

Oracle Financial Services Market Risk

Metadata Migration from
v2.5.1.0.0 to v8.0.0.0.0

Migration Guide

Version 1.0



DOCUMENT CONTROL

Version Number	Revision Date	Changes Done
1.0	Created July 2015	Migration steps for Market Risk 3.0.1.1.1 to 8.0.0.0.0 are documented.

Executive Summary

This document describes the steps for migration of Oracle Financial Services Market Risk artifacts such as assumption definitions like Equity Risk Factor Selection, Time Vertex Specification, ZCYC Estimation Method Selection, Interest Rate Model Selection, Risk Factor Correlation Mapping, FX Risk Factor Correlation Mapping, Portfolio Management, Incremental VaR from v2.5.1.0.0 to Treasury Risk Pack 8.0.0.0.0.

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About this Guide

This document describes the procedural execution of Oracle Financial Services Migration Tool. It also provides detailed information about the migration process, source and target data models, and acceptance testing of the target system.

Acronyms and Terminologies

Acronyms

Acronym	Description
OFSAAI	Oracle Financial Services Analytical Applications Infrastructure
MR	Market Risk

Terminologies

- **Source:** The OFSAA environment from which metadata needs to be migrated.
- **Target:** The OFSAAI environment into which metadata needs to be imported.

1 Introduction

1.1 Overview of Migration Tool

The Migration Tool is designed to allow customers to easily carry forward as much metadata as possible to the Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) v8.0 instance. The procedural approach described in this guide is a general approach that a customer can follow during the migration.

Implementaion Note: *As with any major release, there are functional differences that result in difficulty or the inability to migrate certain data. In these cases, this guide will try to recommend the best approach to the customer in order to either manually migrate or re-implement using the new application.*

1.2 Recommendations

- The migration kit may modify the structure of some of the objects present on the Source Schemas. You should therefore consider cloning the source OFSAAI environment and then run this script against the clones.
- The Market Risk is part of the Treasury Pack from version 8.0.0.0.0 onwards. Therefore, if you have the following other applications on different OFSAAI instances on the source, you should consider cloning / merging them into a single information domain using the Object-Migration module.

Other applications present in this pack are:

- Liquidity Risk Management
- Market Risk Analytics
- You should also consider taking backups of the Source Config and Atomic schemas. This is required if you need to restore the Source Config and Atomic schemas from the backup and restart the migration.

For more information regarding backup strategy and backup procedure, refer to [Prepare a Backup Strategy](#) section.

- During the migration process, no metadata changes should be done on the Source OFSAAI environment. However, operational activities such as Data Loads, Batch executions, and Run executions can continue to be carried out.
- If the Source OFSAAI instance contains multiple applications, you must migrate each of these applications separately using the respective application's migration kit.

1.3 What this Utility will not Migrate

- Customizations made to the AAI artifacts such as RRF metadata, UMM metadata, T2Ts and Data Transformation Rules that comes packaged with the application installers. You should consider using the OFSAAI's Object Migration Utility functionality to migrate such objects. You can perform these as a post-migration activity. You can refer to the OFSAAI Migration Guide for further details.
- Data Model customizations. The migration kit expects that the data model customizations made on the Source is already present in the Target.
- Data from the staging/processing/results tables. The scope of this document is restricted to metadata-migration, and does not include data-migration. It is recommended that you migrate the Data after metadata-migration is completed.
- OFSAAI Folders (Segments), Groups, Users and their access privileges. OFSAAI 8.0 introduces considerable changes to the user-security model, as well as introduces the framework for supporting object-security. You should therefore reassess your user-security configuration and reconfigure the same on OFSAAI 8.0 before metadata-migration is initiated.

Note: The selective migration with the IDs is not possible with the metadata migration kit. For selective migration, AAI migration utility can be used. You can refer to the OFSAAI Migration Guide for further details.

- Any other object-types as listed in [Appendix C](#).

2 Preparing a Migration Plan

Before you execute any migration scripts, the following steps should be taken:

- [Become Familiar with the New Release](#)
- [Understand the Prerequisites](#)
- [Choose an Upgrade Method](#)
- [Prepare a Backup Strategy](#)
- [Develop a Testing Plan](#)
- [Test Your Migration Plan on a Test Database](#)

2.1 Become Familiar with New Release

To execute acceptance tests, users involved in the migration process will need to be familiar with the architecture, tools, and the user interface of the new release. For more information, see OFSAA User Guides. In particular, users will want to become skilled at accessing similar objects such as business rules, dimensions, users, folders, and hierarchies in both source and target installations.

2.2 Understand the Prerequisites

Following are the prerequisites to run the migration utility.

2.2.1 Software Versions on Source

OFSAAI version must be v7.3.5.1

Oracle Financial Services Market Risk must be 2.5.1

2.2.2 Software Versions on Target

Oracle Financial Services Market Risk v8.0 must be installed.

The migration kit expects that the data model customizations made on the Source are already present in the Target. For example, customizations could include user-defined dimensions, dimension attributes, instrument and transaction tables and columns, lookup tables and so on.

2.3 Upgrade Method

The existing upgrade method uses a manual script-driven process for the Migration Tool. This process is described in this guide.

As an alternative to using the migration tool, you could also choose to manually reconfigure all of the metadata on a fresh instance of Treasury Pack v8.0

2.4 Prepare a Backup Strategy

The success of your migration depends heavily on the design and execution of an appropriate backup strategy. To develop a backup strategy, consider the following questions:

- How long can the production database remain inoperable before business consequences become intolerable?
- What backup strategy should be used to meet your availability requirements?
- Are backups archived in a safe, offsite location?
- How quickly can backups be restored (including backups in offsite storage)?
- Have recovery procedures been tested successfully?

2.4.1 Backup Procedure

At a minimum take a backup of the CONFIG and ATOMIC schemas. Ensure that the folder has necessary permissions to create dump and log files.

You can use the below command to create a backup:

```
exp <schema name>/<password>@<database sid> file=<export filename>  
log=<log filename> full=N
```

2.5 Prepare a Testing Plan

You need a series of carefully designed tests to validate all stages of the upgrade process. Executed rigorously and completed successfully, these tests ensure that the process of upgrading the production database is well understood, predictable, and successful. Perform as much testing as possible before upgrading the production database. Do not underestimate the importance of a test program.

The testing plan must include the following types of tests:

1. Minimal Testing: Entails moving application from the current database to the new database and running the application without enabling any new features. Minimal testing is a very limited type of testing that may not reveal potential issues that may appear in a "real-world" production environment. However, minimal testing will immediately reveal any application startup or invocation problems.
2. Functional Testing: Includes a set of tests in which new and existing functionality of the system are tested after the migration. Functional testing includes all database, networking, and business/application components. The objective of functional testing is to verify that each component in common between the source and target systems behaves properly, as well as confirming that new features are working.

3. Performance Testing: Compares the performance of various business functions on both the source and target systems. Unlike volume or load stress testing, base performance testing is meant to provide a real-world comparison of common usage without the setup and long run times. Successful completion of base performance testing should be considered a prerequisite to volume or load stress testing.

2.6 Test Your Migration Plan on a Test Environment

Create a test environment that will not interfere with the current production environment. Practice migration of the application metadata using the test environment. The best test, if possible, is performed on an exact copy of the database to be migrated, rather than on a downsized copy or test data. This will familiarize you with the migration process and minimize unexpected issues.

3 Pre-Migration Activities

3.1 Steps in Pre-Migration

Prior to executing the Migration Tool scripts for specific object types, read the latest release notes to identify any infrastructure and application issues that may impact migration, then follow these steps:

Before starting on Oracle Financial Services Market Risk migration kit, ensure that the following pre-migration activities checklist is completed successfully.

1. Ensure that the pre-requisite base software have been installed and post installation activities are completed successfully.
2. The Market Risk is part of the Treasury Pack from version 8.0.0.0.0 onwards. Therefore, if you have the following other applications on different OFSAAI instances on the Source, you should consider cloning / merging them into a single information domain using either the Object-Migration or archive-restore module. The following are the other applications present in this pack:
 - Liquidity Risk Management
 - Market Risk Analytics

Note: Resolve any subsequent metadata conflicts arising out of this merge.

3. You should also consider cleaning up the clone of source (remove any old/obsolete objects you do not wish to migrate) and taking backups of the Source Config and Atomic schema clones. This is required if you need to restore the Source Config and Atomic schemas from the backup and restart the migration.
4. During the migration process, no metadata changes should be done on the Source OFSAAI environment.
5. There should be no time-lag between the migration of all such applications. If there are any time lags, then the metadata belonging to the application that is migrated the last will take precedence.
6. This utility will not migrate the OFSAAI Folders (Segments), Groups, Users and their access privileges. OFSAAI 8.0 introduces considerable changes to the user-security model, as well as introduces the framework for supporting object-security. You should therefore reassess your user-security configuration and reconfigure the same on OFSAAI 8.0 before metadata-migration is initiated. All the existing segments and users in the source are expected to be configured in the OFSAAI 8.0 environment.
7. The SYSADMN user should be provided access to the existing segments in the source as well as the target environment.
8. Ensure that you have sufficient free disk space available to store the migration artifacts.
9. Restart AAI servers and the web server.

4 Metadata Migration Process

This section outlines the migration process for the Oracle Financial Services Market Risk specific metadata. Refer to Appendix A to view the list of metadata object-types that are migrated through this kit.

Metadata-Migration can broadly be classified into three broad steps:

1. Preparing the Source
2. Metadata Extraction (from the Source)
3. Metadata Import (into the Target).

NOTE: During the import, if any metadata exists with the same code as in the source, it is overwritten.

This migration-kit accompanies various scripts to perform each of the above three steps. Usage of these scripts is outlined in Appendix A.

4.1 Preparing for Migration

4.1.1 Activities on the Source

The Oracle Financial Services Market Risk is part of the Oracle Financial Services Treasury Application Pack v8.0, from version 8.0 onwards. Therefore, if you have the following other applications on different OFSAAI instances on the source, you should consider cloning / merging them into a single information domain using either the Object-Migration or archive-restore module.

Other applications present in this pack are:

- Oracle Financial Services Liquidity Risk Management
 - Oracle Financial Services Market Analytics
1. Resolve any subsequent metadata conflicts arising out of this merge.
 2. Upgrade this cloned/merged environment to v7.3.5.0.0, and apply the following patches:
 - Patch **20527601**
 - Patch **20567446**
 3. Download the Oracle Financial Services Market Risk migration kit (patch 21272041) and extract the archive into any folder under UNIX-profile where OFSAAI is installed.
 4. Backup the config and the Infodom schema(s) and ftpshare folder.
 5. Grant the SYSADMN user access to all the segments available.

4.1.2 Activities on the Target

1. Install Oracle Financial Services Treasury Pack version 8.0.0.0.0.
2. Identify the data model customizations that have been performed on the source. Repeat the customizations on the v8.0 data-models and upload the same in Sliced Model Upload mode.
3. Create the required number of OFSAAI users on the target – the user ids should be the same as in the Source.
4. Create the ETL source and application in the target and it should be the same as in source.
5. Grant the SYSADMN user access to all the segments.
6. Create the required number of Infodom folders (or segments) on the target – the segments should be the same as in the Source.
7. Backup the Config and the Infodom schema(s).
8. Apply the following patches:
 - Patch **20567945**
 - Patch **21255281**
9. Download the Oracle Financial Services Market Risk migration kit (patch 21272041) and extract the archive into any folder under UNIX profile where OFSAAI 8.0 is installed.

4.1.3 Performing the Migration

On the Source OFSAAI instance, login to the UNIX shell and navigate to the **migration-kit** folder on the command-line terminal and perform the following:

1. Run the script for **Extracting the application-metadata from the source**. If there are no errors encountered, this step will generate a file **MR_metadata.tar.gz** in the same folder.
2. Copy this archive into the corresponding **migration-kit** folder on the target OFSAAI instance.
3. On the Target OFSAAI instance, login to the UNIX shell and navigate to the **migration-kit** folder on the command-line terminal.
4. Run the script for **Importing the application-metadata into the target**. Review the log file for any errors.
5. Restart all servers.

5 Post Migration Activities

This section explains the activities which are to be performed after the migration script execution.

5.1 Activities after Migration

- Customizations made to the AAI artifacts such as RRF metadata, UMM metadata, T2Ts and Data Transformation Rules that comes packaged with the application installers. You should consider using the OFSAAI's Object Migration Utility functionality to migrate such objects. You can perform these as a post-migration activity. You can refer to the OFSAAI Migration Guide for further details.
- The rules, processes, and runs migrated has to be mapped to Liquidity Risk Management application from the "Object to Application Mapping" screen.
- The migration kit folder from where the export was generated/imported can be cleared after the migration is deemed successful.
- Equity Risk Factor Selection/Risk Factor Correlation Mapping summary screens refer to the below tables *which need to be migrated manually*.
 - *dim_stock_index*
 - *dim_mr_asset*
 - *currency_master*

Appendix A

Limitations / Known issues

None

List of metadata-types, supported by this kit

1. Equity Risk Factor Selection
2. Time Vertex Specification
3. ZCYC Estimation Method Selection
4. Interest Rate Model Selection
5. Risk Factor Correlation Mapping
6. FX Risk Factor Correlation Mapping
7. Portfolio Management
8. Incremental VaR

List of scripts

Step	Script-file name	Parameters (if any)	Log files created by this step
Metadata Extraction (from the source)	extract_from_source.sh	Name of the source-information domain	extract_from_source.log
Metadata Import (into the target)	import_into_target.sh	Name of the target-information domain	import_from_source.log

Appendix B - Troubleshooting and Logging

This section describes the various error messages logged within the various log files, and the recommended corrective action for resolving the same. In most cases, the error messages should be self-explanatory.

Note: the logs files will be overwritten everytime you execute the migration-scripts.

a. extract_from_source.log

Error Message	Meaning / Corrective Action
Time-out! Please contact your system administrator.	<p>Meaning: The migration-kit timed-out while attempting to export the AAI metadata.</p> <p>Action:</p> <ul style="list-style-type: none"> - check if the OFSAAI servers are running - <review the log-file to see which metadata failed to extract and why>

b. import_from_source.log

Error Message(s)	Meaning / Corrective Action
Error - Cannot find \${MIG_APP_ID}_metadata.tar.gz. Cannot proceed further.	<p>Meaning: The metadata-export archive that is created by the export_from_source.sh script was not found</p> <p>Action: Copy the archive from the source migration-kit folder to the target migration-kit folder and try again</p>
Error - update_pooling_optimizer.sql not found. Has extract_from_source.sh been executed?	<p>Meaning: The migration-kit was expecting the uodate_pooling_optimizer.sql under extract/config folder, but the file was not found.</p> <p>Action: please re-execute the script extract_from_source.sh, copy the metadata archive file to the target server and try to run the import_into_target.sh again. If the error persists, please contact Oracle Support.</p>

Metadata Migration from v2.5.1 to v8.0

Error Message(s)	Meaning / Corrective Action
<p>==No xxxxxx.sql file found. Skipping step.</p>	<p>Meaning: there were no pre-scripts found for executing on the config / atomic schemas</p> <p>Action: None</p>
<p>Time-out! Please contact your system administrator.</p>	<p>Meaning: The migration-kit timed-out while attempting to export the AAI metadata.</p> <p>Action:</p> <ul style="list-style-type: none"> - check if the OFSAAI servers are running - <review the log-file to see which metadata failed to extract and why>
<p>Error: Could not determine version of AAI/Application.</p>	<p>Meaning: The kit was unable to determine the version of OFSAAI and/or the version of the application.</p> <p>Action: The migration-kit determines the versions via the file scripts/version/version.sql. Any errors while executing this script will also be captured in this log. Resolve any errors and try to execute prepare_source.sh again.</p> <p>Alternately, execute the SELECT statements included in this file via SQL*Plus on the configuration schema to review the errors. Please replace the following placeholders while executing the scripts</p> <ul style="list-style-type: none"> - ##appid## with the id of the application. You can get the application-id from the file conf/application.id - ##infodom## with the name of the information domain; this would have been passed as a parameter to the prepare_source.sh script.
<p>Version Mismatch: AAI version [xxxxxx] should be >= yyyyyy</p>	<p>Meaning: There is a version mismatch between the expected and actual versions of OFSAAI and/or the application.</p>

Metadata Migration from v2.5.1 to v8.0

Error Message(s)	Meaning / Corrective Action
(or) Version Mismatch: Application version [xxxxx] should be >= yyyy	Action: Please apply the required patches to bring your source environment to the required state, and then restart the migration.
Cannot change access-permissions for xxxxxxxx. Exiting...	Meaning: Unable to set execute-permissions for xxxxxx Action: Ensure that the unix-user executing the migration kit has privileges to change the file-permissions under the migration-kit-home directory.

Appendix C - Objects Not Migrated

- Sandbox model definition
- Stress definitions
- Data Quality Rules and Groups
- ICC Batches
- DEFQ Objects
- Security Management System Objects (Users/Group.),

Appendix D – Documentation

You can access the following related documents from <http://docs.oracle.com>.

- User-guides for OFSAAI v7.3 / ERM v6.1.x

http://docs.oracle.com/cd/E41282_01/homepage.htm

- User guides for OFSAA v8.0 / ERM v8.0

http://docs.oracle.com/cd/E60529_01/homepage.htm

- Steps to clone an OFSAAI 7.3.x instance

http://docs.oracle.com/cd/E28070_01/books/Infrastructure/7.3.3.X.0/Full%20Installer/OFSAA_Environment_Cloning.pdf



Oracle Financial Services Market Risk Migration v2.5.1 to v8.0

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