Financial Services Analytical Applications Infrastructure</app NAME>
        <APP_DESCRIPTION>Base Infrastructure for Analytical Applications/APP_DESCRIPTION>
        <VERSION>8.1.2.0.0</VERSION>
    </APP>
    <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="YES">OFS_PFT</APP_ID>
        <APP_NAME>Financial Services Profitability Management/APP_NAME>
        <APP_DESCRIPTION>Application for Profitability Management/APP_DESCRIPTION>
        <VERSION>8.1.2.0.0</VERSION>
    </APP>
</APP_PACK_CONFIG>
```

Configure the OFT\_PAM\_PACK.xml file parameters as mentioned in the following table

Table 6-2 OFT\_PAM\_PACK.xml File Parameters

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Comments
APP_PACK_ID	Unique Application Pack Identifier	Y	Unique Seeded Value. Do not modify this value.
APP_PACK_NAME	Unique Application Pack Name	Υ	Unique Seeded Value. Do not modify this value.
APP_PACK_DESCRIP TION	Unique Application Pack Description	Υ	Unique Seeded Value. Do not modify this value.
VERSION	Unique release version	Υ	Unique Seeded Value. Do not modify this value.
APP	Unique Application Entries	Υ	Unique Seeded Value. Do not modify this value.
APP_ID	Unique Application Identifier	Y	Unique Seeded Value. Do not modify this value.
APP_ID/ PREREQ	Prerequisite Application or Product	Y	Unique Seeded Value. Do not modify this value.
APP_ID/ DEF_SEL_FLAG	Default Selected Flag	Y	In all Application Packs, Infrastructure would have this value set to YES.
			Do not modify this value.
APP_ID/ ENABLE	Enable Application or Product	Υ	Default YES for Infrastructure
APP_NAME	Unique Application or Product Name	Y	Unique Seeded Value. Do not modify this value.
APP_DESCRIPTION	Unique Application or Product Name	Y	Unique Seeded Value. Do not modify this value.
VERSION	Unique release version	Y	Unique Seeded Value. Do not modify this value.

<sup>4.</sup> Save and close the file.

## 6.4 Configure the Schema Creator Utility

Creating database users/schemas (RDBMS) is one of the primary steps in the complete OFS Profitability Management Pack (OFS PAM Pack) installation process. The Schema Creator utility enables you to quickly get started with the installation by creating Database User (or Users) or Schema (or Schemas) (RDBMS), assigning the necessary GRANT (or Grants), creating the required entities in the schemas, and so on.

Configure and execute the schema creator utility before installing the OFS Profitability Management Pack (OFS PAM Pack).

#### Topics:

- Prerequisites
- Configure Schema Creator Utility for RDBMS Installation
- Execute the Schema Creator Utility

#### 6.4.1 Prerequisites

To configure the Schema Creator Utility, ensure that you obtain the following details:

- Oracle User ID and Password with SYSDBA privileges.
- JDBC Connection URL for RAC or Non-RAC database.
- The HOSTNAME and IP of the server on which OFSAA is being installed.

#### 6.4.2 Configure the Schema Creator Utility for RDBMS Installation

If the installation is performed for RDBMS, provide the application-specific schema details in the OFS PAM SCHEMA IN.xml file.

You can configure the following schema types:

- **CONFIG**: This schema holds the entities and other objects required for OFSAA setup configuration information. Only one CONFIG schema per OFSAA instance.
- ATOMIC: This schema holds the data model entities. One ATOMIC schema is attached to one Information Domain. You can have multiple ATOMIC schemas for a single OFSAA instance.

#### 6.4.2.1 Configure the OFS\_PAM\_SCHEMA\_IN.xml File

This section describes how to create database schemas, objects within schemas, and assign appropriate grants. Specify the database schemas required for the installation in the OFS\_PAM\_SCHEMA\_IN.xml. Update the required values in this file before executing the Schema Creator Utility.

To configure the OFS PAM SCHEMA IN.xml file, follow these steps:

- 1. Log in to the system as a non-root user.
- 2. Navigate to the OFS PAM PACK/schema creator/conf directory.
- 3. Edit the OFS\_PAM\_SCHEMA\_IN.XML file using a text editor and configure the values as mentioned in the following table.



Figure 6-2 Sample OFS\_PAM\_SCHEMA\_IN.xml File

```
<APPPACKSCHEMA>
     <APP_PACK_ID>OFS_PAM_PACK</APP_PACK_ID>
<IS_TCPS>FALSE</IS_TCPS>
<JDBC_URL></JDBC_URL>
      <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
     <HOST><<HOST NAME>></HOST>
<SETUPINFO NAME="DEV" PREFIX SCHEMA_NAME="Y"/>
<PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
     <!-- Uncomment for data encryption and redaction -->
     <ADV_SEC_OPTIONS>
           <OPTION NAME="TDE" VALUE="FALSE"/>
<OPTION NAME="DATA_REDACT" VALUE="TRUE" />
     </ADV_SEC_OPTIONS>
     <TABLESPACES>
           <TABLESPACE NAME="OFSAA_CONF_TBSP" VALUE="OFSAA_CONF" DATAFILE="" SIZE="128M" AUTOEXTEND="ON"
           ENCRYPT="OFF" />
<TABLESPACE NAME="OFSAA_DATA_TBSP" VALUE="OFSAA_DATA" DATAFILE="" SIZE="512M" AUTOEXTEND="ON"
           ENCRYPT="OFF" />
     </TABLESPACES>
     <SCHEMAS>
           "##OFSAA CONF_TBSP##" TEMPTABLESPACE="" APP_ID="OFS_AAI" DEFAULTTABLESPACE=
"##OFSAA CONF_TBSP##" TEMPTABLESPACE="TEMP" QUOTA="UNLIMITED" />
<SCHEMA TYPE="ATOMIC" NAME="" PASSWORD="" APP_ID="OFS_PFT" APP_GRP="1" INFODOM=""</pre>
           DEFAULTTABLESPACE="##OFSAA_DATA_TBSP##" TEMPTABLESPACE="TEMP" QUOTA="UNLIMITED" />
     </SCHEMAS>
</APPPACKSCHEMA>
```

Table 6-3 OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<app_pack_id></app_pack_id>	Seeded unique ID for the OFS Application Pack.	Υ	Seeded	Do not modify this value.
<is_tcps></is_tcps>	Enter if the TCPS configuration is required.	Y	Seeded, with FALSE as the default value.	Modify this to TRUE if you require the installer to uptake the configuration.



Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<jdbc_url></jdbc_url>	Enter the JDBC URL.  You can enter the RAC/ NON-RAC enabled database connectivity URL.	Y	Example: jdbc:oracle:thin:@ < DBSERVER IP/ HOST/ IP>: <port>:<si d=""> or jdbc:oracle:thin:@ //[HOS T][:PORT]/ SERVICE or jdbc:oracle:thin: @ (DESCRI PTION=(ADDRESS =(PROT OCOL=TCP) (HOST=[HO ST]) (port=[PORT])) (ADD RESS=(PROTOC OL=TCP) (HOST=[HOST]) (PORT=[PORT])) (LOAD_ BALANCE=yes) (FAILOV ER=yes)) (CONNECT_ DATA=(SERVICE_ NAME=[SERVICE])))) For example: jdbc:oracle:thin:@ //dbhos t.server.com:1521/ service 1 or jdbc:oracle:thin:@ //dbsho st.server.com:1521/ service 1 or jdbc:oracle:thin:@ //dbsho st.server.com:1521/ service 1 or jdbc:oracle:thin:@ //dbsho st.server.com:1521/ service 1 or</si></port>	Ensure that you add an entry (with SID/ SERVICE NAME) in the tnsnames.ora file on the OFSAA server. The entry must match the SID/ SERVICE NAME used in the JDBC URL.  Ensure that you have configured:  a. The correct Oracle Wallet with the credentials for stored Sys, Config, and Atomic Users.  b. The JDBC URL as follows:  jdbc:oracle:thin:/  For more information on how to configure Oracle Wallets for OFSAA Installation and Data Sources, see the OFS Analytical Applications Infrastructure Administration Guide.
			•	

Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
			st1.server.com) (port=1521) ) (ADDRESS=(PRO TOCO L=TCP) (HOST=dbhost2.s erver.com) (PORT=1521)) ( LOAD_ BALANCE=yes) (FAILOV ER=yes)) (CONNECT_ DATA=(SERVICE_ NAME=service1)))	
<jdbc_driver></jdbc_driver>	The name of the driver is seeded.	Y	Example: oracle.jdbc.driver. OracleDriver	Only JDBC Thin Driver is supported. Do not modify this value.
<host></host>	Enter the Hostname/ IP Address of the system on which you are installing the OFSAA components.	Y	Host Name/IP Address	
<setupinfo>/ PREFIX_SCHEM A_NAME</setupinfo>	Identifies whether the value specified in <setupinfo>/ NAME attribute must be prefixed to the schema name.</setupinfo>	N	YES or NO	The default value is YES.
<setupinfo>/ NAME</setupinfo>	Enter the acronym for the type of implementation. This information is displayed on the OFSAA Home Page. On executing the schema creator utility, this value is prefixed with each schema name. For example: dev_ofsaaconf, uat_ofsaatm.	Y	Accepts strings with a minimum length of two and a maximum of four. Example: DEV, SIT, PROD	This message appears in the OFSAA Landing Page as "Connected To: DEV".  The schemas being created get this prefix. For example, dev_nameconf, uat_nameconf, and so on.



Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<password>/ DEFAULT*</password>	Enter the password if you want to set a default password for all schemas. You also must set the APPLYSAMEFOR ALL attribute as Y to apply the default password for all the schemas.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	On successful execution of the utility, the entered password in the OFS_PAM_SCHE MA_IN.xml file is nullified.
<password>/ APPLYSAMEFOR ALL</password>	If you have entered Y in the APPLYSAMEFOR ALL attribute and also have specified individual passwords for all the schemas, then the specified individual passwords will take precedence.	Y	Default value: N Permissible value: Y or N Enter Y if you want to apply the password specified in the DEFAULT attribute for all the schemas. If you enter N, provide individual passwords for all schemas.	Setting this attribute value is mandatory if the DEFAULT attribute is set.
<schema>/ TYPE</schema>	The types of schemas supported in this release are ATOMIC, CONFIG, SANDBOX, and ADDON.  By default, the schema types are seeded based on the Application Pack.	Y	ATOMIC/CONFIG/ SANDBOX/ ADDON SANDBOX and ADDON schemas do not apply to OFS_PAM_PACK.	Only One CONFIG schema can exist in the file. Do not edit this attribute value. This schema identifies as the CONFIGURATIO N schema that holds the OFSAA setup details and other Metadata information. Multiple ATOMIC/ SANDBOX/ ADDON schemas can exist in the file.



Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<schema>/ NAME</schema>	The schemas' names are seeded based on the Application Pack by default. You can edit the schema names if required. The Schema Name will have a prefix of the SETUPINFO/ NAME attribute. SCHEMA NAME must be the same for all the ATOMIC Schemas of the applications within an Application Pack.	Y	The permissible length is 15 characters and only alphanumeric characters are allowed. No special characters are allowed except underscore	to the schema name being created. For example, if a
<schema>/ PASSWORD</schema>	Enter the password of the schema to be created.  If this attribute is left blank, then the password specified in the <password>/DEFAULT attribute is taken as the Schema Password.</password>	N	The maximum length allowed is 30 characters. Special characters are not allowed.	It is mandatory to enter the password if you have set the <password>/ APPLYSAMEFOR ALL attribute as N.</password>
<schema>/ APP_ID</schema>	The Application ID is seeded based on the Application.	Υ	Unique Seeded Value	Identifies the Application/ Product for which the schema is being created. Do not modify this attribute value.
<schema>/ DEFAULTTABLES PACE</schema>	Enter the available default tablespace for DB User. If this attribute is left blank, then USERS is set as the default tablespace.	N	Default value: USERS Permissible value: Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.



Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<schema>/ TEMPTABLESPA CE</schema>	Enter the available temporary tablespace for DB User. If this attribute is left bank, TEMP is set as the default tablespace.	N	Default value: TEMP Permissible value: Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
<schema>/ QUOTA</schema>	Enter the quota to be set on the DEFAULTTABLES PACE attribute for the schema/ user. By default, the quota size is set to 500M.  Minimum: 500M or Unlimited on default tablespace.	N	Example: 600M or 600m 20G or 20g UNLIMITED or unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.
<schema>/ INFODOM</schema>	Enter the name of the Information Domain to associate this schema.  The schema creator utility automatically derives an Information Domain Name based on the Application Pack if no value is specified for this attribute.	N	The permissible length is 16 characters and only alphanumeric characters are allowed. No special characters are allowed.	
<adv_sec_opti ONS&gt;/</adv_sec_opti 	Parent tag to hold Advance Security Options.	N	NA	Uncomment the tag and edit if you want to add security options. For example, TDE and Data Redact. For details, see the example following the rows.
<adv_sec_opti ONS&gt;/TDE</adv_sec_opti 	Tag to enable/ disable TDE feature.	N	The default value is FALSE. To enable TDE, set this value to TRUE.	Ensure this tag is not commented if you have uncommented <abr></abr> ADV_SEC_OPTIONS>.



Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<adv_sec_opti ONS&gt;/ DATA_REDACT</adv_sec_opti 	Tag to enable/ disable the Data Redaction feature.	N	The default value is FALSE. To enable DATA_REDACT, set this value to TRUE.	Ensure this tag is not commented if you have uncommented <a dv_sec_optio="" ns="">.</a>
<tablespaces></tablespaces>	Parent tag to hold <tablespace> elements</tablespace>	N	NA	By default, this tag is uncommented. Edit only if tablespaces are to be created as part of the installation. Else, comment this tag section. For details, see the example that follows the table. When TDE is TRUE in ADV_SEC_OPTI ONS, the <tablespaces> tag must be present in the XML file.</tablespaces>
<tablespace>/ NAME</tablespace>	Logical Name of the tablespace to be created.	Y	OFSAA_CONF_T BSP OFSAA_DATA_TB SP	Name, if specified, must be referred in the <schema defaulttables="" pace="##NAME##"> attribute. Note the ## syntax.</schema>
<tablespace>/ VALUE</tablespace>	Physical Name of the tablespace to be created.	Y	NA	Value, if specified, is the actual name of the TABLESPACE.
<tablespace>/ DATAFILE</tablespace>	Specifies the location of the data file on the server.	Y	NA	Enter the absolute path of the file to be created.
<tablespace>/ AUTOEXTEND</tablespace>	Specifies if the tablespace must be extensible or have a hard limit.	Y	ON or OFF	Set to ON to ensure that the tablespace does not run out of space when full.



Table 6-3 (Cont.) OFS\_PAM\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<tablespace>/ ENCRYPT</tablespace>	Specifies if the tablespace (or tablespaces) must be encrypted using TDE.	Y	ON or OFF	Set to ON to ensure that the tablespaces when created are encrypted using TDE. NOTE: Encryption of tablespaces requires enabling Transparent Data Encryption (TDE) on the Database Server.

#### 4. Save and close the file.

Example: The following snippet shows that TDE is enabled and hence the tablespace is shown with encryption ON.

```
<ADV SEC OPTIONS>
<OPTION NAME="TDE" VALUE="TRUE"/>
<OPTION NAME="DATA REDACT" VALUE="TRUE"/>
</ADV SEC OPTIONS>
<TABLESPACES>
<TABLESPACE NAME="OFS AAI TBSP 1" VALUE="TS USERS1" DATAFILE="/
scratch/ora12c/app/oracle/oradata/OFSPQA12CDB/ts users1.dbf"
SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" />
<TABLESPACE NAME="OFS AAI TBSP 2" VALUE="TS USERS2" DATAFILE="/
scratch/ora12c/app/oracle/oradata/OFSPQA12CDB/ts users2.dbf"
SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" />
</TABLESPACES>
<SCHEMAS>
<SCHEMA TYPE="CONFIG" NAME="ofsaaconf" PASSWORD="" APP ID="OFS AAI"</pre>
DEFAULTTABLESPACE="##OFS AAI TBSP 1##" TEMPTABLESPACE="TEMP"
OUOTA="unlimited"/>
<SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP ID="OFS AAAI"</pre>
DEFAULTTABLESPACE="##OFS AAI TBSP 2##" TEMPTABLESPACE="TEMP"
QUOTA="unlimited" INFODOM="OFSAAAIINFO"/>
</SCHEMAS>
```

# 6.5 Execute the Schema Creator Utility

Depending on your requirement, select the appropriate schema creator utility execution option.

- Execute the Schema Creator Utility in Offline Mode
- Execute the Schema Creator Utility in Online Mode

- Execute the Schema Creator Utility in TCPS Mode
- Execute the Schema Creator Utility while Installing Subsequent Applications Pack

### 6.5.1 Execute the Schema Creator Utility in Offline Mode

Choose the Offline Mode option if you do not have login credentials to the database with SYSDBA privileges. In this mode, the utility generates an SQL script with all the required DDLs for Users, Objects, and Grants. That script must be executed by the DBA on the appropriate database identified for OFSAA usage.

To execute the schema creator utility in the offline mode, you must have the following privileges:

- SELECT ON DBA\_ROLES
- SELECT ON DBA USERS
- SELECT ON DBA\_DIRECTORIES
- SELECT ON DBA\_TABLESPACES
- CREATE SESSION



Explicit Grants to the User are required. Grants assigned through Roles are not supported.

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

- Log in to the system as a non-root user.
- 2. Navigate to the OFS PAM PACK/schema creator/bin directory.
- 3. Execute the osc.sh file using the following command:

```
./osc.sh -o -s
```

The following message is displayed:

You have chosen OFFLINE mode. Triggering the utility in OFFLINE mode will generate the script. Do you wish to proceed? (Y/y or N/n).

- 4. Enter Y to proceed.
- 5. Enter the DB Username with SELECT privileges.
- 6. Enter the User Password.

The console runs the initial validation checks and displays the following message:

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

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

The following message is displayed:

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



Figure 6-3 Schema Creation in Offline Mode – Script Generation

```
You have chosen OFFLINE mode.
Enter the DB User Name with SELECT privileges on following tables
1. DBA ROLES
2. DBA USERS
3. DBA_DIRECTORIES
4. DBA_TABLESPACES
sample
Enter the User Password:

Schemas Creation Started

OFSAAI is not installed
validating the dat file OFS_AAAI_CFG.dat started...
Successfully validated OFS_AAAI_CFG.dat file
Validating the input XML file.../scratch/ OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
XSD validation completed successfully.

Prechecks Execution started on ...OFS_AAAI_SCHEMA_IN.xml
Validating Connection URL ...
Successfully connected to User - sample URL -
Connection URL successfully validated...
You have chosen to install this Application Pack on "ATOMIC schema_Do you want to proceed? (Y/N)
```

On successful execution of the schema creator utility, the console displays the following status message: Schema Creator executed successfully. Execute the file scratch/ofsaaapp/OFS\_PAM\_PACK/schema\_creator/sysdba\_output\_scripts.sql before proceeding with the installation.



If there are any errors during the SQL script execution, reconfigure the  ${\tt OFS\_PAM\_SCHEMA\_IN.xml}$  file and repeat steps in this procedure to execute the utility. This regenerates the script with the correct information.

- 8. Navigate to the OFS PAM PACK/schema creator directory.
- 9. Log in to the database using credentials with SYSDBA privileges.
- **10.** Execute the sysdba\_output\_scripts.sql file using the following command: @sysdba\_output\_scripts.sql

Alternatively, you can copy the  $sysdba\_output\_scripts.sql$  file and SQLScripts folder to a remote server, and execute the  $sysdba\_output\_scripts.sql$  file after providing appropriate execute permissions.



See the <code>sysdba\_output\_scripts.log</code> file for execution status. If there are any errors, contact <code>My Oracle Support</code>. If there are no errors in the execution, the log file is empty.

As a result of this procedure, the  $OFS\_PAM\_SHCEMA\_OUTPUT.XML$  file is generated. Do not modify this file.

### 6.5.2 Execute the Schema Creator Utility in Online Mode

In Online mode, the utility connects to the database and executes the DDLs for Users, Objects, and Grants. If you have SYSDBA privileges you can execute the Schema

Creator Utility in Online mode and thereby create the Users, Objects, and Grants during the execution process. To execute the utility in the Online mode, you must connect as "<User> AS SYSDBA".

To execute the utility in Online mode, follow these steps:

- Log in to the system as a non-root user.
- 2. Navigate to the OFS\_PAM\_PACK/schema\_creator/bin directory.
- 3. Execute the utility.

  For Example: ./osc.sh -s

The OFS PAM SCHEMA OUTPUT.XML file is successfully generated. Do not modify this file.

### 6.5.3 Execute the Schema Creator Utility in TCPS Mode

If you intend to run the OFS Profitability Management Pack (OFS PAM Pack) Installer in TCPS mode, it is mandatory to execute the schema creator utility with the -s option and in the Online mode.

### 6.5.3.1 Prerequisites

The following are the prerequisites for this configuration:

- 1. UNIX user credentials with which OFSAA was installed.
- 2. UNIX user credentials with which Web Application Server (Oracle WebLogic (WLS)/ Apache Tomcat/ IBM WebSphere) was installed.
- 3. OFSAAI version should be 8.1.2.0.0 and later.
- 4. Ensure OFSAA installed and deployed is having JAVA 8 (Java version must support Java unlimited cryptographic policy. Java version 1.8.0\_161+ supports unlimited cryptographic policy.)
- 5. Create Oracle Wallet on the OFSAA processing tier. For information on Creating and Managing Oracle Wallet, see https://blogs.oracle.com/ dev2dev/ssl-connection-to-oracle-db-using-jdbc,-tlsv12,-jks-or-oracle-wallets and https:// blogs.oracle.com/weblogicserver/weblogic-jdbc-use-of-oracle-wallet-for-ssl.
- 6. Configure the Oracle Wallet with trusted certificates between the database server with TCPS configured and the database client to enable communication through the SSL protocol. For example, all the database utils such as sqlplus, tnsping, and sqlldr must work between the Client and the Server.

# 6.5.3.1.1 Configure OFSAA to Store Config Schema, Atomic Schema, and SysDBA Credentials with Oracle Wallet

To configure the OFSAA to store the Config and Atomic schema credentials with Oracle Wallet, follow these steps:

- 1. Log in as a UNIX user with the permission to modify the Oracle Wallet.
- 2. Execute the following command to configure Config Schema credentials. Enter the password to store the credentials in the Wallet when prompted.

\$ORACLE\_HOME/bin/mkstore -wrl <WALLET\_HOME> -createCredential -nologo CONFIG
<CONFIG\_DATABASE\_USERNAME> <CONFIG\_DATABASE\_PASSWORD>



3. Execute the following command to configure the Atomic Schema credentials, Enter the password to store the credentials in the Wallet when prompted.

```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential -nologo
<ATOMICALIASNAME> <ATOMIC_DATABASE_USERNAME>
<ATOMIC_DATABASE_PASSWORD>
```

 Configure SysDBA credentials. Execute the following command to configure SysDBA Schema credentials. Enter the password to store the credentials in the Wallet when prompted.

\$ORACLE\_HOME/bin/mkstore -wrl <WALLET\_HOME> -createCredential -nologo
SYS <SYS DATABASE USERNAME> <SYS DATABASE PASSWORD>



ATOMICALIASNAME value is a TNS alias for Atomic Schema and must not contain underscores.

For example, if the Atomic Schema Name is PROD\_OFSAAATM, then the value for ATOMICALIASNAME must be entered as PRODOFSAAATM.

### 6.5.3.2 Execute the Schema Creator Utility

To execute the utility, follow these steps:

- 1. Edit the OFS\_PAM\_PACK/schema\_creator/conf/OFS\_PAM\_SCHEMA\_IN.xml file in a text editor. See the tables in Configure the OFS\_PAM\_SCHEMA\_IN.xml File for the values that you must modify in the XML file.

```
·/oso.sii s fors willing light
```

For example: \$ ./osc.sh -s TCPS /scratch/oraofss/wallet

#### Figure 6-4 Schema Creation in the TCPS Mode

The following message is displayed:

Triggering the utility in ONLINE mode will execute the DDLS directly on the Database. Do you wish to proceed? (Y/y or N/n).

3. Enter Y to proceed.
The following message is displayed:



You have chosen to install this application pack on the "<ATOMIC\_SCHEMA\_NAME>" ATOMIC schema. Do you wish to proceed? (Y/y or N/n).

Figure 6-5 Schema Creation in the TCPS Mode – Install on Atomic Schema

- 4. Enter Y to proceed.
- After Schema creation is successful, proceed to Configure the OFSAAI\_InstallConfig.xml File.

Figure 6-6 Schema Creation in the TCPS Mode

6. After the installation is completed, delete the ojdbc7.jar file from the web-INF folder which will be located in the deployed web-app/folder.

The result of this task is that the OFS\_PAM\_SCHEMA\_OUTPUT.XML file is generated. Do not modify this file.

# 6.5.4 Execute the Schema Creator Utility when Installing the Subsequent Applications Pack

You can execute the Schema Creator Utility either in the Online or Offline modes.

To execute the Schema Creator Utility while creating the schemas for a subsequent application pack, follow these steps:

- Edit the OFS\_PAM\_PACK/schema\_creator/conf/OFS\_PAM\_SCHEMA\_IN.xml file in a text editor. See the OFS\_PAM\_SCHEMA\_IN.xml file for values you must modify in the XML file.
- 2. Execute the utility.

  For Example: ./osc.sh -s



Figure 6-7 Schema Creator Utility

```
/scratch/test81/ /schema_creator/bin>./osc.sh -s -o
hellol
You have chosen OFFLINE mode
Triggering the utility in OFFLINE mode will generate the script. Do you wish to proceed? (Y/N):
Y

Java Validation Started ...
Java found in : /scratch/
Jydkl.8.0_202/bin
JAVA Version found : 18.0_202
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS

DB specific Validation Started ...
Enter the DB User Name with the following privileges:
1. CREATS SESSION
2. SELECT on DBA_ROLES
3. SELECT on DBA_DIRECTORIES
5. SELECT on DBA_TRALESPACES
Enter the User Name:
3ya as 3yadba
Enter the User Password:
Oracle Client version : 18.0.0.0.0. Status : SUCCESS
Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
FALSE -O

Generating Schema Creation Scripts Started

Checking OFSAA installation...
OFSAA installation not found.
Validating the dat file OFS_AAAI_CFG.dat file
Validating the dat file OFS_AAAI_CFG.dat file
Validating the input XML file.../scratch/test81// /schema_creator/conf
Successfully validated of Sy AAAI_CFG.dat file
Validating Connection URL ...jdbc:
Connection trial jdbc:oracle:thin:@

Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@

Connection URL successfully validated...
```

#### Note:

You must use the same config schema user name as the previous application pack.

- 3. The utility identifies the application packs that are already installed on the current OFSAA setup and displays the following on the console:
  - Atomic schema of the existing application pack
  - Information Domain Name of the existing pack
  - List of installed application packs
- 4. Select the Atomic User on which you want to install the application pack.



Figure 6-8 Select the Atomic User

```
You have chosen OFFLINE mode.

Enter the DB User Name with SELECT privileges on following tables

1. DBA_USERS

2. DBA_USERS
3. DBA_DIRECTORIES
4. DBA_TABLESPACES

sample

Enter the User Password:

Schemas Creation Started

OFSAAI installation status...

OFSAAI installation status...

OFSAAI in not installed

validating the dat file OFS_AAAI_CFG.dat started...

Successfully validated OFS_AAAI_CFG.dat file

Validating the input XML file.../scratch/

XSD validation completed successfully.

Prechecks Execution started on ...OFS_AAAI_SCHEMA_IN.xml

Validating Connection URL ...jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

Validating Connected to User - sample URL - jdbc:oracle:thin:

**ATOMIC schema. Do you want to proceed? (Y/N)
```

On successful execution of the Schema Creator Utility, the console displays the following status message: Success. Please proceed with the installation.



- 1. See the log file in the OFS\_PAM\_PACK/schema\_creator/logs directory for the execution status.
- 2. See the sysdba\_output\_scripts.log file for execution status if executed in offline mode. This log will be empty if there are no errors in the execution.
- 3. If there are any errors, contact My Oracle Support.

## 6.6 Configure the OFSAAI InstallConfig.xml File

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

- Navigate to the OFS\_AAAI\_PACK/OFS\_AAI/conf/ directory.
- Open the OFSAAI InstallConfig.xml file in a text editor.
- Configure the OFSAAI InstallConfig.xml file as mentioned in the following table.

You must manually set the InteractionVariable parameter values as mentioned in the table. If a value is not applicable, enter NA. Ensure that the value is not entered as NULL.

Table 6-4 Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory		
<layer name="GENERAL"></layer>				
InteractionGroup name="WebServerType"				



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA Infrastructure web components are deployed.  Set the following numeric value depending on the type of web application server:	Yes
	<ul> <li>Apache Tomcat = 1</li> <li>IBM WebSphere Application Server = 2</li> <li>Oracle WebLogic Server = 3</li> <li>For example, <interactionvariablename= "WEBAPPSERVERTYPE"&gt;3</interactionvariablename= </li> <li>InteractionVariable&gt;</li> </ul>	

InteractionGroup name="OFSAA Infrastructure Server Details"



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
DBSERVER_IP	Identifies the host name or IP address of the system on which the Database Engine is hosted.	Yes

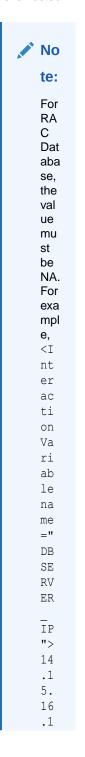




Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
	7<	
	In	
	te	
	ra	
	ct	
	io	
	nV	
	ar	
	ia	
	bl	
	e>	
	or	

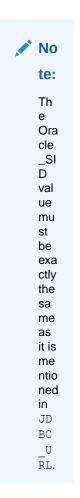
<InteractionVariable
name="DBSERVER\_
IP">dbhost.server.com</
InteractionVariable>

InteractionGroup name="Database Details"



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
ORACLE_SID/SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE NAME	Yes



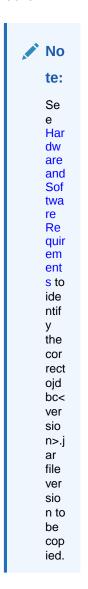
#### For example,

<InteractionVariable
name="ORACLE\_SID/
SERVICE\_NAME">ofsaser/
InteractionVariable>



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (ojdbc <version>.jar) exists. This is typically the \$ORACLE_HOME/jdbc/lib directory.</version>	Yes
	For example, <interactionvariable name="ABS_DRIVER_ PATH">"&gt;/oradata6/revwb7/ oracle <!-- InteractionVariable--></interactionvariable>	



InteractionGroup name="OLAP Detail



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
OLAP_SERVER_ IMPLEMENTATION	Identifies whether the OFSAA Infrastructure OLAP component must be configured. It depends on whether you intend to use the OLAP feature. The following numeric value must be set depending on the choice:  YES: 1  NO: 0	No

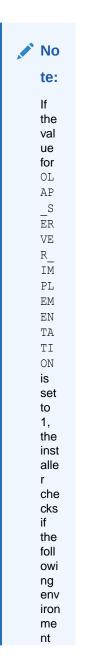




Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name Significance and Expected Mandatory Value vari abl es are set in the .p ro fi le file:

- ARBORPATH
- HYPERION\_HOME
- ESSBASEPATH

#### InteractionGroup name="SFTP Details"

SFTP\_ENABLE

Identifies if the SFTP (Secure Yes File Transfer Protocol) feature is to be enabled. The following numeric value must be set depending on the choice:

- SFTP: 1
- FTP: 0

#### Note:

The default value for SFTP\_ENABLE is 1, which signifies that SFTP is used. Oracle recommends using SFTP instead of FTP because SFTP is more secure. However, you can ignore this recommendation and use FTP by setting SFTP\_ENABLE to 0. You can change this selection later from the OFSAAI administration interface.

Set SFTP\_ENABLE to -1 to configure ftpshare and weblocal path as a local path mounted for the OFSAAI server.

FILE\_TRANSFER\_PORT

Identifies the port used for the file transfer service. The default value specified is 22 (SFTP). Specify the value as 21 or any other PORT value if the value for SFTP\_ENABLE is 0.

#### For example,

<InteractionVariable
name="FILE\_TRANSFER\_
PORT">21
InteractionVariable>



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
InteractionGroup name="Local	e Detail"	
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English.	Yes
	For example, <interactionvariable name="LOCALE">en_US<!-- InteractionVariable--></interactionvariable>	

#### InteractionGroup name="OFSAA Infrastructure Communicating ports"



The following ports are used internally by the various OFSAA Infrastructure services. The default values mentioned are set in the installation. If you intend to specify a different value, update the parameter value accordingly, ensure that the port value is in the range 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	

#### InteractionGroup name="Web Details"

Note: If the value for <code>HTTPS\_ENABLE</code> is set to 1, ensure that you have a valid certificate available from a trusted CA and it is configured on your web application server.

HTTPS\_ENABLE

Identifies whether the UI must be Yes accessed using HTTP or HTTPS scheme. The default value is set to 0. The numeric value must be set depending on the following options:

- YES: 1
- NO: 0

#### For example,

<InteractionVariable
name="HTTPS\_ENABLE">0</
InteractionVariable>



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
WEB_SERVER_IP	Identifies the HTTP Server IP/ Host name or Web application server IP/ Host name, to be used to access the UI. This IP is typically the HTTP Server IP.	No
	If a separate HTTP Server is not available, then the value must be Web application server IP/Host name.	
	For example, <interactionvariable name="WEB_SERVER_ IP">10.11.12.13<!-- InteractionVariable--></interactionvariable>	
	or	
	<pre><interactionvariable name="WEB_SERVER_ IP">myweb.server.com<!-- InteractionVariable--></interactionvariable></pre>	
WEB_SERVER_PORT	Identifies the Web Server Port, which is typically 80 for non SSL and 443 for SSL. If a separate HTTP Server exists, the port value must be the value configured for the Web Server.	No
	Warning: The installer will not accept the port value as:	
	<ul> <li>80, if the HTTPS_ENABLE variable is 1</li> </ul>	
	• 443, if the HTTPS_ENABLE variable is 0	
	For example, <interactionvariable< td=""><td></td></interactionvariable<>	
	name="WEB_	
	SERVER_PORT">80 InteractionVariable	
	THE CLUCKTOH VALIANTE/	



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
CONTEXT_NAME	Identifies the web application context name which is used to build the URL to access the OFSAA application. You can identify the context name from the following URL format:	Yes
	<pre><scheme>://<host>:<port>/ <context-name>/ login.jsp</context-name></port></host></scheme></pre>	
	The following is an example:	
	https://myweb:443/ ofsaadev/login.jsp	
	For example, <interactionvariable name="CONTEXT_ NAME">ofsaadev<!-- InteractionVariable--></interactionvariable>	



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded EAR file on the web application server.	Yes
	• For Tomcat, specify the Tomcat directory path till / webapps. For example, / oradata6/ revwb7/ tomcat/webapps/.	
	<ul> <li>For WebSphere, specify the WebSphere path as <websphere profile<br="">directory&gt;/</websphere></li> </ul>	
	<pre>installedApps/ <nodecellname>. For example, / data2/test//</nodecellname></pre>	
	<pre>WebSphere/AppServer/ profiles/ <profile_name>/</profile_name></pre>	
	<pre>installedApps/ aiximfNode01Cell, where aix-imf is the Host name.</pre>	
	<ul> <li>For WebLogic, specify the WebLogic home directory path. For example, /</li> </ul>	
	<pre><weblogic directory="" home="" path="">/bea/ wlserver_10.3</weblogic></pre>	

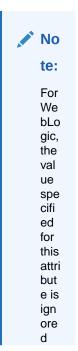




Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

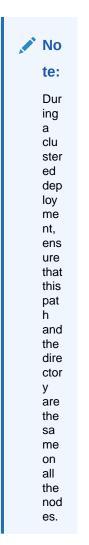
InteractionVariable Name	Significance and Expected Value	Mandatory
	and	
	the	
	val	
	ue	
	pro vid	
	ed	
	aga	
	inst	
	the	
	attri	
	but	
	e	
	WE	
	BL	
	OG IC	
	_D OM	
	AI	
	N_ HO	
	ME	
	is	
	con	
	sid	

ere d.



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
WEB_LOCAL_PATH	Identifies the absolute path to any directory on the web application server that can hold temporary files, which are uploaded as part of the usage of the application.  Set this in the FTPSHARE location.	Yes



InteractionGroup name="Weblogic Setup Details"

Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain Home.  For example, <interactionvariable name="WEBLOGIC_DOMAIN_HOM E">/home/weblogic/bea/ user_projects/domains/ mydomain <!-- InteractionVariable--></interactionvariable>	Yes. Specify the value only if WEBAPPSERVERTYPE is set as 3 (WebLogic)

InteractionGroup name="OFSAAI FTP Details"



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
OFSAAI_FTPSHARE_PATH	Identifies the absolute path of the directory that is identified as the file system stage area.	Yes

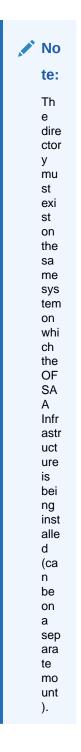




Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

The user mentioned in the APP_SFTP_USER_ID	
parameter in the following example must have RWX permission on the directory.	
For example, <interactionvariable name="APP_FTPSHARE_PATH"> "&gt;/oradata6/revwb7/ ftpshare<!-- InteractionVariable--></interactionvariable>	
Identifies the user who has RWX permissions on the directory identified for the parameter APP_FTPSHARE_PATH.	Yes
Identifies the SFTP private key for OFSAAI.	No
For example,	
<pre><interactionvariable name="OFSAAI_SFTP_PRIVATE _KEY">/home/ofsaapp/.ssh/ id_rsa<!-- InteractionVariable--></interactionvariable></pre>	
By default, the value is <b>NA</b> , which indicates that, for authentication, you are prompted to enter the password for the user <ofsaai_sftp_user_id>.</ofsaai_sftp_user_id>	
For more information on how to generate an SFTP Private key, see the Set Up SFTP Private Key section.	
Identifies the passphrase for the SFTP private key for OFSAAI.	No
For example,	
<pre>InteractionVariable name="OFSAAI_SFTP_PASSPHR ASE"&gt;enter a pass phrase here</pre> InteractionVariable>	
By default, the value is NA.  If the  OFSAAI_SFTP_PRIVATE_KEY  value is given and the  OFSAAI_SFTP_PASSPHRASE	
	For example, <interactionvariable name="APP_FTPSHARE_PATH"> "&gt;/oradata6/revwb7/ ftpshare<!-- InteractionVariable-->  Identifies the user who has RWX permissions on the directory identified for the parameter APP_FTPSHARE_PATH. Identifies the SFTP private key for OFSAAI. For example,  <interactionvariable name="OFSAAI_SFTP_PRIVATE_KEY">/home/ofsaapp/.ssh/id_rsa</interactionvariable> By default, the value is NA, which indicates that, for authentication, you are prompted to enter the password for the user <ofsaai_sftp_user_id>.  For more information on how to generate an SFTP Private key, see the Set Up SFTP Private Key section. Identifies the passphrase for the SFTP private key for OFSAAI. For example, InteractionVariable name="OFSAAI_SFTP_PASSPHR ASE"&gt;enter a pass phrase here</ofsaai_sftp_user_id></interactionvariable> By default, the value is NA. If the OFSAAI_SFTP_PRIVATE_KEY value is given and the



Yes

Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name Significance and Expected Mandatory Value

#### InteractionGroup name="Hive Details"

The default value set for the interaction variables under this group is NA.

Note:

The following values are required only for Hive Configuration.

HIVE\_SERVER\_PORT Identifies the port used for the

file transfer service. The default value is 22 (SFTP). To use this port for FTP, set this value to 21.

For example,

<InteractionVariable
name="HIVE\_SERVER\_PORT">2
2</InteractionVariable>

HIVE\_SERVER\_FTPDRIVE Identifies the absolute path to the Yes

directory identified as file system stage area of the HIVE server.

For example,

<InteractionVariable
name="HIVE\_SERVER\_FTPDRIV"</pre>

E">/scratch/ofsaa/

ftpshare</

InteractionVariable>

HIVE\_SERVER\_FTP\_USERID Identifies the user who has RWX Yes

permissions on the directory identified under the parameter HIVE SERVER FTPDRIVE.

For example,

<InteractionVariable
name="HIVE SERVER FTP USE</pre>

RID">ofsaa</

InteractionVariable>

HIVE\_SERVER\_FTP\_PROTOC

OL

If the <code>HIVE\_SERVER\_PORT</code> is 21, Yes then set the value to FTP. If not,

set it to **SFTP**.

For example,

<InteractionVariable
name="HIVE SERVER FTP PRO</pre>

TOCOL">SFTP</

InteractionVariable>



Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

Internation Veriable Name	Cinnificance and Evaceted	Mandatani
InteractionVariable Name	Significance and Expected Value	Mandatory
HIVE_SFTP_PRIVATE_KEY	Identifies the SFTP private key for the HIVE server.	
	For example,	
	<pre><interactionvariable name="HIVE_SFTP_PRIVATE_ KEY">/scratch/ testuser/.ssh/id_rsa<!-- InteractionVariable--></interactionvariable></pre>	
	By default, the value is <b>NA</b> , which indicates that, for authentication, you are prompted to enter the password for the user <pre><hive_server_ftp_userid></hive_server_ftp_userid></pre> .	
	For more information on generating SFTP Private key, see the Set Up SFTP Private Key section.	
HIVE_SFTP_PASSPHRASE	Identifies the passphrase for the SFTP private key for HIVE.	
	For example,	
	<pre><interactionvariable name="HIVE_SFTP_ PASSPHRASE">NA<!-- InteractionVariable--></interactionvariable></pre>	
	By default, the value is <b>NA</b> .	
	If the HIVE_SFTP_PRIVATE_KEY value is <b>NA</b> , then the passphrase is identified as empty.	

## 6.6.1 Set Up the SFTP Private Key

Log in to OFSAA UNIX user using the Putty tool, where you plan for installation and generate a pair of authentication keys using the ssh-keygen command. If required, set passphrase. Otherwise, the OFSAAI\_SFTP\_PASSPHRASE tag must be set to NA.

To generate a private key, enter the commands as shown:

```
ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ofsaapp/.ssh/id_rsa):
Created directory '/home/ofsaapp/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ofsaapp/.ssh/id_rsa.
Your public key has been saved in /home/ofsaapp/.ssh/id_rsa.pub.
The key fingerprint is:
3e:4f:05:79:3a:9f:96:7c:3b:ad:e9:58:37:bc:37:e4
```



ofsaapp@OFSASERVER:~> cat /home/ofsaapp/.ssh/id\_rsa.pub >> /home/
ofsaapp/.ssh/authorized\_keys

Ensure the following permissions exist for the given directories:

- permissions of .ssh must be 700
- permissions of .ssh/authorized\_keys must be 640
- permission of .ssh/id\_rsa must be 400
- Permission of UNIX User created must be 755

# 6.7 Configure the Silent.props File

This section is applicable for a new installation of OFS Profitability Management Pack (OFS PAM Pack) Release 8.1.2.0.0. In the installer kit path OFS\_PAM\_PACK/ appsLibConfig/conf/, rename the Silent.template file to Silent.props. Edit the Silent.props file and modify only the following parameters.



In the Silent.props file, for the pack-on-pack scenario the parameters OFS\_PFT\_SEGMENT\_1\_CODE must be the same as the parameter OFS\_PFT\_SEGMENT\_1\_CODE of the previously installed application pack. Do not modify these parameters if there are no other packs than the OFS Profitability Management Pack (OFS PAM Pack) installed.



#### Figure 6-9 Sample Silent.props File

```
******************************
### START OF PACK LEVEL_INPUTS #######
***********************************
# Specify the Infodom Maintenance log path(to be created) for the new Infodom
# Please ignore if you are doing installation on an existing information domain
APPFTP_LOG_PATH=/scratch/pam8110/ftpshare
DBFTP LOG PATH=/scratch/pam8110/ftpshare
# Specify whether you want to perform Model Upload
# 0 = If you have already performed Model Upload and want to skip model upload process
# 1 = If you want to perform Model Upload
UPLOAD MODEL=1
# Specify whether you want to use the released datamodel or customized datamodel for model upload process
\# 0 = If you want to upload the released datamodel \# 1 = If you want to upload the customized datamodel
MODEL TYPE=0
# Specify the path(DM_DIRECTORY) and file(DATAMODEL) name for the cutomized datamodel
# Mandatory only if you want to upload the customized datamodel
# i.e you have specified MODEL_TYPE=1
DATAMODEL=
DM DIRECTORY=
*********************************
### END OF PACK LEVEL INPUTS #########
*******************************
### START OF OFS PAM #########
# Specify the Profitability Management Segment Code
OFS PFT SEGMENT 1 CODE=COMMON
#Please specify if you want create new ETL App/Src pair or use an existing one.
# 0 = If you want to create a new ETL app/src pair
# 1 = If you want to use an existing pair
OFS_PFT_ETL_APPSRC_TYPE=0
# Please give description for the ETL Sources
# Mandatory if you want to create new ETL Sources
#i.e you have specified ETL_APPSRC_TYPE=0
#ETL Staging source description
OFS_PFT_ETL_SRC_1_DESC=Stagings
#ETL Processing source description
OFS_PFT_ETL_SRC_2_DESC=Processings
# Specify the ETL Source Name into ETL Area Definitions will be deployed
#ETL Staging source name
OFS_PFT_ETL_SRC_1_NAME=STAGINGS
#ETL Processing source name
OFS_PFT_ETL_SRC_2_NAME=PROCESSINGs
****************************
```

Table 6-5 Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
OFS_PFT_SEGMENT_ 1_CODE	Segment Code	Not Applicable	Mandatory NOTE: The Segment Code should be in the upper case.



Table 6-5 (Cont.) Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
APPFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for applayer	Not Applicable	# Mandatory if this an App Layer Installation and if you want to create a new infodom.
			# That is, you have specified INSTALL_APP=1 and INFODOM_TYPE=0
DBFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for DBLayer	Not Applicable	# Mandatory if this an App Layer Installation and if you want to create a new infodom.
			# That is, you have specified INSTALL_APP=1 and INFODOM_TYPE=0
UPLOAD_MODEL	To perform the Model Upload.	0: No 1: Yes	Mandatory
MODEL_TYPE	The released data model or a customized data model.	0: Released 1: Customized	Mandatory only if you want to upload the data model.
DATAMODEL	The path for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
OFS_PFT_ETL_APPSR C_TYPE	or Src pair or use an	0 = New 1 = Existing	#Mandatory if this an App layer installation.
	existing one	<b>3</b>	# That is, you have specified INSTALL_APP=1.
			# 0 = If you want to create a new ETL app or src pair
			# 1 = If you want to use an existing pair NOTE: If any other pack is already installed, then
OFS_PFT_ETL_SRC_1	•	Not Applicable	specify the value as 1.  # Mandatory if you want
_DESC	Staging source description		to create a new ETL app or src pair.
			#That is, you have specified ETL_APPSRC_TYPE=0



Property Name	Description of Property	Permissible Values	Comments
OFS_PFT_ETL_SRC_2 _DESC	Description for the ETL Processing source description	Not Applicable	# Mandatory if you want to create a new ETL app or src pair.
			#That is, you have specified ETL_APPSRC_TYPE=0
OFS_PFT_ETL_SRC_1 _NAME	ETL Staging source name	Not Applicable	This Source must be mapped to the above ETL Application.
OFS_PFT_ETL_SRC_2 _NAME	ETL Processing source name	Not Applicable	This Source must be mapped to the above ETL Application.

Table 6-5 (Cont.) Parameters for the Silent.props File

# 6.8 Install the OFS Profitability Management Pack (OFS PAM Pack)

Before you begin the installation, ensure you have configured and executed the following files:

- 1. Configure the OS File System Settings and Environment Settings in .profile File
- Configure the OFT\_PAM\_PACK.xml File
- 3. Configure the OFS\_PAM\_SCHEMA\_IN.xml File
- 4. Configure the OFSAAI\_InstallConfig.xml File (Do not configure this file if an installation of OFSAAI 8.1.2 already exists.)
- 5. Execute the Schema Creator Utility
- 6. Configure the Silent.props File

To install the OFS Profitability Management Pack (OFS PAM Pack), follow these steps:

- Log in to the system as a non-root user.
- 2. Identify a directory for installation and set the same in the user .profile file as follows: FIC HOME=<OFSAA Installation Directory>

```
export FIC HOME
```

- 3. Execute the user .profile file.
  - . ./.profile
- 4. Navigate to the OFS PAM PACK/bin directory.



Do not install the new applications in the same segment if the preinstalled applications use the Run Management functionality of OFSAAI.

Enter the following command in the console to execute the application pack installer.

./setup.sh SILENT

The installer proceeds with the pre-installation checks.

#### Figure 6-10 Installation

```
Checking on MS. unf3 locale. Status : SUCCESS
Unix shell found : /hin/ksh. Status : SUCCESS
Unix shell found : /hin/ksh. Status : SUCCESS
Total finis descriptors : 65356. Status : SUCCESS
Total finis descriptors : 65356. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
Total reversion : 19.0.0.0.0.0.0. Status : SUCCESS
Total reversion : 19.0.0.0.0.0. Status : SUCCESS
Total reversion : 19.0.0.0.0.0.0. Status : SUCCESS
TOTAL reversion : 19.0.0.0.0.0. Status : SUCCESS
TOTAL reversion : 19.0.0.0.0.0. Status : SUCCESS
TOTAL reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total ed by reversion : 19.0.0.0.0. Status : SUCCESS
Total reversion : 19.0.0.0.0. Status : SUCCESS
Total reversion : 19.0.0.0.0. Status : SUCCESS
Total reversion : 19.0.0.0.0. Status : S
```

**6.** Enter the OFSAA Processing Tier FTP/SFTP password value when prompted in the Command Prompt and proceed.

Figure 6-11 OFSAA Processing Tier FTP/SFTP password

```
Oracle Client version: 11.2.0.2.0. Status: SUCCESS

CREATE SESSION has been granted to user. Status: SUCCESS

CREATE SESSION has been granted to user. Status: SUCCESS

CREATE VIEW has been granted to user. Status: SUCCESS

CREATE VIEW has been granted to user. Status: SUCCESS

CREATE VIEW has been granted to user. Status: SUCCESS

CREATE MATERIALIZED VIEW has been granted to user. Status: SUCCESS

CREATE TRIOGER has been granted to user. Status: SUCCESS

CREATE TRIOGER has been granted to user. Status: SUCCESS

CREATE SOUTHNO SENDANTICS: SUTE. Current value: SUCCESS

CREATE SOUTHNO SENDANTICS: SUTE. Current value: SUCCESS

SILECT privilege is granted for V. $nis parameters view. Current value: SELECT. Status: SUCCESS

NLS_LINGER SUMMINICS: SUTE. Current value: SUCCESS

NLS_CHARACTERSET: ALSJUTTS. Current value: ALSJUTTS. Status: SUCCESS

NLS_CHARACTERSET: ALSJUTTS. Current value: ALSJUTTS. Status: SUCCESS

Open cursor value is granted for V. $parameter view. Current value: SILECT. Status: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

SELECT privilege is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view. Current value: SUCCESS

Open cursor value is granted for USER TS_GUOTAS view.

Open cursor value is granted for USER TS_GUOTAS view.

Open cursor value is granted for USER TS_GUOTAS view.

Open cursor value is granted for USER TS_GUOTAS view.

Open cursor value is granted for U
```

7. The process displays the OFSAA License Agreement. Enter Y and proceed.



#### Figure 6-12 OFSAA License Agreement

```
The control of the co
```

8. The installer installs the OFS AAI application.

#### Figure 6-13 OFS AAI Installation

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

Please enter password for default Infrastructure administrator user SYSADMN:

Please re-enter password for default Infrastructure authorizer user SYSADMN:

Please re-enter password for default Infrastructure authorizer user SYSAUTH:

Flease re-enter password for default Infrastructure authorizer user SYSAUTH:

Starting installation...

Extracting the installation resources from the installer archive...

Configuring the installer for this system's environment...

Launching installer...

Preparing SILENT Mode Installation...

OFSAAInfrastructure (created with Installanywhere)

Tinstalling...
```

9. After OFS AAI is installed, the OFS Profitability Management Pack (OFS PAM Pack) installation begins.



#### Figure 6-14 OFS Profitability Management Installation

```
********************
Welcome to OFS PAM PACK Installation
Starting OFSAA Service...
OFSAA Service - OK
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing SILENT Mode Installation...
back installsilent
                                                  (created with InstallAnywhere)
 Installation Complete.
failurecount --- 1
Pack Name found is: OFS_PAM PACK
[DynamicServiceManager][GlobalParameters.ISWEB]false
FIC HOME:/scratch/bcuser/OFSAA/
Pack ID got for Synch is OFS_PAM_PACK
SLF4J: Failed to load class "org_shf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further detail
```

The OFSAA Infrastructure installation performs a post-install health check automatically on the successful installation of the product.

The following message is displayed in the console: Installation completed

- To verify if the release is applied successfully, check the log files mentioned in the Verify the Log File Information section.
- **11.** After the installation of OFS Profitability Management Pack (OFS PAM Pack) 8.1.2.0.0 is successful, complete the required Post-installation steps.



7

# Post-installation

After the successful installation of the OFS Profitability Management Pack (OFS PAM Pack) Release 8.1.2.0.0, follow the post-installation procedures.

#### Topics:

- · Post-installation Checklist
- Verify the Log File Information
- Backup the SCHEMA\_CREATOR.xml, OFS\_PAM\_SCHEMA\_OUTPUT.xml, and Silent.props Files
- Change the ICC Batch Ownership
- Configuration for Dimension Management
- Changes for Oracle Database Server 18c and 19C
- Additional Configuration

## 7.1 Post-installation Checklist

You can use this checklist to have a quick glance at everything that you will be doing post-installing this application.

Table 7-1 Post-installation Checklist

SI. No.	Post-installation Activity
1	Verify the installation logs.
2	Patch OFSAA Infrastructure Installation.
3	Back up the SCHEMA_CREATOR.xml, OFS_PM_SCHEMA_OUTPUT.xml, and Silent.props files.
4	Stop the OFSAA Infrastructure services.
5	Create and deploy EAR/WAR files.
6	Assign Grants for Schemas.
7	Start the OFSAA Infrastructure services.
3	Configure the Web Server.
9	Configure the Resource Reference in Web Application Servers.
10	Configure the Work Manager in the Web Application Servers.
11	Updating Atomic Schema Data Source in Web Logic
11	Disabling Data Types in WebLogic.
12	Access the OFSAA application.
13	OFSAA Landing Page
14	Configure the excludeURLList.cfg file.



Table 7-1 (Cont.) Post-installation Checklist

SI. No.	Post-installation Activity
15	Configuring Tomcat for User Group Authorization, Data Mapping, and Disabling WADL for the Web Service
16	Change the ICC batch ownership.
17	Create Application Users.
18	Map the Application User(s) to User Groups.
19	Changes in .profile file for Solaris Operating System
20	View OFSAA Product Licenses after Installation of Application Pack
21	Configuration for Dimension Management
22	Changes for Oracle Database Server 18c and 19C
23	Excel upload mapping and template.
24	Configure TDE and Data Redaction in OFSAAI.

# 7.2 Verify the Log File Information

(Required) <Enter a short description here.>

See the following logs files for more information:

- Pack Install.log file in the OFS PAM PACK/logs/ directory.
- Infrastructure installation log files in the OFS PAM PACK/OFS AAI/logs/ directory.
- OFS PFT installation.log file in the OFS PAM PACK/OFS PFT/logs directory

You can ignore the following errors in the OFS\_PAM\_PACK/OFS\_PAM/logs OFS\_PAM\_installation\_812.err file.

```
[ERROR] Object already exists
[ERROR] 'create table FSI MIG OBJ MASTER
[ERROR] Table already has a primary key
 [ERROR] 'alter table FSI MIG OBJ MASTER
add constraint PK FSI MIG OBJ MASTER primary key (OBJECT TYPE ID,
APP ID)
[ERROR] ==========
 [ERROR] Object already exists
[ERROR] 'create table FSI MIG OBJ DETAILS
[ERROR] Table already has a primary key
[ERROR] 'alter table FSI MIG OBJ DETAILS
add constraint PK FSI MIG OBJ DETAILS primary key (OBJECT TYPE ID,
TABLE NAME)
[ERROR] Object already exists
[ERROR] 'create table FSI_MIG_OBJ_DEPENDENCIES
```

## 7.3 Patch OFSAA Infrastructure Installation

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

After the installation of OFSAAAI 8.1.2.0.0, apply the following mandatory patch:

• 33663417



On the 10th of December 2021, Oracle released Security Alert CVE-2021-44228 in response to the disclosure of a new vulnerability affecting Apache Log4J before version 2.15. The application of the 33663417 Mandatory Patch fixes the issue.

For details, see the My Oracle Support Doc ID 2827801.1.

Ensure that you reapply the 33663417 Mandatory Patch whenever you install or upgrade the application, or apply an incremental patch.

For patch download information, see the Download the OFSAAAI Applications Pack Installer and Patches section in Pre-installation for a new installation and in Upgrade for an upgrade installation.

See My Oracle Support for more information on the latest release.

# 7.4 Backup SCHEMA\_CREATOR\_IN.xml, OFS\_PAM\_SCHEMA\_OUTPUT.xml, and Silent.props Files

Back up the SCHEMA\_CREATOR.xml, OFS\_PAM\_SCHEMA\_OUTPUT.xml, and Silent.props files as they can be reused when upgrading existing applications or installing new applications.

Table 7-2 Directory of Files to Backup

File Name	Directory
OFS_PAM_SCHEMA_IN.xml	OFS_PAM_PACK/schema_creator/conf
OFS_PAM_SHCEMA_OUTPUT.xml	OFS_PAM_PACK/schema_creator/
Silent.props	OFS_PAM_PACK/appsLibConfig/conf

## 7.5 Stop the Infrastructure Services

To stop Infrastructure services, follow these steps:

- On the machine where the Infrastructure Application components are installed, navigate to the \$FIC\_APP\_HOME/common/FICServer/bin directory, and execute the following command:
  - ./stopofsaai.sh
- 2. To stop the ICC server on the machine where the Infrastructure Default Application components are installed, navigate to the \$FIC\_HOME/ficapp/icc/bin directory, and execute the following command:
  - ./iccservershutdown.sh



Only the Infrastructure Default Application Server will hold the ICC component.

- 3. To stop the Back-end server on the machine where the Infrastructure database components are installed, navigate to the \$FIC\_DB\_HOME/bin directory, and execute the following command:
  - ./agentshutdown.sh

## 7.6 Create and Deploy the EAR/WAR Files

This section covers the following topics:

- · Create the EAR/WAR File
- Explode the EAR File
- Deploy the EAR/WAR File

#### 7.6.1 Create the EAR/WAR File

The EAR/WAR files are automatically generated during the new installation. However, see this section if you have to create EAR/WAR files after installation or upgrade.

#### Topics:

- Non-TCPS Installed Setup
- TCPS Installed Setup



#### 7.6.1.1 Non-TCPS Installed Setup

To create the EAR/WAR File in a non-TCPS installed setup, follow these steps:

- 1. Navigate to the \$FIC\_WEB\_HOME directory on the OFSAA Installed server.
- 2. Execute the ./ant.sh command to trigger the creation of the EAR/WAR file.
- The EAR/WAR (<contextname>.ear/ .war) is created.
   The "BUILD SUCCESSFUL" and "Time taken" message is displayed.

#### Figure 7-1 Creating EAR/ WAR File

```
Buildfile: /scratch/test81/OFSAAI_81FULL/ficweb/build.xml
Trying to override old definition of datatype resources

existtest:
    [echo] Checking for file /scratch/test81/OFSAAI_81FULL/ficweb/test81.war existense

createwar:
    [echo] Creating /scratch/test81/OFSAAI_81FULL/ficweb/test81.war freshly..
    [war] Building war: /scratch/test81/OFSAAI_81FULL/ficweb/test81.war

BUILD SUCCESSFUL
Total time: 1 minute 8 seconds
```

#### Note:

- The <contextname> is the name given during installation. This process overwrites any existing version of the EAR file that exists in the path.
- For OFSAA configured on Tomcat installation, <contextname>.war file is created.
- Ignore ANT warning(s) for the tools.jar file while executing ./ant.sh command.

## 7.6.1.2 TCPS Installed Setup

To create the EAR/WAR File in a TCPS installed setup, follow these steps:

- 1. Navigate to the \$FIC\_WEB\_HOME/webroot/WEB-INF/lib directory on the OFSAA Installed server and delete the ojdbc7.jar file if it exists in the directory.
- 2. Navigate to the \$FIC\_HOME/utility/AppPckMastSynch/bin directory and execute the App Pack Mast Sync utility by running the AppPckMastSynch.sh command.
- 3. Navigate to the \$FIC\_WEB\_HOME directory and execute the ./ant.sh command to trigger the creation of the EAR/WAR file.
- 4. The EAR/WAR (<contextname>.ear/ .war) is created.

The "BUILD SUCCESSFUL" and "Time taken" message is displayed.



#### Figure 7-2 Creating EAR/ WAR File

```
Buildfile: /scratch/test81/OFSAAI_81FULL/ficweb/build.xml
Trying to override old definition of datatype resources

existtest:
    [echo] Checking for file /scratch/test81/OFSAAI_81FULL/ficweb/test81.war existense

createwar:
    [echo] Creating /scratch/test81/OFSAAI_81FULL/ficweb/test81.war freshly..
    [war] Building war: /scratch/test81/OFSAAI_81FULL/ficweb/test81.war

BUILD SUCCESSFUL
Total time: 1 minute 8 seconds
```

#### Note:

- The <contextname> is the name given during installation. This
  process overwrites any existing version of the EAR file that exists in
  the path.
- For OFSAA configured on Tomcat installation, <contextname>.war file is created.
- Ignore ANT warning(s) for the tools.jar file while executing ./ ant.sh command.

## 7.6.2 Explode the EAR File

To explode the EAR file, follow these steps:

- Create the "applications" directory under the domain name directory.
   For example, "/Bea/user projects/domains/ <Domain name>/applications".
- Create the <context name>.ear directory under the applications directory.
- 3. Copy the <\$FIC\_WEB\_HOME/<context\_name>.ear file to the <WEBLOGIC\_INSTALL\_
  DIR>/ Bea/user\_projects/domains/<DOMAIN\_NAME>/applications/<context\_
  name>.ear directory.
- 4. Explode the <context name>.ear file by executing the following command:

```
jar -xvf <context name>.ear
```

- 5. Delete the <context>.ear and <context>.war files <WEBLOGIC\_ INSTALL\_DIR>/Bea/user\_projects/domains/<DOMAIN\_ NAME>/applications/ <context\_name>.ear
- 6. Create a directory <context\_name>.war under the <WEBLOGIC\_INSTALL\_DIR>/Bea/ user\_projects/domains/<DOMAIN\_ NAME>/applications/ <context>.ear./<context>.war directory.
- 7. Copy the <\$FIC\_WEB\_HOME/<context\_name>.war file to <WEBLOGIC\_INSTALL\_DIR>/ Bea/user\_projects/domains/<DOMAIN\_NAME>/applications/<context\_name>.ear/<context\_name>.war directory.
- **8.** Explode the <context\_name>.war file by executing the following command to get the directory structure:



jar -xvf <context name>.war

## 7.6.2.1 Install Application

To install the Application, follow these steps:

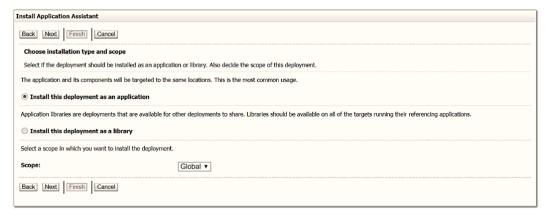
Select Install Application Assistant from the Navigation Tree to display the window.

Figure 7-3 Install Application Assistant



Click Next.

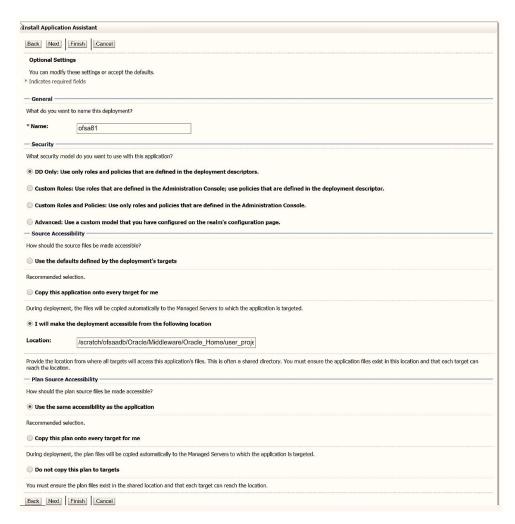
Figure 7-4 Install Application Assistant



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



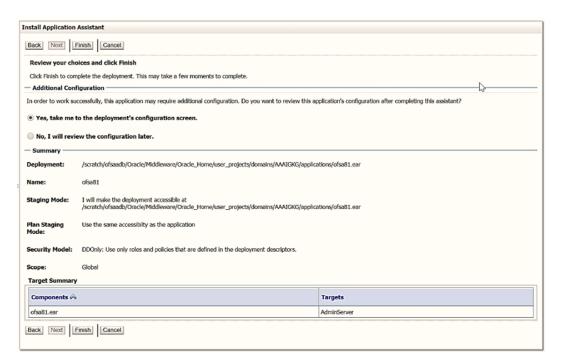
Figure 7-5 Optional Settings



- 4. Enter a Name for the deployment if required.
- 5. Under the Security section, select the DD Only: Use only roles and policies that are defined in the deployment descriptors option.
- Select I will make the deployment available from the following location under the Source accessibility section.
- 7. Click **Next** to display the Deployment Summary window.



Figure 7-6 Deployment Summary



- 8. Select **Yes**, take me to the deployment's configuration screen.
- 9. Click Finish to display the Settings for <Deployment Name> window.



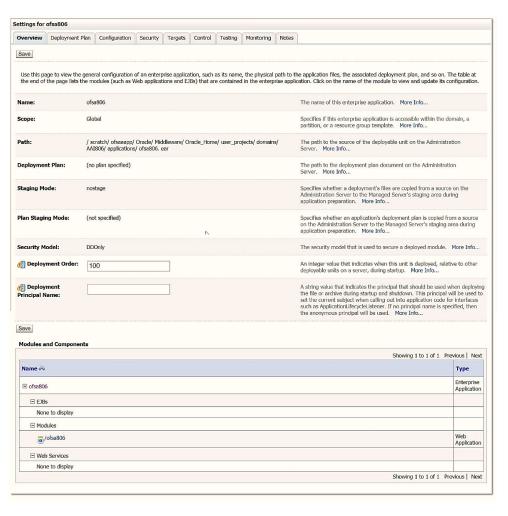
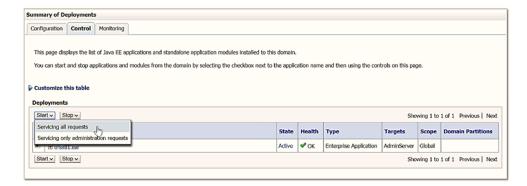


Figure 7-7 Settings for Deployment Name

- 10. 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.
- 11. Click **Save** to update the changes, if any.
- From the navigation tree, click Deployments to display the Summary of Deployments window.

Figure 7-8 Summary of Deployments





- 13. Select the newly deployed Infrastructure application.
- 14. Click Start and then select Servicing all requests.

Note:

Verify that the Infrastructure server is up and running. For more information, see Start the Infrastructure Services.

Figure 7-9 Summary of Deployments



15. The state of the deployed application is displayed as Active if started successfully.

## 7.6.3 Deploy the EAR/WAR File

This section covers the following topics:

- Clear Application Cache
- Deploy the EAR/WAR Files on WebSphere
- Deploy the EAR/WAR Files on WebLogic
- · Deploy the WAR File on Tomcat

## 7.6.3.1 Clear the Application Cache

Ensure to clear the application cache before the deployment of Applications Pack Web Archive. This applies to all Web Servers (WebSphere, WebLogic, and Tomcat).

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

- Tomcat
  - <Tomcat installation directory>/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>

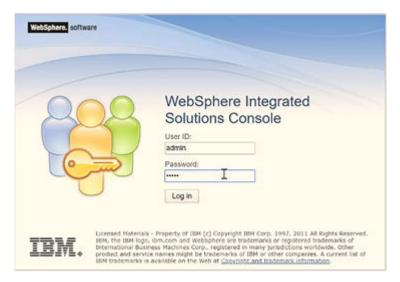
## 7.6.3.2 Deploy the EAR/WAR Files on WebSphere

To deploy the Infrastructure application in WebSphere, follow these steps:

- 1. Navigate to the "/<Websphere\_Installation\_ Directory>/ IBM/WebSphere/ AppServer/profiles/<Profile\_Name>/bin/" directory
- 2. Start the WebSphere Profile by executing the following command:
  - ./startServer.sh server1
- 3. Open the following URL in a browser to display the *Login* window:

http://<ipaddress>:<Administrative Console Port>/ibm/console (https,
if SSL is enabled)

Figure 7-10 WebSphere Login Window



- 4. Enter the user credentials with administrator rights and click **Log in**.
- From the Navigation Tree, select Applications, and then select New Application to display the New Application window.

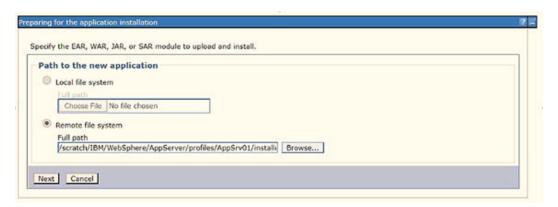
Figure 7-11 New Application





**6.** Click **New Enterprise** Application to display the Preparing for the application installation window.

Figure 7-12 Preparing for the application installation



- 7. Select the Remote File System and click Browse.
- 8. Select the EAR file (generated for OFSAAI) to upload and install. Click Next.

Figure 7-13 Installation Options



9. Select the Fast Path option and click Next to display the **Install New Application** window.



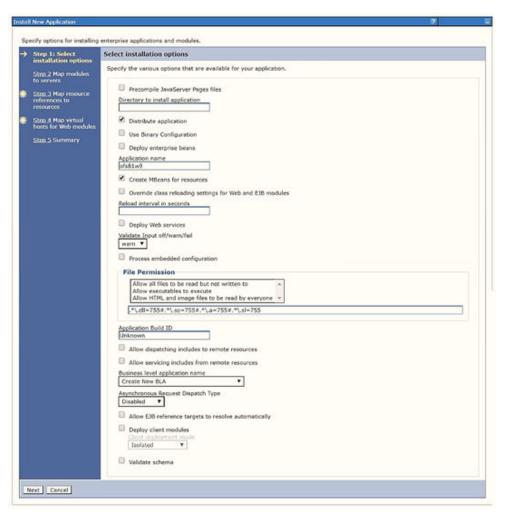
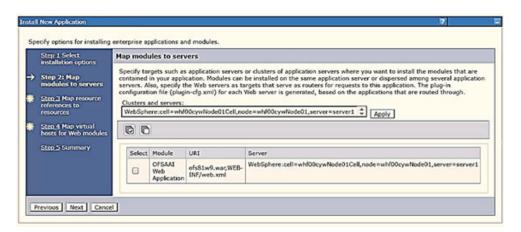


Figure 7-14 Install New Application

 Enter the required information and click Next to display the Map Modules to the Servers window.

Figure 7-15 Map Modules to Servers



**11.** Select the Web Application and click Next to display the Map Resource References to Resources window.

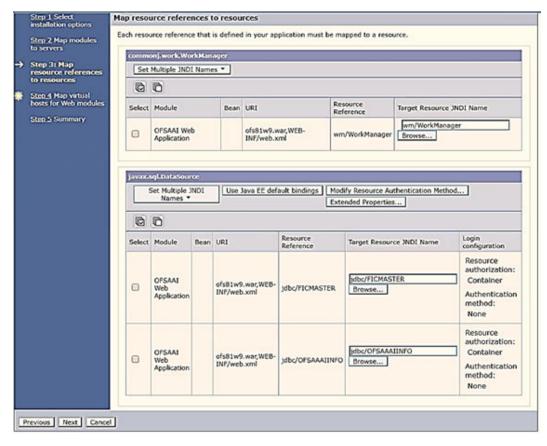


Figure 7-16 Map Resource References to Resources

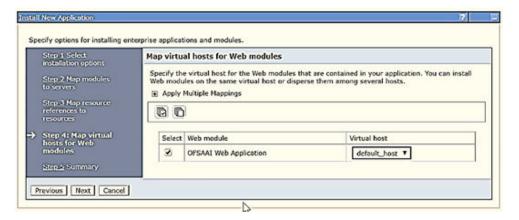
- 12. Map each resource defined in the application to a resource JNDI name defined earlier.
- **13.** Click Modify Resource Authentication Method and specify the authentication method created earlier.



Specify "config" for FICMASTER resource or "atomic" for the atomic resource as the authentication method.

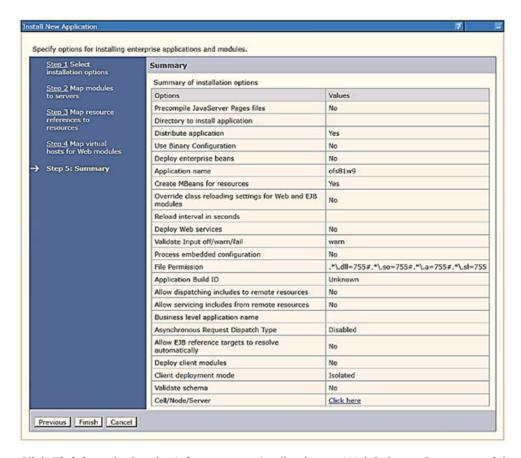
**14.** Select OFSAAI Web Application and click Next to display the Map Virtual hosts for Web Modules window.

Figure 7-17 Map Virtual host for Web Modules



15. Select OFSAAI Web Application and click **Next** to display the **Summary** window.

Figure 7-18 Summary



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

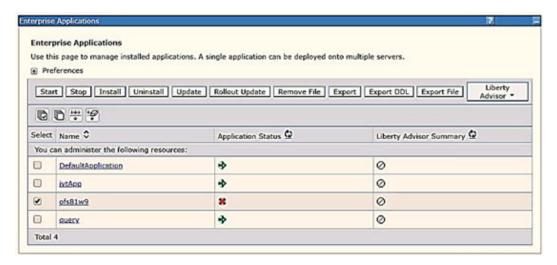


#### 7.6.3.2.1 Start the Application

To start the application, follow these steps:

 Expand Applications > Application Type > WebSphere enterprise applications to display the Enterprise Applications window.

Figure 7-19 Enterprise Applications Window



2. Select the installed application and click Start.



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

## 7.6.3.3 Deploy the EAR/WAR Files for WebLogic

To deploy the OFSAAI EAR (ofaai and tflt) files, follow these steps:

1. Navigate to the <WebLogic Installation directory>/user\_ projects/domains/<domain name>/bin directory in the machine in which WebLogic is installed.

(Optional) <Enter a step example.>

2. Start WebLogic by executing the command:

./startWebLogic.sh

3. Open the following URL in a browser window:

http://<ipaddress>:<admin server port>/ console (https, if SSL is enabled).

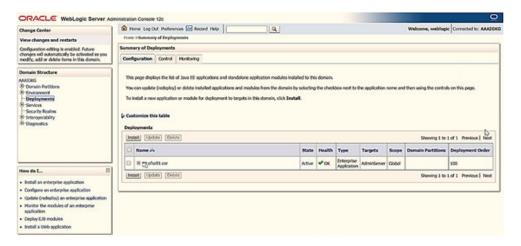
The Login window of the WebLogic Server Administration Console is displayed.

#### Note:

Ensure that you have started the Infrastructure Server by executing "./ startofsaai.sh" as mentioned in the Start the Infrastructure Services section.

- Log in to the WebLogic Server by entering the user credentials with privileges to deploy the EAR file.
- From the Domain Structure navigation tree, click **Deployments** to display the **Summary of Deployments** window.

Figure 7-20 Summary of Deployments



- 6. Click **Install** to display the Install Application Assistant window.
- 7. Navigate to the location where the Exploded EAR directory exists and select it.
- Click Next.

After the installation is complete, proceed with the following steps to enable your deployment.

- 9. Go to Summary of Deployments, click Control tab
- 10. Select Deployment and click "Servicing all requests"

This will enable the Deployment and set it to **ACTIVE** status from **PREPARED** status.

### 7.6.3.4 Deploy WAR Files on Tomcat

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

To deploy Infrastructure application on the machine that hosts Tomcat, follow these steps:

 Copy the <context-name>.war file from \$FIC\_WEB\_HOME/<context-name.war> directory to the <Tomcat Installation Directory>/webapps/ directory.



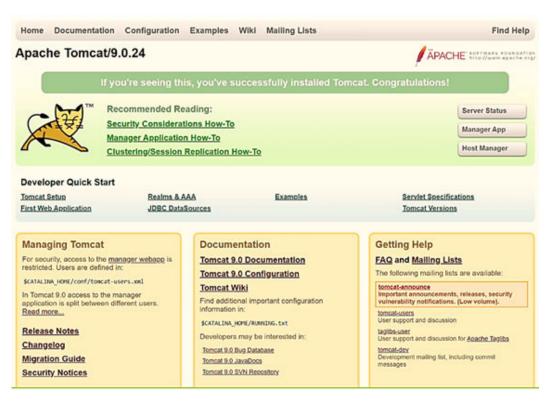


Figure 7-21 Tomcat Home window

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

State State

Figure 7-22 Tomcat Web Application Manager

In the Deploy section, enter the Context Path provided during the installation as "/ <context- name>".

- Enter the path where the <context-name>.war file resides (by default \$FIC\_WEB\_HOME/<context-name.war>) in WAR or Directory URL and click Deploy. On successful application deployment, a confirmation message is displayed.
- Start the Tomcat server. For more information, see Start the Infrastructure Services

## 7.7 Assign Grants for Schemas

This section discusses the various grants required for the Atomic and Sandbox schemas.

#### Topics:

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

## 7.7.1 Assign Grants for Atomic Schema

Atomic Schema creation requires certain grants for object creation present in the  $FIC\ HOME/\ privileges\ atomic\ user.sql\ file.$ 

To assign grants for the Atomic Schema, follow these steps by executing in the SQL Plus console:

```
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 select on SYS.V_$PARAMETER to &database_username
/
grant create SYNONYM to &database_username
```

## 7.7.2 Assign Grants for Config Schema

Config Schema creation requires certain grants for object creation present in the \$FIC\_HOME/ privileges\_config\_user.sql file.

To assign grants for the Config Schema, follow these steps by executing in the SQL Plus console:

```
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
```

## 7.7.3 Assign Grants for Config Schema Entities for Atomic Users

Atomic Schema creation requires certain grants for config schema object access present in the \$FIC\_HOME/config\_table\_privileges\_for\_atomic\_user.sql file. To assign grants for the Config Schema entities for Atomic Users, execute the following commands in the SQL tool console:

```
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_DSN_SEG_MAP to &database_username

/
grant select on CSSMS_USR_ROLE_MAP to &database_username

/
grant select on CSSMS_USR_ROLE_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 LISTto &database username
grant select on RTI VIR PHY TBL NAMEto &database username
```

```
grant select on infodom_patches to &database_username
/
```

## 7.8 Start the Infrastructure Services

Start the infrastructure servers after the installation and the post-installation steps are completed. Log on to each machine and execute the .profile file. Start all the servers mentioned from the same shell encoding.



The servers mentioned in this section 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 where the Infrastructure Application components are installed, navigate to the \$FIC\_APP\_HOME/common/FICServer/bin directory, and execute the following command to start the Infrastructure Server:

./startofsaai.sh

#### Note:

- a. You can also start the Infrastructure Server by executing the command "nohup./ startofsaai.sh &". Starting the process using "nohup" and "&" returns the command prompt without having to wait until the process completes. However, this command cannot be used when you are starting the server for the first time or starting after changing the user password in the configuration database schema.
- **b.** When you start the server, the following error is displayed:

java.io.FileNotFoundException:

/ftpshare/<INFODOM>/erwin/fipxml/<INFODOM>\_DATABASE.XML (No such file or directory)

Ignore this error.

2. Start the ICC server.

On the machine where the Infrastructure Default Application components are installed, navigate to the \$FIC\_HOME/ficapp/icc/bin directory, and execute the following command to start the "ICC server":

./iccserver.sh



Only the Infrastructure Default Application Server holds the ICC component.

3. Start the Backend Services using one of the following options:

 On the machine where Infrastructure Database components are installed, navigate to the \$FIC\_DB\_HOME/bin directory, and execute the following command to start the "Agent server":

./agentstartup.sh

Using nohup execute the following command:

nohup ./agentstartup.sh &



This agent internally starts the Router, Message Server, OLAP Data Server, and AM Services.

## 7.8.1 Start the Web Application Servers

Start the Web application server depending on the type from the following table:

**Table 7-3** Start the Web Application Servers

Description
On the machine where WebSphere is installed:
<ol> <li>Navigate to the [Webshpere_Installation_Directory] / AppServer/<profiles>/<profile name="">/bin directory.</profile></profiles></li> </ol>
2. Execute the following command:
./startServer.sh server1
On the machine where WebLogic is installed:
<pre>1. Navigate to the <weblogic directory="" installation="">/user_     projects/domains/<domain name="">/bin directory</domain></weblogic></pre>
2. Execute the following command:
startWebLogic.sh -d64



If WebLogic is already running, access the WebLogic Admin Console. Stop and start the application <context name>.ear file.



Table 7-3 (Cont.) Start the Web Application Servers

Startup Option	Description
Start Tomcat Application	On the machine where Tomcat is installed:
	Navigate to the <tomcat_install_ Directory&gt;/bin directory.</tomcat_install_ 
	<pre>2. Execute the following command:     ./catalina.sh run</pre>

## 7.9 Configure the Web Server

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

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



- See the Oracle Financial Services Analytical Applications Infrastructure Security Guide for configurations to secure your web server.
- You must enable a sticky session/affinity session configuration on the web server. See the respective product-specific Configuration Guide for more details. Additionally, you also must enable the sticky session/ affinity session configuration at the Load Balancer level if you have configured a Load Balancer in front of the web server.

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

#### Topics:

- Configure WebSphere Application Server for Application Deployment
- Configure WebLogic for Application Deployment
- Configure Apache Tomcat Server for Application Deployment
- Additional Configurations for Web Servers



#### Note:

- Make a note of the IP Address/ Hostname and Port of the webapplication server. This information is required during the installation process (required if the web server is not configured).
- Add umask 0027 in the .profile of the UNIX account which manages the WEB server to ensure restricted access permissions.
- See the OFSAA Secure Configuration Guide/ Security Guide mentioned in the Related Documents section for additional information on securely configuring your web server.

# 7.9.1 Configure WebSphere Application Server for Application Deployment

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

### 7.9.1.1 Create a New Profile in WebSphere

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

Use the following command to create a profile without admin security through the command line:

```
"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"



While using the manageprofiles.sh command to create a New Profilein 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 <baseport>" which specifies the starting port number to generate and assign allports for the profile. For more information on using these ports, refer to WebSphere manageprofilescommand.

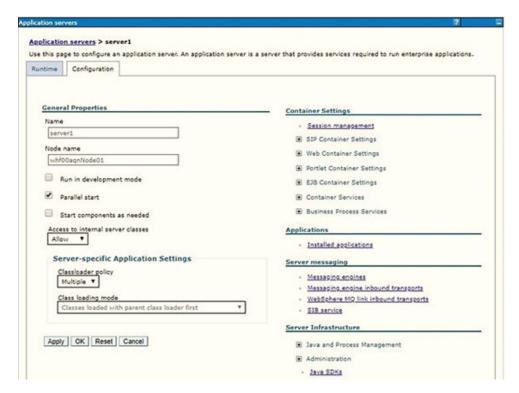
#### 7.9.1.2 Manage IBM WebSphere SDK Java Technology Edition Versions

Follow these steps to check the java version and set it to JAVA 8.X SDK:

- 1. Enter the WebSphere URL in the format http://HOST\_NAME:PORT\_ NUMBER/ibm/console (use https://ssl.is.enabled.). For example, http://192.168.1.0:9000/ibm/console.
- 2. Log in with your administrator user ID and password.
- 3. From the LHS menu, click **Servers** to expand and view the menu.
- 4. Click **Server Types** to expand the menu further and then click **WebSphere Enterprise Application Servers** to view the Application servers window.
- On the Application servers window, click the required Application Server link. For example, server1 in the following figure:



Figure 7-23 Application Server Java SDKs



Click the Java SDKs link from the Server Infrastructure section to view the list of Java SDKs.

Figure 7-24 Application Server List of Java SDKs

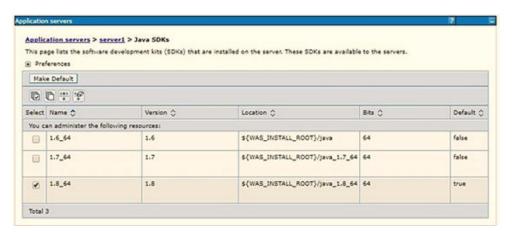
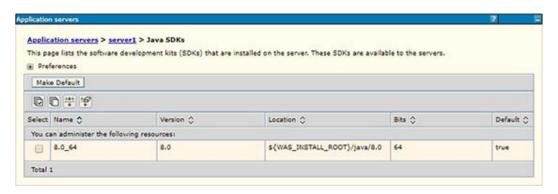




Figure 7-25 Application Server List of Java SDKs



- 7. Select 8.0\_64.
- 8. Click Make Default and save to master repository.
- Restart the WebSphere Application Server to apply the changes to the IBM application profile.

## 7.9.1.3 Manage Applications in WebSphere

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

1. Open the administrator console using the following URL:

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

For example: http://10.111.222.333:9003/ibm/console (https if SSL is enabled.)



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

The Integrated Solutions Console Login window is displayed.



WebSphere Integrated Solutions Console

User ID:
admin

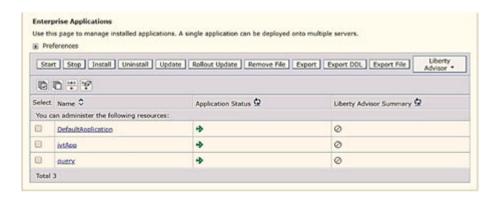
Password:
IL Log in

Licensed Materials - Property of IBM (c) Copyright IBM Corp. 1997, 2011 All Rights Reserved.
IBM, the IBM logo, ibm.com and WebSphere are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at Copyright and trademark information.

Figure 7-26 Integrated Solutions Console Login

- 2. Log in with the User ID provided with admin rights.
- 3. From the LHS menu, expand the **Applications > Application Type> WebSphere Enterprise Applications** to display the Enterprise Applications window.

Figure 7-27 Enterprise Applications



This Enterprise Applications window helps you to:

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



# 7.9.1.4 Configure WebSphere Application Server to Initialize Filters before Initializing Load-On-Startup Servlets and Allowing Empty Servlets Maps

The custom configuration information in this section initializes the filters before initializing load-onstartup servlets and allows empty servlet maps when you start an application.

To configure custom properties for filters, follow these steps:

This is a mandatory configuration for OFSAA with WebSphere for both fresh and upgrade installation.

- 1. Enter the WebSphere URL in the format http://HOST\_NAME:PORT\_ NUMBER/ibm/console (use https:if SSL is enabled.). For example, http://192.168.1.0:9000/ibm/console.
- Log in with your administrator user ID and password.
- 3. From the left menu, click Servers to expand the menu.
- 4. Click Server Types to expand the menu further and then click WebSphere Enterprise Application Servers to view the Application servers window.
- 5. On the Application servers window, click the required Application Server link.
- 6. Click **Web Container Settings** and then **Custom Properties** to view the Custom Properties window.

Web Container Initialize Filters Before Servlet

Figure 7-28 Web Container Initialize Filters Before Servlet



- 7. Click **New** and enter the following properties:
  - com.ibm.ws.webcontainer.initFilterBeforeInitServlet to true.
  - com.ibm.ws.webcontainer.invokeFilterInitAtStartup to true.
  - com.ibm.ws.webcontainer.emptyServletMappings to true.
- 8. Click **OK** and then click **Save** on the Console to save the customized configurations.
- 9. Restart the WebSphere Application Server to apply the changes.



## 7.9.1.5 Configure WebSphere Application Server Persistence to JPA Specification 2.0

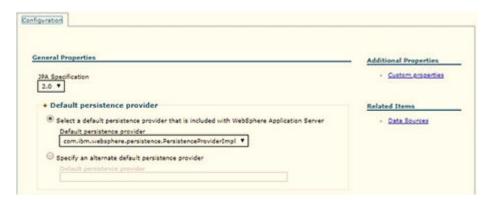
The persistence configuration information in this section sets JPA 2.0 specification in WebSphere over the default JPA 2.1 specification.

This is a mandatory configuration for OFSAA with WebSphere for both fresh and upgrade installation.

To set the JPA 2.0 as the default persistence provider, follow these steps:

- Enter the WebSphere URL in the format http://HOST\_NAME:PORT\_ NUMBER/ibm/console (use https if SSL is enabled.). For example, http:// 192.168.1.0:9000/ibm/console.
- 2. Log in with your administrator user ID and password.
- 3. From the LHS menu, click **Servers** to expand the menu.
- **4.** Click **Server Types** to expand the menu further and then click WebSphere Enterprise Application Servers to view the Application servers window.
- 5. On the Application servers window, click the required Application Server link.
- 6. Click Container Services and then click Default Java Persistence API settings to display the Configuration window:

Figure 7-29 Default Java Persistence Settings JPA Specification 2.0



- From the JPA Specification drop-down, select 2.0 to change the default JPA Specification from 2.1 to 2.0.
- Click **OK** and then click **Save** on the Console to save the customized configurations.
- 9. Restart the WebSphere Application Server to apply the changes.

## 7.9.1.6 Configure WebSphere Application Server to Use a Load Balancer or Proxy Server

The configuration prevents the process server from redirecting to an internal port when using a load balancer or proxy server.

The following steps describe the configuration:



- 1. Enter the WebSphere URL in the format http://HOST\_NAME:PORT\_NUMBER/ibm/console (use https if SSL is enabled.). For example, http://192.168.1.0:9000/ibm/console.
- 2. Log in with your administrator user ID and password.
- 3. From the LHS menu, click **Servers** to expand and view the menu.
- 4. Click **Server Types** to expand the menu further and then click **WebSphere Enterprise Application Servers** to view the Application servers window.
- 5. On the **Application servers** window, click the required **Application Server** link. For example, server1.
- Click Web Container Settings and then Custom Properties to view the Custom Properties window.

Figure 7-30 Application Servers Load Balancer Proxy Server



- 7. Click **New** and enter the following properties:
  - com.ibm.ws.webcontainer.extractHostHeaderPort: true
  - Trusthostheaderport: true
- 8. Click **OK** and then click **Save** on the Console to save the customized configurations.
- 9. Restart the WebSphere Application Server to apply the changes.

## 7.9.1.7 Delete WebSphere Profiles

To delete a WebSphere profile, follow these steps:

- 1. Select the check box 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 the profile directory.

Example: <WebSphere\_Installation\_ Directory>/AppServer/profiles/
cprofile\_name>



**6.** Execute the command:

manageprofiles.sh -validateAndUpdateRegistry

## 7.9.1.8 Configure WebSphere HTTPS

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

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



Record the https port specified during this process and use it as a 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.

#### 7.9.1.9 Configure WebSphere Memory Settings

To configure the WebSphere Memory Settings, follow these steps:

- 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

## 7.9.1.10 Configure WebSphere for Rest Services Authorization

For more information, see the OFS Analytical Applications Infrastructure Administration Guide.

## 7.9.2 Configure WebLogic for Application Deployment

You can deploy multiple Infrastructure applications on different domains of a standalone WebLogic application server. To create multiple WebLogic "Domains" in a standalone 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 the WebLogic Application Server.

You can deploy multiple Infrastructure applications on different domains of a standalone WebLogic application server. To create multiple WebLogic "Domains" in a standalone 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 the WebLogic Application Server.

This section covers the following topics:

- Create Domain in WebLogic Server
- Delete Domain in WebLogic
- Configure WebLogic Memory Settings



## 7.9.2.1 Create Domain in WebLogic Server

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

Navigate to the directory <WLS\_HOME>/wlserver/common/bin and execute the command:
 ./config.sh

The Welcome window of the Configuration Wizard is displayed.

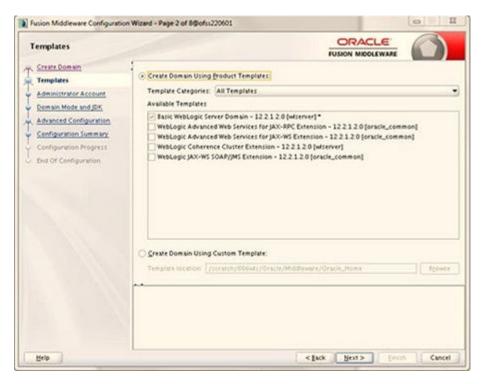
Figure 7-31 Configuration Type



2. Select Create a new domain option and click Next to the Templates window.

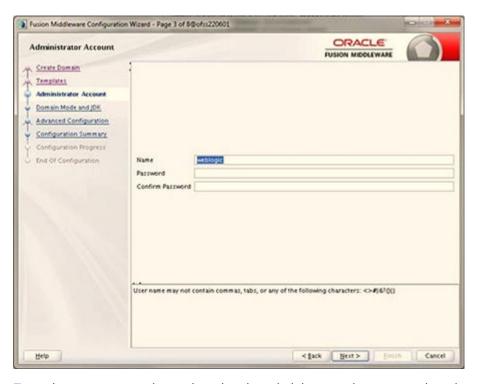


Figure 7-32 Templates



Select the Create Domain Using Product Templates option and click Next to display the Administrator Account window.

Figure 7-33 Administrator Account



**4.** Enter the user name to be assigned to the administrator, the password, and confirm the password. Click **Next** to the Domain Mode and JDK window.



Figure 7-34 Domain Mode and JDK

- **5.** Select from the following options:
  - a. In the Domain Mode section, select the required mode (Development or Production).
  - b. In the JDK section, select the required option. If you select **Other JDK Location**, click **Browse**, navigate to the JDK location, and select. Click **Next** to display the Advanced Configuration window.

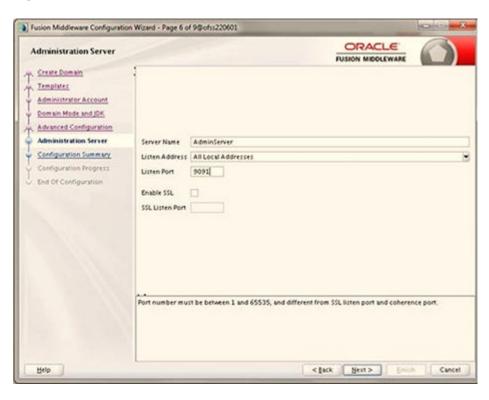


Fusion Middleware Configuration Wizard - Page 5 of 9@ofss220601 ORACLE **Advanced Configuration** FUSION MIDDLEWARE W. Create Domain Administration Server Templates **Modify Settings** Administrator Account Domain Mode and JDK Node Manager Configure Node Manager Advanced Configuration Administration Server Topology Configuration Summary Add, Delete or Modify Settings for Managed Servers, Clusters, Virtual Targets and Coherence Configuration Progress End Of Configuration < gack Next > Dritth Cancel Неф.

Figure 7-35 Advanced Configuration

6. Select the 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 to display the Administration Server window.

Figure 7-36 Administration Server



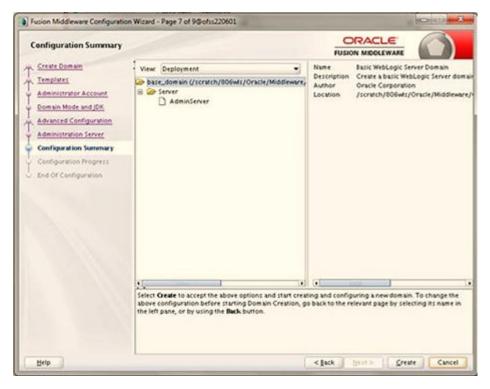


7. Enter Administration Server details such as the Server Name, Listen address, Listen Port, Enable SSL (for secure login using https, select this check box), and SSL Listen Port. Click Next to display the Configuration Summary window.



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

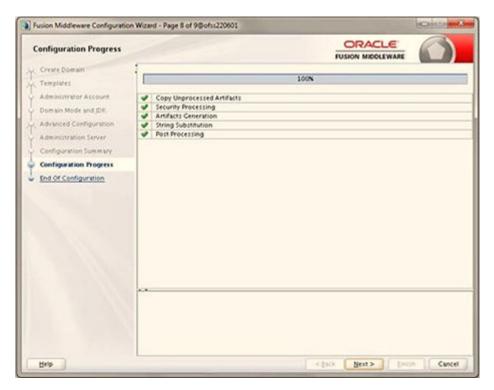
Figure 7-37 Configuration Summary



 Verify the configuration details of the WebLogic domain and click Create to display the Configuration Progress window with the status indication of the domain creation process.

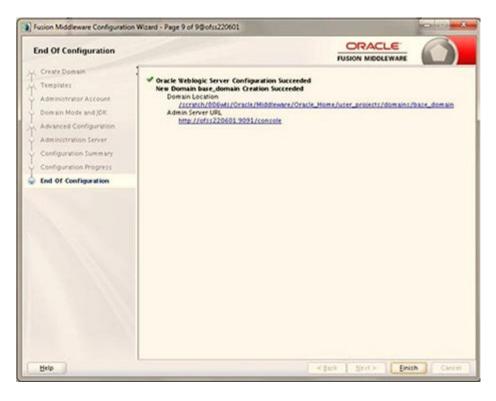


Figure 7-38 Creating Domain



9. Click **Next** when 100% of the activity is complete. The **End of Configuration** window is displayed.

Figure 7-39 End of Configuration





**10.** Click **Finish**. The domain server is created enabling the deployment of multiple Infrastructure applications on a single WebLogic.



- Record the HTTPS port specified during this process and use it as a servlet port or web server port during OFSAAI Installation.
- To enable https configuration on Infrastructure, assign value 1 to "HTTPS\_ENABLE" in OFSAAI\_InstallConfig.xml for silent mode OFSAAI installation.
- 11. Add a java option entry -DUseSunHttpHandler=true in the WLS\_HOME/bin/ "setDomainEnv.sh" file (Required only if a self-signed certificate is used).

### 7.9.2.2 Delete Domain in WebLogic

To delete a domain in WebLogic, follow these steps:

- 1. Navigate to the following directory:
  - <WebLogic Installation directory>/user projects/domains/<domain name>/ bin
- 2. Execute stopWebLogic.sh to stop the Weblogic domain.
- 3. Delete the Weblogic domain.

### 7.9.2.3 Configure WebLogic Memory Settings

To configure the WebLogic Memory Settings, follow these steps:

- 1. Change the memory setting for Java Heap to -Xmx512m -Xmx3072m in the setDomainEnv.sh file, which resides in the <DOMAIN\_HOME>/bin directory and the CommEnv.sh file which resides in the common/bin directory
- 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"
```



### 7.9.3 Configure Apache Tomcat Server for Application Deployment

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

#### 7.9.3.1 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 follows:

This file contains an XML <user> for each user that will display the username and password used by the admin to log in to Tomcat and the role names to which the admin user is associated with.

For example, <user name="admin" password="admin" roles="standard,manager" />

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

# 7.9.3.2 Configure Servlet Port

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

If you must use a different port number, you must first configure the port in the server.xml file in the conf directory of the Tomcat Installation directory. To configure the Servlet Port, follow these steps:

Navigate to \$CATALINA\_HOME/conf. Open server.xml and locate the tag: "Define a non-SSL HTTP/1.1 Connector on port 8080 "

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

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



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

### 7.9.3.3 Configure SSL Port

If you must configure and access your OFSAA setup for HTTPS access, ensure that the following connect tag under Define a SSL HTTP/1/1 Connector on port 8443 in the <Tomcat\_installation\_directory>/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"</p>



- Make a note of the servlet port configured. This information is required during the installation of the OFSAA Application Pack.
- To enable https configuration on Infrastructure, assign value 1 to "HTTPS\_ENABLE" in the OFSAAI\_InstallConfig.xml file for SILENT mode OFSAAI installation.

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

# 7.9.3.4 Configure Apache Tomcat Memory Settings

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

- 1. Locate the catalina.sh file that resides in the <CATALINA HOME>/bin directory.
- 2. Edit this file for customizing the memory settings and garbage collector settings depending on the available hardware configuration.
- 3. Add the memory setting for Java Heap to -Xms512m -Xmx1024m. For example:

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

### 7.9.3.5 Configure Tomcat for User Group Authorization

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

- 1. Navigate to the \$CATALINA HOME/conf directory and open the web.xml file.
- 2. Enter the following in the web.xml file.

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

3. Save and close the file.

#### 7.9.3.6 Uninstall WAR Files in Tomcat

To uninstall WAR files in Tomcat, refer to Uninstalling WAR Files in Tomcat.

### 7.9.4 Additional Configurations for Web Servers

This section provides information for additional configuration required for the web servers on OFSAAAI.



The instructions in this section are applicable if you are upgrading from an earlier version of OFSAAI to 8.1.2.0.0.

- Configuration for WebSphere: To configure WebSphere, see the Configure WebSphere Application Server for Application Deployment section. Additionally, configure for REST services. For details, see the Configuring WebSphere for REST Services Authorization section in the OFS Analytical Applications Infrastructure Administration Guide.
- Additionally, you must configure the Work Manager in WebSphere and map it to the OFSAA instance. For details, see the Work Manager Configurations section in the OFS Analytical Applications Infrastructure Administration Guide.
- Configuration for WebLogic: To configure WebLogic, see the Configure WebLogic for Application Deployment section. Additionally, configure for REST services. For details, see the Configuring WebLogic for REST Services Authorization section in the OFS Analytical Applications Infrastructure Administration Guide.
- Additionally, you must configure the Work Manager in WebLogic. For details, see the Work Manager Configurations section in the OFS Analytical Applications Infrastructure Administration Guide.
- Configuration for Tomcat: For the successful execution of Data Mapping in Tomcat, perform the configurations mentioned in the Configuration for Tomcat section in the OFS Analytical Applications Infrastructure Administration Guide.

For additional configurations, see the Configure Apache Tomcat Server for Application Deployment section.

### 7.9.4.1 Configure Application Security in WebSphere

This is a mandatory security procedure for WebSphere to restrict the unauthorized access of configuration files in directories. For detailed information, see the Oracle Financial Services Analytical Applications Infrastructure Security Guide.

# 7.9.4.2 Configure WebSphere Shared Library to Support Jersey 2x and Jackson 2.9x Libraries

Perform the following configuration to set WebSphere shared library to support jersey 2x and Jackson 2.9x libraries.

 Click Environment from the menu on the left to expand and view the list. Click Shared Libraries to open the Shared Libraries window.



Shared Libraries > JERSEY2x

Use this page to define a container-wide shared library that can be used by deployed applications.

Configuration

General Properties

Scope
[cells:whf00cywNode01Cell:nodes:whf00cywNode01:servers:server1

Name
[JERSEY2x
Description
| shared Lib

Classpath
|/scratch/IBM/WebSphere/AppServer/profiles/AppSrv01/installedApps/whf00cywNode01Cell/ofs81w9.ear/ofs61w9.war/externalib/WEB-INF/lib/

Native Library Path

Class Loading

Use an isolated class loader for this shared library

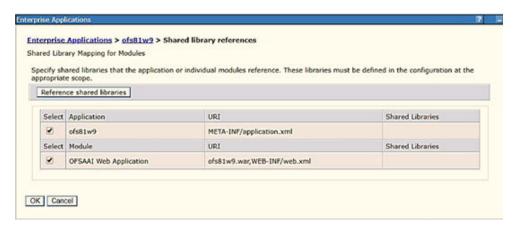
Apply OK Reset Cancel

Figure 7-40 WebSphere Shared Libraries

- 2. Enter the following details:
  - a. Name: Enter a uniquely identifiable name.
  - b. **Description**: Enter a valid description.
  - c. Classpath: Enter the absolute path where the JARs related to Jersey 2.x and Jackson 2.9x are copied. These jars are available in the <OFSAA\_HOME>/ficweb/webroot/externallib/WEBINF/lib/ directory after creation of the EAR file. Another format of representation of the path is <ofsaa\_deployed\_area\_location>/externallib/WEBINF/lib/.
- Select Use an isolated class loader for this library.
- 4. Click **OK** to save to master configuration.
- Select the application or module and map the shared libraries. Click OK. In the following figure, ofsa is selected.

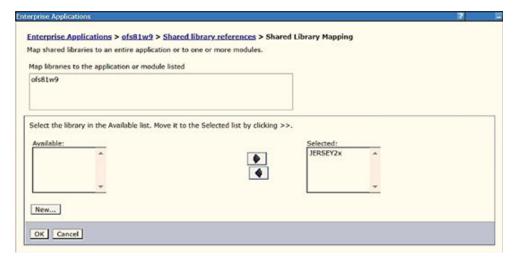


Figure 7-41 WebSphere Shared Library References



**6.** From the Shared Library Mapping window, move the required shared libraries from **Available** to **Selected**. In the following figure, JERSEY2x is selected.

Figure 7-42 WebSphere Shared Libraries Mapping Selection



- 7. Click OK.
- 8. Similarly, select the next application or module and repeat the procedure from steps 5 to 7.

Enterprise Applications > ofs81w9 > Shared library references Shared Library Mapping for Modules Specify shared libraries that the application or individual modules reference. These libraries must be defined in the configuration at the Reference shared libraries Select Application URI **Shared Libraries** JERSEY2x ofs81w9 META-INF/application.xml Select Module URI Shared Libraries JERSEY2x OFSAAI Web Application ofs81w9.war.WEB-INF/web.xml OK Cancel

Figure 7-43 WebSphere Shared Libraries Select Next Application

- Disable the built-in JAX-RS via JVM property.
  - Navigate to the WebSphere admin console in Servers > WebSphere Application
     Servers > yourServerName.
  - In the Server Infrastructure section, go to Java and Process Management > Process definition> Java Virtual Machine > Custom properties.
  - c. Add the following property:

com.ibm.websphere.jaxrs.server.DisableIBMJAXRSEngine=true

10. Restart the application.

# 7.10 Configure Application Security in WebSphere

This is a mandatory security procedure for WebSphere to restrict the unauthorized access of configuration files in directories. For detailed information, see the Oracle Financial Services Analytical Applications Infrastructure Security Guide.

### 7.10.1 Configure Resource Reference in WebSphere Application Server

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

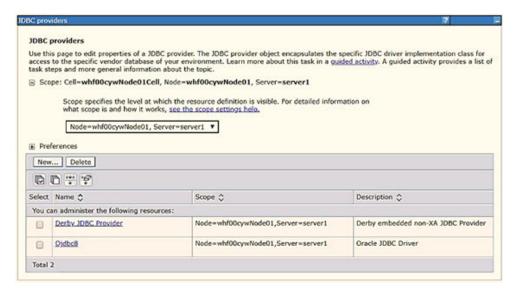
#### 7.10.1.1 Create a JDBC Provider

To create the JDBC Provider in WebSphere Application Server, follow these steps:

- 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. Log in with the user ID that has admin rights.
- Expand the Resources option in the LHS menu and click JDBC > JDBC Providers to display the JDBC Providers window.

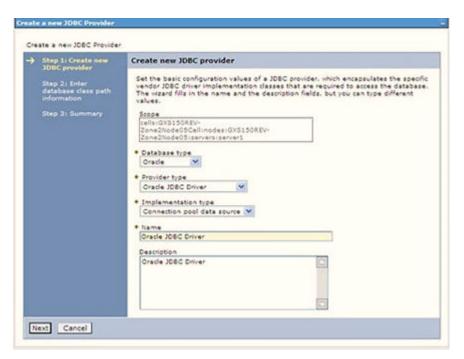


Figure 7-44 JDBC Providers



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

Figure 7-45 Create a new JDBC Provider

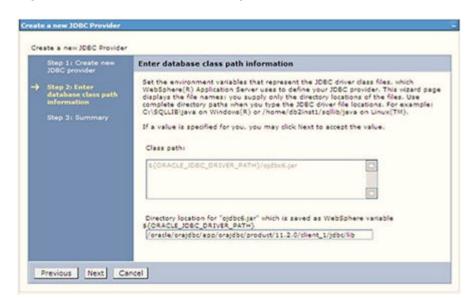


- Enter the following details:
  - a. Database Type: Oracle
  - b. Provider Type: Oracle JDBC Driver
  - c. Implementation Type: Connection pool data source



- d. Name: The required display name for the resource.
- e. **Description**: The optional description for the resource.
- Click Next.

Figure 7-46 Enter database class path information



**8.** Specify the directory location for the ojdbc<version>.jar file. Do not use the trailing slash file separators.

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

- Oracle Database 18cg Release 3 JDBC Drivers
- Oracle Database 19c Release 3 JDBC Drivers

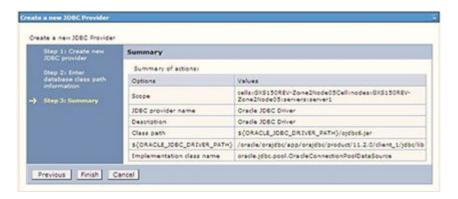
After downloading, you must copy the file in the required directory on the server.



See Hardware and Software Requirements to identify the correct ojdbc<version>.jar file version to be copied.

9. Click **Next** to display the **Summary** window.

Figure 7-47 Summary



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

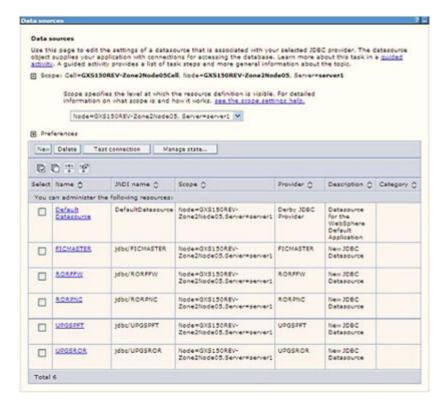
#### 7.10.1.2 Create Data Source

The following steps apply to both config and atomic data source creation. To create the data source, follow these steps:

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

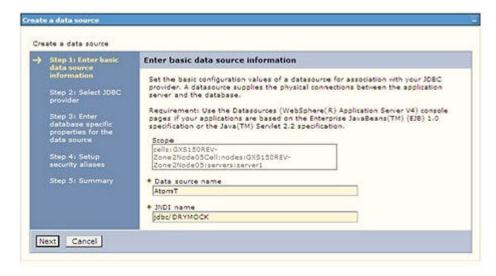


Figure 7-48 Data Sources



- Select the **Scope** from the drop-down list. The scope specifies the level at which the resource definition is visible.
- 5. Click **New** to display the Create a Data Source window.

Figure 7-49 Create Data Source



- Specify the Data source name and JNDI name for the new "Data Source".
- 7. The **JNDI name** and **Data source name** are case sensitive and ensure that JNDI name is the same as the "Information Domain" name.



8. Click **Next** to display the Select JDBC provider window.

Figure 7-50 Select JDBC provider



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

Figure 7-51 Enter database specific properties



10. Specify the database connection URL.

For example: jdbc:oracle:thin:@<DB SEREVER IP>:<DB SERVER PORT>:<SID>

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



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=(PRO TOCOL=TCP) (HOST=10.11.12.14) (PORT=1521)) (LOAD\_ BALANCE=no) (FAILOVER=yes)) (CONNECT DATA=(SERVICE NAME=pqadb)))

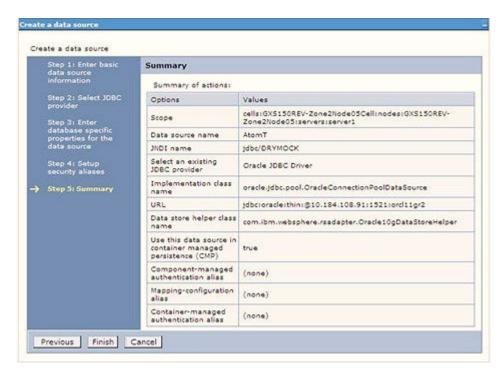
12. Click Next.

Figure 7-52 Enter Database specific properties



13. 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 7-53 Summary





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

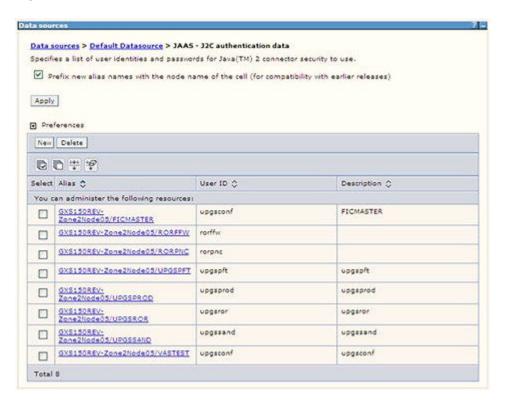
**14.** You must create another Data source by following the same procedure with jdbc/ FICMASTER as JNDI name pointing to the "configuration schema" of Infrastructure.

#### 7.10.1.3 Create J2C Authentication Details

The following steps apply to create both config and atomic J2C Authentication. To create J2C Authentication details, follow these steps:

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

Figure 7-54 JAASJ2C authentication data



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



Figure 7-55 JAASJ2C authentication data New



Enter the Alias, User ID, Password, and Description. Verify that the 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 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.

### 7.10.1.4 Define 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.

- Expand the Resources option in the LHS menu and click JDBC > Data sources option to display the Data sources window.
- 2. Click the newly created Data Source \$DATA\_SOURCE\$ and navigate to the path Data sources > GAFUSION DATA SOURCE > Connection pools.



Additional Properties

Connection pool

custom properties

 Advanced connection pool

Data sour Data sources > GAFUSION DATA SOURCE > Connection pools Use this page to set properties that impact the timing of connection management tasks, which can affect the performance of your application. Consider the default values carefully; your application requirements might warrant changing these values. General Properties

cells:ipa26dorNode01Cell:nodes:ipa26dorNode01:servers:server1

seconds

connections

connections

seconds

seconds

3. Set the following values:

\* Aged timeout

Purge policy

Connection timeout: 0

Maximum connections: 100

Apply OK Reset Cancel

Figure 7-56 Connection Pools

+ Connection timeout

100

10 \* Reap time

+ Maximum connections

\* Minimum connections

Minimum connections: 10

You can also define Reap time, Unused timeout, and Aged timeout as required.

# 7.10.2 Configure Resource Reference in WebLogic Application Server

This section applies 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
- Configure Advanced Settings for Data Source
- **Configure JDBC Connection Pooling**
- Create WorkManager

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

- For a non-RAC Database instance, a Generic Data Source must be created. See Create Data Source.
- For a RAC Database instance, a Gridlink Data Source must be created. See Create GridLink Data Source.



 When Load Balancing/Fail over is required, a Multi Data Source must be created. See Configure Multi Data Sources.

#### 7.10.2.1 Create Data Source

The following steps apply to both config and atomic data source creation.

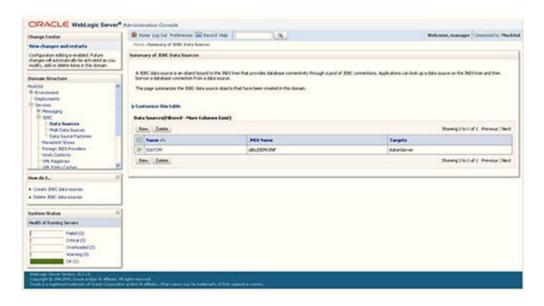
- Open the following URL in the browser window: http://<ipaddress>:<administrative console port>/console. (https, if SSL is enabled). The Welcome window is displayed.
- 2. Log in with the Administrator **Username** and **Password**.

Figure 7-57 Welcome



3. From the LHS menu (Domain Structure), click Services > Data Sources to display the Summary of JDBC Data Sources window.

Figure 7-58 Summary of JDBC Data Sources





Click New and select Generic Data Source to display the Create a New JDBC Data Source window.

Figure 7-59 Create a New JDBC Data Source



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

Figure 7-60 JDBC Data Source Properties



- 5. Enter JDBC data source Name, JNDI Name, and select the Database Type from the drop-down list.
- 6. Ensure the following:
  - a. The JNDI Name field must be in the format jdbc/informationdomain
  - b. The same steps must be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/FICMASTER as JNDI name.
  - c. JNDI Name is the same as mentioned in the web.xml file of OFSAAI Application.
  - d. Required "Database Type" and "Database Driver" must be selected.



Data sources must be created for atomic and atomiccnf schemas following the same steps.

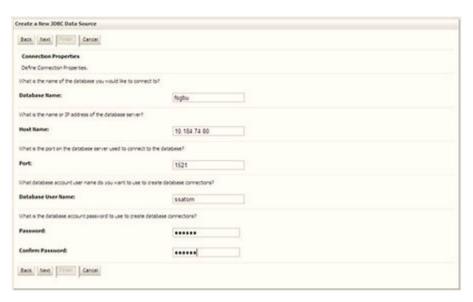
7. Click Next.

Figure 7-61 Transaction Options



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

Figure 7-62 Database Name



- Select the Supports Global Transactions check box and the One-Phase Commit option.
- 10. Click **Next** to display the Connection Properties window.

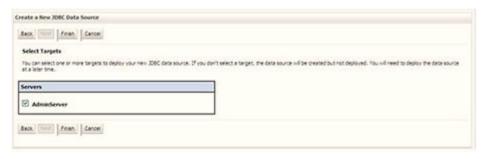




Figure 7-63 Database Details

- 11. Enter the required details such as the **Database Name**, **Host Name**, **Port**, **Oracle User Name**, **Password**, and **Confirm Password**.
- 12. Click **Next** to display the Test Database Connection window.

Figure 7-64 Select Targets



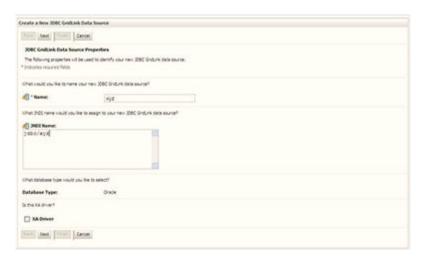
- **13.** Verify the details and click **Test Configuration** and test the configuration settings. A confirmation message is displayed stating "Connection test succeeded."
- **14.** Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.



#### Note:

- "User ID" is the Oracle user ID that is created for the respective "Information Domain".
- "User ID" specified for a data source with "FICMASTER" as "JNDI" name must be the Oracle user ID created for the "configuration schema".
- 15. Select the new **Data Source** and click the **Targets** tab.

Figure 7-65 Data Source



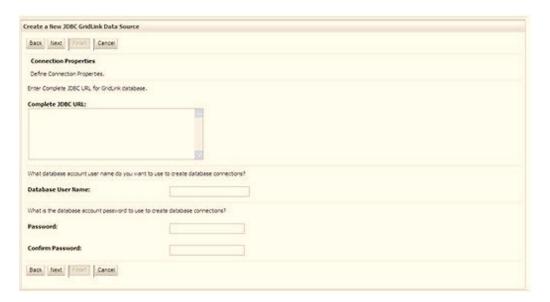
**16.** Select the **AdminServer** option and click **Finish**.

#### 7.10.2.2 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.



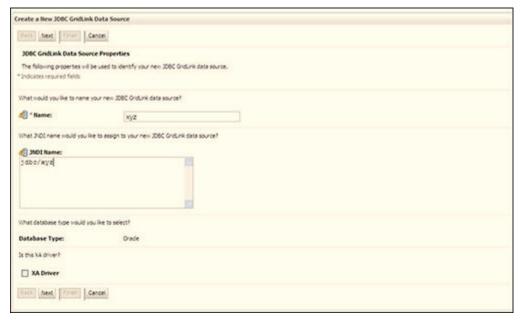
Figure 7-66 GridLink Data Source



1. Enter the 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 7-67 JNDI Name



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

### 7.10.2.3 Configure Multi-data Sources

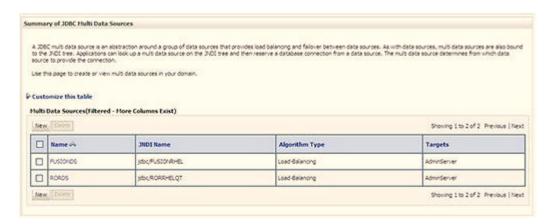
A JDBC multi-data source is an abstraction around a group of data sources that provides load balancing and failover between data sources. As with data sources,

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 a 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.

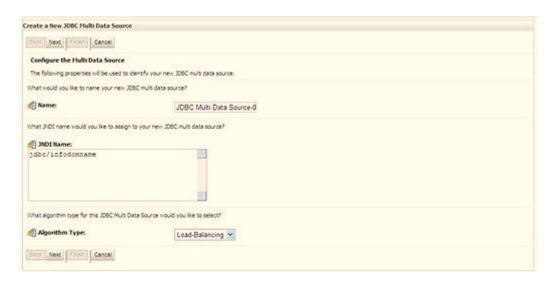
- Open the WebLogic Admin Console in the browser window: http:// <ipaddress>:<administrative console port>/console. (https if SSL is enabled). The Login window is displayed.
- 2. Login with the **User ID** that has admin rights.
- In the LHS menu (Domain Structure), select Services > JDBC > Multi Data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

Figure 7-68 Multi Data Sources



Click New to display the New JDBC Multi Data Source window.

Figure 7-69 Configure Multi Data Source





Ensure that the Data Sources which must be added to the new JDBC Multi Data Source are created.

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

#### Note:

- The JNDI Name must be specified in the format jdbc/ infodomname.
- The JNDI Name of the Data Sources that is added to the new JDBC Multi data source must be different from the JNDI name specified during Multi Data Source.
- The same steps must be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/ FICMASTER as JNDI name for Data Source.
- The JNDI Name provided in the multi-data source must be the same name that is mentioned in the web.xml file of OFSAAI Application.
- You can select the Algorithm Type as Load-Balancing.

Figure 7-70 Select Targets



6. Select the AdminServer check box and click Next.

Figure 7-71 Select Data Source Type



Select the type of data source to add to the new JDBC Multi Data Source. Click Next.



Figure 7-72 Add Data Sources



Map the required Data Source from the Available Data Sources. Click Finish. The New JDBC Multi Data Source is created with added data sources.

### 7.10.2.4 Configure Advanced Settings for Data Source

To configure the advanced setting for the data source, follow these steps:

- Click the new Data Source from the Summary of JDBC Data Sources window to display the Settings for **Data Source Name** window.
- 2. Select the Connection Pooling tab given under Configuration.
- Navigate to the Advanced option at the bottom of the window, and check the Test Connection of Reserve check box (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.
- Select the server and click Test Data Source. A message is displayed indicating that the test was successful.

After the "Data Source" is created successfully, the following messages are displayed: All changes are activated. No restart is necessary.

Settings updated successfully.

If not, follow these same steps to recreate the data source.

### 7.10.2.5 Configure JDBC Connection Pooling

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

- 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 following values:

a. Initial Capacity: 10

b. Maximum Capacity: 100

c. Capacity Increment: 1



d. Statement Cache Type: LRU

e. Statement Cache Size: 10

3. Click Save.

### 7.10.2.6 Create Workmanager

A Workmanager is used to re-trigger failed messages. To create a Workmanager, follow these steps:

- The Name field must have the value wm/WorkManager-TFLT
- The Type field must have the value Work Manager.
- The Targets field must have the value AdminServer
- The Scope field must have the value Global
- The Stuck Thread Action field must have the value Ignore stuck threads Click Save.

Figure 7-73 WorkManager Screen 1

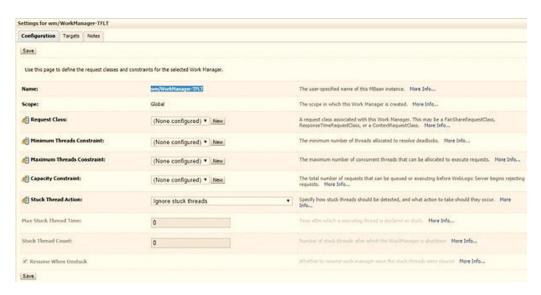


Figure 7-74 Workmanager Screen 2





### 7.10.3 Configure Resource Reference in Tomcat Application Server

This section is applicable only when the Web application server type is Tomcat and includes the following topics:

- Create Data Source
- Define JDBC Connection Pooling
- Configure ClassLoader for Apache Tomcat

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

See Hardware and Software Requirements to identify the correct ojdbc<version>.jar file version to be copied.

#### 7.10.3.1 Create Data Source

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

#### Note:

The User-IDs for configuration/ atomic schemas have the prefix of setup info depending on the value set for PREFIX\_SCHEMA\_NAME in the <<APP Pack>> SCHEMA IN.XML file of the Schema Creator Utility.

For example: If the value set for PREFIX\_SCHEMA\_NAME is DEV and the schema name is mentioned as ofsaaconf, then the actual schema created in the database is 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"</pre>

name="jdbc/< INFORMATION DOMAIN NAME >"

type="javax.sql.DataSource" driverClassName="oracle.jdbc.driver.OracleDriver"
username="<user id for the atomic schema>" password="<password for the above
user id>"

url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>" maxActive="100" maxIdle="30" maxWait="10000"/>

</Context>



#### Note:

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

### 7.10.3.2 Define JDBC Connection Pooling

To define the JDBC connection pooling, follow these steps:

- Copy the \$ORACLE\_HOME/jdbc/lib/ojdbc<version>.jar file to the path \$TOMCAT\_ DIRECTORY/lib/ directory.
  - See Hardware and Software Requirements to identify the correct ojdbc<version>.jar file version to be copied.
- 2. Edit the server.xml file present under the \$TOMCAT\_DIRECTORY/conf/ directory with the following 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"
maxTotal="300" maxIdle="30" maxWaitMillis="10000"
removeAbandonedOnBorrow="true" removeAbandonedTimeout="60"
logAbandoned="true"/>
<//context>
```



#### Note:

- \$APP\_DEPLOYED\_PATH\$ must be replaced by the OFSAAI application deployed path.
- \$INFODOM\_NAME\$ must be replaced by Infodom Name.
- \$ATOMICSCHEMA\_USERNAME\$ must be replaced by an Atomic schema database user name.
- \$ATOMICSCHEMA\_PASSWORD\$ must be replaced by an Atomic schema database password.
- \$JDBC\_CONNECTION\_URL must be replaced by JDBC connection string idbc:Oracle:thin:<IP>:<PORT>:<SID>.

#### For example,

- jdbc:oracle:thin
- 192.168.0.1:1521:soluint

The User-IDs for configuration/ atomic schemas have the prefix of setupinfo depending on the value set for PREFIX\_SCHEMA\_NAME in the <<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 is mentioned as ofsaaconf, then the actual schema created in the database is DEV ofsaaconf.

### 7.10.3.3 Configure ClassLoader for Apache Tomcat

To configure the ClassLoader for Apache Tomcat, follow these steps:

- 1. Edit the server.xml file available in \$TOMCAT HOME/conf/ directory.
- 2. Add the tag <Loader delegate="true" /> within the <Context> tag, above before the <Resource> tag. This is applicable only when the web application server is Apache Tomcat 8.

# 7.11 Configure Work Manager in Web Application Servers

The process Modelling framework requires creating a Work Manager and mapping it to the OFSAA instance. This configuration is required for WebSphere and WebLogic Web application server types.

### 7.11.1 Configure Work Manager in WebSphere Application Server

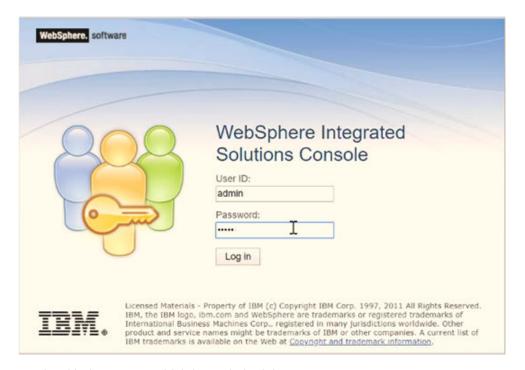
### 7.11.1.1 Create Work Manager

To create the Work Manager, follow these steps:

 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.



Figure 7-75 WebSphere Login page



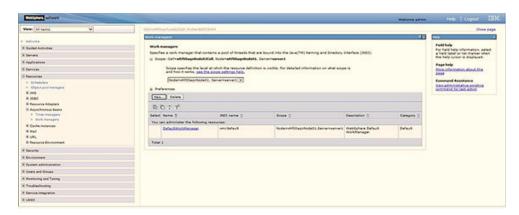
2. Log in with the user ID which has admin rights.

Figure 7-76 Home page



3. From the LHS menu, expand Resources > Asynchronous beans and select Work Managers.

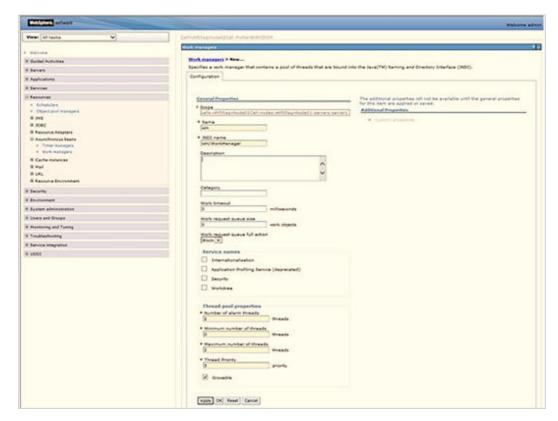
Figure 7-77 Work Managers





- Select the required Scope from the drop-down list.For example, Node=whf00aqnNode01, Server=server1.
- 5. Click **New** in the **Preferences** section.

Figure 7-78 New Work Managers



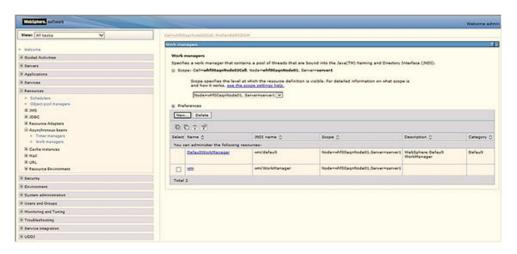
- 6. Enter the Name as 'wm' and JNDI name as 'wm/WorkManager' in the respective fields.
- 7. Enter the **Thread pool properties**.
- 8. Click Apply.

| Melania | Mel

Figure 7-79 Configure Work Managers

9. Click Save.

Figure 7-80 Work Managers Preferences



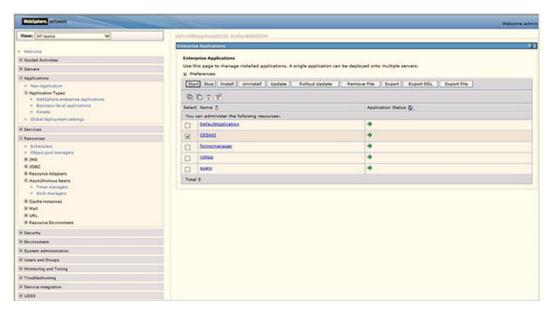
After creating the work manager, you must map it to an OFSAA instance.

### 7.11.1.2 Map Work Manager to OFSAA WebSphere Instance

To map the Work Manager to an OFSAA WebSphere Instance, follow these steps:

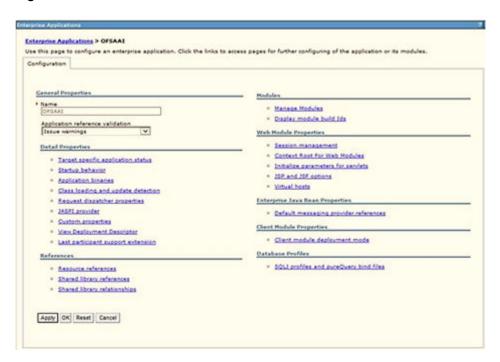
 From the LHS menu, expand Applications > Application Types and click WebSphere enterprise applications.

Figure 7-81 Enterprise Applications



2. Click OFSAAI instance hyperlink.

Figure 7-82 OFSAAI



3. Click the Resource references link under the References section.

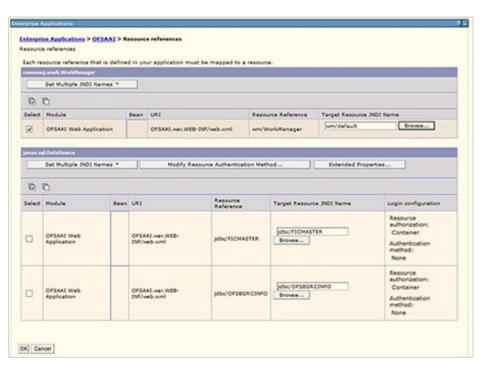
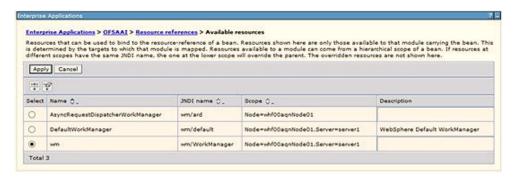


Figure 7-83 Resource References

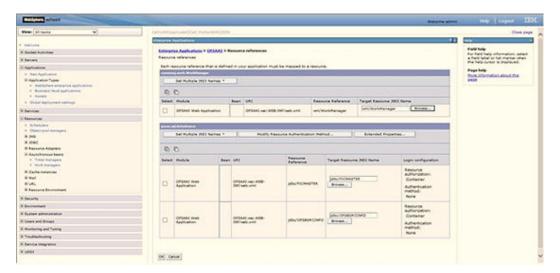
 Click Browse corresponding to the Work Manager Resource Reference. The available resources are displayed.

Figure 7-84 Available Resources



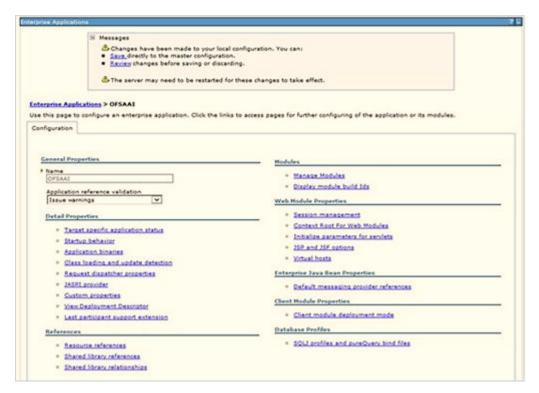
5. Select the newly created Work Manager ('wm') and click **Apply**.

Figure 7-85 Select Work Manager



6. Select the Work Manager ('wm/WorkManager') and click **OK**.

Figure 7-86 OFSAAI Configuration



7. Click Save.

**Enterprise Applications** Use this page to manage installed applications. A single application can be deployed onto multiple servers. Start Stop Install Uninstall Update Rollout Update Remove File Export DOL Export File DOTY Select Name O Application Status Q. You can administer the following resources + DefaultApplication OFSAAI! + hitter SVECK Total 5

Figure 7-87 Enterprise Applications Preferences

## 7.11.2 Configure Work Manager in WebLogic Application Server

To create the Work Manager in WebLogic application server, follow these steps:

 Open the WebLogic admin console in the browser window: http:// <ipaddress>:<administrative console port>/console. (https if SSL is enabled). The Welcome window is displayed.



Figure 7-88 WebLogic Login page

- 2. Log in with the user ID that has admin rights.
- 3. From the **Domain Structure** menu in the LHS, expand Environment and select **Work Managers** to display the Summary of Work Managers window.

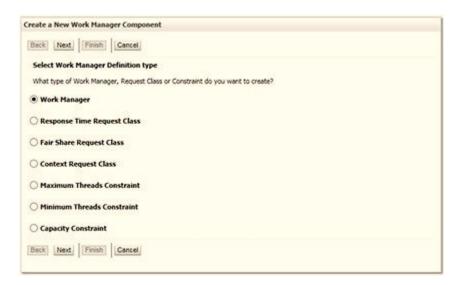


Figure 7-89 Work Manager



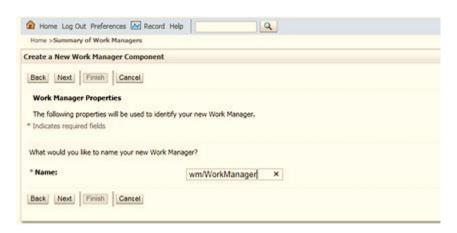
4. Click **New** to create a new Work Manager component.

Figure 7-90 New Work Manager



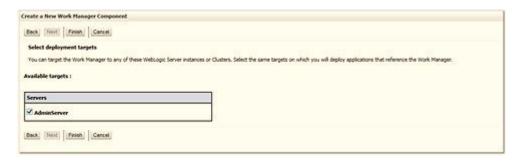
5. Select the Work Manager and click **Next**.

Figure 7-91 Work Manager



6. Enter the Name as 'wm/WorkManager' and click Next.

Figure 7-92 Select Deployment Targets



7. Select the required deployment target and click Finish.

Figure 7-93 Summary of Work Managers



# 7.12 Updating Atomic Schema Data Source in Web Logic

To disable the Wrap Data Types for the Atomic schema data source in Weblogic 12.2, execute the following steps:

- 1. In the Change Center of the Administration Console, click Lock & Edit.
- 2. In the Domain Structure tree, expand Services, then select Data Sources.
- 3. On the Summary of Data Sources page, click the **data source name**.
- 4. Select the Configuration: Connection Pool tab.
- 5. Scroll down and click **Advanced** to show the advanced connection pool options.
- 6. In Wrap Data Types, de-select the checkbox to disable wrapping.
- 7. Click Save.
- To activate these changes, in the Change Center of the Administration Console, click Activate Changes.
- 9. Redeploy the Data Source and restart all the services.

# 7.13 Disabling Data Types in Web Logic

By default, data type objects are wrapped with a WebLogic wrapper. You should disable wrapping which can improve performance and allow Profitability Management application to use native driver objects directly.



For detailed instruction to disable the Data Types in Web Logic, see Disable wrapping of data type objects.

## 7.14 Access the OFSAA Application

To access the OFSAA application, follow these steps:

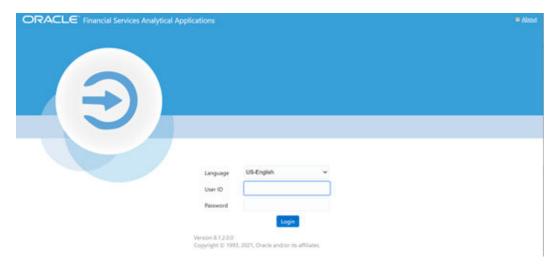
1. Open a browser and enter the URL in the following format:

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

For example, https://192.0.2.2/ofsaa/login.jsp

The OFSAA Login window is displayed.

Figure 7-94 OFSAA Login Window



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

- SYSADMN System Administrator
- SYSAUTH System Authorizer

The SYSADMN and SYSAUTH users are configured with a default password, which you will require to login for the first time. See the MOS Doc ID: 2691681.1 for the password.

2. Log in to the application using the "SYSADMN" User ID and the default password. After the first login, you are prompted to change the password.



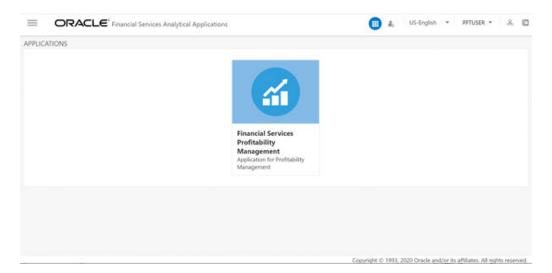
The password change is required only for a new installation scenario and not for upgrade scenarios.

# 7.15 OFSAA Landing Page

On the successful log-in, the OFSAA Landing page is displayed.



Figure 7-95 OFSAA Landing Page



OFSAA Landing page shows the available Applications as tiles, for which a user has access. Click the respective Application tile to launch that particular application. You can change the landing page based on your preference.

# 7.16 Configure the excludeURLList.cfg File

To configure the excludeURLList.cfg file, follow these steps:

- 1. Go to \$FIC\_WEB\_HOME/webroot/conf.
- 2. Create a backup of the file excludeURLList.cfg.
- 3. Edit the following details in excludeURLList.cfg file:
  - [SQLIA]./dataIntegrator/ to [ALL]./dataIntegrator/
  - [SQLIA]./ETLExtractionServlet to [ALL]./ETLExtractionServlet
- 4. Go to \$FIC\_WEB\_HOME.
- 5. Backup the existing ear/war files.
- 6. Delete <app>.ear and <app>.war files.
- 7. Re-create the ear/war files by running ant.sh.
- 8. Use the new ear/war files and re-deploy them.
- 9. Re-start the OFSAA environment.

# 7.17 Configuring Tomcat for User Group Authorization, Data Mapping, and Disabling WADL for the Web Service

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



- 1. Navigate to the \$FIC WEB HOME/webroot/WEB-INF/ folder and open the web.xml file.
- 2. Enter the following in the web.xml file.

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

To disable the WADL for the Web Service, navigate to the following snippet in the web.xml file.

```
<servlet>
<servlet-name>CommonRESTServlet</servlet-name>
<servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-
class>
<init-param>
<param-name>javax.ws.rs.Application</param-name>
<param-value>com.ofs.fsapps.commonapps.util.ApplicationResourceConfig</param-value>
</init-param>
<load-on-startup>1</load-on-startup>
</servlet>
```

4. Add the following snippet before the <load-on-startup>1</load-on-startup> attribute.

```
<init-param>
<param-name>jersey.config.server.wadl.disableWadl</param-name>
<param-value>true</param-value>
</init-param>
```

- 5. Save and close the file.
- 6. Restart the server.

# 7.18 Change the ICC Batch Ownership

All the seeded batches in the OFS Profitability Management application are automatically assigned to the SYSADMN user during installation.

To see the batches in the Batch Maintenance menu, execute the following query in the Config Schema of the database:

```
begin
AAI_OBJECT_ADMIN.TRANSFER_BATCH_OWNERSHIP ('fromUser','toUser','infodom');
end;

OR
begin
AAI_OBJECT_ADMIN.TRANSFER_BATCH_OWNERSHIP ('fromUser','toUser'); end;
```



Where:

- fromUser indicates the user who currently owns the batch.
- toUser indicates the user to whom the ownership to be transferred.
- infodom is an optional parameter. If specified, the ownership of the batches pertaining to that infodom will be changed.

# 7.19 Create Application Users

Create the application users in the OFSAA setup before use. For more information, see the User Administrator section in the Oracle Financial Services Analytical Applications Infrastructure User Guide.



This step may not be required if you have already set up users in the OFSAA setup.

# 7.20 Map Application User(s) to User Group

Starting the OFSAA 8.1 release, with the installation of every OFSAA Application Pack, pre-configured application user groups are seeded. These user groups are unique to every OFSAA Application Pack and have application roles pre-configured.

User Groups seeded with the OFSAAAI Application Pack are listed in the Seeded User Groups Table

**Table 7-4** Seeded User Groups

Name	Description
Modeler Group	A user mapped to this group has access to all the menu items for Enterprise modeling but does not have authorization rights for sandbox population, model deployment, and modeling technique authorization.
Modeling Administrator Group	A user mapped to this group has access to all the menu items for Enterprise modeling and has authorization rights for the sandbox population, model deployment, and modeling technique authorization.
Business Administrator	A user mapped to this group has access to all the menu items and actions for the advanced operations of metadata objects.
Business Authorizer	A user mapped to this group has access to all the menu items and actions for authorization of changes to metadata objects.
Business Owner	A user mapped to this group has access to all the menu items and actions for read and write of metadata objects
Business User	A user mapped to this group has access to all the menu items and actions for access and read of metadata objects.



Table 7-4 (Cont.) Seeded User Groups

Name	Description
Identity Administrator	A user mapped to this group has access to all the menu items for managing User entitlements, User Group Entitlements, and Access Management configurations.
Identity Authorizer	A user mapped to this group has access to all the menu items for authorizing User entitlements, User Group Entitlements, and Access Management configurations.
System Administrator	A user mapped to this group has access to all menu items for managing the setup configurations.
Object Administrator	A user mapped to this group has access to all menu items for managing object migration and metadata traceability using the metadata browser.
Guest Group	A user mapped to this group has access to certain menu items with only access privileges.

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

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

# 7.21 Changes in .profile file for Solaris Operating System

For the Solaris operating system, do the following changes in the .profile file present in the user's home directory.

• For Solaris Sparc and X86 systems, append the path \$FIC\_DB\_HOME/lib/libC++11/ to LD\_LIBRARY\_PATH variable in the .profile file. For example:

LD\_LIBRARY\_PATH=\$LD\_LIBRARY\_PATH:\$FIC\_DB\_HOME/lib/libC++11

 For Solaris Sparc, add the Oracle Developer Studio installed path at the beginning of the LD\_LIBRARY\_PATH variable in the .profile file.
 For example:

LD\_LIBRARY\_PATH=/opt/SunProd/studio12u6/developerstudio12.6/lib/compilers/CC-gcc/lib/sparcv9:\$LD\_LIBRARY\_PATH

# 7.22 View OFSAA Product Licenses after Installation of Application Pack

In an integrated environment, where you have multiple applications installed on the same domain or infrastructure, OFSAAI allows you to see the other licensed applications through the UI.



For more information, see the *View OFSAA Product Licenses after Installation of Application Pack* in the OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0.

## 7.23 Configuration for Dimension Management

These configurations are applicable only if you are using the Dimension Management features provided in OFSAAI.

For more details, see the General Configurations for *Dimension Management* Module section in the OFS Analytical Applications Infrastructure Application Pack Administration and Configuration Guide Release 8.1.x.

# 7.24 Changes for Oracle Database Server 18c and 19C

The following changes are required for Oracle Database Server version 18c and 19c:

- Shutdown OFSAA services.
- 2. Update the sqlnet.ora file with the following parameters and verify the update to ensure no garbage characters and no spaces are there in the beginning or at the end. This is important to check.

```
SQLNET.ALLOWED_LOGON_VERSION_CLIENT=8
SQLNET.ALLOWED_LOGON_VERSION_SERVER=8
```

- 3. Restart the listener and database service.
- 4. Reset atomic user password on the database. The command should be run on the database Server as the sysdba account using the following command:

```
alter user SCHEMA USERNAME identified by SCHEMA PASSWORD;
```

The same password used initially can be used during the reset.

- Restart OFSAA services and login as sysadmn user and navigate to the Database Details.
- Update the password via the Database Details User Interface and save it.
- 7. Start OFSAA services.

# 7.25 Excel Upload Mapping and Template

This section provides steps about the Excel Upload.

- Post-installation, navigate to the ExcelUpload directory present in the path:p
   Extracted Installer location/\$FIC\_HOME/dumps
- 2. In the ExcelUpload directory, change the directory name from infodom to the name of the respective Infodom.
- 3. Copy the Excelupload directory to the ftpshare/STAGE directory.
- 4. Create the STAGE directory in the path <TOMCAT HOME>.
- 5. Copy the ExcelUpload directory to the STAGE directory in the path <TOMCAT HOME>.



## 7.26 Prerequisites

Ensure the required Oracle Database Server versions are installed:

- Oracle Database Server Enterprise Edition 18c Release 3 64 bit RAC/Non-RAC with/ without partitioning option, Advanced Security Option.
- Oracle Database Server Enterprise Edition 19c Release 3 64 bit RAC/Non-RAC with/ without partitioning option, Advanced Security Option.

# 7.27 Transparent Data Encryption (TDE)

Transparent Data Encryption (TDE) enables you to encrypt sensitive data, such as Personally Identifiable Information (PII), that you store in tables and tablespaces. After the data is encrypted, this data is transparently decrypted for authorized users or applications when they access this data. To prevent unauthorized decryption, TDE stores the encryption keys in a security module external to the database, called a Keystore. For more details on TDE, see the Database Advanced Security Guide.

TDE tablespace encryption enables you to encrypt all of the data stored in a tablespace. To control the encryption, you use a Keystore and TDE master encryption key. Oracle Database supports both software keystores and hardware, or HSM-based, keystores. A software keystore is a container for the TDE master encryption key, and it resides in the software file system.

To configure TDE for OFSAA, follow these steps:

- Create a new PDB (19c)/ instance (18c) on the same or different Database Server for TDE. For more information, see Configure Software Keystore and Encrypted Tablespace Creation.
- 2. Shutdown the OFSAAI Services.
- 3. Export all Configuration, Atomic, and Sandbox Schemas as per the applications installed in your OFSAA instance.

#### For example:

expdp SYSTEM/oracle@OFSA19c2DB DIRECTORY=data\_pump\_dir DUMPFILE=ofsaaconf\_
ofsaaatm\_%U.dmp filesize=2G SCHEMAS=ofsaaconf,ofsaaatm LOGFILE=ofsaaconf\_
ofsaaatm exp.log



The above command will create data dumps as files of 2GB size each (multiples). Any other commands/ tools as appropriate may be used to archive the schemas.

Import all schemas that are exported using the above command, into the new DB instance.

#### For example:

impdp SYSTEM/oracle@OFSA12nDB DIRECTORY=data\_pump\_dir DUMPFILE=ofsaaconf\_
ofsaaatm\_%U.dmp SCHEMAS=ofsaaconf,ofsaaatm LOGFILE=ofsaaconf\_ofsaaatm\_
imp.log



#### Note:

- Restoring the exported dumps creates Configuration and Atomic Schema(s) with the same user credentials as that of the source, along with the existing grants.
- If schemas are restored using a tool/ mechanism other than as mentioned in Steps 1 and 2, retain the user credentials of Configuration and Atomic Schemas the same as in the Source environment, along with the Schema grants.
- 5. Provide select grants on sys.V\_\$parameter to view Configuration and Atomic Schemas of Target Environment database.

#### For example:

```
Log in as sys user:
SQL> GRANT SELECT ON SYS.V_$PARAMETER TO ofsaaconf;
Grant succeeded
SQL> GRANT SELECT ON SYS.V_$PARAMETER TO ofsaaatm;
Grant succeeded
```

- 6. Update .profile for ORACLE\_SID environment variable with new ORACLE\_SID.
- 7. Update JDBC URL by executing Port Changer utility. For details on how to execute Port Changer utility, see *Changing IP/Hostname*, *Ports*, *Deployed paths*, *Protocol of the OFSAA Instance* section under *Generic Configurations* chapter in OFS Analytical Applications Infrastructure Administration Guide.
- 8. Navigate to the \$FIC\_WEB\_HOME directory and execute the following command to trigger the creation of the EAR/WAR file:

```
./ant.sh
```

- The EAR/WAR file <contextname>.ear/.war is created in the \$FIC\_WEB\_HOME directory.
- On completion of the EAR/WAR file creation, the message "BUILD SUCCESSFUL" is displayed.
- **11.** Edit the existing Connection Pool settings to point to the new JDBC URL and verify connections.
- Clear the webserver cache and redeploy the application onto your configured web application server.
- **13.** Restart the OFSAA Services. For more information, see Start the Infrastructure Services.

# 7.27.1 Configure a Software Keystore and Encrypted Tablespace Creation

A software keystore is a container for the TDE master encryption key, and it resides in the software file system. You must define a location for the key in the sqlnet.ora file so that the database locates the keystore (one per database) by checking the keystore

location in the sqlnet.ora file. After defining the location, create the keystore and open it. Set the TDE master key after opening it and then encrypt the data.

To find whether a wallet is already existing, check the following entries:

- 1. The location specified by the ENCRYPTION\_WALLET\_LOCATION parameter in the sqlnet.ora file.
- 2. The location specified by the WALLET LOCATION parameter in the sqlnet.ora file.

Encrypted tablespaces can share the default database wallet. However, Oracle recommends that you use a separate wallet for transparent data encryption functionality by specifying the ENCRYPTION\_WALLET\_LOCATION parameter in the sqlnet.ora file.



You must have the required privileges to perform the following actions.

To configure the software keystore, follow the instructions in the following sections:

- Set the Software Keystore Location in the sqlnet.ora File
- Create the Software Keystore
- Open the Software Keystore
- Set the Software TDE Master Encryption Key
- Encrypting your Data

## 7.27.1.1 Set the Software Keystore Location in the sqlnet.ora File

The first step is to designate a location for the software keystore in the sqlnet.ora file. The Oracle Database will check the sqlnet.ora file for the directory location of the keystore to determine whether it is a software keystore or a hardware module security (HSM) keystore.

#### Note:

- Ensure that the directory location which you want to set for software keystore exists beforehand. Preferably, this directory must be empty.
- In a multitenant environment, the keystore location is set for the entire multitenant container database (CDB), not for individual pluggable databases (PDBs).
- By default, the sqlnet.ora file is located in the ORACLE\_HOME/network/admin directory or the location set by the TNS\_ADMIN environment variable. Ensure that you have properly set the TNS\_ADMIN environment variable to point to the correct sqlnet.ora file.

To create a software keystore on a regular file system, use the following format when you edit the sqlnet.ora file:

ENCRYPTION\_WALLET\_LOCATION= (SOURCE=(METHOD=FILE) (METHOD\_DATA=(DIRECTORY=<<pre>cpath
to keystore>>)))

#### Examples:

• For a regular file system in which the database name is orclb:

```
ENCRYPTION_WALLET_LOCATION= (SOURCE=(METHOD=FILE)
(METHOD DATA=(DIRECTORY=/etc/ORACLE/WALLETS/orcl)))
```

When multiple databases share the sqlnet.ora file:

```
ENCRYPTION_WALLET_LOCATION= (SOURCE=(METHOD=FILE)
(METHOD_DATA=(DIRECTORY=/etc/ORACLE/WALLETS/orcl)))
```

When Oracle Automatic Storage Management (ASM) is configured:

```
ENCRYPTION_WALLET_LOCATION= (SOURCE=(METHOD=FILE)
(METHOD DATA=(DIRECTORY=+disk1/mydb/wallet)))
```

For ASM Diskgroup:

```
ENCRYPTION_WALLET_LOCATION= (SOURCE=(METHOD=FILE)
(METHOD DATA=(DIRECTORY=+ASM file path of the diskgroup)))
```

### 7.27.1.2 Create the Software Keystore

There are three types of Software Keystores:

- Password-based Software Keystores
- Auto-login Software Keystores
- Local Auto-login Software Keystores

Perform the following steps to create a software keystore:

- Log in as sysdba or user with ADMINISTER KEY MANAGEMENT or SYSKM privilege.
- 2. Use the following command to create password-based software keystore:

```
CONN sys/password@serviceid AS SYSDBA
```

```
ADMINISTER KEY MANAGEMENT CREATE KEYSTORE 'keystore_location' IDENTIFIED BY
```

```
software keystore password;
```

- keystore\_location is the path of the keystore directory you want to create
- software\_keystore\_password is the password of the keystore that you want to create

For example, to create the keystore in the /etc/ORACLE/WALLETS/orcl directory:

```
ADMINISTER KEY MANAGEMENT CREATE KEYSTORE /etc/ORACLE/WALLETS/orcl'IDENTIFIED BY password;
```

After you run this statement, the <code>ewallet.p12</code> file, which is the keystore, appears in the keystore location.

- Alternatively, you can create an Auto-Login or Local-Login Keystore to avoid opening the Keystore manually every time. Use the following command:
   ADMINISTER KEY MANAGEMENT CREATE [LOCAL] AUTO\_LOGIN KEYSTORE FROM KEYSTORE 'keystore location' IDENTIFIED BY keystore password;
- LOCAL enables you to create a local auto-login software keystore. Otherwise, omit this clause if you want the keystore to be accessible by other computers. After you run this statement, the cwallet.sso file appears in the keystore location.



#### Note:

It is important to remember the master key password (<keystore\_password>) used during the creation of the keystore. There are no ways to retrieve the password if forgotten.

## 7.27.1.3 Open the Software Keystore

Depending on the type of keystore you create, you must manually open the keystore before you can use it.

You must not manually open auto-login or local auto-login software keystores. These keystores are automatically opened when it is required, that is when an encryption operation must access the key. If necessary, you can explicitly close any of these types of keystores. You can check the status of whether a keystore is open, closed, open but with no master key, or open but with an unknown master key by querying the STATUS column of the V\$ENCRYPTION WALLET view.

After you open a keystore, it remains open until you manually close it. Each time you restart a database instance, you must manually open the password keystore to re-enable encryption and decryption operations.

Perform the following steps to open the software wallet:

- 1. Log in as sysdba or user with ADMINISTER KEY MANAGEMENT or SYSKM privilege.
- Use the following command to open password-based software keystore: CONN sys/password@serviceid AS SYSDBA

```
ADMINISTER KEY MANAGEMENT SET KEYSTORE OPEN IDENTIFIED BY software keystore password [CONTAINER = ALL | CURRENT];
```

- software\_keystore\_password is the same password that you used to create the keystore in "Step 2: Create the Software Keystore".
- CONTAINER is for use in a multitenant environment. Enter ALL to set the keystore in all
  of the PDBs in this CDB, or CURRENT for the current PDB.

#### Note:

- In a CDB, open the Keystore in the ROOT (CDB\$ROOT) container and in all the associated PDBs, where TDE is enabled.
- You must not manually open auto-login or local auto-login software Keystores.

## 7.27.1.4 Set the Software TDE Master Encryption Key

Once the keystore is open, you can set a TDE master encryption key for it. The TDE master encryption key is stored in the keystore. This key protects the TDE table keys and tablespace encryption keys. By default, the TDE master encryption key is a key that Transparent Data Encryption (TDE) generates.

In a multitenant environment, you can create and manage the TDE master encryption key from either the root or the PDB.

Ensure that the database OPEN\_MODE is set as READ WRITE. To find the status for a non-multitenant environment, query the OPEN\_MODE column of the V\$DATABASE dynamic view. If you are using a multitenant environment, then query the V\$PDBS view. (If you cannot access these views, then connect as SYSDBA and try the query again. To connect as SYSKM for this type of query, you must create a password file for it. See Oracle Database Administrator's Guide for more information.)

Perform the following steps to set the encryption key:

- Log in as sysdba or user with ADMINISTER KEY MANAGEMENT or SYSKM privilege.
- Use the following command to set the encryption key: CONN sys/password@serviceid AS SYSDBA

```
ADMINISTER KEY MANAGEMENT SET KEY [USING TAG 'tag'] IDENTIFIED BY password [WITH BACKUP [USING 'backup_identifier']] [CONTAINER = ALL | CURRENT];
```

- tag is the associated attributes and information that you define. Enclose this setting in single quotation marks (' ').
- password is the mandatory keystore password that you created when you created the keystore in Create the Software Keystore.
- WITH BACKUP creates a backup of the keystore. You must use this option for password-based keystores. Optionally, you can use the USING clause to add a brief description of the backup. Enclose this description in single quotation marks (' '). This identifier is appended to the named keystore file (for example, ewallet\_time\_stamp\_emp\_key\_backup.p12, with emp\_key\_ backup being the backup identifier). Follow the file naming conventions that your operating system uses.
- CONTAINER is for use in a multitenant environment. Enter ALL to set the key in all of the PDBs in this CDB, or CURRENT for the current PDB.
   For example,

```
ADMINISTER KEY MANAGEMENT SET KEY IDENTIFIED BY password WITH BACKUPUSING 'emp key backup';
```

## 7.27.1.5 Encrypt your Data

After completing the keystore configuration, encrypt the data. You can encrypt individual columns in a table or entire tablespaces. OFSAA recommends encrypting entire tablespaces and the description in this section covers encrypting entire tablespaces.



#### Note:

The following restrictions on using Transparent Data Encryption when you encrypt a tablespace:

- Transparent Data Encryption (TDE) tablespace encryption encrypts or decrypts
  data during read and write operations, as compared to TDE column encryption,
  which encrypts and decrypts data at the SQL layer. This means that most
  restrictions that apply to TDE column encryption, such as data type restrictions
  and index type restrictions, do not apply to TDE tablespace encryption.
- To perform import and export operations, use Oracle Data Pump.

Encrypting data involves the following steps:

- Set the COMPATIBLE Initialization Parameter for Tablespace Encryption
- Set the Tablespace TDE Master Encryption Key
- Create the Encrypted Tablespace

#### Set the COMPATIBLE Initialization Parameter for Tablespace Encryption

**Prerequisite**: You must set the COMPATIBLE initialization parameter for the database to 12.2.0.0 or later. Once you set this parameter to 12.2.0.0, the change is irreversible.

To set the COMPATIBLE initialization parameter, follow these steps:

- 1. Log in to the database instance. In a multitenant environment, log into the PDB.
- 2. Check the current setting of the COMPATIBLE parameter. For example:

SHOW PARAMETER	COMPATIBLE		
NAME	TYPE	VALUE	
compatible	string	12.0.0.0	
noncdbcompatibl	e BOOLEAN	FALSE	

- 3. If you want to change the COMPATIBLE parameter, perform the following steps:
  - Locate the initialization parameter file for the database instance.

    UNIX systems: This file is in the ORACLE\_HOME/dbs directory and is named initORACLE\_SID.ora (for example, initmydb.ora).
  - In SQL\*Plus, connect as a user who has the **SYSDBA** administrative privilege, and then shut down the database.

#### For example:

```
CONNECT /AS SYSDBA
SHUTDOWN
```

Edit the initialization parameter file to use the correct COMPATIBLE setting. For example:

```
COMPATIBLE = 12.2.0.0
```

 In SQL\*Plus, ensure that you are connected as a user who has the SYSDBA administrative privilege, and then start the database.



#### For example:

CONNECT /AS SYSDBA

STARTUP

 If tablespace encryption is in use, then open the keystore at the database mount. The keystore must be open before you can access data in an encrypted tablespace.

STARTUP MOUNT;

ADMINISTER KEY MANAGEMENT SET KEYSTORE OPEN IDENTIFIED BY password; ALTER DATABASE OPEN;

#### **Set the Tablespace TDE Master Encryption Key**

Make sure that you have configured the TDE master encryption key as shown in the Set the Software TDE Master Encryption Key. section.

#### **Create the Encrypted Tablespace**

After you have set the COMPATIBLE initialization parameter, you are ready to create the encrypted tablespace.

See the following reference link for details on manually creating encrypted tablespaces:

https://docs.oracle.com/cloud/latest/db121/ASOAG/asotrans\_config.htm#ASOAG9555.

### 7.27.1.6 Test the Encryption

Test the encryption by checking if a tablespace is encrypted or not. Execute the following query to check:

SELECT tablespace name, encrypted FROM dba tablespaces;

The following result is displayed, which indicates whether the TABLESPACE is encrypted or not in the ENCRYPTED column.

**Table 7-5 Testing the Encryption** 

TABLESPACE_NAME	ENCRYPTED
SYSTEM	NO
SYSAUX	NO
UNDOTBS1	NO
TEMP	NO
USERS	NO
ENCRYPTED_TS	YES

The above example indicates TABLESPACE <code>ENCRYPTED\_TS</code> is created with Encryption ON.

## 7.28 Data Redaction

OFSAA is enhanced to enable masking of sensitive data and Personal Identification Information (PII) to adhere to Regulations and Privacy Policies. Oracle Data Redaction

provides selective, on-the-fly redaction of sensitive data in database query results before display by applications so that unauthorized users cannot view the sensitive data. The stored data remains unaltered, while displayed data is transformed into a pattern that does not contain any identifiable information.

To enable Data Redaction, perform the following steps:

- 1. Log in as SYSDBA into the database.
- 2. Execute the \$FIC\_HOME/utility/data\_security/scripts/create\_data\_sec\_roles.sql file only once per database (PDB in case of 18c/19c).
- 3. Execute the following SQL statement to find out the list of atomic users from the table: select v\_schema\_name from aai\_db\_detail where V\_DB\_NAME <> 'CONFIG' AND V\_DB\_TYPE = 'ORACLE'
- **4.** Execute the \$FIC\_HOME/utility/data\_security/scripts/grant\_data\_sec\_roles.sql file for all atomic users found in the previous step.
- From the Configuration window in the System Configuration module, select the Allow Data Redaction checkbox.
- 6. Run the Data Redaction utility.

For more details on enabling Data Redaction, see the *Data Redaction* section in the *Data Security and Data Privacy* topic in the OFS Analytical Applications Infrastructure Administration Guide.



# Additional Configuration

You can use this checklist to have a quick glance at some additional configurations.

**Table 8-1 Additional Configuration** 

SI. No.	Additional Configuration Activity
1	Add FTP/SFTP Configuration for File Transfer.
2	Configure the Infrastructure Server Memory.
3	Retrieve the Patch Information
4	Set OLAP Data Server Configuration
5	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
6	Configure the Infrastructure LDAP.
7	Configure and deploy the OFSAAI web services.
8	Enable the parallel execution of DML statements.
9	Configure the message details in the Forms Designer.
10	Clear the application cache.
11	Configure the password changes.
12	Configure the Java Virtual Machine.
13	Configure the internal service (Document Upload/ Download).
14	Update the OFSAA 8.1.2.x Java 8 Instance to Java 11

# 8.1 Add FTP/SFTP Configuration for File Transfer

In OFSAA, certain modules require the 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.

- Log in to the web application server.
- 2. Type sftp <user>@<OFSAA Server>.
- 3. Specify **Yes** when prompted for permission.

Are you sure you want to continue connecting (Yes/No)?

This will add an entry into the "known\_hosts" file.

**4.** A confirmation message is displayed:

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

## 8.2 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 in the following section. These settings are the bare minimum and have to be incremented considering the deployment metrics into account. The increments are usually handled in multiples of 128 MB for heap and 64 MB for the stack.

You can configure the Infrastructure Application Memory settings as follows:

- 1. Locate the .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"



Modify X\_ARGS\_APP variable in the .profile file to customize Java Memory Settings for Model Upload based on the Data Model size.

For Run and Rule executions, the following value is recommended:

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

## 8.3 Retrieve Patch Information

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

- 1. Log in to the OFSAA application as a user with Object AdminAdvanced Role.
- Navigate to Object Administration tab, expand Utilities, and click Patch Information.
- **3.** The window displays the list of patches installed on the OFSAA setup across Applications/Platforms.

# 8.4 Set 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 must be specified based on the expected load at each implementation site.

#### For example:

- Process Memory: Limit Max Thread Stack Size
- Max Number of Threads per Process
- Sort Buffer settings: This must be set at the Essbase application level appropriate to the anticipated load.
- Shutdown and Restart: During the shutdown of the 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 based on the load the system is
  subjected to, before restarting the Data Services subsystem.

# 8.5 Change IP/ Hostname, Ports, Deployed Paths of the OFSAAInstance

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

## 8.6 Set Infrastructure LDAP Configuration

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

# 8.7 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 following configuration steps are to be done only if you are using the Web Services feature of OFSAAI.

## 8.7.1 Configure DynamicWSConfig.xml File

For each third-party web service that must 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 servers, that is, WebSphere, WebLogic, or Tomcat.

The <code>DynamicWSConfig.xml</code> file is available in the <code><OFSAAI</code> Installation <code>Directory>/EXEWebService/ <WebServer>/ROOT/conf</code> 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 <code>WSCONFIGFILE</code> parameter.

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

#### This template is as follows:

<XML>

<WEBSERVICES>

<WEBSERVICE CODE="\$CODE"</pre>



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 file has the placeholders as shown in the following table. 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 as follows must be set per the parameters published in the third party wsdl files (webservices) to be accessed. The stub class specified must implement the "com.iflex.Oracle Reveleus.execution.webservice.EXEWebIF" interface.

#### Attributes of WEBSERVICE tag

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



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

#### **Attributes of OPERATION tag**

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

Placeholder	Description
\$CODE	It must 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 the input object.

#### Attributes of the INPUT tag

Placeholder	Description
\$ORDER	The sequential number of the INPUT tag. It must 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	The input parameter name to be called by the wsdl file.
\$ARGTYPE	Input Parameter Data Type. If the input argument type is a complex object, specify \$ARGTYPE as "xmlstring".
\$CLASSNAME	Represents the class name of the input object parameter.

#### **Attributes of OUTPUT tag**

Placeholder	Description
\$PARAMNAME	The 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 the class name of the output object parameter.

### Adding web.xml Entries



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

- Navigate to the \$FIC\_HOME/webroot/WEB-INF/ and edit the web.xml file. Set parameter value DOCSERVICEAPP to EXEWebServiceAXIS.
- 2. Navigate to the <OFSAAI Installation Directory>/EXEWebService/ <WebServer>/ROOT/WEB-INF/ and edit the web.xml file as follows:

## 8.7.2 Configure WSConfig File

The WSCONFIG (DynamicWSConfig.xml) file 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 following block of text in the web.xml file.

```
<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>
```

## 8.7.3 Configure Proxy Settings

Replace the following <param-value> text in the web.xml file 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>
<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>
```

## 8.7.4 Configure OFSAAI Home Entry

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

Replace \$FIC\_HOME\$ in the following block of text in the web.xml file 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 Directory-->
</context-param>
<context-param>
<description>OFSAAI Web Home</description>
<param-name>FIC_PHYSICAL_HOME</param-name>
<param-value>$FIC_HOME$</param-value>
<!--OFSAAI Installation Directory-->
</context-param>
```

## 8.7.5 Configure DynamicWSConfig.xml File

For each third-party web service that must 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.

## 8.7.6 Deploy OFSAAI Web Services

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

- 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.

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.

## 8.8 Enable Parallel Execution of DML statements

A configuration file, OracleDB.conf is introduced to accommodate any configurable parameter related to operations on the 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 that resides in the path  $FIC_DB_HOME/conf$ .

As of now, the <code>OracleDB.conf</code> 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.

# 8.9 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 the mail server in the NotificationConfig.cfg file that resides in the path <code>\$FIC\_APP\_HOME/common/FICServer/conf.</code>

Ensure that the "authorized User details" for whom you must 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 8-2 NotificationConfig.cfg File Attributes

Parameter	Description
SMTP_SERVER_IP	Specify the hostname or IP address of the 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 the SMTP server requires the client to be authenticated, otherwise set to 'false'.
SMTP_USERNAME	Username required for logging into the SMTP server, if authentication is not required use a dummy value.
SMTP_PASSWORD	Password required for logging into the SMTP server. If authentication is not required, use false value.



Table 8-2 (Cont.) NotificationConfig.cfg File Attributes

Dozomotov	Description
Parameter	Description
SMTP_MAILID	If the Messages must go from a Particular ID
	that ID must be added. The exchange server forces you to set a valid ID that is there in the
	exchange server. (Based on Security settings)

# 8.10 Clear the Application Cache

Ensure to clear the application cache before the deployment of Applications Pack Web Archive. This applies to all Web Servers (WebSphere, WebLogic, and Tomcat).

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

#### Tomcat

 $\verb| `Tomcat installation directory>/work/Catalina/localhost/<Application name>/org/apache/jsp| \\$ 

#### 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>

## 8.11 Configure Password Changes

This section explains about how to modify the OFSAA Infrastructure Config Schema and Atomic Schema passwords for non Wallet-based and Wallet-based setups.

# 8.11.1 Modify OFSAA Infrastructure Config Schema Password in a Non Wallet-Based Setup

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

1. Shutdown the OFSAAI App service:

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

- 2. Change the Config Schema User Password in the database.
- 3. Delete the \$FIC HOME/conf/Reveleus.SEC file.
- 4. Navigate to the \$FIC\_HOME/utility/updateatomicpwd/bin Directory and execute the Utility as shown in the following:

#### Syntax:

./rotateAtomicDBPwd.sh <CONFIG/ATOMICALIASNAME> <DB\_USER> <DB\_PASS> For example,



./rotateAtomicDBPwd.sh CONFIG acte ofsaaconf password123

The execution of the Utility generates the Reveleus.SEC File in the \$FIC\_HOME/conf/ Directory and a new Encrypted Schema Password is reflected in the DB\_MASTER and AAI\_DB\_AUTH\_ALIAS Tables in the row which displays the Config Schema.

#### Note:

If you do not delete the existing <code>Reveleus.SEC</code> File, then a backup of the file is saved with the <code>Reveleus.SEC\_cfgbkp</code> name before generating the <code>new Reveleus.SEC File</code>.

- Restart the Infrastructure Server.
- 6. If you are using Apache Tomcat as the Web server, update the <Context> -> Resource tag details in the Server.xml file from the \$CATALINA\_HOME/conf directory. For Tomcat, both Config Schema (FICMASTER resource) and Atomic Schema (<INFODOM\_NAME> resource) exist.

If you are using WebSphere as a Web Server:

- **a.** Log in to the WebSphere Administration Console, from the left side menu.
- **b.** Navigate to Resources >JDBC >Data Sources. A list of data sources are 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 must be modified).

If you are using WebLogic as a Web Server:

- a. Log in 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 are 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 must be modified).
- **7.** Post successful startup of the service, if required, the Infrastructure Server may be shut down and restarted in the background using nohup mode.

# 8.11.2 Modify OFSAA Infrastructure Atomic Schema Password in a Non Wallet-Based Setup

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

- 1. Change the Atomic schema User Password in the database.
- 2. Log in to the application from the browser using the SYSADMN account or any user id, which has a System Administrator role mapped.
- 3. Navigate to System Configuration > Database Details window. Modify the password as explained in the following steps:
  - a. From the Database Master window, select the connection whose password you want to modify and click the button from the toolbar.



- **b.** Click the button corresponding to the Alias Name. The Alias Details window is displayed.
- c. Modify the password in the Auth String field.

Alternatively, the steps 1, 2, and 3 can be done using the rotateAtomicDBPwd.sh Utility with the Servers down.

4. Shutdown the OFSAAI App service:

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

- 5. Change the Atomic Schema User Password in the database.
- 6. Navigate to the \$FIC\_HOME/utility/updateatomicpwd/bin Directory and execute the Utility as shown in the following:

./rotateAtomicDBPwd.sh <CONFIG/ATOMICALIASNAME> <DB\_USER> <DB\_PASS>

#### For example,

./rotateAtomicDBPwd.sh acteofsaaatm acte ofsaaatm password123

A new Encrypted Schema Password is reflected in the **DB\_MASTER** and **AAI\_DB\_AUTH\_ALIAS** Tables in the row which displays the Atomic Schema.

#### Note:

ATOMICALIASNAME value is a TNS alias for Atomic Schema and must not contain underscores.

For example, if the Atomic Schema Name is PROD\_OFSAAATM, then the value for ATOMICALIASNAME must be entered as PRODOFSAAATM.

After you have completed either of the methods mentioned above, proceed with the following steps:

- Restart the Infrastructure Server.
- 2. If you are using Apache Tomcat as the Web server, update the <Context> -> Resource tag details in the Server.xml file from the \$CATALINA\_HOME/conf directory. For Tomcat, both Config Schema (FICMASTER resource) and Atomic Schema (<INFODOM\_NAME> resource) exist.

If you are using WebSphere as Web server:

- a. Log in to the WebSphere Administration Console, from the left side menu.
- **b.** Navigate to Resources >JDBC >Data Sources. A list of data sources are 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 must be modified).

If you are using WebLogic as Web server:

- a. Log in 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 are 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 must be modified).
- 3. Restart the OFSAAI services.

# 8.11.3 Modify the OFSAA Infrastructure Config Schema Password in a Wallet-Based Setup

To change the Config Schema Password in a Wallet-Based setup, follow these steps:

- 1. Shutdown all the OFSAAI Services and Web Servers.
- 2. Change the Config Schema User Password in the Database.
- 3. Log in as a UNIX user with the permission to modify the Oracle Wallet.
- 4. Execute the following command to configure Config Schema credentials.

```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -modifyCredential -nologo
CONFIG <CONFIG DATABASE USERNAME> <CONFIG DATABASE NEWPASSWORD>
```

- 5. Enter the password to store the credentials in the Wallet when prompted.
- 6. Start all the OFSAAI Services excluding Web Servers.
- 7. If you use Apache Tomcat, WebSphere, or WebLogic as the Web Server, update the associated Wallet Directory with the new Config Schema User Password.
- 8. Start the associated Web Servers.

# 8.11.4 Modify the OFSAA Infrastructure Atomic Schema Password in a Wallet-Based Setup

To change the Atomic Schema Password in a Wallet-Based setup, follow these steps:

- 1. Shutdown all the OFSAAI Services and Web Servers.
- 2. Change the Atomic Schema User Password in the Database.
- 3. Log in as a UNIX user with the permission to modify the Oracle Wallet.
- 4. Execute the following command to configure the Atomic Schema credentials.

```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -modifyCredential -nologo
<ATOMICALIASNAME> <ATOMIC_DATABASE_USERNAME>
<ATOMIC DATABASE NEWPASSWORD>
```

#### Note:

ATOMICALIASNAME value is a TNS alias for Atomic Schema and must not contain underscores. For example, if the Atomic Schema Name is PROD\_OFSAAATM, then the value for ATOMICALIASNAME must be entered as PRODOFSAAATM.

- **5.** Enter the password to store the credentials in the Wallet when prompted.
- 6. Start all the OFSAAI Services excluding Web Servers.



- 7. If you use Apache Tomcat, WebSphere, or WebLogic as the Web Server, update the associated Wallet directory with the new Atomic Schema User Password.
- 8. Start the associated Web Servers.

## 8.12 Configure Java Virtual Machine

While running several database intensive tasks in parallel, fetching the database connection from the 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 must be configured on all the machines or virtual machines where the OFSAAI database components (ficdb layer) are installed.

# 8.13 Configure Internal Service (Document Upload/ Download)

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

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

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

- 1. Create the directories download, upload, TempDocument, and Temp in the local path of the Web application server and provide Read/Write permission.
  - To find the exact location, execute the following query in the CONFIG schema: select localpath from web\_server\_info
  - To create directories with Read/Write permission, execute the command: mkdir -m 777 download upload TempDocument Temp
- Create DocStorage directory in the FTPSHARE location of APP tier and provide Read/ Write permission.
  - To find the exact location, execute the query in the CONFIG schema: select ftpdrive from app\_server\_info
  - To create a directory with Read/Write permission, execute the command: mkdir -m 777 DocStorage

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

Navigate to \$FIC\_HOME/EXEWebService/<WEBSERVER\_TYPE> directory of WEB tier and type ./ ant.sh. This triggers the creation of the EAR/WAR file EXEWebService.ear/.war. The EAR/WAR file EXEWebService.ear/.war is created in the \$FIC\_HOME/EXEWebService/

<WEBSERVER\_TYPE> directory of WEB tier. Redeploy the generated EAR/WAR file onto your configured web application server.



## 8.14 Update the OFSAA 8.1.2.x Java 8 Instance to Java 11

This section explains the configurations required to update an existing OFSAA 8.1.2.x Java 8 instance to Java 11.

#### Topics:

- Prerequisites
- Update the OFSAA 8.1.2.x Java 8 Instance to Java 11
- Apply OFSAA Generic Configurations
- · Configure the Web Application Server
- Configure OFSAA for the New Web Applications Server Installation

### 8.14.1 Prerequisites

The following prerequisites must be matched before you can update the OFSAA 8.1.2.x Java 8 instance to Java 11:

- Java 11 must be installed on the OFSAA server and Web Application Server.
- OFS AAI Release 8.1.2.0.0. must be the minimum version installed.

## 8.14.2 Update the OFSAA 8.1.2.x Java 8 Instance to Java 11

To update the OFSAA 8.1.2.x Java 8 instance to Java 11, follow these steps:

- Configure the OFSAA instance to Java 11. See Apply OFSAA Generic Configurations.
- Configure Web Application Server to Java 11. See Configure the Web Application Server.



For a newly installed Web Application Server, see Configure OFSAA for the New Web Application Server Installation.

Generate the application EAR/WAR file and redeploy the application on your configured Web Application Server.

For more information on generating and deploying EAR/WAR files, see Create and Deploy the EAR/WAR Files.

4. Restart the OFSAA services. See Start the Infrastructure Services.

## 8.14.3 Apply OFSAA Generic Configurations

This section consists of the following topics:

- Configure User '.profile' Settings
- Configure Java 11



### 8.14.3.1 Configure User '.profile' Settings

Perform the following configurations:

1. Log in to the OFSAA server as a non-root user.

(Optional) <Enter a step example.>

2. Edit the user .profile. Update the value for the PATH variable from JRE 1.8 to JDK 11.

For example,

```
PATH=/usr/java/ jdk-11.0.11

JAVA_BIN=/usr/java/ jdk-11.0.11/bin

LD LIBRARY PATH=$LD LIBRARY PATH:/usr/java/jdk-11.0.11/lib/server
```

## 8.14.4 Configure the Web Application Server

This section describes the changes that are to be made in the Web Application Server. The following are the options to configure Web Application Server Configurations:

- Update the existing Web Application Server installation to Java 11
- Install a new instance of the Web Application Server with Java 11

This section consists of the following topics:

- Upgrade Java 8 to Java 11 for Oracle WebLogic Server 14.1.1.0
- Upgrade Java 8 to Java 11 for Apache Tomcat Server

### 8.14.4.1 Upgrade Java 8 to Java 11 for Oracle WebLogic Server 14.1.1.0

To upgrade Java 8 to Java 11 for WebLogic Server 14.1.1.0, follow these steps:

 Navigate to the <WLS\_HOME>/Middleware/Oracle\_Home/user\_projects/domains/ <domain>/bin directory.

Update SUN\_JAVA\_HOME, DEFAULT\_SUN\_JAVA\_HOME, JAVA\_HOME in the setDomainEnv.sh file to point to the new Java path.

```
SUN_JAVA_HOME="/usr/java/jdk-11.0.11"

DEFAULT_SUN_JAVA_HOME="/usr/java/jdk-11.0.11"
```

JAVA\_HOME="/usr/java/jdk-11.0.11" (Optional) <Enter a step example.>

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

<Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/
\_WL\_user/<Application name>/qaelce/jsp\_servlet

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

- a. Install Oracle WebLogic Server 14.1.1.0 and later on Java 11.
- **b.** Perform the configurations for the newly installed WebLogic server.

For more information, see Configure Resource Reference in WebLogic Application Server.



#### Note:

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

### 8.14.4.2 Upgrade Java 8 to Java 11 for Apache Tomcat Server

To upgrade Java 8 to Java 11 for Apache Tomcat Server, follow these steps:

- 1. Log in to the Apache Tomcat Server as a non-root user.
- 2. Update the value for JAVA\_HOME from JRE 1.8 to JRE 1.11 in the user .profile. For Example,

JAVA\_HOME=/usr/java/ jdk-11.0.11

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

- a. Install Apache Tomcat Server 9.0.x with Java 11.
- **b.** Perform the configurations for the newly installed Tomcat server.

For more information, see Configure Resource Reference in Tomcat Application Server.

### Note:

- Update the Connector Port in /apache-tomcat-9.0.24/conf/server.xml file to that of the existing Tomcat instance.
- Note down the new deployment path to perform OFSAA Configurations.

# 8.14.5 Configure OFSAA for the New Web Application Server Installation

The configuration in this section is required only if you have freshly installed Oracle WebLogic 14.1.1.0 and later, or Apache Tomcat Server 9.0.x.

To configure, follow these steps:

- Modify the following parameters in the Configuration Table present in the Config Schema with the new Domain Path if the webserver is WebLogic or with the new deployment path if the webserver is Tomcat:
  - DeFiHome
  - REV\_IMG\_PATH
  - EMBEDDED\_JSP\_JS\_PATH



- 2. Modify the following parameters in the AAI\_SETUP\_PROPS Table present in the Config Schema with the new Domain Path if the webserver is WebLogic or with the new deployment path if the webserver is Tomcat:
  - FIC\_PHYSICAL\_HOME\_LOC
  - FIC\_HOME
  - CSS\_LOGGER\_PATH
  - LOG\_HOME\_PATH



9

# Upgrade

This section includes the procedures for the various upgrade scenarios supported by OFS PAM Pack Release 8.1.2.0.0.

#### Topics:

- Upgrade Scenarios
- Prepare for Upgrade
- Post Upgrade Steps

## 9.1 Upgrade Scenarios

The possible upgrade scenarios and a high-level sequence of steps to complete the upgrade are summarized in this section.

Table 9-1 Upgrade Scenarios

Scenario	Up	Upgrade Instructions	
Upgrade from OFS Profitability Management 8.1.10 to OFS Profitability Management Pack (OFS PAM Pack) 8.1.2.0.0		Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the OFS Analytical Applications Technology Matrix.	
	2.	Update the Silent.props file present in the Release 8.1.2.0.0 pack.	
	3.	Trigger the Release 8.1.2.0.0 installation.	
Upgrade from OFS Profitability Management 8.1.1.1.0 to OFS Profitability Management Pack (OFS PAM Pack) 8.1.2.0.0		Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the OFS Analytical Applications Technology Matrix.	
	2.	Update the Silent.props file present in the Release 8.1.2.0.0 pack.	
	3.	Trigger the Release 8.1.2.0.0 installation.	

## 9.2 Prepare for Upgrade

Before you install/upgrade any of your application packs to Release v8.1.2.0.0, ensure that all the application packs in your current OFSAA instance are available in Release v8.1.2.0.0 or later version.

Contact My Oracle Support for more information about the release version details.

#### Note:

The minimum supported version is 8.1.1.0.0. If upgrading from a release before 8.1.0.0.0, then first upgrade to 8.1.1.0.0 or later. After this step, you can upgrade to 8.1.2.0.0.

- 1. Back up the OFSAA schemas from the Oracle Database server.
- 2. Backup the following environment files:
  - OFS PAM PACK.xml from the OFS PAM PACK/conf directory.
  - OFS\_PAM\_SCHEMA\_IN.xml from the OFS\_PAM\_PACK/schema\_creator/conf directory.
  - OFSAAI InstallConfig.xml from the /OFS PAM PACK/OFS AAI/conf directory.
- 3. See the OFS Analytical Applications Technology Matrix for the hardware and software required to upgrade to OFS AAAI Release 8.1.2.0.0.
- **4.** Enable unlimited cryptographic policy for Java. For more information, see the *Enabling Unlimited Cryptographic Policy* section in the OFS Analytical Applications Infrastructure Administration and Configuration Guide.
- 5. In an integrated environment where OFS Profitability Management Pack (OFS PAM Pack) exists with the OFS Balance Sheet Planning (OFS BSP) and or OFS Asset Liability Management (OFS ALM), execute the following SQL script on the ATOMIC schema to avoid the data model upload failure:

```
update rev_tables_b set version=0 where version is null;
commit;
```

6. If you are uploading the packaged data model with the installer, execute the following script in the atomic schema:

```
DECLARE
tbl check NUMBER;
BEGIN
Select count(*) into tbl check from user tables where
table name='FSI IRCS';
IF ( tbl check=1) THEN
for i in (SELECT CONSTRAINT NAME, TABLE NAME FROM USER CONSTRAINTS
WHERE R CONSTRAINT NAME = (SELECT CONSTRAINT NAME FROM
USER CONSTRAINTS WHERE TABLE NAME='FSI IRCS' AND
CONSTRAINT TYPE='P'))
LOOP
execute immediate 'ALTER TABLE '||i.table name||' DISABLE
CONSTRAINT '||i.constraint name||'';
end loop;
execute immediate 'ALTER TABLE FSI CURRENCIES DROP CONSTRAINT
FK FSI CURRENCIES 2';
END IF;
EXCEPTION
WHEN OTHERS THEN
   dbms output.put line(sqlerrm);
```



END;

## 9.2.1 Update the Silent.props File

Update the Silent.props file present in the Release 8.1.2.0.0 pack. In the installer kit path OFS\_PAM\_PACK/appsLibConfig/conf/, rename the Silent.template file to Silent.props. Edit the Silent.props file and modify only the following parameters.

Most parameters in the Silent.props file for 8.1.2.0.0 have default values. Before triggering the installation, ensure that you review them thoroughly and update them as required.

- 1. Navigate to the OFS PAM PACK/appsLibConfig/conf directory.
- 2. Open the Silent.props file and edit only the following parameters:

Table 9-2 Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
ре	Whether you want to perform the Model Upload.	0: No	Mandatory
		1: Yes	
MODEL_TYPE	The released data model or a customized data model.	0: Released	Mandatory only if you want to upload the data model.
		1: Customized	
DATAMODEL	The path for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
OFS_PFT_ETL_APPS	• • • • • • • • • • • • • • • • • • • •	0 = New	#Mandatory if this an
RC_TYPE	or Src pair or use an existing one	1 = Existing	App layer installation.
			In case of an upgrade, this value must be 1.
			# That is, you have specified INSTALL_APP=1.
			# 0 = If you want to create a new ETL app or src pair
			# 1 = If you want to use an existing pair



Do not modify any other parameters in the Silent.props file other than those mentioned in the previous table in case of an upgrade.



## 9.2.2 Trigger the Installation

To trigger the installation, follow these steps:

- 1. Navigate to OFS PAM PACK/bin folder.
- 2. Enter the following command in the console to execute the application pack installer.

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

The installer proceeds with the pre-installation checks.

3. The OFS AAAI installation begins.

Figure 9-1 OFS Profitability Management Installation

```
tabler:
1. Owned Financial Services Analytical Applications infrastructure
2. Owned Financial Services Analytical Applications infrastructure (OFS ANI) is the base infrastructure for all OFSAA applications and is therefore automatically installed and enabled by the application pack installer.

* The application pack installer always installer Cracker Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Pervices Big Data Fromesoning application options along with the application pack applications, but enables them only if any application that is enabled must be licensed for use. Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services Enterprise Modeling, Oracle Financial Services Regime and Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services Enterprise Big Data Fromesing are individually licenselle application products once enabled cannot be disabled. Application products not enabled on installation, may later be enabled using the "Manage OFSAA Frod act License(s)" Feature of the platform.

**Are you accepting the terms and conditions mentioned above? (Y/N):
**Youth Financial Enterprise Oracle Financial Services Enterprise Processing English Manager).
**Dody MANN No appenders could be found for logger (oracle Financial Services Installation Processing Pr
```

Data Model Upload may take several hours to complete.



Figure 9-2 Installation In Progress



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

## 9.2.3 Verify the Log File Information

See the following logs files for more information:

- Pack\_Install.log file in the OFS PAM PACK/logs/ directory.
- Infrastructure installation log files in the OFS\_PAM\_PACK/OFS\_AAI/logs/ directory.
- OFS PFT installation.log file in the OFS PAM PACK/OFS PFT/logs directory.

# 9.3 Post Upgrade Steps

Perform the following steps after completing the upgrade.

- Remove ContextDocLoader from the web.xml File
- Verify FSI\_DB\_INFO Entries

### 9.3.1 Remove ContextDocLoader from the web.xml File

To remove the ContextDocLoader from the web.xml file, follow these steps:

- Navigate to the \$FIC\_WEB\_HOME/webroot/WEB-INF folder.
- 2. Open the web.xml file in a text editor.
- 3. Search for ContextDocLoader parameter and remove the following servlet entry:

```
<servlet>
<servlet-name>context</servlet-name>
<servlet-</pre>
```



```
class>com.ofs.fsapps.commonapps.core.summary.common.ContextDocLoade
r</servlet-class>
<load-on-startup>1</load-on-startup>
</servlet>
```

4. Create and deploy the EAR/WAR files.

## 9.3.2 Verify FSI\_DB\_INFO Entries

After completing the upgrade process, verify data for the correct schema name (OWNER) and Tablespace (OUTPUT\_TABLESPACE) values in the FSI\_DB\_INFO table in the atomic schema.

## 9.4 Changes in .profile file for Solaris Operating System

For the Solaris operating system, do the following changes in the .profile file present in the user's home directory.

• For Solaris Sparc and X86 systems, append the path \$FIC\_DB\_HOME/lib/libC+ +11/ to LD\_LIBRARY\_PATH variable in the .profile file. For example:

```
LD LIBRARY PATH=$LD LIBRARY PATH:$FIC DB HOME/lib/libC++11
```

For Solaris Sparc, add the Oracle Developer Studio installed path at the beginning
of the LD\_LIBRARY\_PATH variable in the .profile file.
 For example:

LD\_LIBRARY\_PATH=/opt/SunProd/studio12u6/developerstudio12.6/lib/compilers/CC-gcc/lib/sparcv9:\$LD\_LIBRARY\_PATH

# 9.5 View OFSAA Product Licenses after Installation of Application Pack

In an integrated environment, where you have multiple applications installed on the same domain or infrastructure, OFSAAI allows you to see the other licensed applications through the UI.

For more information, see the *View OFSAA Product Licenses after Installation of Application Pack* in the OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0.



10

# Installing OFS Profitability Management Pack on an Existing OFSAA Instance

You have already installed an application pack from release 8.1.x.0.0 and now you want to install another application pack from Release 8.1.2.0.0. For example, OFS Asset Liability Management is already installed and now you want to install OFS Profitability Management Pack (OFS PAM Pack).

For installation instructions the OFS Profitability Management application, see the Installation section.



11

# Migrate Excel Upload Functionality

This section provides detailed instructions to migrate excel upload functionality.

## 11.1 Prerequisites

The following are the prerequisites for migration.

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

## 11.2 Migrate 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 the 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 into this table.
- 5. In the V\_INFODOM column of the EXCEL\_MAPPING\_MASTER table, update the infodom name with the target infodom name.



If all the mappings can work out of the single target Infodom, update the same Infodom value across all rows. If only a few mappings will work out of the target infodom, update the infodom value for selective records. Excel upload mappings will work only if the target infodom has the same data model entities as used in the mappings defined on the source setup.

6. Update the V\_CREATED\_BY column with the name of any user present in the target setup that has appropriate roles to perform Excel Upload tasks.



It is mandatory to update values for V\_INFODOM and V\_ CREATED\_BY columns.

- 7. Open WinSCP and log in a new session by entering the host name, port number, user name, and password to access the source setup.
- 8. Navigate to the directory referred to as FTPSHARE.
- **9.** Copy the excel-entity mapping xml file(s) which are located in this directory according to their directory structure on to your desktop.

For example: /ftpshare/STAGE/ ExcelUpload/\$SOURCE\_INFODOM\_NAME/\$EXCEL\_FILE\_NAME.xml



The actual file name of the Excel Sheet is mentioned in the V\_EXCEL\_NAME column of the EXCEL\_MAPPING\_MASTER table.

**10.** Copy the excel templates (.xls/ .xlsx) file(s) which are located in this directory according to their directory structure on to your desktop. For example:

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

#### Note:

xls/.xlsx files must be copied to the path as per the local path given in your webserverinfo table of config schema. Ignore this step if files are not present at the location.

- **11.** Log into 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 Step 3 to the following location in the target setup.

For example: /ftpshare/STAGE/ ExcelUpload/\$TARGET\_INFODOM\_NAME/\$EXCEL\_FILE\_NAME.xml.

#### Note:

\$TARGET\_INFODOM\_NAME must be target setup infodom in which you have uploaded the appropriate data model and the name must be the 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 following location in target setup. For example: /ftpshare/STAGE/ExcelUpload/TEMPLATE/\*.xls or \*.xlsx.



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



# Frequently Asked Questions (FAQs) and Error Dictionary

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

- Frequently Asked Questions
- Error Dictionary

## 12.1 OFSAAI FAQs

- What are the different components that get installed during OFSAAI?
   The different components of OFSAAI are illustrated in Components of OFSAAI.
- What are the different modes of OFSAAI installation? OFSAAI can be installed only in Silent Mode.
- Can the OFSAA Infrastructure components be installed on multi-tier? No.
  - OFSAA Infrastructure components (ficapp, ficweb, ficdb) cannot be installed on multi-tier. By default, they are installed on a single-tier. However, OFSAA Infrastructure can be deployed within the n-Tier architecture where the Database, Web Server, and Web application server is installed on separate tiers.
- 4. Is the JDK (Java Development Kit) required during the installation of OFSAA? Can it be uninstalled after the OFSAA installation?
  JDK is not required during the installation of OFSAA and only a runtime is needed. For details, see Hardware and Software Requirements.
  - Only JRE (Java Runtime Environment) is required during the installation of OFSAA and cannot be uninstalled as the JRE is used by the OFSAA system to work.
- 5. How do I know what are the Operating system, web servers, and other software versions that OFSAA supports?
  See the Oracle Financial Services Analytical Applications 8.1.2.0.0 Technology Matrix.
- 6. 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 InstallConfig.xml
- privileges config user.sqlprivileges atomic user.sql
- 7. What should I do if I get the following error message during installation: "Execute Permission denied"? Check whether all the files provided for OFSAAI installation has execute permissions.

To give execute permissions, navigate to the directory path where the Installation files are extracted and execute the following command:

```
chmod -R 755 OFS_AAAI_PACK
```

- 8. "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 before running this program", then
  - Check whether the "java path" is set in the PATH variable. See the Hardware and Software Requirements 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 the setup.sh file does not contain control line feed characters (^M).
- 9. What should I do if I get the following error message during installation, "OracleDriver Files Not Found, Please Choose the Right Path To Continue"? Check whether the provided path for Oracle Driver files is correct and whether the user has permission to access the files.
- 10. The installation of OFSAAI was completed successfully! What next? Post the successful completion of the OFSAAI installation, one has to perform the Post Installation steps. See Post-installation.
- 11. What is to be done when OFSAAI Installation is unsuccessful?

  OFSAAI installer generates the log file OFSAAInfrastructure\_Install.log in the Infrastructure Installation Directory. There are also other log files created in the directories:
  - < directory path where the Installation files are extracted >/ OFS\_AAAI\_PACK/logs
  - < directory path where the Installation files are extracted >/ OFS\_AAAI\_PACK/OFS\_AAI/logs

If the logs of any of these reported Warnings, Non Fatal Errors, Fatal Errors, or Exceptions, they must be brought to the notice of the OFSAAI My Oracle Support. It is recommended not to proceed until the reported problems are adequately addressed.

- 12. How do I completely uninstall OFSAAI?

  OFSAAI can be completely uninstalled by performing the steps provided in the Uninstall OFSAA Infrastructure section in this guide.
- 13. Can OFSAAI config and atomic schemas be on different databases? OFSAAI requires both config and atomic schemas to be present on the same database instance.
- 14. How do I 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.



- a. Log into the database as sys and connect as sysdba user.
- Execute the privileges\_atomic\_user.sql file available under the \$FIC\_HOME directory.
- c. Enter the database schema for which you want to grant privileges.
- 15. When should I run the MLS utility? See the Multiple Language Support (MLS) Utility section in the OFS Analytical Applications Infrastructure Administration Guide.
- **16.** What should I do if I get the following error message on the UNIX System terminal while executing ./setup.sh, "Insert New Media. Please insert Disk1 or type its location"?
  - a. Log in as root user on the UNIX machine where OFSAAI is getting installed.
  - **b.** Navigate to the path /etc/security/.

  - d. After saving the changes, log in as UNIX user with which OFSAAI is getting installed and execute the command: ulimit -n
  - e. The command must return the value 15000.
- 17. How do I verify if the system environment is ready for OFSAAI installation?

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

See Verifying System Environment section for additional information.

- 18. How do I know if the installation is completed successfully? The OFSAA Infrastructure installation performs a post-install health check automatically on the successful installation of the product.
- 19. What should I do if there are any exceptions or errors in installation and how to proceed?
  - a. See the Verify the Log File Information section for log file information.
  - **b.** Backup the installation logs.
  - c. Share the backup logs with My Oracle Support.
- 20. What should I do if I get the following error message during OFSAAI installation on Solaris 11 system?

```
"Error: OFSAAI-1108

ORA-00604: error occurred at recursive SQL level 1

ORA-01882: timezone region not found"

Or

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

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

TZ=Asia/Calcutta

export TZ

21. What should I do if the installation process is abruptly terminated or aborted?

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



- a. Drop the DB objects in the config and atomic schemas created by OFSAAI installation.
- b. 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.
- Delete the OFSAA install and FTP Share directories created by the OFSAAI installer.
- d. Perform the OFSAAI installation again. See Pre-installation
- 22. Does OFSAA support any other web server types, other than the ones stated in the Oracle Financial Services Analytical Applications 8.1.2.0.0 Technology Matrix and Installation Guide?
  - No, all the supported software and versions are stated in the Oracle Financial Services Analytical Applications 8.1.2.0.0 Technology Matrix
- 23. What should I do if the database connection from the connection pool displays the following error message, "java.sql.SQLRecoverableException: IO Error: Connection reset"?

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

#### Note:

This must be configured on all the machines or VMs where the OFSAAI components are installed.

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

- 24. What should I do when I get syntax errors/file not found error messages while invoking setup.sh file from my install archive?
  - This can mostly happen due to the following reasons:
  - When the installer is not extracted correctly or corrupted during the unzip utility process.
  - setup.sh file which resides within the install archive is not transferred in ASCII or text mode, which can corrupt the file.

To correct this, follow the steps:

- **a.** Copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.
- **b.** Unzip the installer using the command: unzip <OFSAAI Installer>.zip

The corrupted setup.sh file would have introduced certain ^M characters into the file. You can remove ^M characters from the setup.sh file by following these steps:

- Log in to the server where the installer is copied.
- b. Navigate to the directory < directory path where the Installation files are extracted >/OFS AAAI PACK/bin.



- **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!
- 25. What should I do if I get the following error message while executing ./startofsaai.sh file on the UNIX System terminal "./startofsaai.sh: /java: Execute permission denied"?
  - Ensure the JAVA\_BIN environment variable path is set on the "UNIX user" terminal from where the startofsaai.sh file is invoked.
  - Ensure that the .profile file, where the environment/ path settings are made, is executed successfully.
- 26. What should I do if the OFSAAI Application Server does not proceed even after providing the system password? Ensure that, the System Password provided when prompted during installation is correct. Also, check whether the connection to the "configuration schema" can be established through sqlplus.
- 27. 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 the list of languages from Server. Please contact the system administrator". What should one do? Ensure OFSAAI servers are started and are running successfully. For details on startup parameter options, see Start the Infrastructure Services section.
  - For more details on the issue, refer to the logs under \$FIC HOME /logs directory.
- 28. Is it necessary to provide the specified grants to the Oracle schema user before installation? If yes, can it be revoked after completing the installation? The "Oracle schema" user requires the necessary grants specified before, during, and after the installation process. Grants provided must never be revoked as the application makes use of these grants all the time.
- 29. Can we have a 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 can be achieved with the distribution of services.
- 30. Why do we need FTPSHARE on all the layers? Can we have ftpshare on another server other than the server 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 directories for each Information Domain, with each Information Domain directories holding Erwin, log, and scripts directory. The transfer of data among the Web, Application, and Database servers in Infrastructure takes place through FTP/SFTP.
  - You must 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, you can have FTPSHARE as a common local storage mount point which can be mounted where OFSAAI is installed.
- **31.** Is it mandatory to provide the FTP/SFTP password?



Yes, OFSAAI needs credentials of the user who has complete permissions on the FTPSHARE directory, and the user must be able to independently log in to the UNIX server.

For more information, see the Configure OFSAAI\_InstallConfig.xml File section.

- **32.** 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 the case of a single-tier installation, 770 permissions can be provided if the UNIX users of OFSAAI and web servers belong to the same UNIX group.
  - Additionally, any new file that is created in the FTPSHARE directory of any installation layer must be granted specific/explicit permission.
- 33. How to modify the port number currently being used by the Infrastructure application? Port Changer utility can be used to have the Port number modified, which is currently being used by the Infrastructure application. For more information, refer to the Change IP/ Hostname, Ports, Deployed Paths of the OFSAA Instance section in the OFS Analytical Applications Infrastructure Administration User
- **34.** Are there any in-built system administration users within OFSAAI Application? The two in-built system administration users are provided to configure and setup OFSAAI.
  - SYSADMN

Guide.

- SYSAUTH
- **35.** Does OFSAAI Application support both FTP and SFTP? OFSAAI supports both FTP and SFTP configuration.
- **36.** 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.
- 37. 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.
- **38.** What should I do if I get the following message while creating Information Domain, "Please create a database and then create the information domain"? Information Domain is mapped to only one Database; and thus before the creation of Information Domain, at least one database details must exist.
- **39.** What should I do if I get the following message during the startup of the backend engine message server, "ConnectToDatabase: FatalError, could not connect to the DB server"?
  - Verify whether a connection to the Configuration Schema can be established through SQL\*PLUS.
  - Verify the Configuration Schema password is modified post-installation.
  - Ensure Oracle Database Alias Name created for Oracle Instance and Oracle Service Name are the same.



- 40. What should I do if I get the following message during the startup of the backend engine message server, "Fatal Error, failed to get the user ID from LibSmsConnect"? Ensure the Reveleus.SEC file exists under the \$FIC\_HOME/conf directory where the Database components are installed.
- **41.** Does OFSAAI Application support LDAP authentication? OFSAAI supports LDAP configuration and authentication.
- **42.** Does OFSAAI support multiple languages? Yes, OFSAAI supports multiple languages.
- **43.** Does OFSAAI provide any data back-up features?

  OFSAAI does not have a built-in backup facility. External Storage Infrastructure is recommended for back-up.
- **44.** What kind of security features does the OFSAAI provide? See the Security Guide for more information.
- **45.** Does OFSAAI have the ability to enforce periodic password change? OFSAAI provides configurable parameters to define the number of days after which the user password must expire and then the user is forced to change the password after the expiration period.
- **46.** What is the password policy followed in OFSAAI? OFSAAI enforces a minimum password length with a combination of Upper and Lower case characters and alphanumeric strings.
- **47.** Which version of Erwin Data Modeller does OFSAAI support? See the Hardware and Software Requirements section for more information.
- **48.** 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 Data Model Management --> Data Model Maintenance --> 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.

For more details, see the Model Upload Utility section of the OFS Analytical Applications Infrastructure User Guide.

- **49.** How do I apply the incremental change to the existing model when the Business Data model changes?
  - The modified data model can be uploaded into the system and OFSAAI can compare the changes within the data model concerning the one already present in the system and enables propagation of incremental changes in a consistent manner.
- **50.** What are the different types of uploading a business data Model? OFSAAI supports uploading of the business data model from client desktop and also by picking up the data model from the server location.
- 51. 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 will require updating in those files. For more information, see Modify OFSAAInfrastructure Config Schema Password.
- 52. 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 will require updating those files.



To change the Atomic Schema password, follow the steps:

- a. Log in to OFSAA.
- **b.** Navigate to System Configuration > Database Details window. Select the appropriate connection, provide the modified password, and save.
- c. Based on the Web Server installed, follow the steps:
  - If you are using Apache as Web server:
    - Update the <Context> -> Resource tag details in the server.xml file from the \$CATALINA\_HOME/conf directory. (In case of Tomcat only Atomic <Resource> will exist).
  - If you are using WebSphere as Web server:
    - Log in to the WebSphere Administration Console from the left side menu.
    - Navigate to Resources >JDBC > Data Sources. A list of data sources are populated on the right side.
    - Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources must be modified).
  - If you are using WebLogic as Web server:
    - Log in 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 are populated on the right side.
    - Select the appropriate Data Source and edit the connection details. (In this case, both Config and Atomic data sources must be modified).
- d. Restart the OFSAAI services



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

- 53. Does the upload of the 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 My Oracle Support for more details.
- 54. Why do the Business Metadata Management screens (Business Processors screen) in User Interface take more time to load than other screens?

  The Log file in DynamicServices.xml which resides in the \$FIC\_HOME/conf directory is continuously being updated/refreshed to cache metadata. This can be observed when you are starting startofsaai.sh and if any of the log files (For example, SMSService.log) in DynamicServices.xml is being continuously refreshed for a longer time.

By default, the Metadata Logfile 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 1001st entry is overwritten by deleting the first entry. This results in the application window 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.

- a. Generate the Log report by executing the following query in the 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
- **b.** The preceding query returns a list of codes with their respective metadata count. You can refer to the "metadata\_type\_master" table to identify the metadata name.
- c. 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 the total measure reported in the log is 1022, increase the limit to 2000 (approximately).
- d. Restart Reveleus/OFSAAI servers (Web and APP) and check the issue.
- **55.** What should I do if I get OutOfMemoryError while deploying the EAR file in the WebSphere application server?

The Java memory must be increased in the <code>ejbdeploy.sh</code> file which is present under <code><WebSphere Install directory>/AppServer/deploytool/itp. For example,</code>

```
$JAVA_CMD \
-Xbootclasspath/a:$ejbd bootpath \ Xms256m -Xmx1024m \
```

**56.** What is the default memory setting configured by the installer? During OFSAAI installation, the X\_ARGS\_APP parameter in the .profile file is set as given:

```
X_ARGS_APP="-Xms200m -Xmx8g -XX:+UseAdaptiveSizePolicy -XX:MaxPermSize=1024M
-XX:+UseParalleloldGC -XX:+DisableExplicitGC
```

During the application installation, if 10 times the data model size (data model size\*10) is greater than the default Xmx value of 8g (8GB), the installer automatically updates the Xmx value to 10 times the data model size.

57. What configurations should I ensure if my data model size is greater than 2GB? Ensure the Xmx value in the X\_ARGS\_APP parameter in the .profile file is set as 10 times the data model size.

For example, if it is 2GB, set it as:

```
X_ARGS_APP="-Xms200m -Xmx20g -XX:+UseAdaptiveSizePolicy -
XX:MaxPermSize=1024M -XX:+UseParallelOldGC -XX:+DisableExplicitGC
```

Then execute the .profile file.

**58.** 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 is changed. This can occur in hierarchy maintenance, where you have moved a member to another hierarchy branch, and that member is explicitly selected in the Filter and is now a child of a node that is already selected in the Filter. Refer Support Note for the workaround.



- **59.** Can I install an Application Pack on an existing Atomic schema/ Information Domain created manually?
  - No, you cannot install an Application Pack on existing Atomic schema/Information Domain created manually. Application Packs can be installed only on Atomic Schemas/Information Domain created using schema creator utility and/ or the Application Pack installer.
- 60. What should I do if I get the following exception while trying to view the model outputs in Model Outputs screen, "Exception ->Local Path/STAGE/Output file name (No such file or directory)"?

  Ensure you have created a directory "STAGE" under the path mentioned as "Local Path" in the web server details window. This directory must be created under the local path on every node, in case of web application server clustering.
- 61. What should I do if I get the following exception during OFSAA services startup, "Exception in thread "main" java.lang.UnsatisfiedLinkError: net (Not a directory)"? Ensure the JRE referred in .profile is not a symbolic link. Correct the path reference to point to a physical JRE installed.
- **62.** How do you turn off unused Information Domains (Infodoms) from caching? Follow these steps to turn off unused infodoms from caching:
  - Navigate to \$FIC\_HOME/conf in the APP layer of your OFSAAI installation.
  - In the DynamicServices.xml file, identify the section for <Service code="20">.
  - Modify the value of parameter CACHE ON STARTUP to 0 (default is 1).
  - Update the same details in the table Aai\_Dyn\_Svcs\_Params of Config Schema for the parameter CACHE\_ON\_STARTUP. Set the value as 0 and commit the change.
  - Restart the OFSAAI Services (APP and WEB). For more information, refer to the Start the Infrastructure Services section.

#### Note:

This setting helps cache the Infodom metadata only for the infodoms that are accessed after the user login. Infodoms which are not accessed, are not cached.

#### Sample code is as follows:



```
<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>
```

- 63. While creating an Excel Mapping, after specifying the excel worksheet, the target table, and mapping each column in the worksheet to a target table, I click Save and nothing happens. But when I click Cancel, a message pops up informing me that all changes will be discarded", what is to be done.
  Check if the version of the browser and JRE Plugin are as mentioned in the Hardware and Software Requirements section of this manual. If not, use the qualified versions as mentioned.
- **64.** Can multiple OFSAA Infrastructure instances share the same Config Schema? No, only one OFSAA environment can be installed using one Config Schema.
- **65.** Can Atomic Schema be shared? Yes, it can be shared between two OFSAA instances.

While setting a firewall, which ports must be opened for communication between the Web Server (Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server) and the Web application server (WebSphere/ WebLogic/ Tomcat) for OFSAAI to operate properly?

The OFSAA Servlet port which is the same as the Web server port must be open. Also, the web application port must be open.

- **66.** Can I install an already installed application in a different infodom? No, it is not possible to install the same application in two different infodoms.
- 67. How can I configure the OFSAA application for High Availability?

  OFSAA can have active-passive high availability. For more details, refer Configuration for High Availability- Best Practices Guide.
- 68. During OFSAA installation should I provide a web application server's IP /Hostname and port or web server's IP/Hostname and port, if the Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server are configured?

  In case the web server is configured, you must enter the Web Server IP Address/
  - Hostname and Port details during OFSAA installation. Here the Servlet port must be the same as the Web Server port.
  - If Web Server is not configured, the Web application server's IP Address/ Hostname and Port are required during the installation process. Here the Servlet port must be the same as the Web application server port.
- 69. Is "ReveleusAdminConsoleAgent" applicable for OFSAAI 8.1.2.0.0 and higher versions? No, ReveleusAdminConsoleAgent is not applicable starting OFSAAI 7.3.3.0.0. There is a change in the way agentservers are managed through agentstartup.sh and agentshutdown.sh.
- **70.** What should I do when the message server process does not open and I get the following error message, "CI18NProvider::CI18NProvider, Error, unable to connect to the config database"?



This error is displayed due to the following reasons:

- The Config Schema password is already expired.
- If the Config Schema password is going to expire soon and the message like "ORA-28002: the password will expire within 6 days" displays while connecting to Config Schema through SQLPlus.
- The Config Schema password is modified.

To resolve the error, re-set the Config Schema password to the old password. Else, if the Config Schema password is modified to something else then follow these steps:

- a. Delete the \$FIC HOME/conf/Reveleus.SEC file.
- b. Shutdown the OFSAAI App service: cd \$FIC\_APP\_ HOME/common/ FICServer/bin ./stopofsaai.sh
- **c.** Start the Infrastructure Server in foreground directly on the server or through XWindows software using the command: ./startofsaai.sh
- d. Enter System Password.
- e. Enter the new Config schema password. The service starts and initializes if it can successfully connect to the DB and generates the Reveleus.SEC file.
- **f.** Post successful startup of the service, if required, the Infrastructure server may be shut down and restarted in the background using nohup mode.
- **71.** What is the mechanism of log file sizing, changing the log file path, and creating backups of the log files?

OFSAAI Log files created under \$FIC\_APP\_HOME/common/FICServer/logs and <OFSAAI\_DEPLOYED\_AREA>/<CONTEXT.war>/logs is configurable in RevLog4jConfig.xml.

The default size of the log files (MaxFileSize) is set to 5000kb and the number of maximum backup log files (MaxBackupIndex) retained is set to 5, both of which are configurable. Increasing these parameters to a higher value must depend on the server hardware configurations and may reduce the performance.

To configure the Logs file size on the OFSAA Application server, follow these steps:

- a. Navigate to \$FIC HOME/conf where OFSAA is installed.
- **b.** Edit the following parameters in the RevLog4jConfig.xml file:
  - param name="fileName": Enter the path where the Logs are to be generated.
  - param name="size" : Provide the required file size.
  - param name="max": Provide the required number of backup files to be created.

#### Example:



- c. Navigate to \$FIC\_HOME/ficweb/webroot/conf and configure the deployed area logs. Edit the following parameters in the RevLog4jConfig.xml file:
  - param name="file": Do not change this value.
  - param name="MaxFileSize" : Provide the required file size.
  - param name="MaxBackupIndex" : Provide the required number of backup files to be created.

#### Example:

```
<RollingFile name="REVSERVERAPPENDER" fileName="${sys:LOG HOME}/logs/</pre>
RevAppserver.log"
            filePattern="${sys:LOG HOME}/logs/RevAppserver-
%i.log">
             <PatternLayout>
              <Pattern> [%d{dd-MM-yy HH:mm:ss,SSS zzz aa}{GMT}]
[%-5level] [WEB] [REVELEUS]%m%n</Pattern>
             </PatternLayout>
             <Policies>
                      <SizeBasedTriggeringPolicy size="5000</pre>
KB"/>
             </Policies>
             <DefaultRolloverStrategy max="5"> <!-- number of backup</pre>
files -->
             </DefaultRolloverStrategy>
          </RollingFile>
```

To configure the deployed area log file path, modify the value in the LOG\_HOME\_PATH parameter in the aai\_setup\_props table.

**72.** Can I point the environment with HTTP enabled to HTTPS after installation and vice versa?

Follow these steps:

- a. Create SSL related certificates and import to respective servers.
- **b.** Enable SSL on a desired Port (example 9443) on your existing and already deployed web application servers.
- c. Replace the protocol as https and new ssl port (FIC\_SERVLET\_PORT) configured and in all the URLs specified on the following files:
  - \$FIC\_HOME/ficapp/common/FICServer/conf/FICWeb.cfg and \$FIC\_ HOME/ ficweb/webroot/conf/FICWeb.cfg
  - \$FIC HOME/ficapp/icc/conf/WSMREService.properties



- \$FIC HOME/ficweb/webroot/conf/ModelExecution.properties
- \$FIC HOME/ficdb/conf/MDBPublishExecution.properties
- \$FIC\_HOME/ficdb/conf/ObjAppMap.properties
- \$FIC HOME/utility/Migration/conf/WSMigration.properties
- \$FIC HOME/utility/WSExecution/conf/WSExecution.properties
- \$FIC\_HOME/EXEWebService/WebSphere/ROOT/WEB-INF/wsdl/EXEWebServiceImpl.wsdl
- \$FIC\_HOME/EXEWebService/Tomcat/ROOT/WEB-INF/wsdl/EXEWebServiceImpl.wsdl
- \$FIC\_HOME/EXEWebService/weblogic/ROOT/WEB-INF/wsdl/ EXEWebServiceIm pl.wsdl
- d. Replace XML attribute/Node values as specified on the following files:
  - \$FIC HOME/ficweb/webroot/WEB-INF/web.xml
  - FIC WEBSERVER PORT=9443
  - FIC WEBPROTOCOL=https
  - \$FIC\_HOME/conf/LookUpServices.xml and \$FIC\_ HOME/ficweb/ webroot/conf/LookUpServices.xml
  - PORT="9443" PROTOCOL="https:"
- Log in to Config Schema and execute the following SQL command to replace protocol and SSL port.
  - SQL> update configuration cn set cn.paramvalue='9443' where cn.paramname='SERVLET ENGINE PORT';
  - SQL> update configuration cn set cn.paramvalue=replace(cn.paramvalue,'http:','https:') where cn.paramname='FormsManagerCacheReload';
  - SQL> update web\_server\_info ws set
    ws.servletport='9443',ws.servletprotocol='https';
- Create EAR/WAR file and Re-Deploy.
- 73. What should I do if my HIVE connection fails with the following exception: java.sql.SQLException: [Cloudera][HiveJDBCDriver](500164) Error initialized or created transport for authentication:

[Cloudera][HiveJDBCDriver](500168) Unable to connect to server: GSS initiate failed.

com.ibm.security.krb5.KrbException, status code: 37

message: PROCESS\_TGS at com.ibm.security.krb5.KrbTgsRep.<init>(KrbTgsRep.java:20)

This happens if there is clock skew between the client and the KDC server. To resolve this, there are two solutions:

Solution 1:

Synchronize the clocks between the servers. For more information, refer http://docs.oracle.com/cd/E19253-01/816-4557/setup-192/index.html



#### Solution 2:

- Set clock skew parameter on the server side (KDC) krb5.conf file and replace the same file in the HIVE\_LIBRARY\_PATH directory. Parameter value must be decided based on the time difference between the two machines.
- Get the epoch time on the two servers by firing "date +%s" on the command line.
- Clock skew param value must be chosen as a value sufficiently larger than the difference of the preceding two calculated values.
- Set "clock skew = <value>" in the /etc/krb5.conf on the KDC server.
- Restart Kerberos services.
- 74. What should I do if my schema creator log has the following exception:
  Failed to detect a valid hadoop home directory java.io.IOException: HADOOP\_HOME or hadoop.home.dir are not set. at
  org.apache.hadoop.util.Shell.checkHadoopHome(Shell.java:302)

at org.apache.hadoop.util.Shell.<clinit>(Shell.java:327) at org.apache.hadoop.util.StringUtils.<clinit>(StringUtils.java:79) at org.apache.hadoop.security.Groups.parseStaticMapping(Groups.java:130) at org.apache.hadoop.security.Groups.<init>(Groups.java:94) at org.apache.hadoop.security.Groups.<init>(Groups.java:74) at org.apache.hadoop.security.Groups.getUserToGroupsMappingService(Groups.java:30 3) at org.apache.hadoop.security.UserGroupInformation.initialize(UserGroupInformation.ja va:283) at

org.apache.hadoop.security.UserGroupInformation.setConfiguration(UserGroupInformation.java:311) at HdfsDbUtil.connect(HdfsDbUtil.java:162) at SchemaParserUtil.validateHiveConnection(SchemaParserUtil.java:1359) at SchemaParserUtil.checkAllPreChecks(SchemaParserUtil.java:1011) at Main.execute(Main.java:317) at Main.main(Main.java:145) This occurs when HADOOP HOME environment variable is not set.

You can ignore this exception since we do not mandate to install HIVE where OFSAA is installed.

75. What should I do if the sliced data model upload takes a long time to complete? If the metadata cache size is set to a lower value than the actual count of each metadata type (hierarchy, dataset, dimension etc), then it gets into performance degrade issues. We have to increase the cache size for each metadata type according to the count in the environment.

Following are the parameters in DynamicServices.xml to be configured depends on the metadata count in your environment.

```
<PARAMETER NAME="HIERARCHY_NODE_LIMIT" VALUE="2000"/>
<PARAMETER NAME="ALIAS_CACHE_SIZE" VALUE="1000"/>
<PARAMETER NAME="DATASET_CACHE_SIZE" VALUE="2000"/>
<PARAMETER NAME="MEASURE_CACHE_SIZE" VALUE="3000"/>
<PARAMETER NAME="HIERARCHY_CACHE_SIZE" VALUE="2000"/>
<PARAMETER NAME="DIMENSION_CACHE_SIZE" VALUE="2000"/>
<PARAMETER NAME="CUBE_CACHE_SIZE" VALUE="1000"/>
<PARAMETER NAME="BUSINESSPROCESSOR_CACHE_SIZE" VALUE="2000"/>
<PARAMETER NAME="DERIVEDENTITY CACHE SIZE" VALUE="1000"/>
```



Metadata count can be derived based on the following queries:

select count(1) from metadata\_master where metadata\_version=0 --- for all metadata

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=1 --- for measure

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=2 --- for Dimension

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=3 --- for HCY

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=4 --- for DATASET

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=59 --- for BP's

select count(1) from metadata\_master where metadata\_version=0 and metadata type=54 --- for Alias

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=5 --- for CUBES

select count(1) from metadata\_master where metadata\_version=0 and metadata\_type=856 --- for Derived Entity

- **76.** For LDAP authentication, which server connects with the LDAP server, the Application server (where ofsaai is installed), or Web application server (where EAR is deployed)?
  - For LDAP authentication, the Application server (ficapp) connects with the LDAP server.
- 77. The LDAP server in the setup listens on secure protocol ldaps (port 636). I have the root certificate of the LDAP server for SSL, and would like to know where to offload this certificate?
  - You must import the certificate into the JDK/JVM used by Reveleus server in ficapp layer.
- **78.** How to relocate FTPSHARE directory, change IP HOST name, and deployed area in OFSAA?

You can run the PortC.jar utility. For more details, refer Change IP/ Hostname, Ports, Deployed Paths of the OFSAA Instance section in the OFS Analytical Applications Infrastructure Administration Guide.

- 79. How do we identify the list of ports that are used by/configured in an OFSAA environment?
  - Navigate to \$FIC\_HOME directory on Target.
  - Refer to the PortsDef.log file.
- **80.** What should I do if I get the following error message, "Error while fetching open cursor value Status: FAIL"?
  - This error occurs while executing <code>envCheck.sh</code> because the user does not have access to the V\$parameter. This error does not occur due to sysdba or non sysdba privileges provided they have access/grants to the V\$parameter.
- **81.** What should I do when an entity containing many attributes (>100 columns) is selected as a Source entity and the Data Mapping (T2T definition) save operation takes longer than expected with the hourglass in the UI continuously rotating?



- a. Locate the webserver deployed area webroot/conf/excludeURLList.cfg file.
- **b.** Modify the following entries:

```
[SQLIA]./dataIntegrator/ to [ALL]./dataIntegrator/
[SQLIA]./ETLExtractionServlet to
[ALL]./ETLExtractionServlet
```

- **c.** Save the changes and restart the webserver.
- d. Resave the definition.
- 82. What should I do if I get the following error message when I try to start the OLAP server:

```
./olapdataserver: error while loading shared libraries: libessapinu.so: cannot open shared object file: No such file or directory FATAL ERROR:-OLAP DATA SERVER start up failed.
```

This error occurs when the OLAP component is not configured and the OLAP feature in OFSAA is not used. However, this error can be ignored.

**83.** What should I do if I get the error "FATAL ERROR-Problem with OFSAA Service" during the OFS AAAI PACK installation?

Increase the sleep counter (default value is 80) to a higher value in the following section of the OFS\_AAAI\_PACK/OFSAAIUpdate.sh file:

```
if [ $count -eq 0 ] ; then sleep 80;
count=` grep -i "FICServer Initialization Complete"

$FIC_HOME/ficapp/common/FICServer/bin/nohup.out|wc -l ` fi
if [[ $count -gt 0 ]] ; then echo OFSAA Service - OK
else
fi
echo FATAL ERROR-Problem with OFSAA Service exit 1
```

## 12.2 Application Pack 8.1.2.0.0 FAQs

1. What is an Application pack?

An Application Pack is a suite of products. For more information, refer About Oracle Financial Services Analytical Applications (OFSAA) Application Packs.

- 2. Can I get a standalone installer for OFSAAI 8.1?

  No. AAI is part of every application pack and installs automatically.
- Where can I download OFSAA 8.1.2.0.0 Application Pack?
   You can download the OFSAAI 8.1.2.0.0 Application Pack from Oracle Software Delivery Cloud(OSDC).
- 4. What are the minimum system and software requirements for the OFSAA 8.1 Application Pack?

Refer to Hardware and Software Requirements for more information.

- 5. Is my environment compatible with OFSAA 8.1.2.0.0 Application Pack? Environment Check utility performs the task. It is part of the install and can also be run separately.
- 6. Does the OFSAA 8.1.2.0.0 Application Pack support all Operating systems? Refer to the Hardware and Software Requirements section.

7. How can I install the OFSAA 8.1.2.0.0 Application Pack?
Refer to Oracle Financial Services Advanced Analytical Infrastructure Installation
And Configuration Guide.

8. Does this installation require any Third-party Softwares?
For details on the third-party software tools used, see the OFSAA Licensing Information User Manual Release 8.1.2.0.0 available in the OHC Documentation Library.

9. What languages are supported during the OFSAA 8.1.2.0.0 Application Pack installation?

US English is the language supported.

10. What mode of installations OFSAA Application Pack supports? [that is., Silent, GUI]

OFSAA Application Packs support only Silent Mode.

- 11. Does OFSAA 8.1.2.0.0 Application Pack support Multi-tier Installations? OFSAA 8.1.2.0.0 supports only a single-tier installation. For more information refer to the OFS AAI FAQssection.
- 12. Does this Application Pack validate all prerequisites required for this installation like Memory, Disk Space, and so on?
  Yes. The pre-requisite checks are done by the respective application pack installer.
- 13. What happens if it aborts during the installation of any application/products within an Application pack?

You must restore the system and retrigger the installation

14. Does this Application pack 'Roll Back' if any application installation fails due to errors?

The rollback of installation is not supported.

15. Does the Application pack install all applications bundled? Only Application pack system which are enabled are installed. In order to enable other licensed Applications, you need to reinstall by making the flag as Y. See the Table 15: OFS\_<APP PACK>.xml File Parameters, APP\_ID/ ENABLE attribute for information on how to enable. However, in case of reinstallation to enable the other Applications, execution of the schema creation utility must be skipped if it does not include any additional sandboxes to be created.

**16.** Can I re-install any of the Application Packs? You can retrigger in case of failure.

17. Does this Application pack allow enabling/disabling any of the applications installed?

Yes, you can enable but you cannot disable once the product is enabled in an environment.

- 18. I have installed one application in an Application pack, can I install any of the new applications within the Application pack later?
  - Yes, the installation of additional applications is done by setting the flag as Y. See the Table 15: OFS\_<APP PACK>.xml File Parameters, APP\_ID/ ENABLE attribute for information on how to enable. However, in case of a reinstallation, to enable the other Applications, skip the execution of the schema creation utility if it does not include any additional sandboxes to be created.
- 19. How many OFSAA Infrastructures can be installed in a single server?

  There are no issue in installing separate OFSAAI installations, each with their own PFT/FTP installations and separate associated database instances and separate Web Server installations on the same server as long as adequate memory is

allocated for each instance and as long as each OFSAAI installation is installed using a separate UNIX user and profile. Care must be taken when running multiple OFSAAI installations on a single server. Adequate memory is required for each installation as several OFSAAI processes (model upload, DEFQ services, etc) take significant amounts of memory. So it depends on your server's memory.

20. Is it possible to install OFSAA 8.1.2.0.0 Application pack on an existing 'Infodom' where another OFSAA 8.1.2.0.0 application is installed?

Yes. However, the Behavioral Detection Application Pack and Compliance Regulatory Reporting Application pack are the exceptions. They must be installed in a different Infodom.

- 21. Can I select an Infodom for the Application pack during installation? Yes. You can select or change the required infodom.
- 22. Can I install all Application Packs in a 'Single Infodom'?

  Yes. But, the Behavioral Detection Application Pack and Compliance Regulatory Reporting Application Pack are the exceptions. They must be installed in a different Infodom.
- 23. Is it possible to install applications on different Infodom within the Application pack? (For example, I want to install LRM and MR in two infodoms)

  Applications within the application pack have to be installed in the same information domain in the same environment.
- 24. How many Infodoms can be created over a single OFSAA Infrastructure of 8.1.2.0.0?

You can install only one infodom during installation. But after installation, you can create multiple infodoms.

25. Is the 'Data Model' bundled specifically to an Application pack or an individual application?

A merged data model for all applications within the application pack is bundled and uploaded.

26. Is it possible to install OFS Enterprise Modeling later?

OFS Enterprise Modeling is a separate product and can be enabled as an option later from any application pack that bundles Enterprise Modeling. For more information, see Enable Financial Services Enterprise Modeling on Another Application Pack.

27. Does the Application pack create a sandbox automatically for the required applications?

Yes, Sandbox creation is part of the application install process.

28. Are upgrade Kits available for individual applications or the complete Application Pack?

Maintenance Level (ML) Release / Minor Release upgrades are available across all applications.

29. Can I upgrade AAI only?

Yes, you can upgrade AAI alone.

30. Can I upgrade one application within the Application Pack? (For example, I want to upgrade LRM in the Treasury Application pack, but not MR.)

No, an upgrade is applied to all applications in the application pack.

- **31. Is it possible to uninstall any Application from the Application pack?** No, it is not possible to uninstall any Application from the Application Pack.
- **32.** Can I uninstall the entire Application Pack? No, you cannot uninstall the Application Pack.



33. Is it possible to uninstall only the application and retain AAI in the installed environment?

No, you cannot uninstall only the application and retain AAI in the installed environment.

- **34.** Does Application Pack contain all Language Packs supported? Language Packs must be installed on the application packs.
- 35. Can I install an Application Pack over another Application Pack (that is the same infodom or different infodom)?

Yes, you can install an Application Pack over another Application Pack in the same information domain or different information domain. But Behavioral Detection Application Pack and Compliance Regulatory Reporting Application Pack, Asset Liability Management Application Pack, and Profitability Application Pack are the exceptions. They must be installed in a different Infodom.

36. What should I do if I get the following error message while running the schema creator utility, "HostName in input xml is not matching with the local hostname"?

One possible reason can be the machine is configured for zonal partitioning. Ensure all the known IP Addresses of the machine are present in the /etc/hosts file

37. What are the Java versions supported in OFSAAAI Application Pack version 8.1.2.0.02

See the Hardware and Software Requirements section.

38. Is OFSAAAI Application Pack version 8.1.2.0.0 supported on Java 9 and Java 11?

For information about supported Java versions, see the Hardware and Software Requirements section.

39. What should I do when I get "[ERROR] - Error : APP Setup bin file failed." message during OFS\_Application\_PACK installation?

This is a generic error message that appears during application installation failure. You must check the installation log files for more information about what failed the installation.

However, if the message is displayed and the log files are not generated, this can be a temp directory issue. The resolution is that your UNIX administrator has to disable the NOEXEC option. The installers extract the installation files into the /tmp directory, and if NOEXEC is enabled, the execution of binaries will not happen in the directory and the installation fails. Re-run the installer after the configuration is changed. For detailed information, see the support note at https://support.oracle.com/epmos/faces/DocumentDisplay?id=2340045.1.

## 12.3 Error Dictionary

The contents of this section are 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.

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.



This section includes the following topics:

- Access the Error Dictionary
- Error Code Dictionary

## 12.3.1 Access the 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 these instructions to quickly find the error resolution:

- 1. With the Installation pdf open, press **Ctrl+F** or select **Edit > Find**. The Find dialog is displayed as indicated.
- 2. Enter the error code that is displayed on the screen during Infrastructure installation.
- 3. Press Enter. The search results are displayed and highlighted.
- 4. 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 the resolution, you can contact support.oracle.com along with log files and appropriate screenshots.

## 12.3.2 Error Code Dictionary

Table 12-1 Error Code Dictionary

Error Code	Cause	Resolution
OFSAAI-1001	UNIX shell is not "korn" shell.	Change the shell type to "korn". Use the chsh UNIX command to change the SHELL type.
		Shell type can also be changed by specifying the shell path for the UNIX user in the /etc/passwd file.
		Note: The chsh command is not available in Solaris OS.
OFSAAI-1002	No proper arguments are available	Provide proper arguments. Invoke the Setup.sh file using SILENT.
		Example: ./Setup.sh SILENT
OFSAAI-1004	File .profile is not present in \$HOME.	Create the .profile file in the \$HOME directory, that is, in the home directory of the user.
OFSAAI-1005	OFSAAInfrastructure.bin file is not present in the current directory.	Copy the OFSAAInfrastructure.bin file into the installation kit directory.
OFSAAI-1006	CustReg.DAT file is not present in the current directory.	Copy the CustReg.DAT file into the installation kit directory.
OFSAAI-1007	OFSAAI_InstallConfig.xml file is not present in the current directory.	Copy the OFSAAI_InstallConfig.xml file into the installation kit directory.



Table 12-1 (Cont.) Error Code Dictionary

Error Code	Cause	Resolution
OFSAAI-1008	validateXMLInputs.jar file is not present in the current directory.	Copy the validateXMLInputs.jar file into the installation kit directory.
OFSAAI-1009	log4j.xml file is not present in the current directory.	Copy the log4j.xml file into the installation kit directory.
OFSAAI-1010	An unknown error occurred.	Make sure to provide a proper argument (SILENT) to the Setup.sh file.
OFSAAI-1011	XML validation failed.	Check the InfrastructurePreValidati ons.Log file for more details.
OFSAAI-1012	Property file with locale name does not exist.	Copy the  MyResources_en_US.propert ies file to the setup kit directory and keep en_US in the LOCALE tag of the  OFSAAI_InstallConfig.xml file.
OFSAAI-1013	OFSAAI_InstallConfig.xml/OFSAAI_PostInstallConfig.xml file not found.	Copy the OFSAAI_InstallConfig.xml/OFSAAI_PostInstallConfig.xml file to the setup kit directory.
OFSAAI-1014	XML node value is blank.	Make sure all node values except SMTPSERVER, PROXYHOST, PROXYPORT, PROXYUSERNAME, PROXYPASSWORD, NONPROXYHOST, or RAC_URL are not blank.
OFSAAI-1015	XML is not well-formed.	Execute the command dos2unix OFSAAI_InstallConfig.xml file to convert a plain text file from DOS/MAC format to UNIX format. OR
		Ensure that the OFSAAI_InstallConfig.xml file is valid. Try to open the file through a web browser for a quick way to check validity. If it is not getting opened, create a new OFSAAI_InstallConfig.xml file using the XML_Utility.jar file.
OFSAAI-1016	The user installation directory contains blank spaces.	Provide an installation path that does not contain spaces. Check the tag USER_INSTALL_DIR in the OFSAAI_InstallConfig.xml file. This path must not contain any spaces.



Table 12-1 (Cont.) Error Code Dictionary

Error Code	Cause	Resolution
OFSAAI-1017	The user installation directory is invalid.	Provide a valid installation path. Check if you can create the directory mentioned in the USER_INSTALL_DIR tag value of the OFSAAI_InstallConfig.xml file.
		See the My Oracle Support reference document for a workaround on this issue: https://mosemp.us.oracle.com/epmos/faces/DocumentDisplay? _afrLoop=192791484383909&id=2412630.1&_afrWindowMode=0&_adf.ctrl-state=u2t2m1rei_4.

