Oracle Financial Services
Customer Analytics
Application Pack
Installation and Configuration
Guide

Version 8.0.1.0.0



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Executive Summary

This document includes the necessary instructions to apply 8.0.1.0.0 Interim Release for OFS Customer Analytics Applications Pack and perform the required post install configurations. You can find the latest copy of this document in <u>OTN</u>.

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Preface

This document provides step-by-step instructions to install the OFSCA Applications Pack 8.0.1.0.0 Interim Release.

This chapter discusses the following topics:

- Audience
- How this Guide is organized
- Recommended Environment
- Related Documents
- Conventions Used

Audience

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

Prerequisites for the Audience

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

The following are the expected preparations from the administrator before starting the actual installation:

- Oracle Financial Services Customer Analytics Application Pack components
- OFSAA Architecture
- UNIX Commands
- Database Concepts
- Web Server/ Web Application Server

Recommended Environment

Infrastructure application has been tested with Microsoft Internet Explorer[™] 9, 10, and 11. For best viewing of Infrastructure pages, set the screen resolution to a minimum resolution of 1024 x 768 pixels.



Related Documents

This section identifies additional documents related to Oracle Financial Services Customer Analytics Application Pack 8.0.1.0.0. You can access Oracle documentation online from the Documentation Library for OFS CA 8.0.1.0.0 (OTN).

OFSAA Related Documents

- Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAAI)
 Application Pack 8.0.1.0.0 Installation and Configuration Guide
- Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility
 Guide
- Oracle Financial Services Analytical Applications Infrastructure User Guide
- Oracle Financial Services Analytical Applications Infrastructure Administration Guide
- Oracle Financial Services Analytical Applications v8.0 Technology Matrix

OFS CA Application Related Documents

Oracle Financial Services Retail Customer Analytics User Guide

Conventions and Acronyms

Conventions	Description	
Actions are indicated in Bold .		
Command or query is indicate	ted in Courier New font.	
AIX	Advanced Interactive eXecutive	
OFSAAI	Oracle Financial Services Analytical Applications Infrastructure	
OFS AAAI	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack	
OFS CA	Oracle Financial Services Customer Analytics Application Pack	
RHEL	Red Hat Enterprise Linux	
IR	Interim Release	
ML	Maintenance Level	
Atomic Schema	Database schema where the application data model is uploaded.	
Config Schema	Database schema which contains setup related configurations and metadata.	



1 OFS Customer Analytics Application Pack Release 8.0.1.0.0

This Interim Release (IR) of OFS Customer Analytics Application Pack is cumulative and includes all enhancements and bug fixes done since the OFS Customer Analytics Application Pack v8.0 GA release. For more information, refer the <u>Oracle Financial Services Customer Analytics</u> Installation Guide – Release 8.0.0.0.0.

1.1 Supported Software Versions

The following table shows the minimum hardware and software requirements for installing OFS Customer Analytics Application Pack.

Table 1: Configurations supported

Requirement	Sub-Category	Value
Operating System	Oracle Linux / Red Hat Enterprise Linux (x86-64)	Oracle Linux Server release 6.0 and above - 64 bit Note: Same versions of RHEL is supported
System	Shell	KORN Shell (KSH)
Java Runtime Environment	Oracle Linux / Red Hat Enterprise Linux	Oracle Java Runtime Environment (JRE) 1.7.x - 64 bit
Oracle Database Server and Client		Oracle Database Server Enterprise Edition 12c Release 1 (12.1.0.1.0 +)- 64 bit RAC/ Non-RAC with/ without partitioning option
		Oracle Client 12c Release 1 (12.1.0.1.0+) - 64 bit Oracle 12C Release 1 (12.1.0.1+) JDBC driver (Oracle thin driver)
		Oracle Distribution of R version 2.15.1, 2.15.2 or 2.15.3.(Optional)
	Oracle R Enterprise (Server) version 1.4. (Optional) Note: Ensure that the following patches are applied:	

Requirement	Sub-Category	Value	
	 Oracle Server 12c, v12.1.0.1 – 17082699 Oracle Server 12c, v12.1.0.2 - 19392604, 19649591 Also for latest information, refer http://support.oracle.com/, 12.1.0.2 Bundle Patches for Engineered Systems and DB In-Memory - List of Fixes in each Bundle (Doc ID 1937782.1) 		
	Oracle Hyperion Essbase	V 11.1.2.3+ (Server and Client) with Oracle 12c Database	
OLAP	Oracle OLAP	V 12.1.0.1+ with Oracle 12c Database	
	Note: Oracle Hyperion Essbase & Oracle OLAP is required only if you are using the OLAP feature of OFSAAI. For Oracle OLAP, ensure that you have configured the Oracle Database server with OLAP option.		
Web Server/ Web Application Server	Oracle Linux / Red Hat Enterprise Linux	Oracle HTTP Server 11.1.1.1/ Apache HTTP Server 2.2.x/ IBM HTTP Server Oracle 12c Database: IBM WebSphere Application Server 8.5+ with IBM Java Runtime (64 bit)	
	Operating System	MS Windows 7/ Windows 8/ Windows 8.1	
Desktop Requirements	Browser	MS Internet Explorer 9, 10, 11(Compatibility Mode) and 11 (Compatibility Mode) Oracle Java plug-in 1.7.0+* Note: - Enable caching of static content (static files, images, CSS, and so on).	
	Office Tools	MS Office 2007/ 2010/2013 Adobe Acrobat Reader 10 and 11	



Requirement	Sub-Category	Value
	Screen Resolution	1024*768 or 1280*1024
Directory		OFSAAI is qualified on both OPEN LDAP 2.2.29+ and Oracle Internet Directory v 11.1.1.3.0. However, it can be integrated with other directory services software like MS Active Directory.
Services Note: Configuration of Directory services software for OFSAAI installation is optional configuration, see Infrastructure LDAP Configuration. Open LDAP needs to be machine only.		·

1.2 Pre Installation Requirements

You should have 8.0.0.0.0 GA as the minimum patch set level.

NOTE: For Hardware and Software requirements, refer to <u>Technology Matrix</u>.

8.0.1.0.0 installer would take a backup of FIC_HOME directory before upgrading to 8.0.1 as <FIC_HOME_BKP> under the home directory (FIC_HOME being the installer directory path/name set during 8.0 installation).

1.3 Pre-Installation Configuration

The upgrade of Media Pack applications from 8.0.0.0.0 to 8.0.1.0.0 will involve a Sliced Datamodel upload. This datamodel upgrade will have certain disruptive changes which will cause failure of installation if the affected tables have data. Hence, these disruptive changes have been handled through pre-script executions which will take backups of the existing tables, and leave them empty for the sliced datamodel upload changes to happen seamlessly.

Hence, if the installer is chosen to be run without datamodel upload, the assumption is that the pre-scripts have been run manually on both Config and Atomic Schema, and the datamodel upload was triggered manually post these executions. The pre-scripts will be made available in the build area in the same path as the released datamodel. This step is not necessary if the installer is chosen with datamodel upload.

As part of the installation process, the backup tables will later be used to update the original tables.



However, in case of an error in the process of installation, the pre-scripts need to be rolled back if the user wishes to trigger the installation with datamodel upload. For this purpose, roll-back prescripts are also being provided in the same path as the released datamodel. This will contain two scripts: one for config schema and another for atomic schema. User needs to make sure that these rollback scripts are executed before the installation is triggered again after a failure.

1.4 Pre Installation Activities

NOTE: Configuration file – Params.conf file should to be updated before triggering the Installation. Params.conf file is available in the path /OFS_CA_PACK/OFS_CA/conf

Following are the input parameters for Params.conf file:

Model Upload Process: Input values required are 0/1

- 1 indicates Trigger Model Upload
- 0 indicates Skip Model upload process

If the value is 0, then next option is to choose the option of type of Model upload

- 1 indicates Released Datamodel
- **0** indicates Customized Datamodel

If the value is 1, then provide the inputs for Datamodel name and the path of Datamodel.

1.5 How to Apply This Interim Release?

1.5.1 Installing OFS CA

Refer to the following instructions to download, extract, install, and configure this IR.

- Login to https://support.oracle.com/ and search for 20911620 under the Patches & Updates tab.
- Download the OFS Customer Analytics Application Pack v8.0.1.0.0 IR archive file and copy it to your OFSAA server in **Binary** mode.

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

3. Shut down all the OFSAAI Services. For more information, refer to the *Start and Stop Infrastructure Services* section in <u>Oracle Financial Services</u> <u>Customer Analytics</u> Installation Guide – Release 8.0.0.0.0.



4. Assign WRITE permission to the files/ folders such as commonscripts, EXEWebService, ficapp, ficweb, and ficdb in the \$FIC_HOME folder by executing the command:

```
chmod -R 750 $FIC HOME
```

- 5. If you have Unzip utility, skip to the next step. Download the Unzip utility (OS specific) unzip_<os>.Z from the location https://updates.oracle.com/unzips/unzips.html and copy it in Binary mode to the directory that is included in your PATH variable, typically \$HOME path or directory in which you have copied the 8.0.1.0.0 IR.
 - Uncompress the unzip installer file using the command:

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

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

• Give EXECUTE permission to the file using the command:

```
chmod 751 OFSAAI_80100_<OperatingSystem>.zip.
```

6. Extract the contents of the 8.0.1.0.0 IR archive file using the command:

```
unzip_<os> -a <name of the file to be unzipped>
```

```
NOTE: The above "-a" option is mandatory to unzip the archive file. For example: unzip_aix -a OFSAAI_80100_<OperatingSystem>.zip
```

7. Give EXECUTE permission to the IR archive file. Navigate to the path *OFSAAI_80100_<OperatingSystem>.zip* and execute the command:

```
chmod 750 OFSAAIUpdate.sh
```

8. Execute **OFSAAIUpdate.sh** file.

Verify if the IR is applied successfully by checking the log file generated in the installation folder. You can ignore ORA-00001, ORA-00955, ORA-02260, and ORA-01430 errors in the log file. In case of any other errors, contact Oracle Support.

- For more information on securing your OFSAA Infrastructure, refer note <u>1540442.1</u> in My Oracle Support (MOS).
- 10. After successful installation of IR, perform the these steps:
 - Clear the application cache. Navigate to the following path depending on the configured web application server and delete the files.



Tomcat:

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

Weblogic:

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

Websphere:

- <Websphere installation directory>/AppServer/profiles/<Profile name>/temp/<Node name>/server1/<Application name>/<.war file name>
- 11. Add umask 0027 in the .profile of the UNIX account which manages the WEB server to ensure restricted access permissions.
- 12. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, refer to the *Post Installation Configuration* section in <u>Oracle Financial Services Customer Analytics Installation Guide Release 8.0.0.0.0</u>.
- After the successful installation of the IR, restart all the OFSAAI services. For more
 information, refer to the Start and Stop Infrastructure Services section in Oracle
 Financial Services Customer Analytics Installation Guide Release 8.0.0.0.0.

1.6 Additional Configurations

1.6.1 Configurations for Enterprise Modeling

The following configurations are applicable only if OFS Enterprise Modeling is licensed and enabled in the OFSAA instance on which this release is being installed.

1.6.1.1 Configuration of Oracle R distribution and Oracle R enterprise (ORE)

For information on configuration of Oracle R distribution and Oracle R Enterprise, refer <u>Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack Installation and Configuration Guide</u>.

1.6.1.2 Configuration of Open R

OFSAAI Remote invocation of R distribution (Open-R, Revo-R & others) is an enhancement to the framework which enables remote execution of R scripted Models on a remote server (node). By configuring OFSAAI with a run time parameter, you can execute a model on any node.

NOTE: The reference implementation provided by Oracle is for Open-R distribution. Any other distribution requires custom plug-in based well-published interface-specification to interchange data/ parameters and output handling.



The R script models can be executed on open R distributions. The R server can be installed in the same machine as that of OFSAA Server or in a remote machine. The R server and the implementation details have to be configured in ModelingFramework.xml file which is available in \$FIC_DB_HOME/conf and \$FIC_WEB_HOME/webroot/conf folder. By default, the configuration is done with the implementation of open R invocation from Enterprise Modeling.

You should install the following packages as a prerequisite along with R (Version 3.0.1) in the R server machine:

- DBI version 0.2-7 (Download link http://cran.r-project.org/web/packages/DBI/index.html)
- Cairo version 1.5-6 (Download link: http://cran.r-project.org/web/packages/Cairo/index.html)
- rJava- version 0.9-6(Download link http://cran.r-project.org/web/packages/rJava/index.html)
- RJDBC version 0.2-4(Download link http://cran.rproject.org/web/packages/RJDBC/index.html)
- Rserve version 1.8-0(Download link http://rforge.net/Rserve/files/). This package is required only for remote mode of execution.

To configure the ModelingFramework.xml file, perform the following steps:

- 14. Navigate to \$FIC_DB_HOME/conf/ (DB Layer) and \$FIC_WEB_HOME/webroot/conf (Web Layer).
- 15. Edit the tags mentioned in the following table in the ModelingFramework.xml file.

Tag Name	Description	
<pre><target exe_env="\$Standard R Engine\$" id="\$HOST\$" input_data_type="\$DF\$" language="\$R\$" name="\$Logical Name for the target\$" primary_node="\$TRUE/FALSE\$"></target></pre>	 Target id: Replace \$HOST\$ with IP Address/Host Name of the remote machine where Rserve is running. Primary Node: Enter TRUE to indicate that this is the primary node where execution happens when the host is not passed as a runtime execution parameter. Note: Online execution will always happen on the primary node. Language: Enter the language in which the script is written. In this release, only R script language is supported. EXE_ENV: Enter the execution engine in which the script should be executed. In this release, only Standard R engine is supported. 	



Tag Name	Description	
	 INPUT_DATA_TYPE: Enter the data type format. In this release, only Data Frame is supported. NAME: Enter a unique logical name for the combination of language, execution engine and input data type. 	
<pre><class_name>modeling.client.impl.Exe cuteScript</class_name></pre>	•	
<pre><delete_rfile>N</delete_rfile></pre>	•	
<pre><remote_file_path>\$FILE_PATH\$</remote_file_path></pre>	Replace \$FILE_PATH\$ with the path in the remote machine that has complete access rights to all users. After a model is executed, the R script file and outputs are created. Note: The lib and conf folders have to be created under the path mentioned in <remote_file_path> tag.</remote_file_path>	
<pre><remoteservice_port>\$PORT\$</remoteservice_port></pre>	Replace \$PORT\$ with the port configured for Rserve. The default Rserve port is 6311.	
<pre><user> <name>\$USERNAME\$</name> <password>\$PASSWORD\$</password> </user></pre>	Replace the \$USERNAME\$ and \$PASSWORD\$ with the user who have access to the Rserve Location. Note: It should be same as the entry made in Rserveusers file.	
<pre><is_output_req_in_ofsaa>N</is_output_req_in_ofsaa></pre>	This flag indicates whether the outputs are required to be written back to the OFSAA tables.	
<pre><is_detailed_output_required>Y</is_detailed_output_required></pre>	This flag indicates whether the .csv output file has to be created in the machine where models are executed.	
Note: You should set <is_output_req_in_ofsaa> or <is_detailed_output_required> tags to Y. To vie Models in the Model Output window, at least one of the tags should be set to Yes.</is_detailed_output_required></is_output_req_in_ofsaa>		
<pre><pre_script_file>REXECUTION_PREFIX,\$ PRE SCRIPT FILE NAME\$</pre_script_file></pre>	This flag indicates the prescript to be appended to the user script. The OFSAA prescript is configured by default. A place holder is mentioned in the pre-script configuration tag. If additional pre-scripts are required, you can replace this with pre-script file name, else remove this place holder. Note: The custom pre-script file name provided should be with the extension '.R' and it has to be placed under \$FIC_DB_HOME/conf folder.	



Tag Name	Description
<pre><post_script_file></post_script_file></pre>	This flag indicates the postscript to be appended to the user script. By default, R postscript is configured. The OFSAA postscript is considered by default. You can configure this tag if you want to have a different post script file
	name.

16. If RJDBC connection is required, place the ojdbc<version>.jar in the \$FIC_DB_HOME/lib folder. RJDBC package is required if the outputs are required in Enterprise Modeling output tables.

NOTE: The version of ojdbc<version>.jar file is based on the Java version.

- 17. The following jar files need to be copied to \$FIC_DB_HOME/lib/ and \$FIC_WEB_HOME/webroot/WEB-INF/lib folders:
 - RserveEngine.jar
 - REngine.jar

The download link is https://rforge.net/Rserve/files/.

18. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, refer to the *Post Installation Configuration* section in <u>Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack Installation and Configuration Guide – Release 8..0.0.0.0.</u>

1.6.1.3 Configurations for Rserve in Remote Nodes (where Open –R Engine is installed)

Create Rserv.conf file in the /etc folder. The configuration entries mentioned in the following table should be done in the Rserv.conf file:

Tags	Possible Values	Description
workdir	Path: /etc/workdir	Provide the path of the working directory.
pwdfile		The username and password details should be configured in this file, which is available in the /etc/Rserveusers folder.
remote	enable/ disable	This option should be enabled.



Tags	Possible Values	Description
auth	enable/ disable	This option should be enabled.
plaintext	enable/ disable	This option should be enabled.
port	6311	Enter the port number.
maxsendbuf	0=unlimited	Enter the size in kb.
control	Enable/ disable	
interactive	No	

NOTE: For more information, refer to the link: http://rforge.net/Rserve/doc.html.

1.6.1.4 Configuration for Tomcat

To stop generating static content with one print statement per input line, you need to configure the web.xml file.

To configure web.xml file, perform the following steps:

- 1. Navigate to tomcat/conf folder.
- 2. Edit web.xml file as explained below:

Set the mapped file parameter to **False** in the servlet tag mentioned with

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

<servlet-name>jsp</servlet-name>.

1.7 Post Installation Configuration

On successful installation of the OFS CA Applications Pack, user needs to resave the sandbox before proceeding,

Refer the following post installation steps to resave the sandbox:

As a prerequisite, DIM_DATES should be populated.

- 1. Login to **OFSAA**.
- 2. Navigate to Sandbox Maintenance>Sandbox Creation.



- 3. Open the sandbox definition in Edit mode.
- 4. Click **Edi**t on the time hierarchy toolbar. The hierarchy browser is displayed.
- 5. Resave time hierarchy to reflect the available data for time. Add a time hierarchy and click **Ok**.
- 6. Click Save on Sandbox Definition page.
- 7. Repeat the above steps (Step 1-Step 5) to remove the time hierarchy, that was added in Step 5, to keep the sandbox consistent.

1.7.1 Known Issue

When installing multiple packs on a single environment, that is, OFS Profitability Pack on OFS Customer Analytics Pack or OFS Customer Analytics Pack on OFS Profitability Pack, the installation log of the latter pack will have the following SQL script error:

```
Error:ORA-00904: "N_PROJ_DATE_SKEY": invalid identifier
```

This is an error due to redundancy of a script when installing two packs on the same setup. This error will have no bearing on the functionality of the applications and needs to be ignored.



Appendix A

Frequently Asked Questions

OFSAAI Related FAQs

What checks does the 8.0.1.0.0 CA Release patch perform?

- Environment Check- As part of environment check, it performs Java validation, Environment Variables validation, OS specific validation, DB specific validation, and it shuts down all OFSAAI Services (Infrastructure Server, ICC Server, and back-end services).
- Post Install check- As part of Post install check, it checks if OFSAAI services can be successfully started.

Which version of ERwin Data Modeler does OFSAAI support?

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

What should I do for viewing the log files in Debug level for troubleshooting?

By default, the log level is set as INFO. You need to manually change it to Debug to view the log files in debug level. Based on your requirement, you can change the log level to Warn, Error, or Fatal as well.

- 1. Navigate to \$FIC_HOME/conf in the APP layer of your OFSAAI installation.
- Change the priority value to Debug in the RevLog4jConfig.xml file.

For example:

```
<root>
  <pri><priority value ="debug" />
   <appender-ref ref="ConsoleAppender1"/>
</root>
```

• Change the value of **LOGGERLEVEL** in the *DynamicServices.xml* file from **20** to **0**. (**20** is the value for Info and **0** for Debug.)

NOTE: For multi-tier installation, you need to change the log level to Debug in the DynamicServices.xml and RevLog4jConfig.xml files, which are present in \$FIC_APP_HOME/conf, \$FIC_DB_HOME/conf, and \$FIC_WEB_HOME/conf as well.

Navigate to \$FIC_WEB_HOME/webroot/conf and change the priority value to Debug in the
 ExportLog4jConfig.xml, MDBLogger.xml, and PR2Logger.xml files for viewing log files in Debug
 level for the modules Archive/Restore, Metadata Browser and RRF respectively.



- 3. Generate the application EAR/WAR file and redeploy the application onto your configured web application server. For more information on generating and deploying EAR / WAR file, refer to the *Post Installation Configuration* section in <u>Oracle Financial Services Customer Analytics</u>

 Application Pack Installation Guide Release 8.0.
- 4. Restart the OFSAAI Services (APP and WEB). For more information, refer to the *Start/Stop Infrastructure Services* section in <u>Oracle Financial Services Customer Analytics Application Pack Installation Guide Release 8.0.</u>





OFS CA

8.0.1.0.0 Installation and Configuration Guide

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