Oracle Financial Services Model Risk Management

Metadata Migration from v2.0.1.0.0 to v8.x

Migration Guide

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DOCUMENT CONTROL

Version Number	Revision Date	Changes Done
1.0		Abhimainyu Das

September

Executive Summary

This document details about the migration of assumptions and rules as part of BGRC pack 8.x. Along with the application-specific data, the Migration Kit automatically migrates the relevant Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) metadata.

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About this Guide

This document describes the procedural execution of Oracle Financial Services Migration Tool to migrate the application metadata from v2.0.1.0.0 to OFSAA 8.x. It includes 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
OFSAA	Oracle Financial Services Analytical Applications
GRC	Governance, Risk and Compliance
ICC	Information Command Center
Atomic Schema	Database schema where the application data model is uploaded.
Config Schema	Database schema which contains setup related configurations and metadata.
ETL	Export, Transport, Load
AMHM	Attributes Members Hierarchies Module
MRM	Model Risk Management
UMM	Unified Metadata Manager
RRF	Run Rule Framework

Terminologies

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

o **Config schema:** Refers to the configuration schema used by OFSAAI. The OFSAAI stores various information like users, user-privileges, ICC batches and so on in this schema.

o **Atomic schema:** Refers to the schema corresponding to each information-domain in OFSAAI. This schema stores information like staging/processing/result data. Few applications also store their metadata within various tables in this schema.

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1 Introduction

1.1 Overview of Migration Tool

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

If the Source OFSAAI instance contains multiple applications, you must migrate each of these applications separately using the respective application's migration kit. If any of the applications share object types, the migration kit re-migrates and overwrites such artifacts.

Implementation Note: For major release, there are functional differences that result in difficulty or the inability to migrate certain data. In these cases, this guide tries 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. Therefore, you should consider cloning the source OFSAAI environment and then run the migration scripts against the clones.

- The Model Risk Management (MRM) is part of the Governance, Risk and Compliance 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.

   Following are the other applications present in this pack:

   o Operational Risk

   o Enterprise Risk Appetite

   o Operational Risk Analytics

- 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.

   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.

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- There should be no time-lag between the migrations of all such applications. If there are any time lags, then the metadata belonging to the application that is migrated the last takes precedence.

- Ensure that you have sufficient free disk space available to store the migration artifacts.

1.3   What this Utility does not Migrate

- Modifications made to the metadata that comes packaged with the application installers. You should consider using the OFSAAI's Archive-Restore functionality to migrate such customizations.

  For example, applications seed many AAI artifacts such as T2Ts, Data Transformation Rules, ICC Batches, and so on. Such artifacts are not migrated. If you have customized them in your Source environment, you should make similar customizations in the Target environment. You can perform these as a post-migration activity.

- 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 8.0.0.0.0 introduces considerable changes to the user-security model, as well as introduces the framework for supporting object-security. You should reassess your user-security configuration and reconfigure the same on OFSAAI 8.0.0.0.0 before metadata-migration is initiated.

- Any other object-types as listed in Appendix C.

2   Preparing a Migration Plan

To execute migration scripts, follow these steps:

- Becoming Familiar with the New Release

- Understanding the Prerequisites

- Choosing an Upgrade Method

- Preparing a Backup Strategy

- Developing a Testing Plan

- Testing Migration Plan on a Test Database

2.1   Becoming Familiar with New Release

To execute acceptance tests, users involved in the migration process need to be familiar with the architecture, tools, and the user interface of the new release. For more information, refer OFSAA User Guides in **OTN**. Users 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   Understanding the Prerequisites

Following are the prerequisites to run the migration utility.

2.2.1   Software Versions on Source

- OFSAAI version must be v7.3.5.1.1 or a later 7.3.5.x version.

- Model Risk Management must be v2.0.1.0.0

2.2.2   Software Versions on Target

Governance,Risk and Compliance v8.x 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   Upgrading 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 use the migration tool, you can choose to manually reconfigure all the metadata on a fresh instance of Governance, Risk and Compliance Pack 8.x

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2.4   Preparing 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.

Use the following command to create a backup:

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

2.5   Preparing 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:

- **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 immediately reveals any application startup or invocation problems.

- **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

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component in common between the source and target systems behaves properly, as well as confirming that new features are working.

▪ **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   Testing Migration Plan on a Test Environment

Create a test environment that does 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 familiarizes you with the migration process and minimize unexpected issues.

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3 Pre-Migration Activities

Prior to executing the Migration Tool scripts for specific object types, refer the latest release notes to identify any infrastructure and application issues that may impact migration.

For pre-migration activities, follow these steps:

- The migration kit may modify the structure of some of the objects present on the Source Schemas. Therefore, you should consider cloning the source OFSAAI environment and then run the migration scripts against the clones.

- The Enterprise Risk Appetite is part of the Governance, Risk and Compliance Applications 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.

  Following are the other applications present in this pack:

  - Model Risk Management
  - Enterprise Risk Appetite
  - Operational Risk Analytics

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

- 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.

- During the migration process, no metadata changes should be done on the Source OFSAAI environment.

- 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 takes precedence.

- OFSAAI Folders (Segments), Groups, Users and their access privileges.

  OFSAAI 8.0.0.0.0 introduces considerable changes to the user-security model and the framework for supporting object-security. You should reassess your user-security configuration and reconfigure the same on OFSAAI 8.0.0.0.0 before metadata-migration is initiated.

- For the ETL object migration, the source and application in the target are expected to be the same as source.

- Ensure that you have sufficient free disk space available to store the migration artifacts.

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- The SYSADMN user should be provided access to the existing segments in the source as well as the target environment.

- The DB Name for the Database server configuration should correspond to the actual SID of the target and source environment DB.

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4 Migrating Metadata

This section outlines the migration process for the MRM specific metadata. Refer to Appendix A to view the list of metadata object-types that are migrated via this kit.

To migrate metadata, follow these steps:

- Preparing the Source

- Metadata Extraction from the Source

- Metadata Import into the Target

NOTE: During the Import, if any metadata exists with the same code as in the source, it gets overwritten. For example, if two applications have a shared object type, the common object is overwritten when data for the second application is migrated.

This migration-kit includes 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

Perform the following activities on the Source:

1. Upgrade this cloned/merged environment to OFSAAI v7.3.5.1.0, and apply the following patches:

   Patch **20527601**

   Patch **20567446**

   Patch **21537078**

   Patch **21483558**

2. Ensure that the MRM version is 2.0.1.0.0.

3. Download the MR Migration kit and extract the archive into any folder under UNIX-profile where OFSAAI is installed.

4. Backup the Config and the Atomic schema(s).

5. Grant the SYSADMN user access to all the segments available.

4.1.2 Activities on the Target

Perform the following activities on the Target:

1. Install GRC pack version 8.x

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2. Identify the data model customizations that have been performed on the source. Repeat the customizations on the v8.x data-models and upload the same in Sliced Model Upload mode.

3. If the customization involves new AMHM dimensions, complete leaf-registration for the same.

NOTE: Leaf-registration assigns a unique Dimension ID which may or may not be the same as that assigned to it on the source. If the Dimension IDs are not the same, the migration kit synchronizes the dimension IDs. That is, the Dimension IDs on the target are changed to reflect the IDs on the source.

4. Create the required number of OFSAAI users on the target – the user ids should be the same as in the Source.

5. Create the required number of Infodom folders (or segments) on the target – the segments should be the same as in the Source.

6. Backup the Config and the Atomic schemas.

7. Apply the following patch:

Product Prerequisite	OFS AAI Release 8.0.0.0.0	OFS AAI Release 8.0.0.1.0	OFS AAI Release 8.0.0.2.0	OFS AAI Release 8.0.1.0.0	OFS AAI Release 8.0.1.1.0	OFS AAI Release 8.0.2.0.0
OFSAA Infrastructure (OFS AAI)	20567945, 21907486	21964545	NA	22005942	21815862	NA
OFSAA GRC	21470948	21470766	NA	NA	NA	NA

8. Download the MRM Migration Kit and extract the archive into any folder under UNIX profile where OFSAAI 8.0.0.0.0 is installed.

NOTE: Regardless of how many Language Packs are available on Source, all of the specified metadata is migrated to the Target. If you do not install Language Packs on the Target, some of the metadata may not be visible.

4.1.3 Performing the Migration

To perform migration, follow these steps. Please refer to the troubleshooting-section, if you encounter any issues while executing the scripts.

- **Performing Migration for AAI Objects for the application:**

  1. Navigate to the Source OFSAAI instance.

  2. Login to the UNIX shell.

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3. Navigate to the **migration-kit** folder on the command-line terminal.

4. Run the script for **Prepare Source**. Review the log file for any errors.

    This step introduces structural changes to the metadata-tables in the Config and/or Atomic schemas. This ensures that the tables are in a state from where the metadata can be extracted.

5. Run the script for **Extracting the application-metadata from the source**. If there are no errors encountered, this step generates a file `MRM_metadata.tar.gz` in the same folder.

6. Copy this archive into the corresponding **migration-kit** folder on the target OFSAAI instance.

7. On the Target OFSAAI instance, login to the UNIX shell and navigate to the **migration-kit** folder on the command-line terminal.

8. Run the script for Importing the application-metadata into the target. Review the log file for any errors.

9. Restart the servers.

10. Perform migration. For more information, refer Executing the Migration Kit section.

* **Performing Workflow Definition Migration**

    To perform Workflow Definition Migration, refer Appendix D

5 Post Migration Activities

Follow these steps after executing migration script:

5.1 Activities after Migration

Modifications made to the metadata that comes packaged with the application installers are not be migrated by this migration kit. For example, applications seed many AAI artifacts such as T2Ts, Data Transformation Rules, ICC Batches, and so on. Such artifacts are not migrated. Once the migration kit has completed its activities, you should consider using the OFSAAI's Archive-Restore functionality to migrate such customizations, once the migration kit has completed its activities.

The migration kit folder from where the export was generated/imported can be cleared after the migration is deemed successful.

5.2 Application Preferences

NA

Appendix A

This appendix covers following topics:

- [Limitations/ Known issues](#)

- [List of metadata types](#)

- [List of Scripts](#)

Limitations / Known issues

If same metadata resides in the target setup, the data is overwritten by the data from source setup. The source and target schema should be same.

List of metadata-types, supported by this kit

- UMM objects

  o Aliases

  o Datasets

  o Business Measures

  o Business Processors

  o Business Hierarchies

  o Derived Entity

  o Forms

  o Menu

  o Tab

  o Template

- RRF Objects

  o Rule

  o Process

  o Run

- ICC Batches

- ETL

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- Mapper

- Data Trasnformations

- Application Metadata

  o Workflow Definition

List of scripts

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

Appendix B - Troubleshooting and Logging

This Appendix 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 are overwritten every time you execute the migration-scripts.

---

a. Prepare_source.log

Error Message	Meaning	Corrective Action
Cannot change access-permissions for xxxxxxxx. Exiting...	Unable to set execute-permissions for xxxxxx	Ensure that the Unix-user executing the migration kit has privileges to change the file-permissions under the migration-kit-home directory.
==No xxxxxx.sql file found. Skipping step.	There were no pre-scripts found for executing on the Config / Atomic schemas	None
Unable to determine TNS Name for xxxxxx Schema. Please contact your System Administrator. (or) Unable to determine TNS Name for specified Information-Domain. Please contact your System Administrator. (or) Credentials not available for connecting to config schema. Skipping	The kit was unable to get the login credentials for connecting to the Config /Atomic schema.	This is usually indicative of a more serious problem. Please review the log file for any errors that you may be able to resolve. If you are unable to resolve, please contact Oracle Support, and share this log file. The DB Name for the Database server configuration should correspond to the actual SID of the target and source environment DB. This is achieved through the **System Configuration & Identity Management>Database Detail**.
Error: Could not determine version of AAI/Application.	The kit was unable to detemine the version of OFSAAI and/or the	The migration-kit determines the versions via the file scripts/version/version.sql. Any errors

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| | version of the application. | while executing this script are also captured in this log. Resolve any errors and try to execute `prepare_source.sh` again.

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

• `##appid##` with the ID of the appllication. You can get the application ID from the file `conf/application.id`

• `##infodom##` with the name of the information domain. This is passed as a parameter to the `prepare_source.sh` script. |
|---|---|---|
| Version Mismatch: AAI version [xxxxxx] should be >= yyyyyy

(or)

Version Mismatch: Application version [xxxxxx] should be >= yyyyyy | There is a version mismatch between the expected and actual versions of OFSAAI and/or the application. | Apply the required patches to bring your source environment to the required state, and then restart the migration. |

b. Extract_from_source.log

Error Message	Meaning	Corrective Action
Error while extracting dimension-ids. Check the log file for details.	The kit was unable to detemine the dimension-ids of AMHM processing dimensions.	The migration-kit determines the dimension-IDs through the file `amhm/synchronize_ids/ get_dim_id.sql`. Any errors while executing this script are also captured in this log. Resolve any errors and try to execute

		extract_from_source.sh again.
Time-out! Please contact your system administrator.	The migration-kit timed-out while attempting to export the AAI metadata.	- Check if the OFSAAI servers are running <review the log-file to see which metadata failed to extract and why>

c. Import_from_source.log

Error Message	Meaning	Corrective Action
Error - Cannot find ${MIG_APP_ID}_met adata.tar.gz. Cannot proceed further.	The metadata-export archive that is created by the export_from_source.sh script was not found	Copy the archive from the source migraiton-kit folder to the target migration-kit folder and try again
Error - dim_id.sql not found. Not synchronizing dimension-ids.	The migration-kit was expecting the dim_id.sql under amhm/synchronize_ids folder, but the file was not found.	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.
Error - update_pooling_opti mizer.sql not found. Has extract_from_source. sh been executed?	The migration-kit was expecting the uodate_pooling_optimizer.sql under extract/config folder, but the file was not found.	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
==No xxxxxx.sql file found. Skipping step.	There were no pre-scripts found for executing on the config / atomic schemas	None
Time-out! Please contact your system administrator.	The migration-kit timed-out while attempting to export the AAI metadata.	- check if the OFSAAI servers are running - <review the log-file to see which metadata failed to extract and why>
Error: Could not	The kit was unable to	The migration-kit determines the

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determine version of AAI/Application.	detemine the version of OFSAAI and/or the version of the application.	versions via the file scripts/version/version.sql. Any errors while executing this script are also captured in this log. Resolve any errors and try to execute prepare_source.sh again. 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 • ##appid## with the id of the appllication. 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.
Version Mismatch: AAI version [xxxxxx] should be >= yyyyyy (or) Version Mismatch: Application version [xxxxx] should be >= yyyyy	There is a version mismatch between the expected and actual versions of OFSAAI and/or the application.	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...	Unable to set execute-permissions for xxxxxx	Ensure that the unix-user executing the migration kit has privileges to change the file-permissions under the migration-kit-home directory.

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Appendix C - Objects Not Migrated

- Folders

- Users / Groups / Role mappings

- Download Data

- Stress Testing definitions

- ETL objects

- Data Source mappings

- AMHM

- Filters

- Expressions

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Appendix D – Workflow Definition Migration

The workflow definition migration is not handled as part of the migration kit. Please follow these steps to achieve migration for workflow definition.

Activities on the Source

Perform the following activities on the Source:

1. Navigate to the path `FIC_HOME/utility/Migration/conf`

2. Edit the `OBJECTMIGRATION.xml` to provide the details as follows:

`<USERID>`	Specify the user ID of the OFSAAI user, for whom you are running the Migration Utility. Ensure the user is mapped to the specific source Information Domain/Segment. NOTE: For migrating Data Quality definitions, the USERID has be passed in upper case.
`<LOCALE>`	Locale Information. For example, en_US and so on.
`<INFODOM>`	Specify the Information Domain from where objects need to be exported. The information domain name should be provided in capital letters.
`<MODE>`	EXPORT
`<FILE>`	Output dump file name
`<FAILONERROR>`	Fail on any error occurred while archiving metadata. This is only used for importing. Ensure that this field is not empty.
`<OBJECTS TargetFolder="$FOLDER$">`	Specify the Code of the folder/segment to which you need to import objects. This field is optional. The folder value should be provided in capital letters. Note: This is the default target folder if object specific TargetFolder is not provided. However, if both FOLDER and

	TargetFolder are not specified, then source folder available in the exported dump file will be considered as target folder.
`<OBJECT    Code="<    LIST    ID    >"    Type="169" />`	This type refers to workflow. Code refers to the list ID of the workflow which is required to be migrated

3. Navigate to the folder `FIC_HOME/utility/Migration/bin`

4. Execute the script `ObjectMigration.sh` inside the folder.

5. An archive folder is created which contains the dump (.dmp file) in the target folder. The target folder location is mentioned inside the root node `<OBJECTS  TargetFolder=" ">` property.

Activities on the Target

Perform the following activities on the target

1. Navigate to the path `FIC_HOME/utility/Migration/conf`

2. Edit the `OBJECTMIGRATION.xml` to provide the details as follows:

`<USERID>`	Specify the user ID of the OFSAAI user, for whom you are running the Migration Utility. Ensure the user is mapped to the specific source Information Domain/Segment. NOTE: For migrating Data Quality definitions, the USERID has be passed in upper case.
`<LOCALE>`	Locale Information. For example, en_US and so on.
`<INFODOM>`	Specify the Information Domain from where objects need to be exported. The information domain name should be provided in capital letters.
`<FOLDER>`	Folder/ Segment Name

`<MODE>`	IMPORT
`<FILE>`	Output dump file name
`<FAILONERROR>`	Fail on any error occurred while archiving metadata. This is only used for importing. Ensure that this field is not empty.
`<OBJECTS TargetFolder="$FOLDER$">`	Specify the Code of the folder/segment to which you need to import objects. This field is optional. The folder value should be provided in capital letters. Note: This is the default target folder if object specific TargetFolder is not provided. However, if both FOLDER and TargetFolder are not specified, then source folder available in the exported dump file will be considered as target folder.
`<OBJECT Code="< LIST ID >" Type="169" />`	This type refers to workflow. Code refers to the list ID of the workflow which is required to be migrated

3. Place the dump file (.dmp) created in the source (archive) in the restore folder inside the Target folder (`<OBJECTS TargetFolder=`)

4. Navigate to the folder `FIC_HOME/utility/Migration/bin`

5. Execute the script `ObjectMigration.sh` inside the folder to restore it.

Limitation

For every execution of the archive/restore only one *LIST ID* is involved.

NOTE: For any errors please refer to the `FUSIONSUBSYSTEMSService.log` placed in the location `/scratch/ofsaadb/apache-tomcat-7.0.19/webapps/OFSAAI/logs`.

Appendix E – Migration Kit

Migration kit refers to the bundled piece of the utility customized specifically for an application which enables to carry out the migration activity in the source as well as in the target.

Deliverables from Application Team

The following are the deliverables from each application for the aforementioned.

1. List of all atomic-schema tables/sequences that need to be exported / imported – this is required in the attached format (atomic.xml)

atomic.xml

2. Pre-script (SQL) to be applied on the source – one each for the config schema (config.sql) and atomic schema (atomic.sql) – can be used to "prep" the source atomic schema tables and ensure same structure as that in the target

3. Post-script (SQL) to be applied on the target – one each for the config schema (config.sql) and atomic schema (atomic.sql) – can be used for any post-migration processing, cleanups etc.

4. List of AAI object-types that you need to migrate for your respective apps, if applicable – these pertain to the metadata that are configured post-install (not OOB metadata that are customized).

Once you are ready with the above files (one set per application), please use the following folder structure to maintain them in your SVN.

```
<migration-root-folder>
      |------> conf                (atomic.xml)
      |------> scripts
          |------> postscripts    (atomic and/or config.xml + other
                                    accompanying files, for executing on the
                                    target)
            |------> prescripts    (atomic and/or config.xml + other
                                    accompanying files, for executing on the
                                    source)
```

Tip:

- The Migration-Kit executes the SQL-file(s) via SQL*Plus

  o You can choose between having a single atomic.sql/config.sql or having a wrapper atomic.sql/config.sql that internally invokes multiple other files in a specific order

  o Split the SQL-statements across multiple files – one file per db-object; each file should be inclusive of the respective DDL / DML statements. This way, the scripts can be reused across apps.

- The migration-kit sets "SET DEFINE OFF" before executing the SQL. If you need any other SQL*Plus-related environment variable(s) to be set, you can add them within the relevant SQL file(s).

- The kit spools the output of the SQL files into a log file. If you wish to override the default log, please have your own spool statement(s). Also, ensure that the log files are created in the logs folder

Placeholder replacement within the SQL – we can discuss if you have any requirements around this.

Creating Migration Kit for Your Application

To create a migration kit for your application, follow these steps:

1. Download the migration-kit with patch **21682811.**

2. Navigate to the various folders and copy the required files as indicated in the following table:

Folder	File(s) to Copy	Notes
conf	atomic.xml and/or config.xml	
scripts/prescripts	atomic.sql and/or config.sql	The migration-utility executes these scripts on the source-AAI instance before initiating the extraction
scripts/postscripts	atomic.sql and/or config.sql	The migration-utility executes these scripts on the target-AAI instance after completing the migration

3. Navigate to the `conf` folder and edit the `migration.props` file

4. Set the properties as follows (You can also consider checking-in the modified migration.props to your app-SVN).

Property Name	Recommended Value	Notes
MIG_APP_ID	v8.0 application id	Ensure that there are no special characters in this field, especially those that UNIX does not allow in a file-name
MIG_USR_ID	OFSAAI user-id	All AAI artifacts, once migrated to v8.0 are tagged to this id as the OWNER
MIG_AAI_SLEEP_TIME	<number>	Indicates the interval (in seconds) for polling the status of the AAI object-export/import. Default is 10 seconds
MIG_AAI_ITERATION_COUNT	<number>	Indicates the number of times to check if the metadata export has started, after which the script times-out. Default is 0 (never timeout)
All other properties that begin with "MIGRATE_"	Y (yes) or N (no)	Indicates whether the migration-kit should perform the corresponding export/import steps. **NOTE:** Some of these require the accompanying XML and/or SQL scripts, as explained earlier in this document

5. Create the tar.gz file of the entire migration-kit local folder. This is the Application migration kit.

Executing the Migration Kit

To execute the Migration Kit, follow these steps:

1. Activities on the Source AAI Instance

2. Activities on the Target AAI Instance

Activities on the Source AAI Instance

Perform these steps on the Source AAI Instance:

1. Download and extract the "application migration kit" on the source AAI instance

2. Edit `.temp/setup.props` to mention the required properties

3. Create a file `conf/extras` and place the PRE_METADATA=1125, 1126 if the Tabs and Templates are required for migration.

4. Execute `prepare_source.sh` => This script does nothing if scripts/prescripts folder is empty, so you can ignore this step if this folder is empty

5. Refer to the logs folder, to look at the execution log of the pre-scripts

6. Execute `extract_from_source.sh` with the infodom as argument from source.

   - Depending on the properties set in "migration.props", various log files are created in the logs folder

   - This script also generates a "${MIG_APP_ID}_metadata.tar.gz" file (compressed metadata archive) under migration-root

Activities on the Target AAI Instance

Perform these steps on the Target AAI Instance:

1. Download and extract the Application Migration Kit on the target AAI instance.

2. Copy the `${MIG_APP_ID}_metadata.tar.gz` file from the source-AAI migration folder onto the target migration folder

3. Execute `import_into_target.sh` with the infodom as an argument from target.

   - If you have provided the files for the scripts/postscripts folder, these get executed automatically.

   - Depending on the properties set in `migration.props`, various log files are created in the logs folder

NOTE:

   - This utility requires `ORACLE_HOME` and `JAVA_HOME` environment variables must be set in shell. Since AAI is already installed, these environment variables are already set.

   - These scripts have been verified on Linux, and may need to be verified on Solaris and/or AIX platforms.

   - Control-m characters should not be an issue for the sources within SVN, but if you are facing any issues do let us know.

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- Patch pre-requisites

    o On Source AAI:

        ▪ AAI 7.3.5.1. ML – apply patch 20527601

        ▪ Apply patch 20567446

        ▪ Patch 21537078

        ▪ Patch 21483558

    o On Target AAI:

Product Prerequisite	OFS AAI Release 8.0.0.0.0	OFS AAI Release 8.0.0.1.0	OFS AAI Release 8.0.0.2.0	OFS AAI Release 8.0.1.0.0	OFS AAI Release 8.0.1.1.0	OFS AAI Release 8.0.2.0.0
OFSAA Infrastructure (OFS AAI)	20567945, 21907486	21964545	NA	22005942	21815862	NA

- Work is in progress for a generic template for the migration-user-guide, based on this utility. Apps can use this template to plug-in the app-specific content, for eventual distribution. Details of this template are published separately.

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Oracle Financial Services Data Migration Scripts Metadata Migration from v6.0.0.x to v8.x

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