Oracle Financial Services Capital Adequacy Pack

Installation and Configuration Guide

Release 8.1.1.0.0

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OFS Capital Adequacy Pack Installation and Configuration Guide

Document Control

Version Number	Revision Date	Change Log
1.0	May 2021	Created the document with instructions for the installation of the OFS CAP ADQ Release 8.1.1.0.0.
2.0	February 2022	Fixed the broken links.
3.0	May 2022	Added **Configuring Tomcat for User Group Authorization, Data Mapping, and Disabling WADL for the Web Service** section.
04	July 2023	Added information about updating the pipeline type of PMF sub pipelines.
05	January 2024	Added a post-deployment step for a fresh installation on Linux 8 operating system.

Table of Contents

1   Preface

This section provides supporting information for the Oracle Financial Services Capital Adequacy Pack Installation Guide.

You can find the latest copy of this document in the OHC Documentation Library which includes all the recent additions or 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:

- Intended Audience

- Related Documents

- Conventions

- Abbreviations

1.1   Intended Audience

The OFS CAP ADQ Installation Guide is intended for administrators, business users, strategists, data analysts, and implementation consultants who are responsible for installing and maintaining the application pack components.

This document assumes that you have experience installing enterprise components and basic knowledge of the following:

- Oracle Financial Services Capital Adequacy Pack components

- OFSAA Architecture

- UNIX Commands

- Database Concepts

- Web Server or Web Application Server

1.2   Related Documents

We strive to keep this and all other related documents updated regularly; visit the OHC Documentation Library to download the latest version available there. The list of related documents is provided here.

- OHC Documentation Library **for OFS Capital Adequacy Application Pack:**
  - *OFS Basel Regulatory Compliance User Guide*
  - *OFS Basel Regulatory Analytics User Guide*
  - *OFS Basel Regulatory Capital Adequacy Admin Guide*
  - *OFS Capital Adequacy Security Guide*
  - *OFS Capital Adequacy Cloning Guide*

- [OHC Documentation Library](#) **for OFS AAAI Application Pack:**
    - *OFS Advanced Analytical Applications Infrastructure (OFS AAAI) Application Pack Installation and Configuration Guide*
    - *OFS Analytical Applications Infrastructure User Guide*
    - *OFS Analytical Applications Infrastructure Administration Guide*
    - *Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide*
- **Additional documents:**
    - [OFSAA Licensing User Manual, Release 8.1.1.0.0](#)
    - [OFS Analytical Applications Infrastructure Security Guide](#)
    - [OFSAAI FAQ Document](#)
    - [OFS Analytical Applications 8.1.1.0.0 Technology Matrix](#)
    - [Oracle Financial Services Analytical Applications Infrastructure Cloning Guide](#)

1.3 Conventions

The following text conventions are used in this document:

Table 1: Document Conventions

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

1.4 Abbreviations

The following table lists the abbreviations used in this document:

Table 2: Abbreviations

Abbreviation	Meaning
AIX	Advanced Interactive eXecutive
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language

Abbreviation	Meaning
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
FTP	File Transfer Protocol
GUI	Graphical User Interface
HTTPS	Hypertext Transfer Protocol Secure
Infodom	Information Domain
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
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 Application
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OFSCAP	Oracle Financial Services Capital Adequacy Pack
OLAP	On-Line Analytical Processing
OS	Operating System
RAM	Random Access Memory
RDMS	Relational Database Management System
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TDE	Transparent Data Encryption
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
Web Archive	WAR

Abbreviation	Meaning
XML	Extensible Markup Language

Part I

Topics:

- Pre-installation
- Installation
- Post-installation

2   Introduction

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

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

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

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

Figure 1: Application Packs of OFSAA
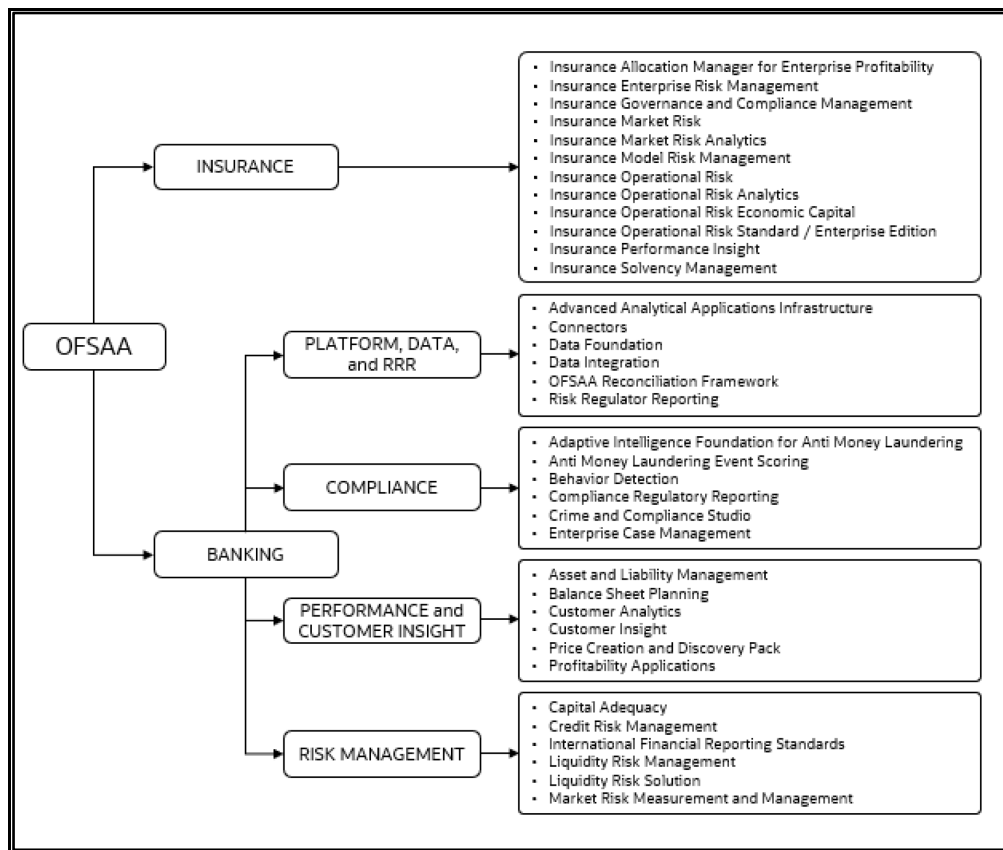
Topics:

- Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)

- About the Oracle Financial Services Capital Adequacy Pack

- Installation and Upgrade Scenarios

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 or 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: Components of OFSAAI
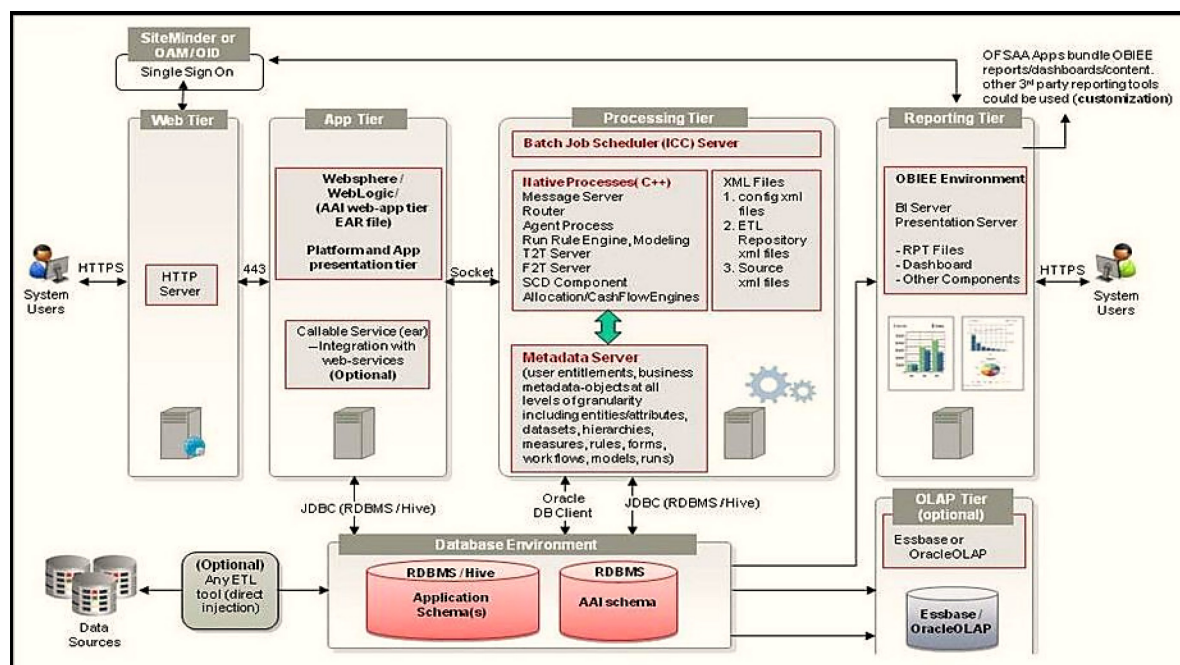
2.1.2 OFSAA Infrastructure High Availability

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 is supported in this release.

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

2.1.3 Deployment Topology

The following figure illustrates the deployment topology of OFSAA application packs.

Figure 3: The Logical Architecture Implemented for OFSAAAI Application Pack
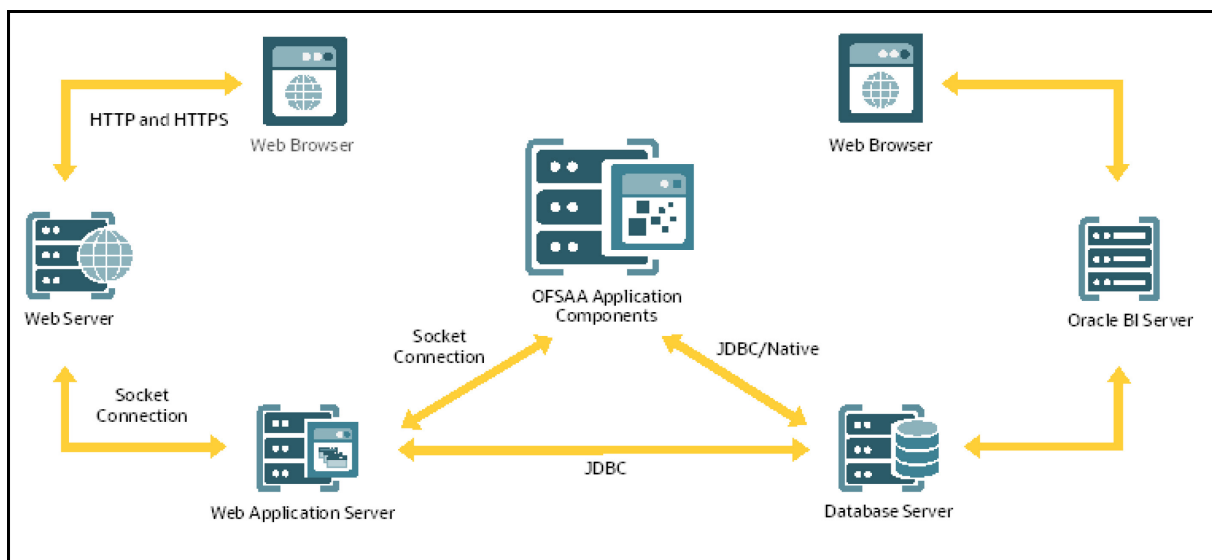
2.2 About the Oracle Financial Services Capital Adequacy Pack

OFS CAP ADQ 8.1.1.0.0 Pack includes the following applications:

- Oracle Financial Services Basel Regulatory Capital Basic: The application encompasses Credit, Market, and Operational Risks and provides a detailed breakup of the Capital Requirements across Tier 1, 2, and 3. The application supports the computation of Capital Adequacy Ratio (CAR) as per the guidelines laid out in the BIS (Basel III and Basel III Post Crisis Reforms), India, and APRA Jurisdiction.

- Oracle Financial Services Basel Regulatory Capital Internal Ratings Based Approach: This application is based on the approaches supported by the OFS Basel Regulatory Capital Basic Application as well as the advanced approaches for BIS Jurisdiction.

- Oracle Financial Services Basel Regulatory Capital Analytics: This application allows institutions to capitalize on their Basel III compliance investments by providing extensive dashboards that enable efficient and timely Pillar I analysis and Pillar 3 disclosures, regulatory reporting and provide a complete platform for strategic decision-making across the institution.

- Oracle Financial Services Economic Capital: Economic Capital (EC) is the capital level required by the bank to cover the losses within a given probability. Economic Capital is attributed mainly to three risks: Credit Risk, Operational Risk, and Market Risk. Economic Capital methodologies can be applied across products, lines of business, and other segments as required. Basel Committee emphasizes banks have their methods and processes to calculate adequate capital for the risk they

have assumed as a part of pillar 2 requirements in Basel accord. The focus on Economic Capital calculation is to measure risk and optimize performance by reallocating capital to strategically important businesses and businesses with high returns. An Economic Capital framework relates the risk of investment to the amount of capital required, thereby putting business performance or investment return into a proper perspective relative to risk.

2.3   Installation Overview

To install an OFS CAP ADQ application pack 8.1.1.0.0 instance, users and administrators must download this installer. The following figure displays the order of procedures you will need to follow to install a new OFS CAP ADQ Pack 8.1.1.0.0 instance.

> **NOTE**
>
> This installer supports both the upgrade and new installation of OFS CAP ADQ 8.1.1.0.0.

Figure 4: Installation Flow
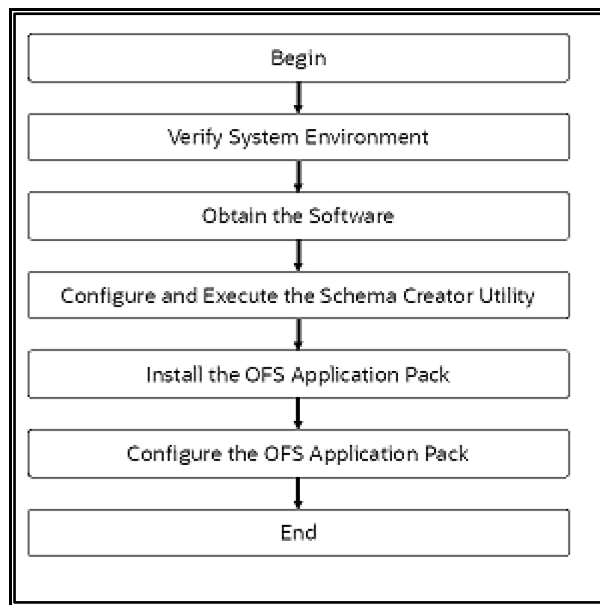
2.4   OFS AAI Extension Pack

The Oracle Financial Services Analytical Applications Infrastructure Extension (OFS AAIE) Pack adds a set of new advanced features for the 8.1.1.0.0 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

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

2.5   Installation and Upgrade Scenarios

Release 8.1.1.0.0 of OFS CAP ADQ supports various installation and upgrade scenarios. A high-level overview of the possible scenarios is provided in the following table. Detailed procedural steps are provided in the succeeding sections of this document.

Table 3: OFS CAP ADQ Release 8.1.1.0.0 Installation and Upgrade Scenarios

Scenario	Installation and Upgrade Instructions
New Installation	
Installing Release 8.1.1.0.0 application pack for the first time (new installation).	1. Prepare for the Installation. 2. Execute the Schema Creator Utility. 3. Install the CAP Application Pack. 4. Perform Post Installation Activities
Install a new application on an existing OFSAA Instance from the same pack You have installed some applications from the Release 8.1.1.0.0 pack and in the future, you decide to include other applications from the same pack. Example: You have installed Basel Basic application using the CAP Pack installer 8.1.1.0.0. Later, you decide to license the Basel IRB application and want to install them using the same CAP Pack installer 8.1.1.0.0.	If the schema creator output file (OFS_CAP_ADQ_SCHEMA_OUTPUT.xml) EXISTS: 1. Configure the `OFS_CAP_ADQ_PACK.xml` file to disable the existing applications and enable the newly licensed applications. 2. Configure the `Silent.props` file present in the Release 8.1.1.0.0 pack ONLY for the newly licensed applications. 3. Trigger the Release 8.1.1.0.0 installation. 4. Perform the post-installation steps If the schema creator output file (OFS_CAP__ADQ_SCHEMA_OUTPUT.xml) DOES NOT EXIST: 5. Run the schema creator utility. IMPORTANT NOTE: While defining the schema details for the applications, provide the same schema details given in the previous installation. The output file (`OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`) is generated as a result of the schema creation process. 6. Configure the `OFS_CAP_ADQ_PACK.xml` file to disable the existing applications and enable the newly licensed applications. 7. Configure the `Silent.props` file present in the Release 8.1.1.0.0 pack ONLY for the newly licensed applications. 8. Trigger the Release 8.1.1.0.0 installation. 9. Perform the post-installation steps
Install a new application pack on an existing OFSAA Instance You have already installed an application pack from release 8.1.1.x	1. Run the schema creator utility ONLY for the new pack. 2. Configure the `OFS_CAP_ADQ_PACK.xml` file for the newly licensed pack. 3. Configure the `Silent.props` file of the newly licensed pack.

Scenario	Installation and Upgrade Instructions
and now you want to install another application pack from Release 8.1.1.0.0. **For example, OFS ALM Pack is already installed and now you want to install OFS CAP ADQ Pack.**	4. Trigger the Release 8.1.1.0.0 installation. 5. Perform the post-installation steps
Upgrade Installation	
Upgrade an already installed application pack from 8.1.0.0.0 or later releases You are upgrading the application pack from Release 8.1.0.0.0 or later to Release 8.1.1.0.0. For example, you are using release 8.1.0.1.2 and now you want to upgrade to release 8.1.1.0.0.	1. Create the APRA Segment. 2. Copy the schema creator output file `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml` from the 8.1.0.0.0 installer kit to the 8.1.1.0.0 installer kit. 3. Update OFS_CAP_ADQ_PACK.xml file to enable the existing licensed applications 4. Update the `Silent.props` file for the sections related to the existing licensed applications. 5. Trigger the Release 8.1.1.0.0 installation. 6. Perform the post-installation steps
Upgrade an already installed application from 8.1.0.0.0 or later release version and add new applications from the same pack You have two applications from a pack on 8.1.0.0.0 or later. You want new applications from the same pack on 8.1.1.0.0. For example, you have installed Basel Basic and Basel Analytics from Release 8.1.0.0.0. Now you want to upgrade them and install Basel IRB of Release 8.1.1.0.0.	1. Create the APRA Segment. 2. Copy the schema creator output file `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml` from the 8.1.0.0.0 installer kit to the 8.1.1.0.0 installer kit. 3. Update `OFS_CAP_ADQ_PACK.xml` file to enable the existing and newly licensed applications. 4. Update the `Silent.props` file for the sections related to the existing as well as newly licensed applications. 5. Trigger the Release 8.1.1.0.0 installation. 6. Perform the post-installation steps

ATTENTION

You must not configure the OFSAAI `InstallConfig.xml` file for the following scenarios:

Installing a new application on an existing OFSAA Instance from the same pack

Installing a new application pack on an existing OFSAA Instance.

3   Complete Installation Checklist

For a successful installation, perform the steps listed in the Complete Installation Checklist. You can use this checklist to have a 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 4: Complete Installation Checklist

Sl. No.	Pre-installation Activity
1	• [Install](#) all the prerequisite hardware and software as per the [OFS Analytical Applications Technology Matrix](#). • [Configure](#) the Database Instance settings. • [Install](#) and configure the web application server. • [Configure](#) the HTTP settings on the webserver. • [Configure](#) the Operating System and File System settings.
2	[Verify](#) the System Environment using the Environment Check Utility.
3	[Create](#) the Installation, Download, and Metadata Repository Directories.
4	[Update](#) the following Environment Settings as required for the installation in the `.profile` file: • Java settings • Oracle Database Server and Client settings • Oracle Essbase settings • Time Zone settings • Ensure that you execute the `.profile` file with all the above updates before installation.
5	[Add](#) TNS entries in the `tnsnames.ora` file.
6	[Download](#) and [Extract](#) the OFS CAP ADQ Application Pack installer kit.

Sl. No.	Installation Activity
1	[Configure](#) the `OFS_CAP_ADQ_SCHEMA_IN.xml` file.
2	[Execute](#) the Schema Creator Utility in [Offline](#), [Online](#), or [TCPS](#) modes and verify the log file.
3	[Configure](#) the `OFS_CAP_ADQ_PACK.xml` file.
4	[Configure](#) the `OFSAAI_InstallConfig.xml` file.
5	[Configure](#) the `Silent.props` file.
6	[Stop](#) the OFSAA Infrastructure services.
7	[Trigger](#) the application installation.

Sl. No.	Post-installation Activity
1	Verify the installation logs.
2	Mandatory OFSAA Infrastructure Patch Installation.
3	Back up the `OFS_CAP_ADQ_SCHEMA_IN.xml` and `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`, and `Silent.props` files.
4	Create and deploy EAR or WAR files.
5	EAR or WAR File - Build Once and Deploy Across Multiple OFSAA Instances.
6	Start the OFSAA Infrastructure services.
7	Access the OFSAA Application.
8	OFSAA Landing Page.
9	Configure the `excludeURLList.cfg` file.
10	Create Application Users.
11	Map the Application User (or Users) to User Groups.
12	Change the ICC Batch Ownership.
13	Update OBIEE URL.
14	Configure the webserver. **NOTE:** Before proceeding with the domain creation, download and install the required one-off Patch or the latest WLS PSU for 14.1.1 from My oracle Support (Doc ID 2806740.2). For more information, refer to Configure WebLogic for Application Deployment in AAI installation guide.
15	Configure the Resource Reference in web application servers.
16	Post-deployment Configuration.

Sl. No.	Additional Configuration Steps Activity
1	Configure the Work Manager in the web application servers.
2	Add FTP/SFTP Configuration for File Transfer.
3	Configure the Infrastructure Server Memory.
4	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
5	Execute the OFSAAI Setup Information Fetching Tool.
6	Execute the Encryption Changer.
7	Configure the Infrastructure LDAP Configuration.
8	Configure and deploy the OFSAAI web services.
9	Enable the Parallel Execution of DML statements.

Sl. No.	Additional Configuration Steps Activity
10	Configure the Message Details in the Forms Designer.
11	Clear the application cache.
12	Configure password changes.
13	Configure Java Virtual Machine.
14	Configure Internal Service (Document Upload or Download).
15	Migrate Excel Upload Functionality.
16	Remove the OFSAA Infrastructure.

4   Pre-installation

This section contains the pre-installation requirements for a successful installation and functioning of the OFS Capital Adequacy Application Pack.

To complete the pre-installation process, you must perform the following steps listed in the Pre-installation Checklist table. Use this checklist to verify whether these steps are completed or not.

Topics:

- Pre-installation Checklist

- Hardware and Software Requirements

- Create the Installation, Download, and Metadata Repository Directories

- Preparing for Installation

4.1   Pre-installation Checklist

You can use this checklist to have a glance at everything that you will be doing before installing this application. The link provided in each step takes you to a section either within this document or to another referenced document.

Table 5: Pre-installation Checklist

Installation Stage	Sl. No.	Activity
Pre-installation Steps	1	Install all the prerequisite hardware and software as per the OFS Analytical Applications Technology Matrix . • Configure the Database Instance settings. • Install and configure the web application server. • Configure the HTTP settings on the webserver. • Configure the Operating System and File System settings.
	2	Verify the System Environment using the Environment Check Utility.
	3	Create the Installation, Download, and Metadata Repository Directories.
	4	Update the following Environment Settings as required for the installation in the `.profile` file: • Java settings • Oracle Database Server and Client settings • Oracle Essbase settings • Time Zone settings Ensure you execute `.profile` file with all the above updates before installation.
	5	Add TNS entries in the `tnsnames.ora` file.
	6	Download and Extract the OFS CAP ADQ Application Pack installer kit.

4.2 Hardware and Software Requirements

For a list of all the hardware and software requirements including operating systems, database, web servers, and web application server versions for which this release of the OFS Capital Adequacy Application Pack is qualified see the OFS Analytical Applications Technology Matrix.

Topics:

- Third-party Licensing Information
- Verify System Environment

OFS Capital Adequacy application pack recommends the following software combinations for deployment.

Table 6: Recommended Software Combination

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

4.2.1 Third-party License Information

For more information about the third-party software tools used, see the OFSAA Licensing Information User Manual Release 8.1.1.0.0.

4.2.2 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 My Oracle Support.

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

For more details about downloading and using this utility, see the OFS Analytical Applications Infrastructure Environment Check Utility Guide.

4.3 Create the Installation, Download, and Metadata Repository Directories

To install the OFSCAP Application Pack, create the following directories:

- **OFSCAP Download Directory (Optional)**: Create a download directory and copy the OFSCAP Application Pack Installer File (archive). This is the directory where the downloaded installer or patches can be copied. Assign 755 permission to this directory.

- **OFSAA Installation Directory (Mandatory)**: Create an installation directory where the product binaries are installed. Assign 755 user permission to the installation directory. FIC_HOME variable to be set in the `.profile` file pointing to this directory as follows:

```
FIC_HOME=<OFSCAP Installation Directory>

export FIC_HOME
```

- **OFSAA Staging or Metadata Repository Directory (Mandatory)**: A directory to hold the application metadata artifacts and additionally act as the staging area for the flat files. This directory is also referred to as FTPSHARE. Create a Staging or Metadata Repository Directory to copy data files, save data extracts, and so on.

   The directory must exist on the same system as the OFSAA Installation. This directory can be configured on a different mount or under a different user profile. However, the owner of the installation directory must have 775 user permissions to this directory.

   > **NOTE**
   >
   > Ensure that the OFSAA staging directory is not set to the same path as the OFSAA installation directory and is not a subdirectory inside the OFSAA installation directory.

- **OFSCAP Hive Directory (Mandatory for Big Data Installation)**: Create a directory for the file system stage area of the Hive server. This is commonly referred to as "FTPSHAREH" or "HIVE_SERVER_FTPDRIVE". Ensure the user permission is set to 775 on the Installation Directory.

4.4   Preparing for Installation

This section details the preparatory procedures that must be followed before triggering the installation.

4.4.1   Download the OFS CAP ADQ Application Installer and Mandatory Patches

To download the OFS CAP ADQ Applications Pack Installer Release 8.1.1.0.0, follow these steps:

1. Log on to My Oracle Support (MOS) with your Oracle account credentials.

   Figure 5: MOS Login Window
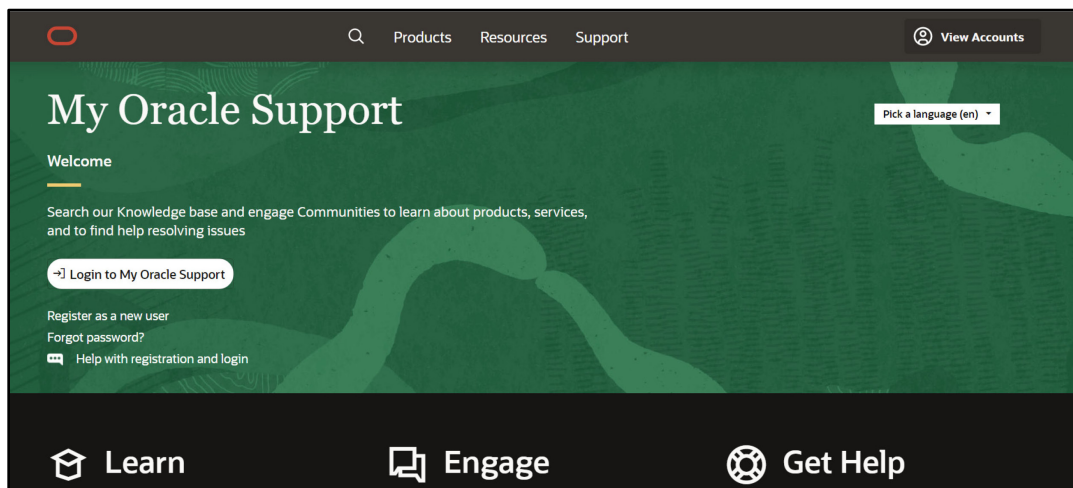
2. In the Patches & Updates tab, enter the patch ID 32742591 in the search box.

Figure 6: My Oracle Support - Search Page
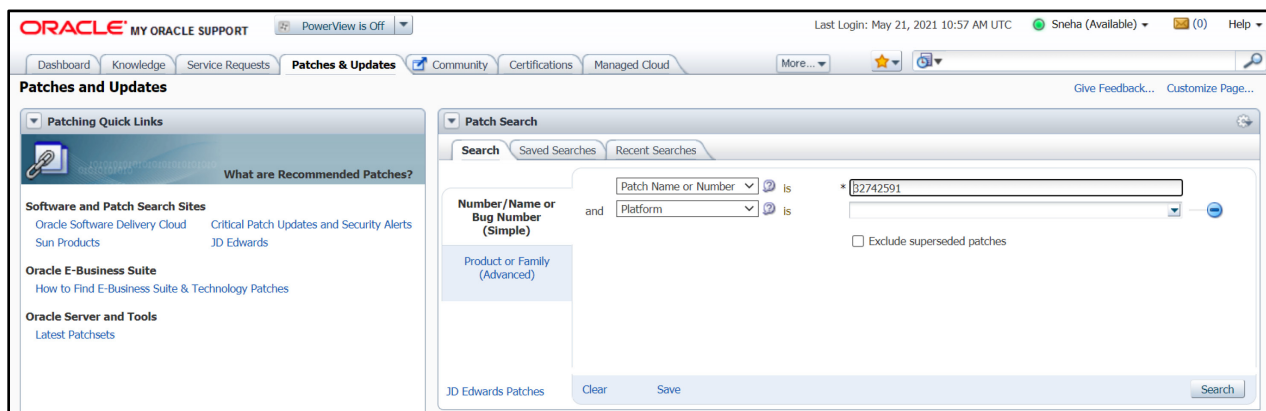
3. Download the installer archive and copy in Binary mode to the download directory that exists in the OFS CAP ADQ installation setup.

4. Download the following mandatory one-off patches from My Oracle Support to the download directory that exists in the OFSAAAI installation setup:

Table 7: List of mandatory patches

Patch ID	Description
32548944	Cumulative fix for issues observed on top of OFS AAI version 811.
32163060	JSON read from the database is giving null string when there is a null value for any column.
32586117	Process resave in the breadcrumbs altering called pipeline and cache clearing issue.

5. Log in to My Oracle Support, search for the **33663417** Mandatory Patch in the **Patches & Updates** Tab and download it.

> **ATTENTION:**
>
> 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 prior to 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.

4.4.2   Extract the Software

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

1. Download the unzip utility (OS-specific) `unzip_<os>.Z` and copy it in Binary mode to the directory that is included in your PATH variable.

   If you already have an unzip utility to extract the contents of the downloaded archive, skip this step.

2. Uncompress the unzip installer file with the following command:

   `uncompress unzip_<os>.Z`

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

3. Assign 751 permission to the file with the following command:

   `chmod 751 unzip_<OS>`

   For example, `chmod 751 unzip_sparc`

4. Extract the contents of the OFS CAP ADQ Application Release 8.1.1.0.0 installer archive file in the download directory with the following command:

   `unzip p32742591_81100_<OS>.zip`

5. Extract the following one-off patches in the download directory:

   - 32548944

   - 32163060

   - 32586117

6. Navigate to the download directory and assign 750 permission to the installer directory with the following command:

   `chmod -R 750 OFS_CAP_ADQ_PACK`

5 Installation

This section provides detailed steps to install the OFS CAP ADQ Application Pack.

Topics:

- Installation Checklist
- Configure Schema Creator Utility
- Configure the OFSAAI_InstallConfig.xml File
- Configure the OFS_CAP_ADQ_PACK.xml File
- Configure the Silent.props file
- Install the OFS CAP ADQ Application

5.1 Installation Checklist

You can use this checklist to have a 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 8: Installation Checklist

Sl. No.	Installation Activity
1	Configure the `OFS_CAP_ADQ_SCHEMA_IN.xml` file.
2	Execute the Schema Creator Utility in Offline, Online, or TCPS modes and verify the log file.
3	Configure the `OFS_CAP_ADQ_PACK.xml` file.
4	Configure the `OFSAAI_InstallConfig.xml` file.
5	Configure the `Silent.props` file.
6	Trigger the application installation.

5.2 Configure the Schema Creator Utility

The Schema Creator utility enables you to quickly get started with the installation by creating Database User(s) or Schema(s) (in RDBMS), assigning the necessary GRANT(s), creating the required entities in the schemas, and so on.

The schema creator utility must be configured and executed before the installation of any OFS CAP ADQ Application.

Topics:

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

INSTALLATION
CONFIGURE THE SCHEMA CREATOR UTILITY

- [Verify the Schema Creator Log Files](#)

5.2.1 Prerequisites

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

- Oracle User ID or Password with SYSDBA privileges

- JDBC Connection URL for RAC or Non-RAC database

- The HOSTNAME or IP of the server on which OFSAA is getting installed

5.2.2 Configure the Schema Creator Utility for RDBMS Installation

If the installation is performed for RDBMS, provide the application-specific schema details in the `OFS_CAP_ADQ_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. There can be only one CONFIG schema per OFSAA instance is permitted.

- **ATOMIC**: This schema holds the data model entities. One ATOMIC schema is attached to one Information Domain. There can be multiple ATOMIC schemas for a single OFSAA instance.

-

5.2.2.1 Configure theOFS_CAP_ADQ_SCHEMA_IN.xml File

Creating database schemas, objects within schemas, and assigning appropriate grants are the primary steps in the installation process of OFSAA Applications.

The `OFS_CAP_ADQ_SCHEMA_IN.xml` file allows to specify database schemas required for the installation. Update the required values in this file before executing the schema creator utility.

To configure the `OFS_CAP_ADQ_SCHEMA_IN.xml` file, follow these steps:

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

2. Navigate to the `OFS_CAP_ADQ_PACK/schema_creator/conf` directory.

3. Edit the `OFS_CAP_ADQ_SCHEMA_IN.xml` file using a text editor and configure the values as mentioned in the following table.

Figure 7: Sample OFS_CAP_ADQ_SCHEMA_IN.xml File

```
<APPPACKSCHEMA>
  <APP_PACK_ID>OFS_CAP_ADQ_PACK</APP_PACK_ID>
  <IS_TCPS>FALSE</IS_TCPS>
  <JDBC_URL></JDBC_URL>
  <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
  <HOST></HOST>
  <SETUPINFO NAME="DEV" PREFIX_SCHEMA_NAME="N" />
  <PASSWORD APPLYSAMEFORALL="Y" DEFAULT=""/>

  <SCHEMAS>
    <SCHEMA TYPE="CONFIG" NAME="ofsaaconf" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
    <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_AAAI" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
    <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_BASEL_IRB" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
    <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_BASEL_BASIC" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>

    <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_BASELA" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
  </SCHEMAS>

</APPPACKSCHEMA>
```

Figure 8: APPPACKSCHEMA Block

```
<APPPACKSCHEMA>
  <APP_PACK_ID>OFS_CAP_ADQ_PACK</APP_PACK_ID>
  <IS_TCPS>FALSE</IS_TCPS>
  <JDBC_URL></JDBC_URL>
  <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
  <HOST></HOST>
  <SETUPINFO NAME="DEV" PREFIX_SCHEMA_NAME="N" />
  <PASSWORD APPLYSAMEFORALL="Y" DEFAULT=""/>
```

Table 9: OFS_CAP_ADQ_SCHEMA_IN.xml File (APPPACKSCHEMA Parameters)

Tag Name / Attribute Name	Description	Mandatory (Y / N)	Default Value / Permissible Value	Comments
<APP_PACK_ID>	Seeded unique ID for the OFS Application Pack.	Y	OFS_CAP_ADQ_PACK	Do not modify this value.
<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.

<JDBC_URL>	Enter the JDBC URL. You can enter RAC or NON-RAC enabled database connectivity URL.	Y	Example: jdbc:oracle:thin:@< DBSERVER IP/ HOST/ IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOS T][:PORT]/ SERVICE or jdbc:oracle:thin:@(DES CRI PTION=(ADDRESS_ LIST=(ADDRESS=(PRO T OCOL=TCP)(HOST=[H O ST])(port=[PORT]))(AD D RESS=(PROTOCOL=TC P) (HOST=[HOST])(PORT= [PORT]))(LOAD_ BALANCE=yes)(FAILOV ER=yes))(CONNECT_ DATA=(SERVICE_ NAME=[SERVICE]))) For example: jdbc:oracle:thin:@//db hos t.server.com:1521/servic e 1 or jdbc:oracle:thin:@//db sho st.server.com:1521/scan -1 or jdbc:oracle:thin:@(DES CRI PTION=(ADDRESS_ LIST=(ADDRESS=(PRO T	Ensure to add an entry (with SID or SERVICE NAME) in the `tnsnames.ora` file on the OFSAA server. The entry must match with the SID/ SERVICE NAME used in the JDBC URL.

INSTALLATION

CONFIGURE THE SCHEMA CREATOR UTILITY

Tag Name / Attribute Name	Description	Mandatory (Y / N)	Default Value / Permissible Value	Comments
			OCOL=TCP)(HOST=db ho st1.server.com)(port=15 21))(ADDRESS=(PROTOCO L=TCP)(HOST=dbhost2 .s erver.com)(PORT=1521))(LOAD_ BALANCE=yes)(FAILOV ER=yes))(CONNECT_ DATA=(SERVICE_ NAME=service1)))	
<JDBC_DRIVER>	The name of the driver is seeded by default.	Y	Example: oracle.jdbc.driver.Oracl eDriver	Only JDBC Thin Driver is supported. Do not modify this value.
<HOST>	Enter the Hostname or IP Address of the system on which you are installing the OFSAA components.	Y	Host Name or IP Address	
<SETUPINFO>/PREFI X_SCHEMA_NAME	Identifies whether the value specified in <SETUPINFO>/NAME attribute must be prefixed to the schema name.	N	Y or N	Default value is N.

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Tag Name / Attribute Name	Description	Mandatory (Y / N)	Default Value / Permissible Value	Comments
<SETUPINFO>/NAME	Enter the acronym for the type of implementation. This information is displayed in the OFSAA Home Page. On executing the schema creator utility, this value is prefixed with each schema name if PREFIX_SCHEMA_NAME is chosen to be Y.	Y	Accepts strings with a minimum length of two and a maximum of four. Example: DEV, SIT, PROD	This name appears in the OFSAA Landing Page as "Connected To: DEV". The schemas being created get this prefix if the PREFIX_SCHEMA_NAME is chosen to be Y. For example, dev_nameconf, uat_nameconf, and so on.
<PASSWORD>/ DEFAULT	Enter the password if you want to set a default password for all schemas. You also must set the APPLYSAMEFORALL attribute as Y to apply the default password for all the schemas.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	On successful execution of the utility, the entered password in the `OFS_CAP_ADQ_SCHEMA_IN.xml` file is nullified.
<PASSWORD>/ APPLYSAMEFORALL	If you have entered Y in the APPLYSAMEFORALL attribute and also have specified individual passwords for all the schemas, then the specified individual passwords will take precedence.	Y	Default value: Y 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 as N, you must provide individual passwords for all schemas.	Setting this attribute value is mandatory if the DEFAULT attribute is set.

Figure 9: SCHEMAS Block

```
<SCHEMAS>
  <SCHEMA TYPE="CONFIG" NAME="ofsaaconf" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
  <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_AAAI" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
  <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_BASEL_IRB" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
  <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_BASEL_BASIC" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>

  <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_BASELA" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" INFODOM=""/>
</SCHEMAS>
```

Table 10: OFS_CAP_ADQ_SCHEMA_IN.xml File (SCHEMAS Parameters)

Tag Name / Attribute Name	Description	Mandatory (Y / N)	Default Value / Permissible Value	Comments
<SCHEMA>/ TYPE	The different types of schemas that are supported in this release are ATOMIC, CONFIG, SANDBOX, and ADDON. By default, the schemas types are seeded based on the Application Pack.	Y	ATOMIC, CONFIG, SANDBOX, or ADDON SANDBOX and ADDON schemas do not apply to OFS_CAP_ADQ_PACK.	Only One CONFIG schema can exist in the file. Do not edit this attribute value. This schema identifies as the CONFIGURATION schema that holds the OFSAA setup detains and other Metadata information. Multiple ATOMIC, SANDBOX, or ADDON schemas can exist in the file.

Tag Name / Attribute Name	Description	Mandatory (Y / N)	Default Value / Permissible Value	Comments
<SCHEMA>/ NAME	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 (_). In the TNS entry that will be made for schemas, omit the underscore if any in the schema names.	The SETUPINFO/NAME attribute value is prefixed to the schema name being created. For example, if a name is set as ofsaatm and setupinfo as uat, then schema being created is uat_ofsaatm. NAME must be the same where APP_GRP=1 for all SCHEMA tags.
<SCHEMA>/ PASSWORD	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 applied as the Schema 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>/ APPLYSAMEFORALL attribute as N.
<SCHEMA>/ APP_ID	The Application ID is seeded based on the Application by default.	Y	Unique Seeded Value.	Identifies the Application or Product for which the schema is being created. Do not edit this attribute value. Do not modify this value.
<SCHEMA>/ DEFAULTTA BLESPACE	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.

Tag Name / Attribute Name	Description	Mandatory (Y / N)	Default Value / Permissible Value	Comments
<SCHEMA>/ TEMPTABLE SPACE	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	Enter the quota to be set on DEFAULTTABLESPACE attribute for the schema or 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	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	Permissible length is 16 characters and only alphanumeric characters are allowed. No special characters are allowed.	

4. Save and close the file.

5.2.3 Execute the Schema Creator Utility

Depending on your requirement to run the CAP installer, you must select the appropriate schema creator utility execution option.

Topics:

- [Execute the Schema Creator Utility in Offline Mode](#)

- [Execute the Schema Creator Utility in Online Mode](#)

- [Executing the Schema Creator Utility in TCPS Mode](#)

- [Execute the Schema Creator Utility while Installing Subsequent Applications Pack](#)

After schema creation, [Add](#) TNS entries in the `tnsnames.ora` file for every schema created for the Application Pack.

5.2.3.1 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

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

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

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

2. Navigate to the `OFS_CAP_ADQ_PACK/schema_creator/bin` directory.

3. Execute the `osc.sh` file using the following command:

   `./osc.sh -o -s`

4. Then 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).

   Enter **Y or y** to proceed.

5. Enter the DB Username with SELECT privileges.

6. Enter the User Password.

Figure 10: Schema Creation Offline Mode – Enter User Password

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

7. 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).

8. 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).

9. Enter **Y or y** to proceed.

Figure 11: Script Generation

```
====================================================================
                Generating Schema Creation Scripts Started
====================================================================
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadb/OFSAAI
Validating the dat file OFS_AAAI_CFG.dat started...
Successfully validated OFS_AAAI_CFG.dat file
Parsing /scratch/ofsaadb/OFSAAI/conf/DynamicServices.xml
Successfully connected to User - dev_conf1 URL - jdbc:
Validating the input XML file.../scratch/ofsaadb/OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
Input XML file validated successfully.
====================================================================
Validating Connection URL ...jdbc:
Successfully connected to User - sample URL - jdbc:
MEDIADB
Connection URL successfully validated...
You have chosen to install this Application Pack on "uat_atm_anurag" ATOMIC sche
ma. Do you want to proceed? (Y/N)
Y
You have chosen to install this Application Pack on INFODOM "ofsaaaiinfo1". Do y
ou want to proceed? (Y/N)
Y
====================================================================
```

10. 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_CAP_ADQ_PACK/schema_creator/sysdba_output_scripts.sql` *before proceeding with the installation.*

Figure 12: Message to execute the sysdba_output_scripts.sql file

```
========================================================================
===
Generating TableSpace creation Scripts started...
Generating TableSpace creation Scripts completed...
========================================================================
===
Generating Schema creation scripts started...
CONFIG User uat_conf_anurag creation script generated successfully on Default Ta
bleSpace : USERS on Temp TableSpace : TEMP
Generation of grants creation scripts started...
Generation of grants creation scripts completed...
Scripts Generation for CONFIG schema started ...
Scripts Generation for CONFIG schema completed ...
User uat_conf_anurag details updated into the dbmaster table
User uat_atm_anurag details updated into the dbmaster table
User uat_atm_anurag creation script generated successfully on Default TableSpace
 : USERS on Temp TableSpace : TEMP
User uat_atm_anurag creation is skipping as the user is already created.
Generating Schema creation scripts completed...
========================================================================
===
Generating Roles creation Scripts started...
Generating Roles creation Scripts completed...
========================================================================
===
Generating Grants creation scripts started...
Generating Grants creation scripts completed...
========================================================================
===
                         Generating Schema Creation Scripts Completed
========================================================================
===
Schema Creator executed Successfully.Please execute /scratch/ofsaaapp/OFS_AAAI_P
ACK/schema_creator/sysdba_output_scripts.sql before proceeding with the installa
tion.
```

> **NOTE**
>
> If there are any errors during the SQL script execution, reconfigure the `OFS_CAP__ADQ_SCHEMA_IN.xml` file
> and repeat steps in this procedure to execute the utility. This regenerates the script with the correct information.

11. Navigate to the `OFS_CAP_ADQ_PACK/schema_creator` directory.

12. Log in to the database using credentials with SYSDBA privileges.

Figure 13: Schema Creator Offline Mode

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

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

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


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

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

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

`SQL>@sysdba_output_scripts.sql`

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

> **NOTE**
>
> See the `sysdba_output_scripts.log` file for execution status. If there are any errors, contact My Oracle Support. If there are no errors in the execution, the log file is empty.

5.2.3.2 Executing the Schema Creator Utility in Online Mode

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

To execute the Schema Creator Utility in Online Mode, follow these steps:

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

2. Navigate to the following folder path: OFS_CAP_ADQ_PACK/schema_creator/bin/

3. Execute the `osc.sh` file using the following command:

`./osc.sh -s`

4. The following message is displayed:

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

5. Enter Y or y to proceed.

Figure 14: Schema Creator Online Mode

```
$ cd /scratch/ofsaaapp/kit/OFS_CAP_ADQ_PACK/schema_creator/bin
$ ./osc.sh -s
YOU ARE IN BASEL DEVELOPMENT AREA. Executing profile for ofsaaapp....
=======================================================
You have chosen ONLINE mode
=======================================================
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
```

6. Enter the DB Username with SYSDBA Privileges when prompted for it. For example, SYS as SYSDBA.

7. Enter the User Password.

Figure 15: Schema Creation Online Mode – Enter User Password

```
$ ./osc.sh -s
YOU ARE IN BASEL DEVELOPMENT AREA. Executing profile for ofsaaapp....
=======================================================
You have chosen ONLINE mode
=======================================================
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
Y
=======================================================
Java Validation Started ...
Java found in :
JAVA Version found : 1.8.0_172
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
=======================================================
DATABASENAME =
DB specific Validation Started ...
Enter the DB User Name With SYSDBA Privileges:
sys as SYSDBA
Enter the User Password:
```

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

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

Enter Y or y to proceed with the schema creation.

9. 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 or y to start the schema creation.

Figure 16: Schema Creation Online Mode – Enter User Password

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

Schema Creator executed successfully. Proceed with the installation.

Figure 17: Schema Creation Schema Creator Completed

After the schema creation is complete, the OFS_CAP_ADQ_SCHEMA_OUTPUT.xml file is generated. Do not modify this file.

5.2.4 Execute the Schema Creator Utility in TCPS Mode

If you intend to run the OFSAAAI Application Pack Installer in TCPS mode, it is mandatory to execute the schema creator utility with the `-s` option and in online mode.

5.2.4.1 Prerequisites

The following are the prerequisites for this configuration:

- UNIX user credentials with which OFSAA was installed.

- UNIX user credentials with which Web Application Server (Oracle WebLogic (WLS)/Apache Tomcat/ IBM WebSphere) was installed.

- OFSAAI version should be 8.1.0.0.0 and later.

- 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.)

- Create Oracle Wallet on the OFSAA processing tier.

- For information on Creating and Managing Oracle Wallet, see SSL Connection to Oracle DB using JDBC, TLSv1.2, JKS or Oracle Wallets (12.2 and lower) and WebLogic JDBC Use of Oracle Wallet for SSL.

- 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.

- Configure OFSAA to Store Config Schema, Atomic Schema, and SysDBA Credentials with Oracle Wallet. For details, see the Configure OFSAA to Store Config Schema, Atomic Schema, and SysDBA Credentials with Oracle Wallet section.

5.2.4.1.1 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 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.

4. ```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential -nologo <ATOMICALIASNAME>
<ATOMIC_DATABASE_USERNAME> <ATOMIC_DATABASE_PASSWORD>
```

5. 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>
```

> **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.

5.2.4.2 Execute the Utility

To execute the utility, follow these steps:

1. Edit the file `OFS_CAP_ADQ_PACK/schema_creator/conf/OFS_CAP_ADQ_SCHEMA_IN.xml` in the text editor. See the tables in Configure the OFS_CAP_ADQ_SCHEMA_IN.xml File for values to modify in the XML file.

2. Execute the utility with -s option.

```
./osc.sh -s    TCPS  <WALLET_HOME>
```

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

Figure 18: 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 "<ATOMIC_SCHEMA_NAME>" ATOMIC schema. Do you wish to proceed? (Y/y or N/n).

Figure 19: Schema Creation in the TCPS Mode – Install on Atomic Schema

```
0430: 58 8D 05 B2 02 0F 2D 01    0C 00 00 00 00 00 00 04  X.....-.........
0440: 01 01 02 23 E4 00 02 05    7B 00 00 01 0C 01 0E 03  ...#...........
0450: 00 00 00 00 00 00 00 00    00 00 00 00 10 00 01 01  ................
0460: 00 00 00 00 02 05 7B 00    19 4F 52 41 2D 30 31 34  .........ORA-014
0470: 30 33 3A 20 6E 6F 20 64    61 74 61 20 66 6F 75 6E  03: no data foun
0480: 64 0A 61 1D D5 6D 51 10    60 C1 A6 85 B4 88 52 0F  d.a..mQ.`.....R.
0490: A4 F8 CA 1B 2C F2 09 09    09 09 09 09 09 09 09 09  ...,............
You have chosen to install this Application Pack on "t81s_ofsaaatm" ATOMIC schema. Do you want to proceed? (Y/N)
Y
```

4. Enter Y to proceed.

5. After Schema creation is successful, proceed to Configure the OFSAAI_InstallConfig.xml File.

Figure 20: Schema Creation in the TCPS Mode

```
0030: 05 02 24 2C 00 00 00 00    01 10 00 2B 00 00 00 00  ..$,.......+....
0040: 00 00 00 00 00 00 00 00    58 00 01 01 00 00 00 00  ........X.......
0050: 00 00 EE 63 D9 C7 F0 3C    A2 23 E1 34 68 01 68 96  ...c...<.#.4h.h.
0060: 4F 69 FD 59 9F 23 09 09    09 09 09 09 09 09 09 09  Oi.Y.#..........
Grants creation scripts execution completed...
================================================================================
                    Schemas Creation Completed
================================================================================
Schema Creator executed Successfully.Please proceed with the installation.
/scratch/aai81ssl/OFS AAAI PACK/schema creator/bin>
```

As a result of this procedure, the `OFS_CAP_ADQ_SCHEMA_OUTPUT` file is generated. Do not modify this file.

5.2.4.3 Execute the Schema Creator Utility while Installing Subsequent Applications Pack

When executing the schema creator utility during the installation of a subsequent Applications Pack, you can choose to install the pack either on the same Information Domain or Atomic Schema of the existing application pack or on a new Information Domain or Atomic Schema. You can execute the schema creator utility either in Online or Offline mode.

> **NOTE**
>
> You must use the same config schema user name as the previous Application Pack.

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

1. Execute the utility with -s option.

   For Example: `./osc.sh -s -o`

Figure 21: Execute the Schema Creator Utility to Install Subsequent Applications Pack

```
/scratch/test81/OFS_AAAI_PACK/schema_creator/bin>./osc.sh -s -o
hello1
=========================================================
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/oraofss/jdk1.8.0_202/bin
JAVA Version found : 1.8.0_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. CREATE SESSION
2. SELECT on DBA_ROLES
3. SELECT on DBA_USERS
4. SELECT on DBA_DIRECTORIES
5. SELECT on DBA_TABLESPACES
Enter the User Name:
sys as sysdba
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 started...
The path is:/scratch/test81/OFS_AAAI_PACK/schema_creator/conf
Sucessfully validated OFS_AAAI_CFG.dat file
Validating the input XML file.../scratch/test81/OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
Input XML file validated successfully.
=========================================================================
Validating Connection URL ...jdbc:                              :1521/
Connection trial jdbc:oracle:thin:@                :1521/          {user=sys as sysdba, password=        }
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@          :1521/
Connection URL successfully validated...
```

2. 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

Figure 22: Install Subsequent Applications Pack– Select Atomic Schema and Infodom

3. Select the Atomic User on which you want to install the Application Pack.

Figure 23: Install Subsequent Applications Pack – Select Atomic Schema and Infodom

```
Validating Connection URL ...jdbc:oracle:thin:@          :1521:
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@          :1521:
Connection URL successfully validated...
The following Application Packs are already installed in this OFSAA setup:


dev_atm1-          INFOTR-          "OFS_TR_PACK"


You have selected to install this Application Pack on "dev_atm3" ATOMIC schema. To proceed enter (Y/y). To change the selection, enter (N/n).
n
Choose the ATOMIC schema from the below list on which you wish to install this Application Pack:


1. dev_atm1-          INFOTR-          "OFS_TR_PACK"
2. dev_atm3


Enter the option number:2
========================================================================
Generating TableSpace creation Scripts started...
Generating TableSpace creation Scripts completed...
========================================================================
Generating Schema creation scripts started...
Skipping the creation of CONFIG user dev_conf1 as OFSAAI is already installed on dev_conf1
User dev_atm3 details updated into the dbmaster table
User dev_atm3 creation script generated successfully on Default TableSpace : USERS on Temp TableSpace : TEMP
User dev_atm3 creation is skipping as the user is already created.
Generating Schema creation scripts completed...
========================================================================
Generating Roles creation Scripts started...
Generating Roles creation Scripts completed...
========================================================================
Generating Grants creation scripts started...
Generating Grants creation scripts completed...
========================================================================
                    Generating Schema Creation Scripts Completed
========================================================================
Schema Creator executed Successfully.Please execute /scratch/ofsaadb/OFS_AAAI_PACK/schema_creator/sysdba_output_scripts.sql
before proceeding with the installation.
```

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

Success. Please proceed with the installation.

> **NOTE**
> If there are any errors, contact My Oracle Support.

5.2.5 Verify the Schema Creator Log Files

See the following directory for execution logs and to verify if there are any errors:

- `OFS_CAP_ADQ_PACK/schema_creator/logs/`

- The log file `sysdba_output_scripts.log` in the `OFS_CAP_ADQ_PACK/schema_creator/logs/` directory for execution status if executed in offline mode. This log will be empty if there are no errors in the execution.

5.3   Configure the OFSAAI_InstallConfig.xml File

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

1. Navigate to the `OFS_CAP_ADQ_PACK/OFS_AAI/conf` folder.

2. Open the `OFSAAI_InstallConfig.xml` file in a text editor.

3. 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.

> **NOTE**
>
> Ensure that the value is not entered as NULL.

Table 11: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
InteractionGroup name="WebServerType"		
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: • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 For example, `<InteractionVariable` `name="WEBAPPSERVERTYPE">3</InteractionVari able>`	Yes
InteractionGroup name="OFSAA Infrastructure Server Details"		

InteractionVariable Name	Significance and Expected Value	Mandatory
DBSERVER_IP	Identifies the hostname or IP address of the system on which the Database Engine is hosted. **NOTE:** For RAC Database, the value must be NA. For example, `<InteractionVariable name="DBSERVER_IP">14.15.16.17</InteractionVariable>` or `<InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable>`	Yes
InteractionGroup name="Database Details"		
ORACLE_SID/SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME **NOTE:** The `Oracle_SID` value must be the same as mentioned in `JDBC_URL`. For example, `<InteractionVariable name="ORACLE_SID/SERVICE_NAME">ofsaser</InteractionVariable>`	Yes
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (`ojdbc<version>.jar`) exists. This would typically be the `$ORACLE_HOME/jdbc/lib` directory. For example, `<InteractionVariable name="ABS_DRIVER_PATH">">/oradata6/revwb7/ oracle </InteractionVariable>` **NOTE:** See the JDBC Jar files to identify the correct `ojdbc<version>.jar` version to be copied.	Yes
InteractionGroup name="OLAP Detail		
OLAP_SERVER_IMPLEMENTATION	Identifies whether the OFSAA Infrastructure OLAP component needs to 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 **NOTE:** If the value for `OLAP_SERVER_IMPLEMENTATION` is set to 1, the installer checks if the following environment variables are set in the .profile file: • ARBORPATH • HYPERION_HOME • ESSBASEPATH	No
InteractionGroup name="SFTP Details"		

InteractionVariable Name	Significance and Expected Value	Mandatory
SFTP_ENABLE	Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The following numeric value must be set depending on the choice: • SFTP: 1 • FTP: 0	Yes
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 FPT 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 web local path as local path mounted for 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>`	Yes
InteractionGroup name="Locale Detail"		
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English. For example, `<InteractionVariable name="LOCALE">en_US</InteractionVariable>`	Yes
InteractionGroup name="OFSAA Infrastructure Communicating ports" **NOTE:** 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

InteractionVariable Name	Significance and Expected Value	Mandatory
ROUTERPORT	6500	Yes
AMPORT	6505	Yes
InteractionGroup name="Web Details" **NOTE:** If the value for `HTTPS_ENABLE` 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. For more details on configuring your setup for HTTPS.		
HTTPS_ENABLE	Identifies whether the UI must be 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>`	Yes
WEB_SERVER_IP	Identifies the HTTP Server IP/ Hostname or Web Application Server IP or Hostname, to be used to access the UI. This IP is typically the HTTP Server IP. If a separate HTTP Server is not available, then the value must be Web Application Server IP or Hostname. For example, `<InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable>` or `<InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable>`	No
WEB_SERVER_PORT	Identifies the Web Server Port, 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. **Warning:** The installer will not accept the port value as: • 80, if the `HTTPS_ENABLE` variable is 1 • 443, if the `HTTPS_ENABLE` variable is 0 For example, `<InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>`	No
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: `<scheme>://<host>:<port>/<context-name>/login.jsp`	Yes

InteractionVariable Name	Significance and Expected Value	Mandatory
	The following is an example: `https://myweb:443/ofsaadev/login.jsp` For example, `<InteractionVariable name="CONTEXT_NAME">ofsaadev</InteractionVariable>`	
WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded EAR file on the web application server. • For Tomcat, specify the Tomcat directory path till `/webapps`. For example, `/oradata6/revwb7/tomcat/webapps/`. • For WebSphere, specify the WebSphere path as `<WebSphere profile directory>/installedApps/<NodeCellName>`. For example, `/data2/test//WebSphere/AppServer/profiles/<Profile_Name>/installedApps/aiximfNode01Cell`, where aix-imf is the Host name. • For WebLogic, specify the WebLogic home directory path. For example, `/<WebLogic home directory path>/bea/wlserver_10.3` **NOTE:** For WebLogic, the value specified for this attribute is ignored and the value provided against the attribute WEBLOGIC_DOMAIN_HOME is considered.	Yes
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 applications usage. Set this in the FTPSHARE location. **NOTE:** During a clustered deployment, ensure that this path and the directory are the same on all the nodes.	Yes
InteractionGroup name="Weblogic Setup Details"		
WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain Home. For example, `<InteractionVariable name="WEBLOGIC_DOMAIN_HOME">/home/weblogic/bea/user_ projects/ domains/mydomain </InteractionVariable>`	Yes. Specify the value only if WEBAPPSERVERTYPE is set as 3 (WebLogic)
InteractionGroup name="OFSAAI FTP Details"		

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. **NOTE:** The directory must exist on the same system on which the OFSAA Infrastructure is being installed (can be on a separate mount). 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">">/oradata6/revwb7/FTPshare</Interaction Variable>`	Yes
OFSAAI_SFTP_USER _ID	Identifies the user who has RWX permissions on the directory identified for the parameter APP_FTPSHARE_PATH.	Yes
OFSAAI_SFTP_PRIV ATE_KEY	Identifies the SFTP private key for OFSAAI. For example, `<InteractionVariable name="OFSAAI_SFTP_PRIVATE_KEY">/home/ofsaapp/.ssh/id_rsa</Interac tionVariable>` 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 Setting Up SFTP Private Key section.	No
OFSAAI_SFTP_PASS PHRASE	Identifies the passphrase for the SFTP private key for OFSAAI. For example, `InteractionVariable name="OFSAAI_SFTP_PASSPHRASE">enter a pass phrase here</InteractionVariable>` By default, the value is **NA**. If the `OFSAAI_SFTP_PRIVATE_KEY` value is given and the `OFSAAI_SFTP_PASSPHRASE` value is **NA**, then the passphrase is identified as empty.	No
The default value set for the interaction variables under this group is set as NA. These are required only for Hive Configuration.		
HIVE_SERVER_POR T	Identifies the port used for the file transfer service. The default value set is 22 (SFTP). Set this value as 21 for FTP. For example,	Yes, only for HIVE Configur ation

InteractionVariable Name	Significance and Expected Value	Mandatory
	`InteractionVariable name="HIVE_SERVER_PORT">22</InteractionVariable>`	
HIVE_SERVER_ FTPDRIVE	Identifies the absolute path to the directory identified as file system stage area of HIVE server. For example, `InteractionVariable name="HIVE_SERVER_ FTPDRIVE">/scratch/ofsaa/ftpshare</InteractionVari able>`	Yes, only for HIVE Configuration
HIVE_SERVER_FTP_ USERID	Identifies the user who has RWX permissions on the directory identified under the preceding parameter HIVE_SERVER_FTPDRIVE. For example, `InteractionVariable name="HIVE_SERVER_FTP_USERID">ofsaa</InteractionVariable>`	Yes, only for HIVE Configuration
HIVE_SERVER_FTP_ PROTOCOL	If the HIVE_SERVER_PORT is 21, then set value as FTP, else set it as SFTP. For example, `InteractionVariable name="HIVE_SERVER_FTP_PROTOCOL">SFTP</InteractionVariable>`	Yes, only for HIVE Configuration
HIVE_SFTP_PRIVATE_ KEY	Identifies the SFTP private key for the HIVE server. For example, `<InteractionVariable.name="HIVE_SFTP_PRIVATE_KEY">/scratch/testus er/.ssh/id_rsa</InteractionVariable>` By default, the value is NA, which indicates password will be prompted for the user <HIVE_SERVER_ FTP_USERID> for authentication. For more information on generating SFTP Private key, see the Setting Up SFTP Private Key section.	Yes, only for HIVE Configuration
HIVE_SFTP_ PASSPHRASE	Identifies the passphrase for the SFTP private key for HIVE. For example, `<InteractionVariable name="HIVE_SFTP_PASSPHRASE">NA</InteractionVariable>`	Yes, only for HIVE Configuration

InteractionVariable Name	Significance and Expected Value	Mandatory
	By default, the value is NA. If HIVE_SFTP_ PRIVATE_KEY value is given and this is kept as NA, then it is assumed as the empty passphrase.	

5.3.1 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

5.4 Configure the OFS_CAP_ADQ_PACK.xml File

The `OFS_CAP_ADQ_PACK.xml` file holds details on the various products that are packaged together in OFS Capital Adequacy Pack.

To configure the `OFS_CAP_ADQ_PACK.xml` file, follow these steps:

1. Navigate to the `OFS_CAP_ADQ_PACK/conf` directory.

2. Open the `OFS_CAP_ADQ_PACK.xml` file in a text editor.

3. Configure the `OFS_CAP_ADQ_PACK.xml` file as mentioned in the following table.

Figure 24: Sample OFS_CAP_ADQ_PACK.xml File

```xml
<APP_PACK_CONFIG>
    <APP_PACK_ID>OFS_CAP_ADQ_PACK</APP_PACK_ID>
    <APP_PACK_NAME>Financial Services Capital Adequacy Applications Pack</APP_PACK_NAME>
    <APP_PACK_DESCRIPTION>Applications for Capital Adequacy</APP_PACK_DESCRIPTION>
    <VERSION>8.1.1.0.0</VERSION>
    <APP>
        <APP_ID ENABLE="YES" PREREQ="" DEF_SEL_FLG="YES">OFS_AAI</APP_ID>
        <APP_NAME>Financial Services Analytical Applications Infrastructure</APP_NAME>
        <APP_DESCRIPTION>Base Infrastructure for Analytical Applications</APP_DESCRIPTION>
        <VERSION>8.1.1.0.0</VERSION>
    </APP>
    <APP>
        <APP_ID ENABLE="YES" PREREQ="OFS_AAI">OFS_BASEL_IRB</APP_ID>
        <APP_NAME>Financial Services Basel Regulatory Capital Internal Ratings Based Approach</APP_NAME>
        <APP_DESCRIPTION>Application for Basel Regulatory Capital Internal Ratings Based Approach</APP_DESCRIPTION>
        <VERSION>8.1.1.0.0</VERSION>
    </APP>
    <APP>
        <APP_ID ENABLE="YES" PREREQ="OFS_AAI">OFS_BASEL_BASIC</APP_ID>
        <APP_NAME>Financial Services Basel Regulatory Capital Basic</APP_NAME>
        <APP_DESCRIPTION>Application for Basel Regulatory Capital Basic</APP_DESCRIPTION>
        <VERSION>8.1.1.0.0</VERSION>
    </APP>
    <APP>
        <APP_ID ENABLE="YES" PREREQ="OFS_AAI">OFS_BASELA</APP_ID>
        <APP_NAME>Financial Services Basel Regulatory Capital Analytics</APP_NAME>
        <APP_DESCRIPTION>Application for Basel Regulatory Capital Analytics</APP_DESCRIPTION>
        <VERSION>8.1.1.0.0</VERSION>
    </APP>
```

```xml
    <APP>
        <APP_ID ENABLE="YES" PREREQ="OFS_AAI">OFS_ECA</APP_ID>
        <APP_NAME>Financial Services Economic Capital Advanced</APP_NAME>
        <APP_DESCRIPTION>Application for Economic Capital Advanced</APP_DESCRIPTION>
        <VERSION>8.1.1.0.0</VERSION>
    </APP>
</APP_PACK_CONFIG>
```

Table 12: OFS_CAP_ADQ_PACK.xml File Parameters

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

INSTALLATION

CONFIGURE THE SILENT.PROPS FILE

Tag Name/ Attribute Name	Description	Mandatory (Y/ N)	Default Value/ Permissible Value	Comments
APP_ID/ ENABLE	Enable Application or Product	YES, if installing in SILENT mode.	Default value - Blank YES. for Infrastructure NO, for Others Permissible value - YES or NO	Set this attribute-value to YES against every APP_ID which is licensed and must be enabled for use. NOTE: Application or Product once enabled cannot be disabled. However, Application or Product not enabled during installation can be enabled later through the Administration UI.
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.

4. Save and close the file.

5.5 Configure the Silent.props File

To Configure the `Silent.props` file, follow these steps:

1. Navigate to the `OFS_CAP_ADQ_PACK/appsLibConfig/conf` directory.

2. Replace the `Silent.template` file in the directory with the following file:

   Silent.template

3. Create a copy of the `Silent.template` file and rename it as `Silent.props`.

4. Edit the `Silent.props` file and configure the parameters as mentioned in the following table.

Table 13: Parameters for the Silent.props File

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Property Name	Description of Property	Permissible Values
PACK LEVEL INPUTS		
APPFTP_LOG_ PATH and DBFTP_LOG_PATH	Specify the Infodom Maintenance log path (to be created) for the new Infodom. Ignore if you are doing the installation on an existing information domain.	User Input
UPLOAD_MODEL	Specify whether you want to perform Model Upload.	0 = If you have already performed Model Upload and want to skip the Model upload process. 1 = If you want to perform Model Upload.
MODEL_TYPE	Specify whether you want to use the released data model or customized data model for the Model Upload process.	0 = If you want to upload the released data model. 1 = If you want to upload the customized data model.
DATAMODEL and DM_DIRECTORY	Specify the path (DM_ DIRECTORY) and file (DATAMODEL) name for the customized data model. Mandatory only if you want to upload the customized data model, that is you have specified MODEL_TYPE=1.	User Input
APPLICATION LEVEL INPUTS		
<APP>_SEGMENT_1_CODE	Specify the Jurisdiction Segment Code for BIS.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.

Property Name	Description of Property	Permissible Values
<APP>_SEGMENT_2_CODE	Specify the Jurisdiction Segment Code for BOT jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_3_CODE	Specify the Jurisdiction Segment Code for BRAZIL jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_4_CODE	Specify the Jurisdiction Segment Code for CBRC jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_5_CODE	Specify the Jurisdiction Segment Code for COMMON segment.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_6_CODE	Specify the Jurisdiction Segment Code for EU jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_7_CODE	Specify the Jurisdiction Segment Code for IFSB jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.

Property Name	Description of Property	Permissible Values
<APP>_SEGMENT_8_CODE	Specify the Jurisdiction Segment Code for INDIA jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_9_CODE	Specify the Jurisdiction Segment Code for USA jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_SEGMENT_10_CODE	Specify the Jurisdiction Segment Code for APRA jurisdiction.	User Input (not exceeding 10 characters). Same value must be provided for this parameter across all the apps.
<APP>_ETL_APPSRC_TYPE	Specify if you want to create a new ETL app or src pair or use an existing one.	0 = If you want to create a new ETL app or src pair. 1 = If you want to use an existing pair Same value must be provided for this parameter across all the apps.
<APP>_ETL_APP_1_DESC	ETL FSAPPS Application description. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.
<APP>_ETL_SRC_1_DESC	ETL Staging source description. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this

Property Name	Description of Property	Permissible Values
		parameter across all the apps.
<APP>_ETL_SRC_2_DESC	ETL Processing source description. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.
<APP>_ETL_SRC_3_DESC	ETL OREC source description. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input Same value must be provided for this parameter across all the apps.
<APP>_ETL_SRC_4_DESC	ETL Reporting source description. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.
<APP>_ETL_APP_1_NAME	Specify the ETL Application into which ETL Area Definitions will be deployed. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.
<APP>_ETL_SRC_1_NAME	Specify the ETL Source Name into which ETL Staging Area Definitions will be deployed. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.
<APP>_ETL_SRC_2_NAME	Specify the ETL Source Name into which ETL Processing Area Definitions will be deployed. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.

Property Name	Description of Property	Permissible Values
<APP>_ETL_SRC_3_NAME	Specify the ETL Source Name into which ETL OREC Definitions will be deployed. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.
<APP>_ETL_SRC_4_NAME	Specify the ETL Source Name into which ETL Reporting Area Definitions will be deployed. Mandatory if you want to create a new ETL app or src pair. That is, you have specified ETL_APPSRC_TYPE=0.	User Input. Same value must be provided for this parameter across all the apps.

5.6   Install the OFS CAP ADQ Application

> **ATTENTION**
>
> Before you begin the installation, ensure you have completed the following steps:
>
> - Configure the OS File System Settings and Environment Settings in .profile File.
> - Configure the OFS_CAP_ADQ_PACK.xml File.
> - Configure the OFS_CAP_ADQ_SCHEMA_IN.xml File.
> - Configure the OFSAAI_InstallConfig.xml File (Do not configure this file if an installation of OFSAAI already exists.)
> - Configure the Silent.props File
> - Execute the Schema Creator Utility.
> - Add TNS entries in the tnsnames.ora file.
> - Execute the user .profile file.

To install the OFS CAP ADQ Application, follow these steps:

1. Navigate to the `OFS_CAP_ADQ_PACK/bin` directory.

2. Enter the following command in the console to execute the application pack installer with the Silent option.

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

3. The installer proceeds with the Pre-installation Checks.

Figure 25: Silent Mode Installation

4. Enter the OFSAA Processing Tier FTP/SFTP password value when prompted in the command prompt and proceed.

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

Figure 26: OFSAA Processing Tier FTP/SFTP password

5. The process displays the OFSAA License Agreement. Enter Y to accept the terms and conditions and proceed.

Figure 27: OFSAA License

6. The installer installs the OFS AAI.

Figure 28: AAI Silent Mode Installation

```
Starting installation...
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...


===============================================================================
OFSAAInfrastructure                             (created with InstallAnywhere)
-------------------------------------------------------------------------------




===============================================================================
Installing...
-------------


  [==================|==================|==================|==================]
  [------------------|------------------|------------------|-----------█
```

7. After OFS AAAI is installed, it proceeds to the CAP PACK installation. After successfully installing the CAP pack, an EAR or WAR file is generated, and all the servers are verified.

Figure 29: CAP Silent Mode Installation

```
****************************************************************************
 Welcome to OFS_CAP_ADQ 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...
```

8. The OFSAA Infrastructure installation performs a post-install health check automatically on the successful installation of the product and the following message is displayed on the console:

9. *Installation completed.*

Figure 30: CAP Silent Mode Installation

```
Shutdown of OFSAAI services started...
nohup: appending output to 'nohup.out'
Shutdown of OFSAAI services done.
OFSAA App Layer Services start-up check started...
Starting startofsaai.sh service...
OFSAA Service - OK
Starting icc service...
ICC service - OK
Shutting down icc service...
Shutting down OFSAA service...
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI DB Layer Services check started...
YOU ARE IN BASEL DEVELOPMENT AREA. Executing profile for ofsaaapp....
Calling agentshutdown.sh to check and kill, if any of the server is running...
MESSAGE Server service is not running.
AM service is not running.
ROUTER service is not running.
Starting ROUTER Service
ROUTER service started in background mode.
Starting AM Service
AM service started in background mode.
Starting MESSAGE SERVER Service
MESSAGE SERVER service started in background mode.
Stop MESSAGE Server service with Proces ID : 17434
Stop AM service with Proces ID : 17417
Stop ROUTER service with Proces ID : 17405
OFSAAI DB Layer File Services check Status: SUCCESSFUL.
Installation completed...
$
```

10. To verify if the installation is completed successfully, check the log files mentioned in the Verify the Log File Information section.

11. Perform the steps mentioned in the Post-installation section.

5.7 Install a New Application on an Existing OFSAA Instance from the Same Pack

You have installed some applications from the Release 8.1.1.0.0 pack and in the future, you decide to include other applications from the same pack.

Example: You have installed Basel BASIC using the CAP Pack Installer 8.1.1.0.0. Later, you decide to license Basel IRB and Basel Analytics applications and want to install them using the same CAP Pack installer 8.1.1.0.0.

5.7.1   If the Schema Creator Output File Exists

If the Schema Creator Output File (`OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`) exists in the location OFS_CAP_ADQ_PACK/schema_creator from the previous installation, follow these steps:

1. Configure the `OFS_CAP_ADQ_PACK.xml` file. Enable only the new applications to be installed and disable the existing applications. See the Configure the OFS_CAP_ADQ_PACK.xml File section for steps to configure the file.

2. Configure the `Silent.props` file only for the newly licensed applications. See the Configure the Silent.props section for steps to configure the file.

   > **NOTE**
   >
   > It is not required to configure the `OFSAAI_InstallConfig.xml` file.

3. Follow the steps mentioned in the Install the OFS CAP ADQ Application section to trigger the installation.

4. Follow the steps mentioned in the Post-installation Steps section.

5.7.2   If the Schema Creator Output File Does Not Exist

If the Schema Creator Output File (`OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`) does not exist in the `OFS_CAP_ADQ_PACK/schema_creator` directory from the previous installation, follow these steps:

1. Configure the `OFS_CAP_ADQ_SCHEMA_IN.xml` file and execute the schema creator utility.

   > **NOTE**
   >
   > While defining the schema details for the applications, provide exactly the same schema details given in the previous installation. The output file (`OFS_CAP_ADQ_SCHEMA_IN.xml`) is generated as a result of the schema creation process.

2. See the Configure the Schema Creator Utility section for more details. The output file (`OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`) is generated as a result of the schema creation process.

3. Follow the steps given in the If the Schema Creator Output File Exists section.

5.8   Install a New Application Pack on an Existing OFSAA Instance

You have already installed an application pack from release 8.1.1.x and now you want to install another application pack from Release 8.1.1.0.0. For example, OFS ALM Pack is already installed and now you want to install OFS CAP ADQ Pack.

5.8.1   Execute the Schema Creator Utility Only for the New Pack

1. Configure the `OFS_CAP_ADQ_SCHEMA_IN.xml` file within the CAP installer and execute the schema creator utility. When executing the schema creator utility during the installation of a subsequent Applications Pack, you can choose to install the pack either on the same Information Domain or Atomic Schema of the existing application pack or on a new Information Domain or Atomic Schema.

   > **NOTE**
   >
   > You must use the same config schema user name as the previous Application Pack.

   See the Configure the Schema Creator Utility section for more details.

2. Configure the `OFS_CAP_ADQ_PACK.xml` file for the newly licensed pack. Enable the applications to be installed. See the Configure the OFS_CAP_ADQ_PACK.xml section for steps to configure the file.

3. Configure the `Silent.props` file of the newly licensed pack present in the Application Pack installer. See the Configure the Silent.props section for steps to configure the file.

   > **NOTE**
   >
   > It is not required to configure the `OFSAAI_InstallConfig.xml` file.

4. Follow the steps mentioned in the Install the OFS CAP ADQ Application section to trigger the installation

5. Follow the steps mentioned in the Post-installation Steps section.

6 Post-installation

On successful installation of the Oracle Financial Services Capital Adequacy application pack, follow the post-installation procedures mentioned in Post-installation Checklist.

> **NOTE**
>
> You must clear the application cache before deploying the Application Pack web archive file. This applies to all web servers (WebSphere, WebLogic, Tomcat). For more information, see the Clear Application Cache section.

6.1 Post-installation Checklist

You can use this checklist to have a quick glance at everything that you will be doing post installing this application. The link provided in each step takes you to a section either within this document or to another referenced document.

> **NOTE**
>
> Refer the *Post-installation* section in the OFS AAI Release 8.1.1.0.0 Installation and Configuration Guide as well to complete the following checklist procedures.

Table 14: Post-installation Checklist

Sl. No.	Post-installation Activity
1	Patch OFSAA Infrastructure Installation
2	Verify the installation logs.
3	Mandatory OFSAA Infrastructure Patch Installation.
4	Back up the OFS_CAP_ADQ_SCHEMA_IN.xml and OFS_CAP_ADQ_SCHEMA_OUTPUT.xml, and Silent.props files.
5	Stop the OFSAA Infrastructure services.
6	Create and deploy EAR or WAR files.
7	EAR or WAR File - Build Once and Deploy Across Multiple OFSAA Instances.
8	Start the OFSAA Infrastructure services.
9	Access the OFSAA Application.
10	OFSAA Landing Page.

Sl. No.	Post-installation Activity
11	Configure the `excludeURLList.cfg` file.
12	Create Application Users.
13	Map the Application User (or Users) to User Groups.
14	Change the ICC Batch Ownership.
15	Update OBIEE URL.
16	Configure the webserver.
17	Configure the Resource Reference in web application servers.
18	Post-deployment Configuration.

6.2   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.

Apply the following mandatory patch:

- 33663417

> **ATTENTION:**
>
> 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 prior to 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.

6.3 Verify the Log File Information

See the following logs files for more information:

- The `Pack_Install.log` file in the `OFS_CAP_ADQ_PACK/logs` directory.

- The Infrastructure installation log files in the `OFS_CAP_ADQ_PACK/OFS_AAI/logs` directory.

- The CAP installation log files in the `OFS_CAP_ADQ_PACK/OFS_BASELA/logs`, `OFS_CAP_ADQ_PACK/OFS_BASEL_BASIC/logs`, `OFS_CAP_ADQ_PACK/OFS_BASEL_IRB/logs`, `OFS_CAP_ADQ_PACK/OFS_ECA/logs` directories.

- If it is an upgrade installation, ignore the following errors present in the log file:

  - [ERROR] Object already exists: in application logs

  - Errors in `OFSAAIUpdate.log` file are as follows:

    ORA-02299: cannot validate (<constraint name>) - duplicate keys found

    ORA-02442: Cannot drop nonexistent unique key

- Update the pipeline type of PMF sub pipelines:

  - Navigate to the `ficdb/bin` using the command: `cd $FIC_DB_HOME/bin`

  - Execute the shell script: `./updatePipelineType.sh`

- If there are any other errors logged, contact My Oracle Support.

6.4 Backup the OFS_CAP_ADQ_SCHEMA_IN.xml, OFS_CAP_ADQ_SCHEMA_OUTPUT.xml, and Silent.props Files

Back up the `OFS_CAP_ADQ_SCHEMA_IN.xml`, `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`, and `Silent.props` files for future reuse to upgrade the existing applications or install new applications.

Table 15: Directory of Files to Backup

File Name	Directory
`OFS_CAP_ADQ_SCHEMA_IN.xml`	`OFS_CAP_ADQ_PACK/schema_creator/conf`
`OFS_CAP_ADQ_SCHEMA_OUTPUT.xml`	`OFS_CAP_ADQ_PACK/schema_creator/`
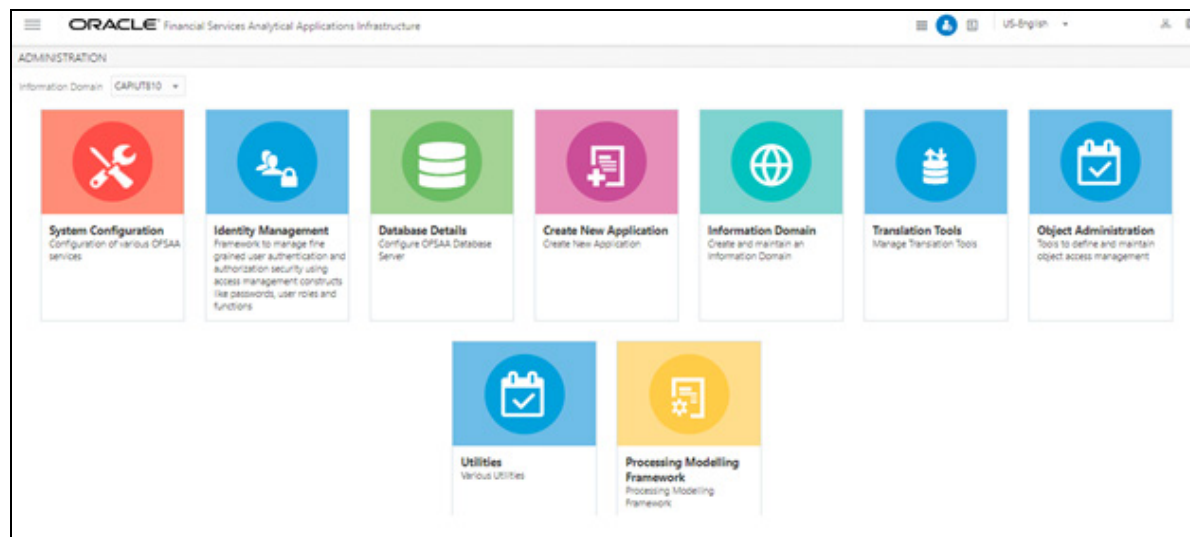
Figure 32: Object Administration
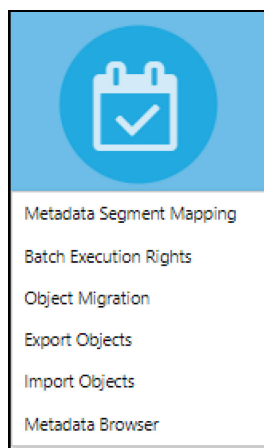
4. Click Batch Execution Rights. All the ICC batches are listed in the User Group - Batch Execution Map window.

5. Select the User Group to which you want to provide execution rights.

6. Select the batch map check box for those batches you wish to provide rights to the selected user group.

Figure 33: User Group - Batch Execution Map Window
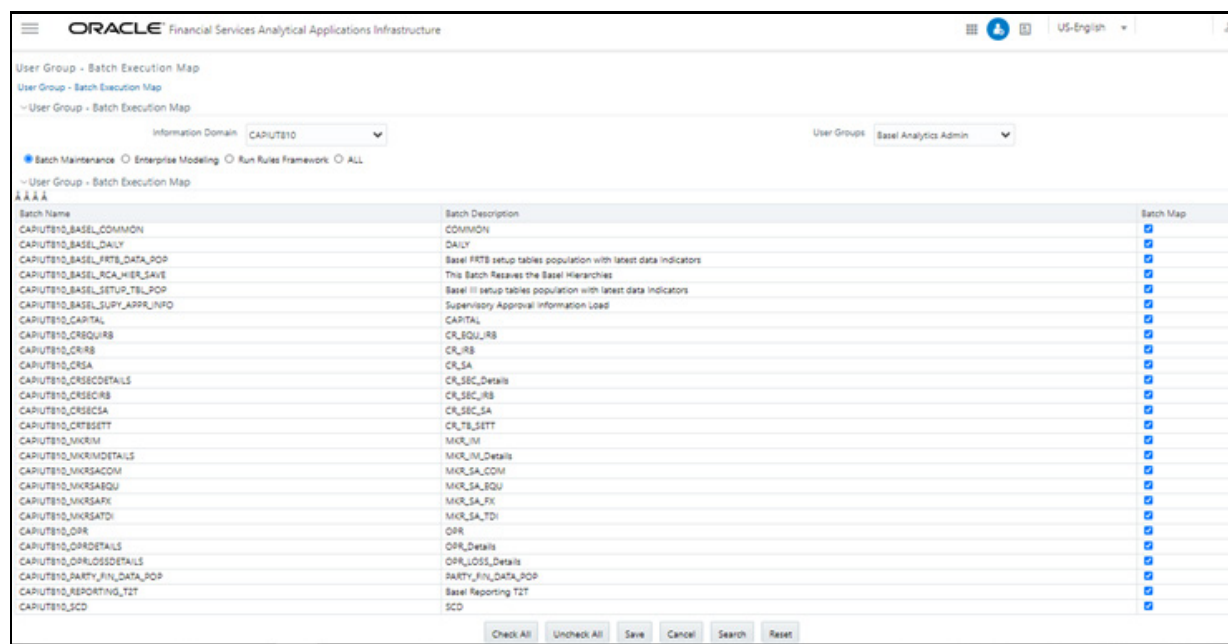
7. Click Save. A confirmation dialog box is displayed.

8. Click OK.

6.6 Updating OBIEE URL

To access the respective Business Intelligence Analytics Application, you must update the OBIEE URL in the table 'AAI_MENU_B', after the OBIEE environment is up and running.

To access the Basel Analytics application, you must update the following OBIEE URL in the table 'AAI_MENU_B':

```
UPDATE AAI_MENU_B SET V_MENU_URL = '<<BASEL Analytics Dashboard URL>>' WHERE V_MENU_ID =
'OFS_CAP_BASANA_DASH';

COMMIT;
```

For more information about OFS Basel Regulatory Capital Analytics Configuration, see the Oracle Financial Services Capital Adequacy Pack Admin Guide.

6.7 Post-deployment Configuration

The post-deployment configuration steps are as follows:

1. Perform the DM changes as listed in the following file:

   OFS CAP 8.1.1 DM Changes

2. Deploy the script files as corrective scripts in the Atomic and Config schemas as per the following table:

Table 16: Schema name and script files to deploy

Schema to deploy	Files to deploy	Deployment step
Config	- DM_SOVEREIGN_RATINGS_POPULATION.sql - DM_PARTY_RATINGS_POPULATION.sql - DM_INSTRUMENT_RATINGS_POPULATION.sql - DM_ACCOUNT_RATINGS_POPULATION.sql - DM_INSTRUMENT_UNDERLYING_RATING_DETAILS.sql - DM_BASEL_CREDIT_RATING_JURISDICTION_POP.sql - DSBL7000.sql - DSBL7001.sql	Replace placeholders with appropriate values before deployment.
Atomic	DIM_CREDIT_RATING.sql	You must execute the following command in the Atomic schema before you execute DIM_CREDIT_RATING.sql: CALL FSI_CREATE_SEQUENCE('SEQ_DIM_CREDIT_RATING','DIM_CREDIT_RATING','N_CREDIT_RATING_SKEY');

3. Import the Regulatory Calculation definitions by performing the steps documented in the section Importing Run Definitions in the User Guide based on the required jurisdiction. The Regulatory Calculation definitions for BIS, APRA, INDIA, and EU are packaged in the installer as per the following table:

Table 17: Regulatory Calculation Definitions

Dump file	Directory path	Definitions
BASEL_RUN_DEFINITIONS_INDIA.DMP	<Extracted Installer location> /OFS_BASEL_BASIC/bin/scripts/atomic/insert	IN - Basel III - Capital Calculation - Standardized Approach IN - Capital Calculation - Advanced IRB Approach IN - Capital Calculation - Foundation IRB Approach
BASEL_RUN_DEFINITIONS_BIS_PC.DMP	<Extracted Installer location> /OFS_BASEL_BASIC/bin/scripts/atomic/insert	BIS - Post Crisis Reforms - Capital Calculation - Standardized Approach
BASEL_RUN_DEFINITIONS_BIS.DMP	<Extracted Installer location> /OFS_BASEL_BASIC/bin/scripts/atomic/insert	BIS - Capital Calculation - Advanced IRB Approach BIS - Capital Calculation - Foundation IRB Approach BIS - Capital Calculation - Standardized Approach

Dump file	Directory path	Definitions
BASEL_RUN_DEFINITIONS_APRA_PC.DMP	\<Extracted Installer location\> /OFS_BASEL_BASIC/bin/scripts/atomic/insert	APRA - Basel III Post Crisis Reforms - Capital Calculation - Standardized Approach
BASEL_RUN_DEFINITIONS_EU.DMP	\<Extracted Installer location\>/OFS_BASEL_BASIC/bin/scripts/atomic/insert	EU - CRRII - Capital Calculation - Standardized Approach EU - CRRII - Capital Calculation - Standardized Approach for CR and CCR

ATTENTION

If you upgrade to release 8.1.1.0.0 from the release 8.1.0.1.3 of the application, and the error `ORA-00001: Unique Constraint Violated occurs from the script file FSI_SETUP_CAPITAL_HEAD.sql in the installation log, you must execute the following script files:`

FSI_SETUP_CAPITAL_HEAD.sql
FSI_SETUP_CAPITAL_SOURCE

4. For a fresh installation on Linux 8 operating system, copy the `FlattenOrg.sh` executable from `<Installer Extracted Location>/<App>/bin/ficdb/linux7/oracle19.3/bin` and place it in `$FIC_HOME/ficdb/bin`.

POST-INSTALLATION

POST-INSTALLATION
POST-DEPLOYMENT CONFIGURATION FOR ECONOMIC CAPITAL ADVANCED

6.8 Post-deployment Configuration for Economic Capital Advanced

6.8.1 Creating and Configuring Oracle Wallet

The Oracle Wallet is a directory on the server where the passwords are written in an encrypted form by the Oracle `mkstore` command.

You must perform the following steps to create an Oracle Wallet with the <INFODOM> name pointing to the atomic schema:

1. Create a directory for the Oracle Wallet location by using the following command:

```
mkdir -p<wallet_location>
```

For example, `mkdir -p <home_dir>/dbwallet`

> **NOTE**
>
> You can create the Oracle Wallet in any location that you require.

2. Run the `mkstore` command on the directory:

```
mkstore -wrl <wallet_location> -create
```

You are prompted for a password to secure the wallet.

3. Create a secure password, and record the password in your central password store.

4. Add the following lines to the `sqlnet.ora` configuration file:

```
SQLNET.WALLET_OVERRIDE = TRUE

WALLET_LOCATION=(

SOURCE=(METHOD=FILE)

(METHOD_DATA=(DIRECTORY=<wallet_location>) )

)
```

5. Create an alias in the `tnsnames.ora` file by pointing the <INFODOM> name to the database where the atomic schema is present by adding the following lines:

```
# Connection string for Oracle Wallet

dbwallet = (DESCRIPTION =

(ADDRESS=(PROTOCOL=TCP)(HOST=`hostname`-vip)(PORT=XXXX))

(CONNECT_DATA=(SID=YYYY_ZZ)

)
```

This alias is used when you log in by using the stored credentials.

> **NOTE**
>
> You can store only one password in the wallet per TNS alias.

6. Add the Atomic Schema username and password to an existing wallet by using the `mkstore` command with the `–createCredential` option as follows:

```
mkstore -wrl <wallet_location> -createCredential <infodom_name> <Atomic Schema username> <password>
```

7. Enter the wallet password when prompted.

8. List all the stored credentials in Oracle wallet by using the following command:

```
mkstore -wrl <wallet_location> -listCredential
```

9. Enter the wallet password when prompted.

10. Ensure that you create the wallet and have stored the username and password inside it using the TNS alias :

```
sqlplus /@<infodom_name>
```

6.8.2   Python 3.9 Installation

You must perform the following steps for the installation of Python 3.9 in an Oracle Linux server:

1. Log on to the server by using user-specific credentials.

Check the version for python 3.9 for Linux. For Oracle Linux, it is version Oracle Linux 7 or higher.

2. Enter the following command:

```
sudo root user

sudo su – root
```

3. Check the current version of python.

Figure 34: Version of Python

4. Ensure that yum is installed on the machine by running the following command:

`yum help`

Figure 35: List of yum commands

5. Provide the internet proxy in yum configuration file in the following path:

`vi /etc/yum.conf`

6. Add the following proxy URL of the organization:

`proxy=http://<proxy_name>:<proxy_port>`

7. Install Python 3.9 in the custom folder by using the following command:

yum --installroot=<custom directory> install -y python39

8. Navigate to `<custom_folder>/bin` and ensure that the python 3.9 file is present here.

9. Invoke the python 3.9 files by using the following command and press enter:

`python3.9`

The python prompt appears as follows:

Figure 36: Python prompt

```
$ python3
Python 3.9.2 (default, Mar 16 2021, 16:19:22)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39.0.1)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> 
```

10. Navigate to the path <custom_folder>/bin and ensure that if the `pip3.9` file is present.

Figure 37: pip3.9 file

```
rwxr-xr-x 1 root root 17896528 Mar 16 16:19 python3.9
rwxr-xr-x 1 root root      111 Mar 16 16:20 pydoc3.9
rwxr-xr-x 1 root root      126 Mar 16 16:20 idle3.9
rwxr-xr-x 1 root root      128 Mar 16 16:20 2to3-3.9
rwxr-xr-x 1 root root     3114 Mar 16 16:20 python3.9-config
rwxrwxrwx 1 root root        9 Mar 16 16:20 python3 -> python3.9
rwxrwxrwx 1 root root       16 Mar 16 16:20 python3-config -> python3.9-config
rwxrwxrwx 1 root root        7 Mar 16 16:20 idle3 -> idle3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 pydoc3 -> pydoc3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 2to3 -> 2to3-3.9
rwxr-xr-x 1 root root      265 Mar 16 16:20 easy_install-3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3
```

NOTE

Both pip-3 and pip-3.9 can be used to install the further python packages. You are advised to use pip-3.9.

11. Navigate to /bin and create soft links for python3 and pip3 by using the following commands:

```
ln -s <custom_folder>/bin/python3   python3
```

```
ln -s <custom_folder>/bin/pip3   pip3
```

NOTE

/bin is the bin directory for all apps in the server. This may vary based on your server.

ATTENTION

This step is mandatory for Economic Capital Advanced (ECA).

For operating systems other than Oracle Linux, you must perform the following steps for python installation:

1. Log on to the server by using user-specific credentials.

2. Ensure that the operating system in your server supports python 3.9.

3. Change the user to root using the below command.

```
sudo su – root
```

4. Check the current version of python and ensure that it is not python 3.9.

5. Download python from http://python.org/ftp/python/3.9.2/Python-3.9.2.tgz Or
   https://www.python.org/ftp/python/3.9.2/Python-3.9.2.tar.xz

6. Unzip the downloaded file using the commands for the required file type from the following table:

Table 18: File types and their commands

File type	Command
.tgz	`gunzip -c Python-3.9.2.tgz	tar xvf –`
.tar	`tar xJf Python-3.9.2.tar.xz`

7. Navigate to the Python-3.9.2 directory and execute the configure file.

   - To install python in the default directory, use the following command :

     ```
     ./configure
     ```

   - To install python in the default directory, use the following command :

     ```
     ./configure --prefix=<custom folder>
     ```

8. Make using the command:

   ```
   make
   ```

9. Make install using the command:

   ```
   make install
   ```

10. Navigate to <custom_folder>/bin and ensure if the python 3.9 file is present here.

11. Invoke the python 3.9 files by using the command `python3.9` and press enter. The python prompt appears as follows:

Figure 38: Python prompt

```
$ python3
Python 3.9.2 (default, Mar 16 2021, 16:19:22)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39.0.1)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> []
```

12. Navigate to <custom_folder>/bin and ensure if the pip3.9 file is present here.

Figure 39: pip3.9 file

```
rwxr-xr-x 1 root root 17896528 Mar 16 16:19 python3.9
rwxr-xr-x 1 root root      111 Mar 16 16:20 pydoc3.9
rwxr-xr-x 1 root root      126 Mar 16 16:20 idle3.9
rwxr-xr-x 1 root root      128 Mar 16 16:20 2to3-3.9
rwxr-xr-x 1 root root     3114 Mar 16 16:20 python3.9-config
rwxrwxrwx 1 root root        9 Mar 16 16:20 python3 -> python3.9
rwxrwxrwx 1 root root       16 Mar 16 16:20 python3-config -> python3.9-config
rwxrwxrwx 1 root root        7 Mar 16 16:20 idle3 -> idle3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 pydoc3 -> pydoc3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 2to3 -> 2to3-3.9
rwxr-xr-x 1 root root      265 Mar 16 16:20 easy_install-3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3
```

NOTE

The pip-3 and pip-3.9 files can be used to install the further python packages. You are advised to use pip-3.9.

13. Navigate to /bin, and create soft links for python3 and pip3 by using the following commands:

```
ln -s <custom_folder>/bin/python3  python3
ln -s <custom_folder>/bin/pip3  pip3
```

NOTE

We have followed some of the best practices for the installation of python.

Based on the evaluation, you are requested to choose the safest way of installing Python on your server. Once you complete the installation, ensure that python3 and pip3 are linked to the installed python bin folder.

For issues related to yum on Oracle Linux, contact My Oracle Support.

6.8.2.1   Python packages installation

Perform the following steps for installation of packages installation:

- pip3 install numpy==1.19.4

- pip3 install pandas==1.1.4

- pip3 install cx-Oracle==8.0.1

- pip3 install matplotlib==3.3.3

- pip3 install python-dateutil==2.2.0

- pip3 install python-dateutil==2.5.0

- pip3 install scikit-learn==0.23.2

- pip3 install statsmodels==0.12.1

- pip3 install flask==1.1.2

- pip3 install scipy==1.5.4

Based on the server security level and best practices followed at your organization, you can choose to download the package from a safe source and then install it using pip. Ensure that you download all the dependencies of the package before installing it. Else, the installation of the package throws an error, and you have to perform the installation process again.

For example, for the installation of the NumPy module, the following packages are mandatory:

- pip3 install Cython-0.29.21.tar.gz

- pip3 install numpy-1.19.4.zip

For the cx_Oracle module, the following patches are mandatory:

- pip3 install setuptools-51.0.0.zip

- pip3 install cx_Oracle-8.1.0.tar.gz

For Pandas, the following packages are mandatory:

- pip3 install wheel-0.36.2.tar.gz

- pip3 install setuptools_scm-5.0.1.tar.gz

- pip3 install six-1.15.0.tar.gz

- pip3 install python-dateutil-2.8.1.tar.gz

- pip3 install pytz-2020.4.tar.gz

- pip3 install pandas-1.1.5.tar.gz

6.8.2.2 FSI_CAP_MDL_VARIABLES table update during model re-training

If you are re-training (training an already trained model) a model, ensure that the flag column **F_IS_USED_IN_MDL_TRAINING** in the **FSI_CAP_MDL_VARIABLES** table is set to NULL before performing the retraining. You can use the following query to set the table to NULL:

```
UPDATE FSI_CAP_MDL_VARIABLES SET F_IS_USED_IN_MDL_TRAINING = NULL WHERE N_MODEL_ID = <MODEL_ID>
AND N_MODEL_VERSION = <MODEL_VERSION>;
```

> **NOTE**
>
> The step to set the flag column NULL is only a workaround and the fix for this shall be included in the subsequent release.

6.8.2.3 Restating of REST API services

The integration of ECA UI with ECA python backend services is achieved through Flask REST API framework. This framework exists in Python. Before you train the model, ensure that the REST API services are up and running. You can refer to the following sub-sections for tasks related to REST APIs.

6.8.2.3.1 Ensuring if the REST API is running

To ensure if the REST API service is running, perform the following step:

- Execute the following command:

```
netstat -tulpn | grep LISTEN | grep 8887
```

If the result of the command displays the port, then the REST API is running. See the following image for reference:

Figure 40: REST API port

If the result of the command displays the following output, then you have to restart the API service:

Figure 41: REST API output for restarting service

```
netstat -tulpn | grep LISTEN | grep 888
(Not all processes could be identified, non-owned process info
 will not be shown, you would have to be root to see it all.)
$ []
```

6.8.2.3.2 Restarting the REST API service

Perform the following if you need to restart the REST API service:

1. Clear the Python cache by performing the following steps:

   a. Navigate to the directory path `$HOME/OFSCAP/pyscripts/rest_api`.

   b. Remove the `__pycache__` folder using the command `rm -R __pycache__`.

   > **ATTENTION**
   >
   > You must clear the Python cache only if there is a change to the Python files.

2. Clear the account clustering logs by performing the following steps:

   a. Navigate to the directory path `$HOME/OFSCAP/ficdb/log/EconomicCapital`.

   b. Enter the command `rm *log` to remove the logs.

   > **NOTE**
   >
   > This is an optional step and needs to be performed only if you want to remove the logs.

3. Restart the REST API service by performing the following steps:

   a. Navigate to the directory `$Home/OFSCAP/pyscripts/rest_api/crec`

   b. Execute the command `nohup python3 -u app_crec_server_ac.py >> CREC_rest.log &`

Here `python3` is python 3.9 and `CREC_rest.log` is the log name for Economic Capital REST API.

6.9 Post-deployment Configuration for Account Clustering (Basel IRB)

The Account Clustering module is part of the Oracle Financial Services Basel Regulatory Capital Internal Ratings Based Approach application and provides modeling capabilities. If you want to enable Account clustering, you must perform few tasks. The following sections details these tasks:

6.9.1.1   Creating and Configuring Oracle Wallet

The Oracle Wallet is a directory on the server where the passwords are written in an encrypted form by the Oracle `mkstore` command.

You must perform the following steps to create an Oracle Wallet with the <INFODOM> name pointing to

the atomic schema:

1. Create a directory for the Oracle Wallet location by using the following command:

    ```
    mkdir –p <wallet_location>
    ```

    For example, `mkdir -p <home_dir>/dbwallet`

    > **NOTE**
    >
    > You can create the Oracle Wallet in any location that you require.

2. Run the `mkstore` command on the directory:

    ```
    mkstore –wrl <wallet_location> - create
    ```

    You are prompted for a password to secure the wallet.

3. Create a secure password, and record the password in your central password store.

4. Add the following lines to the `sqlnet.ora` configuration file:

    ```
    SQLNET.WALLET_OVERRIDE = TRUE
    WALLET_LOCATION=(
    SOURCE=(METHOD=FILE)
    (METHOD_DATA=(DIRECTORY=<wallet_location>) )
    )
    ```

5. Create an alias in the `tnsnames.ora` file by pointing the <INFODOM> name to the database where the atomic schema is present by adding the following lines:

    ```
    # Connection string for Oracle Wallet
    <infodom_name> = (DESCRIPTION =
    (ADDRESS=(PROTOCOL=TCP)(HOST=`hostname`-vip)(PORT=XXXX))
    (CONNECT_DATA=(SID=YYYY_ZZ)
    )
    ```

This alias is used when you log in by using the stored credentials.

> **NOTE**
>
> You can store only one password in the wallet per TNS alias.

6. Add the Atomic Schema username and password to an existing wallet by using the `mkstore` command with the `createCredential` option as follows:

```
mkstore -wrl <wallet_location> -createCredential <infodom_name> <Atomic Schema username>
<password>
```

7. Enter the wallet password when prompted.

8. List all the stored credentials in Oracle wallet by using the following command:

```
mkstore -wrl <wallet_location> -listCredential
```

9. Enter the wallet password when prompted.

10. Ensure that you create the wallet and have stored the username and password inside it using the TNS alias :

```
sqlplus /@<infodom_name>
```

6.9.1.2   Python 3.9 Installation

You must perform the following steps for the installation of Python 3.9 in an Oracle Linux server:

1. Log on to the server by using user specific credentials.

2. Check the Linux supported version for python 3.9.

    For Oracle Linux, it is version Oracle Linux 7 or higher.

3. Enter the following command:

```
sudo root user
sudo su – root
```

4. Check the current version of python.

Figure 42: Version of Python

5. Ensure that yum is installed on the machine by running the following command:

```
yum help
```

Figure 43: List of yum commands

6. Provide the internet proxy in yum configuration file in the following path:

```
vi /etc/yum.conf
```

7. Add the proxy url of the organization:

```
proxy=http://<proxy_name>:<proxy_port>
```

8. Install Python 3.9 in the custom folder by using the following command:

yum --installroot=<custom directory> install -y python39

9. Navigate to `<custom_folder>/bin` and ensure that the python 3.9 file is present here.

10. Invoke the python 3.9 files by using the following command and press enter:

11. `python3.9`

The python prompt appears as follows:

Figure 44: Python prompt

```
$ python3
Python 3.9.2 (default, Mar 16 2021, 16:19:22)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39.0.1)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

12. Navigate to the path <custom_folder>/bin and ensure that if the `pip3.9` file is present.

Figure 45: pip3.9 file

```
rwxr-xr-x 1 root root 17896528 Mar 16 16:19 python3.9
rwxr-xr-x 1 root root      111 Mar 16 16:20 pydoc3.9
rwxr-xr-x 1 root root      126 Mar 16 16:20 idle3.9
rwxr-xr-x 1 root root      128 Mar 16 16:20 2to3-3.9
rwxr-xr-x 1 root root     3114 Mar 16 16:20 python3.9-config
rwxrwxrwx 1 root root        9 Mar 16 16:20 python3 -> python3.9
rwxrwxrwx 1 root root       16 Mar 16 16:20 python3-config -> python3.9-config
rwxrwxrwx 1 root root        7 Mar 16 16:20 idle3 -> idle3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 pydoc3 -> pydoc3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 2to3 -> 2to3-3.9
rwxr-xr-x 1 root root      265 Mar 16 16:20 easy_install-3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3
```

NOTE

Both pip-3 and pip-3.9 can be used to install the further python packages. You are advised to use pip-3.9.

13. Navigate to /bin and create soft links for python3 and pip3 by using the following commands:

```
ln -s <custom_folder>/bin/python3  python3
```

```
ln -s <custom_folder>/bin/pip3  pip3
```

NOTE

/bin is the bin directory for all apps in the server. This may vary based on your server.

ATTENTION

This step is mandatory for Account Clustering.

For operating systems other than Oracle Linux, you must perform the following steps for python installation:

1. Log on to the server by using user-specific credentials.

2. Ensure that the operating system in your server supports python 3.9.

3. Change the user to root using the below command.

   ```
   sudo su – root
   ```

4. Check the current version of python and ensure that it is not python 3.9.

5. Download python from http://python.org/ftp/python/3.9.2/Python-3.9.2.tgz Or
   https://www.python.org/ftp/python/3.9.2/Python-3.9.2.tar.xz

6. Unzip the downloaded file using the commands for the required file type from the following table:

   Table 19: File types and their commands

File type	Command
.tgz	`gunzip -c Python-3.9.2.tgz	tar xvf –`
.tar	`tar xJf Python-3.9.2.tar.xz`

7. Navigate to the Python-3.9.2 directory and execute the configure file.

   - To install python in the default directory, use the following command :

     ```
     ./configure
     ```

   - To install python in the default directory, use the following command :

     ```
     ./configure --prefix=<custom folder>
     ```

8. Make using the command:

   ```
   make
   ```

9. Make install using the command:

   ```
   make install
   ```

10. Navigate to <custom_folder>/bin and ensure if the python 3.9 file is present here.

11. Invoke the python 3.9 files by using the command `python3.9` and press enter. The python prompt appears as follows:

    Figure 46: Python prompt

```
$ python3
Python 3.9.2 (default, Mar 16 2021, 16:19:22)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39.0.1)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> 
```

12. Navigate to <custom_folder>/bin and ensure if the pip3.9 file is present here.

Figure 47: pip3.9 file

```
rwxr-xr-x 1 root root 17896528 Mar 16 16:19 python3.9
rwxr-xr-x 1 root root      111 Mar 16 16:20 pydoc3.9
rwxr-xr-x 1 root root      126 Mar 16 16:20 idle3.9
rwxr-xr-x 1 root root      128 Mar 16 16:20 2to3-3.9
rwxr-xr-x 1 root root     3114 Mar 16 16:20 python3.9-config
rwxrwxrwx 1 root root        9 Mar 16 16:20 python3 -> python3.9
rwxrwxrwx 1 root root       16 Mar 16 16:20 python3-config -> python3.9-config
rwxrwxrwx 1 root root        7 Mar 16 16:20 idle3 -> idle3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 pydoc3 -> pydoc3.9
rwxrwxrwx 1 root root        8 Mar 16 16:20 2to3 -> 2to3-3.9
rwxr-xr-x 1 root root      265 Mar 16 16:20 easy_install-3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3.9
rwxr-xr-x 1 root root      256 Mar 16 16:20 pip3
```

NOTE

The pip-3 and pip-3.9 files can be used to install the further python packages. You are advised to use pip-3.9.

13. Navigate to /bin, and create soft links for python3 and pip3 by using the following commands:

```
ln -s <custom_folder>/bin/python3  python3
ln -s <custom_folder>/bin/pip3  pip3
```

NOTE

We have followed some of the best practices for the installation of python.

Based on the evaluation, you are requested to choose the safest way of installing Python on your server. Once you complete the installation, ensure that python3 and pip3 are linked to the installed python bin folder.

For issues related to yum on Oracle Linux, contact My Oracle Support.

6.9.1.3 Python packages installation

Perform the following steps for installation of packages:

- pip3 install numpy==1.20.1

POST-INSTALLATION

POST-DEPLOYMENT CONFIGURATION FOR ACCOUNT CLUSTERING (BASEL IRB)

- pip3 install pandas==1.2.3

- pip3 install cx-Oracle==8.1.0

- pip3 install matplotlib==3.3.4

- pip3 install scikit-learn==0.24.1

- pip3 install statsmodels==0.12.2

- pip3 install flask==1.1.2

- pip3 install scipy== 1.6.1

- pip3 install flask_restplus== 0.13.0

Based on the server security level and best practices followed at your organization, you can choose to download the package from a safe source and then install it using pip. Ensure that you download all the dependencies of the package before installing it. Else, the installation of the package throws an error, and you have to perform the installation process again.

For example, for the installation of the NumPy module, the following packages are mandatory:

- pip3 install Cython-0.29.21.tar.gz

- pip3 install numpy-1.19.4.zip

For the cx_Oracle module, the following patches are mandatory:

- pip3 install setuptools-51.0.0.zip

- pip3 install cx_Oracle-8.1.0.tar.gz

For Pandas, the following packages are mandatory:

- pip3 install wheel-0.36.2.tar.gz

- pip3 install setuptools_scm-5.0.1.tar.gz

- pip3 install six-1.15.0.tar.gz

- pip3 install python-dateutil-2.8.1.tar.gz

- pip3 install pytz-2020.4.tar.gz

- pip3 install pandas-1.1.5.tar.gz

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6.9.1.4 Restating of REST API services

The integration of account clustering UI with account clustering python backend services is achieved through the Flask REST API framework. This framework exists in Python. Before you train the model, ensure that the REST API services are up and running. You can refer to the following sub-sections for tasks related to REST APIs.

6.9.1.4.1 Ensuring if the REST API is running

To ensure if the REST API service is running, perform the following steps:

- Execute the following command:

```
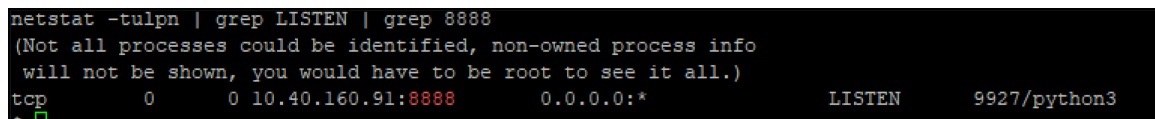netstat -tulpn | grep LISTEN | grep 8888
```

If the result of the command displays the port, then the REST API is running. See the following image for reference:

Figure 48: REST API port

If the result of the command displays the following output, then you have to restart the API service:

Figure 49: REST API output for restarting service

6.9.1.4.2 Restarting the REST API service

Perform the following if you need to restart the REST API service:

1. Clear the Python cache by performing the following steps:

   a. Navigate to the directory path `$HOME/OFSCAP/pyscripts/rest_api`.

   b. Remove the `__pycache__` folder using the command `rm -R __pycache__`.

> **ATTENTION**
>
> You must clear the Python cache only if there is a change to the Python files.

2. Clear the account clustering logs by performing the following steps:

   a. Navigate to the directory path `$HOME/OFSCAP/ficdb/log/account_clustering.`

   b. Enter the command `rm *log` to remove the logs.

   > **NOTE**
   >
   > This is an optional step and needs to be performed only if you want to remove the logs.

3. Restart the REST API service by performing the following steps:

   a. Navigate to the directory `$Home/OFSCAP/pyscripts/rest_api/ac.`

   b. Execute the command `nohup python3 -u app_server_ac.py >> ac_rest.log &`

Here `python3` is python 3.9 and `ac_rest.log` is the log name for account clustering rest API.

Part II

Topics:

- [Upgrade](#)

7   Upgrade

This section includes the procedures for the various upgrade scenarios supported by OFS CAP ADQ Release 8.1.1.0.0.

Topics:

- Upgrade Scenarios

- Prepare for Upgrade

- Download the OFSAAAI Applications Pack Installer and Mandatory Patches

- Upgrade from a previous release (8.1.0.0.0 or Later)

- Upgrade an already installed application from 8.1.0.0.0 or later release version and add new applications from the same pack

7.1   Upgrade Scenarios

Table 20: Upgrade Scenarios

Scenario	Upgrade Instructions
Upgrade an already installed application pack from 8.1.0.0.0 or later releases You are upgrading the application pack from Release 8.1.0.0.0 or later to Release 8.1.1.0.0. For example, you are using release 8.1.0.1.2 and now want to upgrade to Release 8.1.1.0.0.	1. Create the APRA Segment. 2. Copy the schema creator output file `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml` from 8.1.0.0.0 installer kit to the 8.1.1.0.0 installer kit. 3. Update `OFS_CAP_ADQ_PACK.xml` file to enable the existing licensed applications 4. Update the `Silent.props` file for the sections related to the existing licensed applications. 5. Trigger the Release 8.1.1.0.0 installation. 6. Perform the post-installation steps
Upgrade an already installed application from 8.1.0.0.0 or later release version and add new applications from the same pack You have two applications from a pack on 8.1.0.0.0 or later. You	1. APRA Segment creation 2. Copy the schema creator output file `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml` from 8.1.0.0.0 installer kit to the 8.1.1.0.0 installer kit. 3. Update OFS_CAP_ADQ_PACK.xml file to enable the existing licensed applications

Scenario	Upgrade Instructions
want new applications from the same pack on 8.1.1.0.0. For example, you have installed Basel Basic and Basel Analytics from Release 8.1.0.0.0. Now you want to upgrade them and install Basel IRB of Release 8.1.1.0.0.	4. Update the Silent.props file for the sections related to the existing licensed applications. 5. Trigger the Release 8.1.1.0.0 installation. 6. Perform the post-installation steps

7.2 Preparing for Upgrade

> **NOTE**
>
> The base version for upgrade to 8.1.1.0.0 is 8.1.0.0.0.

Before starting the upgrade, you must ensure to perform the following tasks:

- Download and Extract the OFSCAP Application Pack installer kit and Mandatory OFSAAI patches.

- See the OFS Analytical Applications Technology Matrix for the hardware and software required to upgrade to OFS CAP ADQ Release 8.1.1.0.0.

- Enable unlimited cryptographic policy for Java. For more information, see the *Enabling Unlimited Cryptographic Policy* section in the OFS Analytical Applications Infrastructure Administration Guide.

7.3 Download the OFSAAAI Applications Pack Installer and Mandatory Patches

To download the OFSAAAI Applications Pack Installer Release 8.1.0.0.0, follow these steps:

1. Log in to the Oracle Software Delivery Cloud (OSDC) with a valid Oracle account.

2. Download the installer archive and copy (in Binary mode) to the download directory that exists in the OFSAAAI installation setup.

> **NOTE**

Select the required archive files for either Solaris SPARC or Linux based on the operating system of your OFSAAAI.

3. Log in to My Oracle Support, search for the **33663417** Mandatory Patch in the **Patches & Updates** Tab and download it.

> **ATTENTION**
>
> 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 prior to 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.

7.4 Upgrade an already installed application pack from 8.1.0.0.0 or later releases

To upgrade an existing 8.1.0.0.0 application pack or later to the 8.1.1.0.0 application pack, you must perform the following steps:

1. Replace the following below placeholders and execute the following BASEL_APRA_OFSAA_SETUP_APPLN_DTLS.sql script in the config schema to create a new segment for APRA:

- ##INFODOM## - Information Domain

- ##APRA## - New Segment code for APRA

2. Copy the schema creator output file `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml` from `OFS_CAP_ADQ_PACK/schema_creator directory` of the 8.1.0.0.0 installer kit and paste it in the `OFS_CAP_ADQ_PACK/schema_creator` directory of the 8.1.1.0.0 installer kit.

3. Configure the `OFS_CAP_ADQ_PACK.xml` file to enable the existing licensed applications. For more information, see Configure the OFS_CAP_ADQ_PACK.xml File.

4. Configure the `Silent.props` file present in the Release 8.1.1.0.0 pack for the sections related to existing licensed applications. For more information, see Configure the Silent.props file.

5. Follow the steps mentioned in the Install the OFS CAP ADQ Application section to trigger the installation.

6. Follow the steps mentioned in the Post-installation Steps section.

Your existing application pack is upgraded to the version 8.1.1.0.0.

UPGRADE

UPGRADE AN ALREADY INSTALLED APPLICATION FROM 8.1.0.0.0 OR LATER RELEASE VERSION AND ADD NEW APPLICATIONS FROM THE SAME PACK

7.5 Upgrade an already installed application from 8.1.0.0.0 or later release version and add new applications from the same pack

To upgrade an existing 8.1.0.0.0 application pack or its later versions to the 8.1.1.0.0 application pack, and add new applications, you must perform the following steps:

1. Replace the following below placeholders and execute the following BASEL_APRA_OFSAA_SETUP_APPLN_DTLS.sql script in the config schema to create a new segment for APRA:

- ##INFODOM## - Information Domain

- ##APRA## - New Segment code for APRA

2. Copy the schema creator output file `OFS_CAP_ADQ_SCHEMA_OUTPUT.xml` from `OFS_CAP_ADQ_PACK/schema_creator directory` of the 8.1.0.0.0 installer kit and paste it in the `OFS_CAP_ADQ_PACK/schema_creator` directory of the 8.1.1.0.0 installer kit.

3. Configure the `OFS_CAP_ADQ_PACK.xml` file to enable the existing and newly licensed applications. For more information, see Configure the OFS_CAP_ADQ_PACK.xml File.

4. Configure the `Silent.props` file present in the Release 8.1.1.0.0 pack for the sections related to existing licensed applications as well as for the newly licensed application. For more information, see Configure the Silent.props file.

5. Follow the steps mentioned in the Install the OFS CAP ADQ Application section to trigger the installation.

6. Follow the steps mentioned in the Post-installation Steps section.

Your existing application pack is upgraded to the version 8.1.1.0.0, and installs the newly licensed applications as well.

Part III

Topics:

- Additional Configurations for Application Packs

- FAQs

8   Additional Configurations

This section provides information for additional configurations required for the OFSAA application packs.

To complete the configuration process, you must perform the following steps listed in the Additional Configuration Checklist. Use this checklist to verify whether these steps are completed or not. See the Additional Information section in the OFS AAAI Release 8.1.1.0.0 Installation and Configuration Guide to complete these procedures.

Table 21: Additional Configuration Checklist

Sl. No.	Additional Configuration Steps Activity
1	Configure the Work Manager in the web application servers.
2	Add FTP/SFTP Configuration for File Transfer.
3	Configure the Infrastructure Server Memory.
4	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
5	Execute the OFSAAI Setup Information Fetching Tool.
6	Execute the Encryption Changer.
7	Configure the Infrastructure LDAP Configuration.
8	Configure and deploy the OFSAAI web services.
9	Enable the Parallel Execution of DML statements.
10	Configure the Message Details in the Forms Designer.
11	Clear the application cache.
12	Configure password changes.
13	Configure Java Virtual Machine.
14	Configure Internal Service (Document Upload or Download).
15	Migrate Excel Upload Functionality.
16	Remove the OFSAA Infrastructure.

8.1   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 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. 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.

9 Frequently Asked Questions (FAQs) and Error Dictionary

For FAQs and installation error-related information, see the Frequently Asked Questions (FAQs) and Error Dictionary section in the OFS AAAI Release 8.1.1.0.0 Installation and Configuration Guide.

OFSAA Support

Raise a Service Request (SR) in My Oracle Support (MOS) for queries related to the OFSAA applications.

Send Us Your Comments

Oracle welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?

- Is the information clearly presented?

- Do you need more information? If so, where?

- Are the examples correct? Do you need more examples?

- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, indicate the title and part number of the documentation along with the chapter, section and page number (if available) and contact the My Oracle Support**.**

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