# Oracle Financial Services Balance Computation Engine User Guide





Oracle Financial Services Balance Computation Engine User Guide, Release 8.1.1.0.0

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## **Revision History**

This section provides details on the revisions of the document for a specific release.

<b>Version Number</b>	<b>Revision Date</b>	Change Log
1.0	09-July-2021	Created OFSBCE User Guide Release 8.1.1.0.0.
2.0	27-05-2022	Added a note in the Select the Run Parameters and Execute the Run section.
3.0	06-12-2022	Updated the Portfolio Definition section.
4.0	18-01-2023	Added Execute the Runs Using Command Line Utility section
5.0	07-02-2023	<ul> <li>Added a note on Run-time parameters and Fiscal period under Select the Run Parameters and Execute the Run.</li> </ul>
		<ul> <li>Added a chapter on Initial Instrument-Grain Accounting Balance for Management Ledger.</li> </ul>
6.0	20-02-2023	Updated the Initial Instrument- Grain Accounting Balance for Management Ledger section. (34457090)
7.0	02-03-2023	Updated the OFSBCE User Guide for the Release 8.1.1.1.0
8.0	14-07-2023	Updated the Initial Instrument- Grain Accounting Balance for Management Ledger section. (34457090)
9.0	04-08-2023	Updated the Subledger Event Grouping using Header and Line section.
10.0	20-12-2023	Updated the OFSBCE User Guide for the Release 8.1.1.2.0
11.0	12-01-2024	Updated the Revaluation Adjustments section. (34518214)
12.0	08-02-2024	<ul> <li>Updated the Legal Entity Settings section. (36085236)</li> <li>Updated the Use Standard OFSBCE Run Pipelines section. (36249702)</li> <li>Updated the Instrument Level Period to Date Balance</li> </ul>
40.0	00.00.000	section.(35936498)
13.0	08-03-2024	Updated the OFSBCE User Guide for the Release 8.1.1.2.1

Version Number	<b>Revision Date</b>	Change Log
14.0	07-11-2024	Updated the OFSBCE User Guide about the GL attribute values in the Initial Instrument- Grain Accounting Balance for
		Management Ledger section. (36588899)
15.0	12-02-2025	Added a note under 'Create and Execute Revaluation Process' and 'Select the Run Parameters and Execute the Run' sections.
16.0	20-03-2025	Added a note under 'Balance Computation Management Ledger Process' section. (37511087).



## **Preface**

This guide aims to provide functional and technical details on configuration, management and operational details for release 8.1.1.0.0 of Oracle Financial Services Balance Computation Engine User Guide. This guide must be used in conjunction with those mentioned in the Related Information Sources section.

#### What is New in this Release for OFSBCE Application

This section lists new features and changes in the OFSBCE Application.

#### **New Features**

This section lists the new features in this release.

- As of Release 8.1.1.1.0, the OFSBCE Application may be installed and used independent of the OFSDF Application Pack.
- The OFSBCE Application, independent of the OFSDF Application Pack, does not need the complete data feed from Contract or Account or Product Processor tables.
- All the OFSBCE Application Processes are driven through the Process Modelling Framework.
- The Staging Area of the OFSBCE Application conforms to the OFSDF Application Pack for the Exchange Rates data, which can be used to stage the information, and load the data into the OFSBCE Application Processing Area through a custom routine. An out-of-the-box data movement routine will be provided in an upcoming release.

#### **Deprecated Features**

There are no deprecated features in this release.

#### **Desupported Features**

There are no desupported features in this release.

#### **Audience**

This guide is intended for the following audience:

- Business Analysts: The users who configure and manage functional parameters and options while computing instrument-level accounting balance.
- Technical Specialists and Administrators: The users who sets up, maintain and administer the system, access to it and its users alongside the application.
- Operators: The users who configure, manage and monitor tasks performed by the application.

#### **Access to Oracle Support**

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

#### **Related Resources**

Oracle strives to keep this and all other related documents updated regularly; visit the OHC Documentation Library and My Oracle Support (MOS) to download the latest version available there. The following is the list of related documents:

- OHC Documentation Library for the OFS BCE Application Release 8.1.x.x.x product documents.
- OHC Documentation Library for the OFS AAAI Application Pack Release 8.1.1.x.x product documents.

#### Conventions

The following text conventions are used in this document.

-	
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, text that appears on the screen, or text that you enter.



3

## Overview

This section gives an overview of the Oracle Financial Services Advanced Analytical Applications, Oracle Financial Services Data Foundation, and Oracle Financial services Balance Computation Engine.

## 3.1 About Oracle Financial Services Analytical Applications (OFSAA)

OFSAA is a suite of applications covering risk, performance, financial crime, compliance, customer insight and regulatory reporting functions. These applications are built on a common technology infrastructure, which works off a singular data model that has unified structures for non-redundant acquisition, hosting and processing of data, and renders rich information output that can be analyzed across a conformed set of perspectives. Sophisticated processing engines underlying the suite facilitate modular deployment and are controlled by comprehensive, user-configurable metadata. The OFSAA applications are in use at a number of financial institutions across the globe.

## 3.2 About Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)

Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) is a general-purpose Analytics Applications infrastructure that provides the tooling platform necessary to rapidly configure and develop analytic applications for the financial services domain. It is built with Open-Systems Compliant architecture providing interfaces to support business definitions at various levels of granularity.

OFSAAI is a pre-requisite to install and configure all the OFSAA applications, including OFS Balance Computation Engine. To access the OFSAAI User Guide, OFSAAI Installation Guide, and other documents, see the Related Documents section.

## 3.3 About Oracle Financial Services Balance Computation Engine (OFS BCE) Application

The Oracle Financial Services Balance Computation Engine (OFSBCE) application supports assessment and maintenance of instrument-level accounting balance information. Instrument, in this context, refers to Account in Oracle Financial Services Data Foundation (OFSDF) and this terminology will be used in this document to avoid any ambiguity with the Ledger Account.



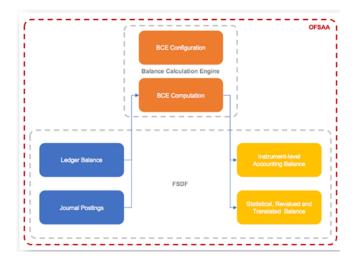
Balance Computation Engine is designed for use with single-ledger deployments only.

Balance Computation Engine will also support the following functions:

- Period to date (month, quarter and year to date) average values of instrument-level accounting balance
- Revaluation of instrument-level accounting balance
- Currency translation of instrument-level accounting balance

Derivation of instrument-level balance in BCE is based on an initial GL/Sub Ledger balance (ledger balance) snapshot and daily/periodic snapshots of corresponding journal entries (debits and credits). Ledger balance and journal entries may be ingested into OFSBCE from external sources.

Figure 3-1 Balance Computation Engine Workflow



#### **Note:**

As of Release 8.1.1.1.0, the OFSBCE Application is available for deployment independent of the OFSDF Application Pack. In this scenario, all the required data and metadata structures are packaged with the OFSBCE Application installer and installed during the OFSBCE Application installation process.

If the OFSBCE Application needs to be deployed independent of the OFSDF Application Pack, ensure that the OFSAAI Application Pack is installed and configured for usage. For the installation information, see the Oracle Financial Services Balance Computation Engine Application Installation and Configuration Guide Release 8.1.1.0.0.



4

## OFSBCE and OFSAAI Functions

This section provides information about accessing the OFSBCE Application and the OFSAAI functions used in OFSBCE.

## 4.1 Access to the OFSBCE Application

This section provides information about accessing the OFSBCE application.

## 4.1.1 Accessing the OFSBCE Application

After installing the prerequisite OFSAA applications and the OFSBCE application, to access OFSBCE (or any OFSAA Application), follow the steps mentioned in the Access the OFSAA Application section in the OFSAAI Release 8.1.1.0.0 Installation and Configuration Guide for details.

## 4.1.2 Prerequisites to Execute the OFSBCE Processes

Before executing the OFSBCE processes, complete the following tasks:

- Load the required Dimensions.
  - The following dimension entities are used by BCE and should be populated:
  - DIM ORG UNIT
  - DIM\_GL\_ACCOUNT
  - DIM\_ORG\_STRUCTURE
  - DIM CUSTOMER
  - DIM DATES
  - DIM\_FISCAL\_PERIODS
  - DIM\_DATA\_ORIGIN
  - DIM\_ACCOUNT
- Load the following Seeded Data
  - DIM\_GAAP
  - DIM GL TYPE
  - DIM CURRENCY

For the latest list of Dimensions to be loaded, see the OFSBCE Runchart for the current release. For information about loading the Dimension tables, see the Executing SCDs subsection in the Slowly Changing Dimensions (SCD) section, and Batch Execution subsection in the Operations section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### Note:

For populating the DIM\_ACCOUNT table, the standard process in OFSDF is to use the data from the Product Processor entities in Staging. Populating the Product Processor entities in Staging is not mandatory for OFSBCE purposes. OFSBCE supports populating the DIM\_ACCOUNT entity from unique values for ACCOUNT\_ID as supplied in the STG\_ACCOUNTING\_ENTRIES entity, which needs to be sourced from appropriate sources, typically from Oracle ERP, other accounting systems or other suitable systems of record. The process for populating STG\_ACCOUNTING\_ENTRIES is defined, and the required steps are available out of the box with the OFSBCE installation.

If OFSDF is deployed, institutions may choose to ignore this functionality and as an alternative, populate the DIM\_ACCOUNT entity from Product Processor entities.

To populate the DIM\_ACCOUNT table entries when OFSDF (or any other OFSAA application, which lists DIM\_ACCOUNT in its Runchart) is present, see the Account Dimension Table section in the Oracle Financial Services Data Foundation Application Pack User Guide Release 8.1.1.0.0 and related documents in the OFSDF OHC Documentation Library.

#### Note:

To populate DIM\_DATES using DTs, see the Time Dimension Table section in the Oracle Financial Services Data Foundation Application Pack User Guide Release 8.1.1.0.0.

Load the Exchange Rates table FSI\_EXCG\_RATES using the insert scripts.

#### Note:

- Ensure that FSI\_EXCG\_RATES table does not contain duplicate records for the same currency combination for a given MISDATE-EFFECTIVE DATE. If exists, this will lead to runtime exceptions during execution of Revaluation Balances pipeline.
- The FSI\_EXCG\_RATE
   (FIC\_MIS\_DATE,D\_EFFECTIVE\_DATE,V\_FROM\_CCY\_CD,V\_TO\_CCY\_C
   D) table must contain unique records combination to retrieve only one exchange rate.

The Exchange Rates table stores the list of all exchange rates for all types of currency. This is a standalone table. The purpose of the Exchange Rates table is to offer the value of one currency in relation to another currency.

Each Legal Entity, for which processing is expected, must have an associated Local Currency to it. So that the system can perform the computations.

Load the Legal Entity tables.

The reporting entity may be a part of a financial institution that consists of multiple legal entities such as parent or child entities (subsidiaries) under its name. User can select the entity for which processing must be done. In addition, a 'Solo' Run execution is supported.

Load the SETUP\_MASTER table
The Revaluation or Translation processes need the Rate Data Origin and Quote Type as input information for processing. This information is present in the SETUP\_MASTER table and can be identified by rows where the column V\_COMPONENT\_CODE consists of the values EXCG\_RATE\_DATA\_ORIG and EXCG\_RATE\_QUOTE\_TYPE, and the Seeded values in the column V\_COMPONENT\_VALUE are DEFAULT and QUOTE. This information is used when fetching Rates from the table FSI\_EXCG\_RATES during computation.

To execute batches in the preceding tasks, see the Batch Execution sub-section in the Operations section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

To configure, manage, and execute all the OFSBCE processes, use the OFSAA Process Modelling Framework (PMF). For more information, see the Executing the OFSBCE Processes through Process Modelling Framework section.

For information about the Flattening Process of Dimensions, see the Hierarchy Transformation section in the Oracle Financial Services Data Model Utilities User Guide Release 8.1.1.0.0.

#### 4.1.3 Execution

This section provides information about executing, scheduling, and monitoring the batches in OFSBCE.

For more information about Batch Maintenance, Batch Execution, Batch Scheduler, Batch Monitor, and View Log, see the Operations section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

## 4.2 OFSAAI Functions Used in OFSBCE

The following OFSAAI functions are used by OFSBCE:

- Data Model Management- The required functionality is accessed through Data Model Maintenance
- Data Management Framework
  - The required functionality is accessed through Data Management Tools
  - Slowly Changing Dimensions (SCD)
- Unified Analytical Metadata
  - Dimension Management
- Rule Run Framework
  - Utilities
  - Component Registration
- Operations
  - Batch Maintenance
  - Batch Execution
  - \* Batch Scheduler



- Batch Monitor
- View Log
- Object Administration
  - Utilities
    - Metadata Authorization
    - Save Metadata
    - Write Protected Batch
    - Metadata Difference
    - Patch Information
  - Object Migration
  - Object Security
- Metadata Browser

For more information, see the Oracle Financial Services Analytical Applications (OFSAA) Metadata Browser User Guide Release 8.1.0.0.0

For more information about the OFSAAI functions, see the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.



For the latest information about the OFSAAI Components, see the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### 4.2.1 Data Model Maintenance

Model refers to a data structure that consists of the well-organized business data for analysis. Data Model explicitly determines the structured data, which stores persistent information in a relational database and is specified in a data modeling language. Data Model Maintenance within the Infrastructure system facilitates you to upload the warehouse data from the operational systems to database schema using JSON (ODM) / ERwin XML file or Database Catalog. For more information, see the Data Model Management section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

For the Erwin Data Modeller version supported in this release, see the Oracle Financial Services Analytical Applications (OFSAA) Technology Matrix Release 8.1.1.0.0.

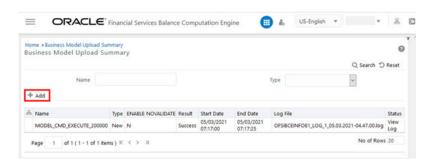
## 4.2.1.1 Business Model Upload Summary

You (Business Analysts) need to have IBMADD (Import Business Model) function role mapped to access the Import Model Framework within the Infrastructure system. You need to also map the DMM ADD function to a role to provide access to Add.

 To navigate to the Business Model Upload Summary Page, from OFSAA Home, select Financial Services Balance Computation Engine, select Administration, and select Data Model Maintenance.



Figure 4-1 Business Model Upload Summary Page with Add option



The Business Model Upload Summary Page facilitates to upload the required Business Model and displays the summary of previously uploaded Business Models with their Name, Type (New/ Incremental/Rebuild/Sliced), Enable NoValidate status (Y or N), Result of upload (Success/Failed/Running), Start Date, End Date, Log File path, and Status.

To initiate the Business Model upload process, click Add. For detail procedure, see the Upload Business Model section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

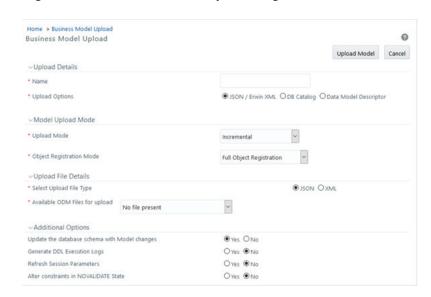
To view the Model Upload details, in the Status column corresponding to the required model, click the View Log link to open the View Log Details page. For more information, see the Viewing Log Details section (and also see the Log File Download section) in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

### 4.2.1.2 Business Model Upload

You can upload a new model or update or re-build an existing model to the database schema. The option to upload a Business Model is available based on the existing model in the selected Information Domain.

 To navigate to the Business Model Upload Page, from OFSAA Home, select Financial Services Balance Computation Engine, select Administration, select Data Model Maintenance, select Add.

Figure 4-2 Business Model Upload Page





For detail procedure about uploading a Business Model and for the latest information, see the Upload Business Model section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

For information about uploading a Business Model using different options, see the following sub-sections in the Upload Business Model section:

- Model Upload Using JSON / ErwinXML section for the Business Model upload using the JSON (ODM) / ERwin XML option.
- Model Upload Using DB Catalog section for the Business Model upload using the Database Catalog option.
- Model Upload Using OFSAA Data Model Descriptor (JSON) File section for the Business Model upload using the **Data Model Descriptor** option.

## 4.2.2 Data Management Tools

Data Management Tools is a software application based on the ETL (extract-transform-load) structure, which is used for data transformation and merging. The E-LT structure in Data Management Tools eliminates the need for a separate ETL server, and the analytical rules facilitate to optimized performance, efficiency, and scalability.

The Data Management Tools module is equipped with a set of automated tools and a tested data integration methodologies that allows you to position the advanced N-tier web-based architecture and integrate the enterprise data sources from the mainframe to the desktop.

In Data Management Tools, you can standardize and integrate the various source system data into a single standard format for data analysis. You can also populate the warehouse in a defined period using the ETL process for data extraction, transformation, and loading.



For the latest information about the Data Management Tools, see the Data Management Tools section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0

## 4.2.2.1 Components of Data Management Tools

Data Management Tools consists of the following sections:

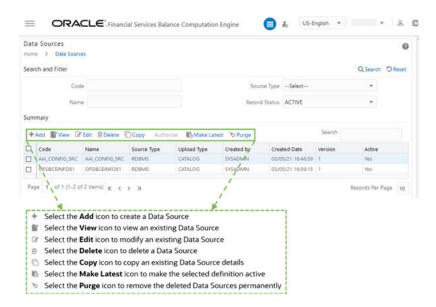
- Data Sources
- Data Mapping
- Post Load Changes

#### 4.2.2.1.1 Data Sources

Data Sources within the Data Management Tools of the Infrastructure system facilitates you to define Data Sources and generates Data Models of the Source systems. When defining a Data Source, the Source Model is generated.

To navigate to the Data Source Page, from **OFSAA Home**, select **Financial Services Balance Computation Engine**, select **Administration**, select **Data Management Tools**, and select **Data Sources**.

Figure 4-3 Data Sources Page



To perform different actions related to the Data Sources, see the following sub-sections in the Data Sources section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

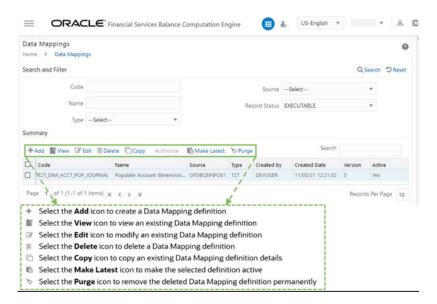
- Creating a Data Source section to add a Data Source
- Viewing a Data Source section to view an existing Data Source
- Modifying a Data Source section to edit an existing Data Source
- Deleting Data Sources section to delete a Data Source
- Copying a Data Source section to copy an existing Data Source details
- Versioning and Make Latest Feature section to make the selected definition active
- Purging Data Sources section to remove the deleted Data Sources permanently

For more information about the Data Sources and mapped roles, see the Data Sources section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0

#### 4.2.2.1.2 Data Mapping

Data Mapping refers to the process of retrieving unstructured data from data sources for further data processing, storage, or migration. The intermediate extraction process can be followed by data transformation and metadata addition before exporting it to the staging area or to the Business Data Model.

Figure 4-4 Data Mappings Page



To perform different actions related to the Data Mappings, see the following sub-sections in the Data Mapping section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating a Data Mapping Definition section to add a Data Mapping definition
- Viewing a Data Mapping Definition section to view an existing Data Mapping definition
- Modifying a Data Mapping Definition section to edit an existing Data Mapping definition
- Deleting Data Mapping Definitions section to delete a Data Mapping definition
- Copying a Data Mapping Definition section to copy an existing Data Mapping definition details
- Versioning and Make Latest Feature of Data Mapping section to make the selected definition active
- Purging Data Mapping Definitions section to remove the deleted Data Mapping definition permanently

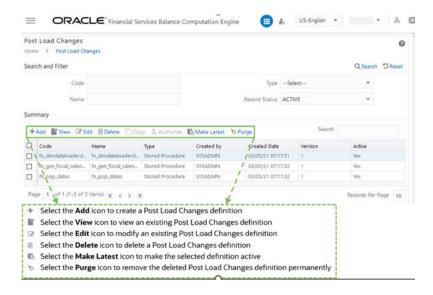
For more information about the Data Mapping and mapped roles, see the Data Mapping section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0

## 4.2.2.1.3 Post Load Changes

Post Load Changes(PLC) refers to a rule describing the conversion of data from sources to Staging or from Staging to Processing (destination) tables. During the data extraction, a Post Load Changes Rule helps in structuring the required data from sources to the target or an intermediate systems for further processing. Based on the selected mode, Post Load Changes can be applied to execute the process successfully. Post Load Changes within the Data Management Tools framework allows you to define transformations to the Source Data before extracting or loading it to the target database to populate the data warehouse.

 To navigate to the Post Load Changes Page, from OFSAA Home, select Financial Services Balance Computation Engine, select Administration, select Data Management Tools, and select Post Load Changes.

Figure 4-5 Post Load Changes page



To perform different actions related to the Post Load Changes, see the following subsections in the *Post Load Changes* section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating Post Load Changes Definition section to add a Post Load Changes definition
- Viewing Post Load Changes Definition section to view an existing Post Load Changes definition
- Modifying Post Load Changes Definition section to edit an existing Post Load Changes definition
- Deleting Post Load Changes Definitions section to delete a Post Load Changes definition
- Versioning and Make Latest Feature of Data Mapping section to make the selected definition active
- Purging Post Load Changes Definitions section to remove the deleted Post Load Changes definition permanently

For more information about the Post Load Changes and mapped roles, see the *Post Load Changes*section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

## 4.2.2.2 Slowly Changing Dimensions (SCD)

A Slowly Changing Dimension (SCD) is a dimension that stores and manages both current and historical data over time in a data warehouse.

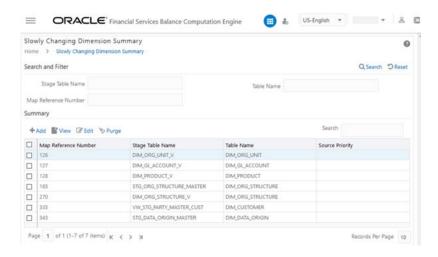
The following are the three types of SCDs:

- Type 1 SCDs -Overwriting
- Type 2 SCDs -Creating another Dimension Record
- Type 3 SCDs -Creating a Current Value Field

For information about the Type 1, Type 2, and Type 3 SCDs, see the Slowly Changing Dimensions (SCD) section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0

 To navigate to the Slowly Changing Dimension Summary Page, from OFSAAHome, select Financial Services Balance Computation Engine, select Administration, select Data Management Tools, and select Slowly Changing Dimension.

Figure 4-6 Slowly Changing Dimension Summary Page



To perform different actions related to the SCD, see the following sub-sections in the Slowly Changing Dimension (SCD) section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating Slowly Changing Dimension section to create an SCD or to define an SCD
- Executing SCDs section to execute an SCD
- Modifying SCD Definition section to edit an existing SCD Definition
- Viewing SCD Definition section to view an existing SCD
- Purging SCD Definitions section to remove the deleted SCDs permanently

For more information about the SCD and mapped roles, see the Slowly Changing Dimensions (SCD) section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0

## 4.2.3 Dimension Management



Dimensions referred to BCE are now identified via unique numeric identifiers, except for data origin, accounting standard and GL account type. These dimensions should not be processed as SCD.

Dimension Management within the Infrastructure system facilitates you to categorize data into a single object as a Member; define levels and aggregate data to form the Hierarchies, and distinguish each member by defining the required Attributes.



For latest information about the Dimension Management and Mapped Roles, see the Dimension Management section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### 4.2.3.1 Member

Dimension Members refer to the individual items that constitute a dimension when data is categorized into a single object. For example, Product, Organization, Time, and so on. Members are available within the Dimension Management section of the Infrastructure system.

For more information about how to set up alphanumeric and numeric codes, see the Configurations to use Alphanumeric and Numeric Codes for Dimension Members section in the Oracle Financial Services Advanced Analytical Applications Infrastructure Administration and Configuration Guide Release 8.1.x

To navigate to the Members page, from OFSAA Home, select Financial Services
 Balance Computation Engine, select Administration, select Dimension Management, and select Member.

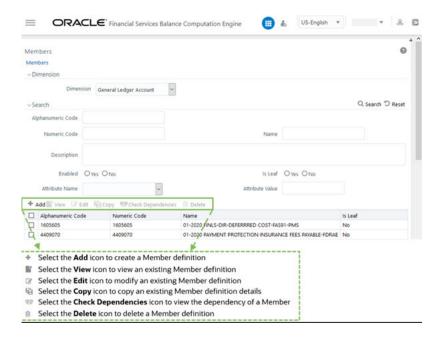


Figure 4-7 Members Page in Dimension Management

To perform different actions related to the Members, see the following sub-sections in the Members section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Adding Member Definition section to add a Member Definition
- Viewing Member Definition section to view an existing Member Definition
- Modifying Member Definition section to edit an existing Member Definition

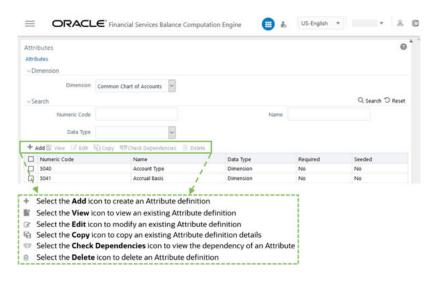
- Deleting Member Definition section to delete a Member Definition
- Copying Member Definition section to copy an existing Member Definition details
- Member Definition Dependencies section to view the dependency of a Member

#### 4.2.3.2 Attribute

Attributes refers to the distinguished properties or qualifiers that describes a Dimension Member. Attributes may or may not exist for a simple Dimension.

To navigate to the Attributes page, from OFSAA Home, select Financial Services
 Balance Computation Engine, select Administration, select Dimension Management, and select Attribute.

Figure 4-8 Attributes Page in Dimension Management



To perform different actions related to the Attributes, see the following sub-sections in the Attributes section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Adding Attribute Definition section to add an Attribute Definition
- Viewing Attribute Definition section to view an existing Attribute Definition
- Modifying Attribute Definition section to edit an existing Attribute Definition
- Deleting Attribute Definition section to delete an Attribute Definition
- · Copying Attribute Definition section to copy an existing Attribute Definition details
- Attribute Definition Dependencies section to view the dependency of an Attribute

## 4.2.3.3 Build Hierarchy

Business Hierarchy refers to organizing data into logical tree structure to represent the groups and relations among various levels at which measure can be viewed. A measure can be viewed at different levels depending on the hierarchy breakdown of the dimension category.

 To navigate to the Business Hierarchy Page, from OFSAA Home, select Financial Services Balance Computation Engine, select Administration, select Dimension Management, and select Business Hierarchy.

III å US-English ▼ % © ORACLE' Financial Services Balance Computation Engine 0 **Business Hierarchy** Q Search "D Reset ~Search and Filter Short Description Code Short Description Long Description
HIBCE001 Legal Entity Code - IBCE Legal Entity Code - IBCE Hierarchy Type Hierarchy Sub Type Entity Regular BI Enabled DIM ORG STRUCTURE V ENTITY CODE GL Type - IBCE Bi Enabled DIM\_GL\_TYPE V\_GL\_TYPE Regular DIM GL ACCOUNT V\_GL\_ACCOUNT\_CODE V\_ISO\_CURRENCY\_CD HIBCE004 Currency - IBCE BI Enabled DIM\_CURRENCY Currency - IBCE ☐ HJBCE005 Product - IBCE Product - IBCE Regular BI Enabled DIM PRODUCT V PROD CODE ☐ HIBCE006 Data Origin - IBCE DIM\_DATA\_ORIGIN V\_DATA\_SOURCE\_CODE Data Origin - IBCE Regular BI Enabled ☐ HIBCE007 Org Unit - IBCE Org Unit - IBCE DIM\_ORG\_UNIT ☐ H\_GROUP User Group Hierarchy User Group Hierarchy BI Enabled DE\_GROUP V\_GROUP\_CODE Page 1 of 1 (1-8 of 8 items) k Records Per Page 8 🕏 + Select the Add icon to create a Business Hierarchy Select the View icon to view an existing Business Hierarchy Select the Edit icon to modify an existing Business Hierarchy Select the Copy icon to copy an existing Business Hierarchy details Select the Delete icon to delete a Business Hierarchy

Figure 4-9 Business Hierarchy Page in Dimension Management

To perform different actions related to the Business Hierarchy, see the following subsections in the Business Hierarchy section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating Business Hierarchy section to add a Business Hierarchy
- · Viewing Business Hierarchy section to view an existing Business Hierarchy
- Modifying Business Hierarchy section to edit an existing Business Hierarchy
- Deleting Business Hierarchy section to delete a Business Hierarchy
- Copying Business Hierarchy section to copy an existing Business Hierarchy details

For more information about the Business Hierarchy, see the *Build Hierarchy*section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

## 4.2.3.4 Hierarchy Maintenance

Hierarchies refer to Dimension Members that are arranged in levels, with each level representing the aggregated total of the data from the level below. One dimension type can have multiple hierarchies associated with it.

 To navigate to the Hierarchy Maintenance Page, from OFSAA Home, select Financial Services Balance Computation Engine, select Administration, select Dimension Management, and select Hierarchy Maintenance.

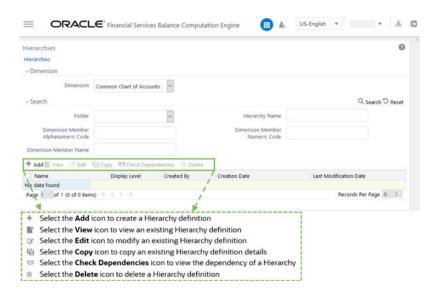


Figure 4-10 Hierarchies Page in Dimension Management

To perform different actions related to the Hierarchies, see the following sub-sections in the Hierarchy Maintenance section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Adding Hierarchy Definition section to create a Hierarchy Definition
- Viewing Hierarchy Definition section to view an existing Hierarchy Definition
- Modifying Hierarchy Definition section to edit an existing Hierarchy Definition
- Deleting Hierarchy Definition section to delete a Hierarchy Definition
- · Hierarchy Definition Dependencies section to view the dependency of a Hierarchy

For more information about the Hierarchies, see the Hierarchy Maintenance section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

## 4.2.4 Utilities

Utilities refer to a set of additional tools which helps you to fine tune a defined process or maximize and ensure the security of a database based on your need. The Utilities within the Administration framework of Infrastructure system facilitates you to maintain the data in the Oracle Database using the various administrative tools. You can define the user access permissions, batch securities, upload attributes, find metadata difference, and migrate source objects to target database. You (System Administrator) need to have SYSADM function role mapped to access the Utilities section within the Infrastructure system.

To navigate to the Utilities menu, from **OFSAA Home**, select **Financial Services Balance Computation Engine**, select **Administration**, and select **Utilities**.

Administration Utilities consists of the following sections:

To access various utilities on the Utilities menu, see the following sub-sections (in the Utilities section) in the Object Administration section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- · Metadata Difference
- Metadata Authorization



- Save Metadata
- Write-Protected Batch
- Patch Information

Also see the Component Registration sub-section in the Utilities section of the Rule Run Framework in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

For information about the Metadata Browser, see the Oracle Financial Services Analytical Applications (OFSAA) Metadata Browser User Guide Release 8.1.0.0.0.

## 4.2.5 Operations

Operations refers to administration and processing of business data to create the highest level of efficiency within the system and to derive results based on a specified rule.

For latest information, see the Operations section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### 4.2.5.1 Batch Maintenance

Batch refers to a set of executable processes based on a specified rule. Batch Maintenance framework within the Infrastructure system facilitates you to create and maintain the Batch Definitions. You can process the Batch scheduled for execution from Batch Maintenance and also from other modules and applications such as Rules Run Framework and Enterprise Modeling respectively. You should have Batch Write User Role mapped to your User Group to cancel a Batch. The Batch Maintenance window displays a list of Batches scheduled for maintenance with the other details such as BatchID, Batch Description, and the editable state of the Batch.

 From OFSBCE Home, select the Financial Services Balance Computation Engine. In the Navigation List, select Execution, and then select Batch Maintenance. The Batch Maintenance page displays.

#### 4.2.5.2 Batch Execution

Batch execution refers to the process of initiating a batch for current processing. When a batch is submitted for execution, a series of commands are sent to the database with respect to the defined component parameters. This in turn returns an array of update counts (required value definitions) when the commands are executed successfully. You must map Batch Advanced User Role to your User Group to execute a Batch.

• From **OFSBCE Home**, select the **Financial Services Balance Computation Engine**. In the Navigation List, select **Execution**, and then select **Batch Execution**. The Batch Execution page displays.

The Batch Execution page displays the list of only those Batches which have at least one task associated, with the other details such as Batch ID and Batch Description. When you select a Batch ID in the list, the Task Details sections displays all the defined Tasks associated with the Batch. The Batch Details section in the Batch Execution page lists the Batches depending on the Batch Mode selected.

- The Run mode displays the Batch definitions which are newly defined, and which have been scheduled for execution.
- The Restart mode displays the Batch definitions which are not executed successfully or either has been interrupted during the previous Batch execution.

The Rerun mode displays the Batch definitions which have been successfully executed, failed, cancelled, or even interrupted during the previous Batch execution.

You can search for a specific Batch based on the Batch ID, Batch Description, Module, or Last Modified Date. The pagination option helps you to view the list of existing Batches within the system.

For more information, see the Batch Execution section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### 4.2.5.3 Batch Scheduler

Batch Scheduler in the Infrastructure system facilitates you to schedule a Batch for later processing. You can define a new Batch schedule or update a previously defined Batch schedule for processing. You must have Batch Advanced User Role mapped to your User Group to schedule a Batch. The Batch Scheduler page displays the list of Batches scheduled for execution with the other details such as Batch ID and Batch Description. When you select a Batch in the list, the Batch Scheduler options are displayed.

• From **OFSBCE Home**, select the **Financial Services Balance Computation Engine**. In the Navigation List, select **Execution**, and then select **Batch Scheduler**. The Batch Scheduler page displays.

For more information, see the Batch Scheduler section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### 4.2.5.4 Batch Monitor

Batch Monitor in the Infrastructure system facilitates you to view the status of executed Batch Definitions along with the Task details. You can track the issues, if any, on regular intervals and ensure smoother Batch execution. An event log provides you the real time status of the executed Batches. You must have Batch Read Only User Role mapped to your User Group to monitor a Batch. The Batch Monitor page displays a list of Batches with the other details such as Batch ID and Batch Description. You can search for a specific Batch based on Date range, Module, Status, and Batch Description. The Batches listed in the Batch Details section can be sorted based on the current state as Successful, Failed, Held, or New.

 From OFSBCE Home, select the Financial Services Balance Computation Engine. In the Navigation List, select Execution, and then select Batch Monitor. The Batch Monitor page displays.

For more information, see the Batch Monitor section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

## 4.2.5.5 View Log

The View Log page allows you to view the log files generated during a batch execution.

To view the log files of a batch execution, follow these steps:

1. From OFSBCE Home, select the Financial Services Balance Computation Engine. In the Navigation List, select Execution, and then select View Log.

The View Log page is displayed. This page contains Component Type, Folder, User, As of Date, Task Name, Batch Run ID, and the Task ID Information section.

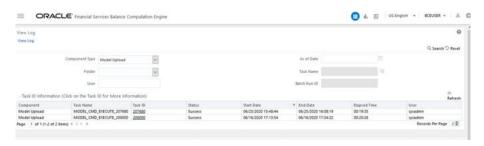


Figure 4-11 View Log Page



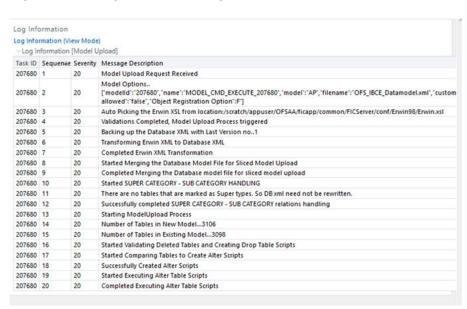
 Select the required Component Type and other attributes and click Search. The list of Task IDs corresponding to the selected component is displayed in the Task ID Information section. Click the required Task ID.

Figure 4-12 Select the Component Type and other Attributes in the View Log Page



The Log Information page is displayed, which contains all the log information related to the selected component and Task ID.

Figure 4-13 Log Information Page



## 4.2.6 Object Administration

Object Administration is an integral part of the Infrastructure system and facilitates the system administrators to define the security framework with the capacity to restrict access to the data

and metadata in the warehouse, based on a flexible, fine-grained access control mechanism. These activities are mainly done at the initial stage and then on need basis.

The document deals with the information related to the workflow of Infrastructure Administration Process with related procedures to assist, configure, and manage the administrative tasks effectively.

You (System Administrator or System Authorizer) need to have SYSATH, SYSADM, and METAAUTH function roles mapped to access the Object Administration Framework within the Infrastructure system.

Object Administration consists of the following sections:

- Object Migration
- Object Security



For latest information about the Object Administration and Prerequisites, see the Object Administration section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

### 4.2.6.1 Object Migration

Object Migration is the process of migrating or moving objects from one environment to another environment. You may need to do the migration of objects for several reasons. You may have multiple environments to handle a global deployment, or you may need to create multiple environments to separate development, testing, and production activities.

Object Migration consists of the following sections:

- Object Migration Summary
- Export Objects
- Import Objects

This section consists of Object Migration Summary and Object Migration Details information.

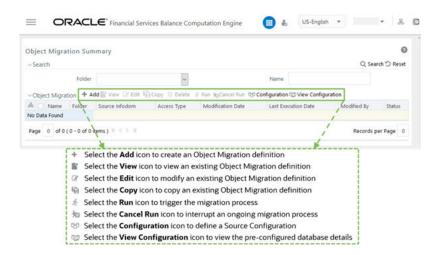
You (BCE System Administrator) need to have FU\_MIG\_HP function role mapped to access the Object Migration Framework within OFSBCE.

## 4.2.6.1.1 Object Migration Summary

1. To navigate to the **Object Migration Summary** Page, from **OFSAA Home**, select **Financial Services Balance Computation Engine**, select **Administration**, select **Object Migration**, and select **Object Migration**.



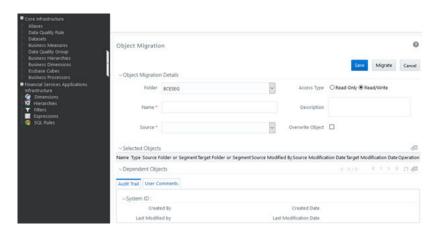
Figure 4-14 Object Migration Summary Page



To perform different actions related to the Object Migration, see the following sub-sections in the Online Object Migration section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating Object Migration Definition section to create an Object Migration Definition
- Viewing Object Migration Definition section to view an existing Object Migration Definition
- Modifying Object Migration Definition section to edit an existing Object Migration Definition
- Copying Migration Rules section to copy an existing Object Migration Definition
- Migrating Stored Object Definition section to trigger or to interrupt a Migration Process
- Defining Source Configuration section to define a source configuration or to view the pre-configured Database Details
- To create an Object Migration definition, go to the Object Migration Details section. To
  navigate to the Object Migration page with Object Migration Details, from OFSAA Home,
  select Financial Services Balance Computation Engine, select Administration, select
  Object Administration, select Object Migration, select Object Migration, and select
  Add.

Figure 4-15 Creating Object Migration Definition page





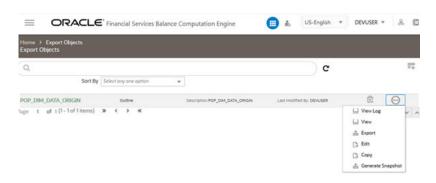
Enter or select the required details in the Object Migration Details section. For more information, see the Creating Object Migration Definition section in the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

#### 4.2.6.1.2 Export Objects

Exporting Objects allows you to export a set of objects to migrate across Information Domains within the same setup or across different setups. You can select one or more objects within an object type or within multiple object types and migrate the same along with or without the dependent objects.

 To navigate to the Export Objects Page, from OFSAA Home, select Financial Services Balance Computation Engine, select Administration, select Object Administration, select Object Migration, and select Export Objects.

Figure 4-16 Export Objects Page



To perform different actions related to the Export Objects, see the following sub-sections in the ExportingObjects section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating an Export Definition
- Viewing an Export Definition
- Editing an Export Definition
- Copying an Export Definition
- Deleting an Export Definition

Additionally, see the sections Outline Definition of Objects and Snapshot Definition of Objects, and for information about the mapped roles, see the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

### 4.2.6.1.3 Import Objects

The Import Objects feature allows you to import objects to your target environment from the archived dump file. The dump file from source environment should be downloaded and moved into /ftpshare/ObjectMigration/metadata/restore folder in the target system. This folder structure needs to be created manually.

To navigate to the Import Objects Page, from OFSAAHome, select Financial Services
 Balance Computation Engine, select Administration, select Object Administration,
 select Object Migration, and select Import Objects.

To perform different actions related to the Import Objects, see the following sub-sections in the Importing Objects section of the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Creating Import Definition from an Archive
- Creating Import Definition from a Snapshot Archive
- Viewing an Import Definition
- Editing an Import Definition
- Copying an Import Definition
- Deleting an Import Definition

For information about the Mapped Roles, see the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0.

## 4.2.6.2 Object Security

Object Security framework is based on a waterfall model for determining rights of the user to perform an action on an object in the system. That is, if you do not have the top level of object access type, there is no need to check the second level, whereas if you have the top level, then the next level down is checked.

Object Security sub module consists of the following sections, and for more information, see the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide Release 8.1.1.0.0:

- Metadata Segment Mapping
- Batch Execution Rights



## **Application Setup in OFSBCE**

This section provides information about the admin settings or application setup that need to be performed to use the OFSBCE application features.

## 5.1 Setup Fiscal Periods

To add a Fiscal Period, follow these steps:

 1. From OFSBCE Home, select Financial Services Balance Computation Engine, select Application Setup, and select Setup Fiscal Periods. The Setup Fiscal Period page is displayed. In the illustration, already created Fiscal Period details are displayed.

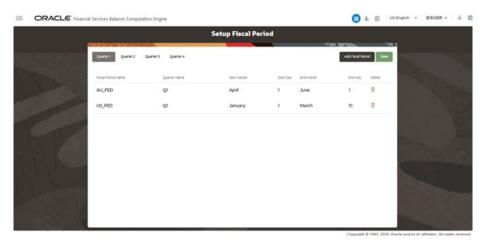


Figure 5-1 Setup Fiscal Period Page

- There are four built-in fiscal year quarters. They are Quarter 1, Quarter 2, Quarter 3, and Quarter 4. Select the required Quarter to create a new Fiscal Period.
- To create a new Fiscal Period, click Add Fiscal Period. A new row is added in the list with a new Fiscal Period Name. To edit the name, double-click the Fiscal Period Name value and modify.
- 4. To select the starting month for the Fiscal Period, double-click the Start Month value and select the required value from the list. By default, this field displays January.
- 5. To select the starting day of the selected Fiscal Period Start Month, double-click the Start Day value and select the required value from the list. Similarly, select the values for End Month and End Day for the selected Fiscal Period.
- 6. Click **Save** to save these details for the new fiscal period.
- 7. To delete an existing Fiscal Period, click the **Delete** icon associated with it.



The fiscal periods set up in the Setup Fiscal Period module are associated with Legal Entity or Organization Structure Dimension members. This attribute is sourced as a part of the Legal Entity or Organization Structure Dimension.

## 5.2 Legal Entity Settings

This section provides information about how to set the Reporting Currency and Unrealized Gain or Loss account for processes such as Currency Translation and Revaluation respectively.

To set the Reporting Currency and Unrealized Gain or Loss account for processes, follow these steps:

1. From OFSBCE Home, select Financial Services Balance Computation Engine, select Application Setup, and select Legal Entities.

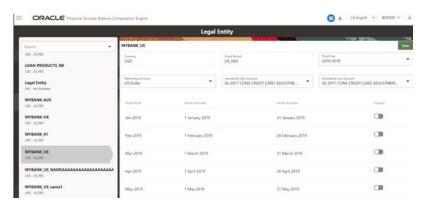
#### Note:

• Supported special characters in the Search bar : `~!@#\$%^&\*()\_-=+[]  ${}|;:'<,>./?$ 

Unsupported special characters in the Search bar: \"

The Legal Entity page is displayed. You can search the Legal Entity using the Search bar.

Figure 5-2 Legal Entity Page



- Select the required Fiscal year.
- Set the fiscal period to open for posting entries by disabling or closed for posting
  entries by enabling the Locked? option. An open posting period is when the selected
  posting period is set to open and the other posting periods stay closed.
- Set the Reporting Currency to the required standard.
- Select the required value for the Unrealized Gain Account and for the Unrealized
   Loss Account. Revaluation creates an automatically reversing entry for the difference
   between the original functional currency equivalent balance and the revalued

functional currency equivalent balance in each fiscal period you revalue. As the transactions automatically reverse, the effect of revaluation is completely withdrawn in the fiscal period that follows the last fiscal period you specify for revaluation. Therefore, use the unrealized gain or loss to record the account transactions for the unrealized gains and unrealized losses in each fiscal period you revalue.

Click Save to save the Legal Entity settings. This Reporting Currency is used during the Execution process in PMF.

For more information about the Legal Entities, see the Legal Entity Consolidation section in the Oracle Financial Services Data Foundation Application Pack User Guide Release 8 1 1 0 0

## 5.3 Revaluation Settings

The Revaluation Process reads the following setup information during the process execution. To setup the Revaluation Settings, follow these steps:

- 1. From **OFSBCE** Home, select **Financial Services Balance Computation Engine**, select **Application Setup**, and select **Revaluation**. The Revaluation Settings page is displayed.
- 2. In the Revaluation Settings page, set the following values. These settings affect the design and execution part of the Revaluation Process in the PMF.

Figure 5-3 Revaluation Settings Page



Table 5-1 Revaluation Settings entities and their description

Entity	Description
GL Types	The General Ledger types of those journal entries, which must be considered during the Revaluation Process.
Offset	Select this option if you must generate the offset balances against the Revaluation Adjustments for equivalents.



Table 5-1 (Cont.) Revaluation Settings entities and their description

Entity	Description
Offset COA Values	Order the Offset Chart of Account values either by the Default value or System value.
	System: Instrument gain is a part of the output of the offset entries. Every calculation is done at the Management Ledger Gain level including the instrument account. Then in the Revaluation process execution stage, for each account in the Management Ledger the offset balance is generated.
	<b>Default</b> : When the Offset COA Values are set to Default, the system generates the offset balances at the Legal Entity grain.
Reversal	Select this option if you want to revise the Revaluation for period balances by reversing the prior period adjustments and adding current period adjustments.

3. Click **Save** Revaluation Settings Page.

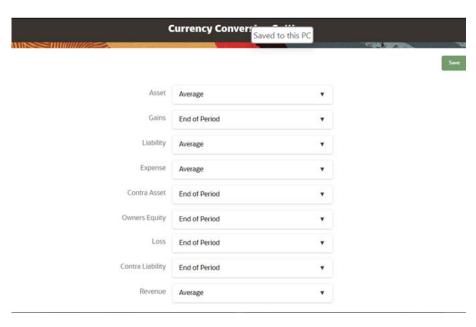
# 5.4 Currency Conversion Settings

Setup the currency conversion settings to assign the Rate Type to a GL Type, which is required during the Execution process in PMF.

To setup the currency conversion settings, follow these steps:

- From OFSBCE Home, select Financial Services Balance Computation Engine, select Application Setup, and select Currency Conversion. The Currency Conversion Settings page is displayed.
- 2. Select the required value for each entity.

Figure 5-4 Currency Conversion Settings Page





- 3. Select the End of Period, Daily or Average Rate Type for the following GL type entities:
  - Asset
  - Gains
  - Liability
  - Expense
  - Contra Asset
  - Owners Equity
  - Loss
  - Contra Liability
  - Revenue
- 4. 3. Click **Save** to save the currency conversion settings.

## 5.5 Portfolio Definition

(The solution allows user-defined portfolios of instruments or customer accounts to be defined, specifying the scope of instrument-level accounting balance assessment, statistical balance derivation, and currency translation. Portfolios are defined through the user interface as a set of details by which the list of instruments can be filtered for inclusion or exclusion from instrument level balance processing. You can use multiple dimensions in a rule. When you want to apply that rule for a specific number of member ports, the Portfolio allows you to group all the hierarchies or specific member codes into one custom definition. When you choose that Portfolio definition, that definition is used as a filter during the Execution process. To define a filter or create a Portfolio Definition on a specific process on which you want to apply a rule using multiple dimensions and member codes, follow these steps (for illustration, Portfolio creation for the Currency Translation process is considered):

- 1. From OFSBCE Home, select Financial Services Balance Computation Engine, select Application Setup, and select Portfolio.
- 2. The Portfolio Definition page is displayed. This page consists of a Summary tab, the list of existing Portfolios, an option to delete any existing Portfolio, a Search field, and a Add Portfolio button. To create a Portfolio Definition, click Add.

Figure 5-5 Portfolio Definition Page



A New Portfolio Model tab opens. Enter a unique name, the purpose of the portfolio definition and select the dimension that you want to use as a filter during processing the PMF image.



Figure 5-6 New Portfolio Model Tab



#### Note:

The Legal Entity filter must not be selected while defining portfolios for a translation run. The parameters selected in a Balance Computation run are implicitly considered when a translation run is executed, as the Balance Computation's Run execution description is selected as a translation run parameter.

**4.** Enter or select the required values for each field. In the illustration, a Portfolio for Currency Translation is created.

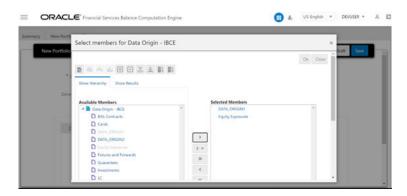
Figure 5-7 Enter Values in the New Portfolio Model Tab



5. In this illustration, in the Data Origin – IBCE dimension list box, click + to add the required members. The Select members for Data Origin – IBCE page displays. In the Show Hierarchy tab, in the Available Values list, select the members required for the Portfolio during the PMF processing and move them to the Selected Members list. Click OK to exit the tab.

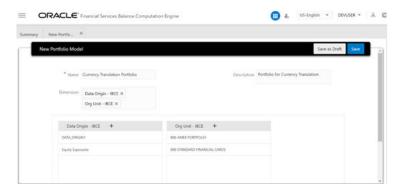


Figure 5-8 Select Members page for the Legal Entity Code



The selected members are listed in the selected dimension list box. Repeat the previous step for all the selected Dimensions. In this illustration, the previous step is repeated for the Org Unit – IBCE dimension.

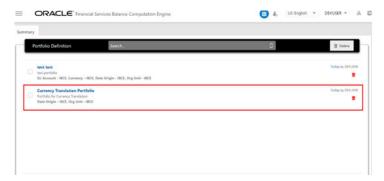
Figure 5-9 Selected Members for the Data Origin and Legal Entity Code - IBCE



To save all the details, click Save. An acknowledgement message: Portfolio Saved Successfully is displayed.

The new Portfolio is listed in the Portfolio Definition Summary tab.

Figure 5-10 The new Portfolio is listed in the Portfolio Definition Summary tab.



**8.** During the execution stage in the PMF page, when this Portfolio Definition is selected, the filter gets applied on the dataset with the members selected in this Portfolio section.



6

# Instrument Level Statistical Accounting Balance

Statistical amounts (average, month-to-date, quarter-to-date and year-to-date) are derived off instrument level accounting balance information. Balance Computation Engine uses instrument accounting balance figures across multiple MIS dates, calendar information and fiscal or accounting period definition to assess average accounting balance, month to date accounting balance and year to date accounting balance as statistical management ledger amounts.

# 6.1 Instrument Level Average Balance

This is assessed as sum (balance) or count (balance observations) for each instrument within an accounting or fiscal period.

## 6.2 Instrument Level Period to Date Balance

Instrument level Month to Date, Quarter to Date and Year to Date accounting balance figures are assessed based on instrument accounting balance figures across multiple MIS dates, calendar information and fiscal or accounting period definition.

#### Note:

For the backdated journal processing, ensure that the period to which you are posting the journals to is an open period as set in the Legal Entity Settings section.

Data Foundation Integration with FAH does not verify status of the period that a specific journal or transaction is intended for, indicated in corresponding header record. If the accounting environment in use is Oracle ERP or Oracle ERP Cloud Services, such verification will be performed in the ERP system or service.

If a journal received from accounting source, Oracle or otherwise, is backdated, ie., accounting date is prior to MIS date, BCE will update balance figures for corresponding Chart of Accounts segment codes and instrument code cumulatively from the earliest accounting date all the way through to provided MIS date for balance computation, if and only when corresponding fiscal periods are not marked closed.

Additionally, when the backdated journals are processed, the system recomputes the daily movements, period-to-date, and period-to-date average balances for the range between the journal posting date and the FIC MIS Date. Based on the preceding method, the larger the range between the two dates, the greater is the duration for execution.

7

## Instrument Level Balance Revaluation

The revaluation process is used to adjust account balance figures of denominated currencies other than accounting currency. Revaluation adjustments represent the difference in the value of the balance due to changes in conversion rates between the date of the original journal entry and the revaluation date.

## 7.1 Revaluation Process

This section provides information about the Revaluation Process in OFSBCE.

Figure 7-1 Revaluation Process Flow in OFSBCE

Revaluation Process in OFSBCE



The main phases in the Revaluation process are depicted in the preceding illustration.

The Revaluation Process begins with the data present in the Management Ledger Period Balances. In the Revaluation Adjustments stage, the revaluation adjustments are performed against each period balance amount to calculate the adjustment amount. As a result, during the Revalued Management Ledger Period Balances stage, in the Period Balance table, the adjusted balances are recomputed and inserted in a new row with an incremented version.

# 7.2 Revaluation Settings

Ensure you have completed the Revaluation admin settings. See the Revaluation Settings section for more information.

# 7.3 Revaluation Adjustments

In the Revaluation Adjustments stage, to arrive at the revalued amount (N\_REVALUED\_AMOUNT values in the FSI\_MGMT\_LGR\_REVAL\_BALANCES table) before initiating the Revaluation execution process, complete the following tasks:

1. Load the FSI\_EXCG\_RATES table using the insert scripts.

#### Note:

- Ensure that FSI\_EXCG\_RATES table does not contain duplicate records for the same currency combination for a given MISDATE-EFFECTIVE DATE. If exists, this will lead to runtime exceptions during execution of Revaluation Balances pipeline.
- The FSI\_EXCG\_RATE
   (FIC\_MIS\_DATE,D\_EFFECTIVE\_DATE,V\_FROM\_CCY\_CD,V\_TO\_CCY\_C
   D) table must contain unique records combination to retrieve only one
   exchange rate.
- For any balance you arrive at from the Period balance perspective, compare the current exchange rate (N\_EXCHANGE\_RATE) value in the FSI\_EXCG\_RATES table against the Period balance present corresponding to the exchange rate in the FSI\_MGMT\_LGR\_REVAL\_BALANCES table.
- 3. The application calculates the following:
  - For AST/LIAB (Assets or Liabilities) type, calculate the adjustment amount using the following formula:
    - **Current Period YTD Balance x Revaluation Rate Currency Period YTD Balance LCY**
  - For REV/EXP (Revenue or Expenses) type, calculate the adjustment amount using the following formula:
    - (Current Period YTD Balance Prior Period YTD Balance) x Revaluation Rate (Currency Period YTD Balance LCY Prior Period YTD Balance LCY)



Revaluation is processed only for the Open fiscal periods.

In the Revaluation Adjustments stage, Offset GL Account is generated from the SETUP\_MASTER table based on whether the entry corresponds to a Gain or Loss account. Then in the Revaluation process execution stage, for each account in the management ledger period balances, the offset balance is generated.

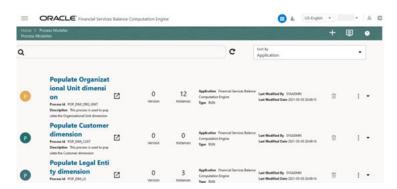
## 7.4 Create and Execute Revaluation Process

To create and execute the Revaluation process, follow these steps:

 1. From OFSAA Home, select the Financial Services Balance Computation Engine, then select Orchestration, select Process Modeller. The Process Modeller page is displayed.



Figure 7-2 Navigate to the Process Modeller page



2. In the Process Modeller page, click the **Add** icon. The Process Details page is displayed.



**Process Details** Process ID 1621412515723 Process Name **Process Description** App Package ID Туре **Business Process Pipeline** Registered Topics Spark DB No Infodom Tag Segment

Figure 7-3 Process details for revaluation Process Page

3. Enter or select the required values for each field.

Table 7-1 Process Details page field names and description

Field Name	Description and instruction
Process ID	This value is automatically generated.
Process Name	Enter a unique and easily recognizable value in the Process Name field.
Process Description	Enter a unique and easily recognizable value in the Process Description field.



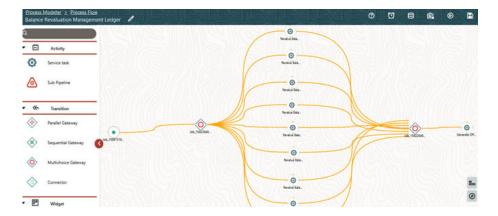
Table 7-1 (Cont.) Process Details page field names and description

Field Name	Description and instruction
App Package ID	Select the required application package in which the process must be created from the drop-down list.
Туре	Select the required process type from the Type drop-down list. The options are as follows:  Sub Run Process Run Pipeline Workflow Pipeline
Registered Topics	NOTE: This functionality is currently not applicable to OFSBCE.
Spark DB	Enable the Spark DB option if you are executing the Run for Hive metadata.
Infodom	Select the information domain from the <b>Infodom</b> drop-down list in which the Run Pipeline must be created. The list displays all the infodoms mapped to the applications configured in your OFSAA instance.
Tag	Enter the text that can be used as search keywords or helpful in defining a relationship between two or more pipelines.
Segment	Select the application segment. The options are as follows: BCESEG: OFSBCE segment

- 4. To save the details, click the **Save** icon. The Process Flow canvas is displayed.
- 5. In the Process Flow canvas page, design a Revaluation Process flow Run pipeline. By default, START from the toolbar appears. This Start activity indicates the beginning of the process. The Process Flow tab contains a floating toolbar and a drawing canvas. Use the drawing canvas to design the process flow with the Activity, Transition, and Widget components available in the toolbar. In the illustration, each Service Task represents GL type for Assets, Liabilities, Expenses, Revenue, Gains, Losses, Contra Asset, Contra Liability, and Owner's Equity set in the Revaluation Settings section.

For more information, see the *Service Tasks* section in the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0

Figure 7-4 Creation of Balance Revaluation Management Ledger process flow

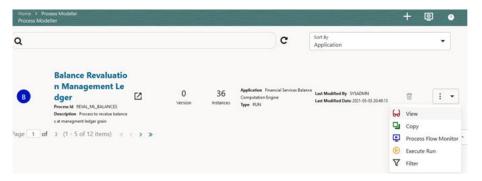




Revaluation Management Ledger pipeline must be executed only once for an **As** of **Date** for a given set of input.

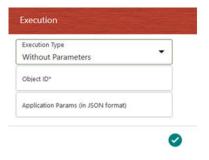
- 6. Click the Save icon to save the Revaluation Process Flow.
- 7. The Revaluation Process is listed in the Process Modeller page. To select the Run parameters and execute the Run, follow these steps:
  - In the Process Modeller page, click the **More** icon corresponding to the Revaluation Process Run Pipeline that needs to be executed.

Figure 7-5 Balance Revaluation Management Ledger process - Select Execute Run



8. When you click **Execute Run**, the Execution page is displayed.

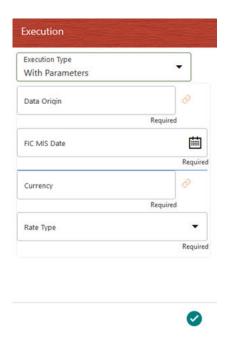
Figure 7-6 Balance Revaluation Management Ledger process - Execution Page Without Parameters



- a. Enter and select the required details to execute the Run without parameters.
- **b.** To execute with parameters, select **With Parameters** in the **Execution Type** list.



Figure 7-7 Balance Revaluation Management Ledger Process - Execution Page With Parameters





The values are fetched from the FSI\_EXCG\_RATES and SETUP\_MASTER tables.

c. Select or enter the required values for each field as follows.

Table 7-2 Balance Revaluation Management Ledger Process - Execution Page With Parameters and description

Field Name	Description or Instruction
FIC MIS Date	Use the calendar icon to select the extraction date.
Currency	Use the selection icon to select the Currency Code used to calculate the amount during the data population in the target table.
Data Origin	Use the selection icon to select the required Data Origin from the Available Values list and click OK.
Rate Type	Select the Rate Type from the drop-down list. The options are as follows:

9. To save the details and execute the Run, click the Save icon. The Run execution begins.

#### Note:

The execution of the Run Pipeline is triggered using the selected FIC MIS DATE. The Run SKey is generated and inserted into the DIM\_RUN table. For the Run SKey generated, the corresponding user-selected Run parameters are inserted into the RUN EXE PARAMETERS table.

#### Note:

See the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for information about the following topics:

- To verify the Run Execution, see the Process Monitor section.
- To abort, resume, or rerun the Run Pipeline Process, see the Abort Run Pipeline, Resume Run Pipeline, and Re-run Run Pipeline sections respectively.
- To verify the execution logs, see the Viewing Activity Execution Logs and Viewing Execution Log for Widgets sections.
- **10.** To verify the Run execution of the Balance Revaluation Management Ledger process, follow these steps:
  - a. To open the **Process Monitor** page, in the Process Modeller page, click or select **Process Flow Monitor** from the Process Modeller menu.

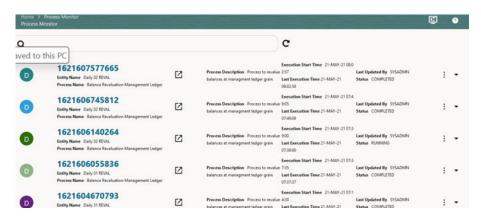
Figure 7-8 Process Monitor Menu



b. The Process Monitor page is displayed listing all the Run instances corresponding to the Balance Revaluation Management Ledger process. In the Process Monitor page, search by Process ID, or by the Process Name Balance Revaluation Management Ledger, and select the process instance for the required Run pipeline (process) that was executed.

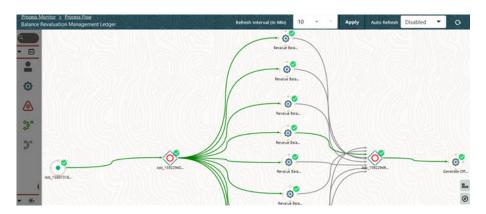


Figure 7-9 Balance Revaluation Management Ledger Process – Process Monitor Page – Select Job ID



11. A status is displayed, which shows the execution status of the executed Run for the Balance Revaluation Management Ledger process. In this illustration, the Run for the Revaluation is successfully executed.

Figure 7-10 Balance Revaluation Management Ledger process – Run Execution status



For information about the complete functioning of the PMF, see the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

You can also check the details of execution status in the Execution Summary page.

# 7.5 Applying General Ledger Filters for Revaluation

To apply General Ledger Filters for revaluation:

 In the SETUP\_MASTER table in atomic schema, update the column V COMPONENT VALUE with the dimension column name.

Example: N\_GL\_ACCOUNT\_SKEY where V\_COMPONENT\_CODE='REVAL\_FILTER\_DIM\_ATT'

2. In the revaluation pipeline of PMF, add a custom task before executing revaluation task. This should populate the FSI\_BCE\_REVAL\_FILTERS table with Run SKEY, v\_dim\_Att (GL\_ACCOUNT\_SKEY) and n\_dim\_val (the dimension filter to be applied).

3. Execute the revaluation rule in PMF and verify if filters are applied in the output table for the given Run SKEY.



# Translation of Instrument Level Balance to Reporting Currency

Reporting currency ledgers are representations of a primary or secondary ledger in another currency for reporting purposes. Reporting currencies share the same chart of accounts, accounting calendar, and accounting method as their related ledger. You can use reporting currencies for online inquires, reporting, and consolidation.

## 8.1 Currency Translation Process

The Currency Translation process is performed in the PMF page.

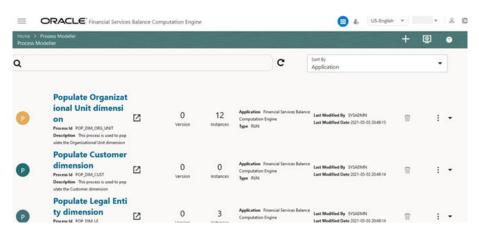
To design and execute the Currency Translation process, follow these steps:

Note:

You must set the Reporting Currency in the Legal Entity Settings

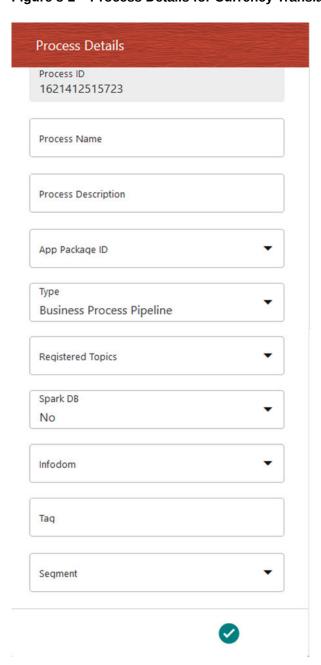
 From OFSAA Home, select Financial Services Balance Computation Engine, select Orchestration, and then select Process Modeller. The Process Modeller page is displayed.

Figure 8-1 Process Modeller Page



2. In the Process Modeller page, click the Add icon

Figure 8-2 Process Details for Currency Translation Process



**3.** Enter/Select the required values for each field.

Table 8-1 Process Details Field names and Description

Field Name	Description and instruction
Process ID	This value is automatically generated.
Process Name	Enter a unique and easily recognizable value in the Process Name field.
Process Description	Enter a unique and easily recognizable value in the Process Description field.



Table 8-1 (Cont.) Process Details Field names and Description

Field Name	Description and instruction
App Package ID	Select the required application package in which the process must be created from the drop-down list.
Туре	Select the required process type from the Type drop-down list. The options are as follows:
	<ul><li>Sub Run Process</li><li>Run Pipeline</li><li>Workflow Pipeline</li></ul>
Registered Topics	Note: This functionality is currently not applicable to OFSBCE.
Spark DB	Enable the Spark DB option if you are executing the Run for Hive metadata.
Infodom	Select the information domain from the Infodom drop-down list in which the Run Pipeline must be created. The list displays all the infodoms mapped to the applications configured in your OFSAA instance.
Tag	Enter the text that can be used as search keywords or helpful in defining a relationship between two or more Pipelines.
Segment	Select the application segment. The options are as follows:
	<ul> <li>BCESEG: OFSBCE segment</li> </ul>

- 4. To save the details, click the **Save** icon. The Process Flow canvas is displayed.
- 5. In the Process Flow canvas page, design a Revaluation Process flow Run pipeline. By default, START from the toolbar appears. This Start activity indicates the beginning of the process. The Process Flow tab contains a floating toolbar and a drawing canvas. Use the drawing canvas to design the process flow with the Activity, Transition, and Widget components available in the floating toolbar with Service Task as the base. In the illustration, the Service Task represents GL type for Management Period Balance Currency Conversion set in the Currency Conversion Settings section.



To create an Application Rule, see the Application Rules section, and to create a Data Field, see the Data Fields section in the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.



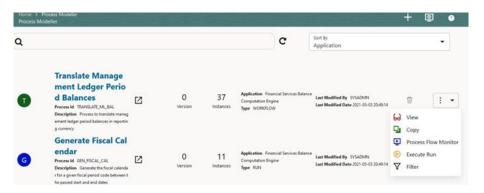
Figure 8-3 Creation of Translate Management Ledger Period Balances process flow



For more information, see the Service Tasks section in the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0

- 6. Click the Save icon to save the Currency Translation Process Flow.
- 7. The Currency Translation Process is listed in the Process Modeller page. To select the Run parameters and execute the Run, follow these steps:
  - In the Process Modeller page, click corresponding to the Translation Process Run Pipeline that needs to be executed.

Figure 8-4 Translate Management Ledger Period Balances process - Select Execute Run



8. When you click **Execute Run**, the Execution page is displayed.

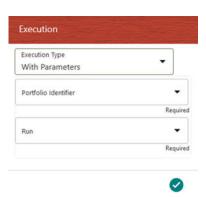
Figure 8-5 Translate Management Ledger Period Balances Process without Execution Parameters





- Enter and select the required details to execute the Run without parameters.
- To execute with parameters, select With Parameters in the Execution Type list.

Figure 8-6 Translate Management Ledger Period Balances Process with Execution Parameters



Field Name Description or Instruction

Portfolio Identifier Select the required Portfolio definition and the filter applies on the

dataset with the members selected for this Portfolio.

**Run** Select the defined Run.

- 9. To save the details, click the **Save** icon. The Run execution begins.
- 10. In the Process Flow canvas, click the **Save** icon to save the process flow.

#### Note:

The execution of the Run Pipeline is triggered using the selected FIC MIS DATE. The Run SKey is generated and inserted into the "DIM\_RUN" table. For the Run SKey generated, the corresponding user-selected Run parameters are inserted into the "RUN EXE PARAMETERS" table.

#### Note:

See the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for information about the following topics:

- To verify the Run Execution, see the Process Monitor section.
- To abort, resume, or rerun the Run Pipeline Process, see the Abort Run Pipeline, Resume Run Pipeline, and Re-run Run Pipeline sections respectively.

To verify the execution logs, see the Viewing Activity Execution Logs and Viewing Execution Log for Widgets sections.

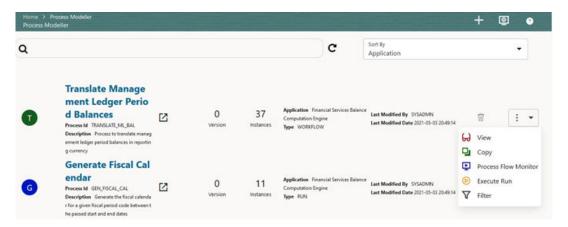
 To open the Process Monitor page, in the Process Modeller page, click the Process Monitor icon or select Process Flow Monitor from the Process Modeller menu.

Figure 8-7 Process flow monitor menu



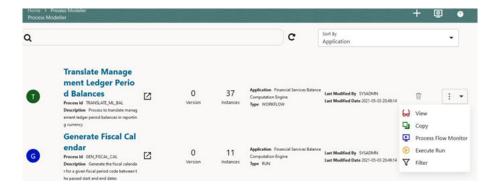
12. The Process Monitor page opens displaying all the Run instances corresponding to the Translate Management Ledger Period Balances process. Or, in the Process Monitor page, search by Job ID, or by the Process Name Translate Management Ledger Period Balances and select the process instance for the required Run pipeline (process) that was executed to verify the status and logs.

Figure 8-8 Translate Management Ledger Period Balances process - Process Monitor page - select Job ID



13. In the illustration, the Run pipeline is successfully executed. Therefore, the Currency Translation process is successfully complete, and all the balances selected for the Translation are converted into the set Reporting Currency.

Figure 8-9 Translate Management Ledger Period Balances process - Run Execution status



For detailed information about the complete functioning of the PMF, see the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

14. You can also check the details of execution status in the Execution Summary page.



9

# Executing the OFSBCE Processes through Process Modelling Framework

Process Modelling Framework (PMF) is a process design and execution framework in OFSAA that facilitates the implementation of process sequences or pipelines. Use the framework to orchestrate Run Pipelines and Business Pipelines, alongside the objects that are a part of these pipelines.

This chapter provides information about the usage of the PMF in executing the OFSBCE processes.



For detailed information about the Process Modelling Framework (PMF) feature in OFSAA, see the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0

## 9.1 Overview

The set of tasks required to carry out OFSBCE functions is managed through PMF. The following sections provide information about how this is facilitated.

# 9.2 Process Modelling Framework Roles

Before you access PMF for the management of OFSBCE tasks, ensure to provision specific users with security or access rights. To grant access to the PMF functionality, assign the following PMF Roles to the user. (Required) <Enter introductory text here, including the definition and purpose of the concept.

See the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for details.

Table 9-1 PMF User Role Codes and Role Names

Role Code	Role Name
WFMWRITE	Manage Workflow Monitor
WFADMINACC	Process Admin User
WFDELACC	Process Delegation User
WFACC	Workflow Access
WFADV	Workflow Advanced
WFAUTH	Workflow Authorize
WFDELGADM	Workflow Delegation Admin
WFMACC	Workflow Monitor Access
WFREAD	Workflow Read
-	

Table 9-1 (Cont.) PMF User Role Codes and Role Names

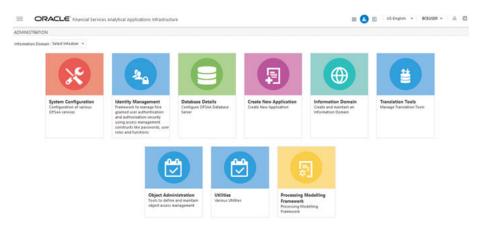
Role Code	Role Name
WFWRITE	Workflow Write

## 9.3 Access the Process Modelling Framework

To access the PMF, follow these steps:

- 1. Log in to the **OFSBCE** application and select the **Administration**.
- In the Information Domain list, select the information domain required for OFSBCE. Then click the Process Modelling Framework tile.

Figure 9-1 Administration Page - Process Modelling Framework Tile



- 3. A submenu is displayed with the following menu items:
  - To access the Process Modeller, click Process Modeller.
  - To monitor currently running processes, click Process Monitor.

Figure 9-2 Select the Process Modeller or Process Monitor option in PMF submenu



# 9.4 Use the Process Modelling Framework for OFSBCE Functions

You can use PMF in one of the following ways to perform OFSBCE functions or tasks:

Use Standard OFSBCE Run Pipelines.

Configure and Manage Custom Pipelines for OFSBCE Functions.



Ensure you have executed all the Runs and Batch IDs mentioned in the RUN\_CHART\_SUMMARY sheet of the Oracle Financial Services Balance Computation Engine Run Chart Release 8.1.1.0.0 to access the out of the box Run pipelines mentioned in the Use Standard OFSBCE Run Pipelines section.

Use the following Process Modelling Framework features to perform the OFSBCE functions either by using the standard pipelines (processes) or by creating custom pipelines:

- Process Modeller
- Process Monitor

#### 9.4.1 Process Modeller

The Process Modeller is used to create and modify types of Pipelines, test the Process Flow, and execute the Run.

This is a sample of the Process Modeller page in PMF.

ORACLE' Financial Services Balance Computation Engine 0 Sort By C Q Application **Populate Organizat** ional Unit dimensi Application Financial Services Balance Last Modified By SYSADMN 0 12 Computation Engine on Last Modified Date 2021-05-03 20:49:15 Version Instances Type RUN Process Id POP\_DIM\_ORG\_UNIT **Description** This process is used to populate the Organizational Unit dimension **Populate Customer** dimension 0 0 Computation Engine Process Id POP DIM CUST Last Modified Date 2021-05-03 20:49:14 Type RUN Description This process is used to pop ulate the Customer dimension **Populate Legal Enti** 

Figure 9-3 Sample Process Modeller Page

The Process Modeller page displays the existing Business Process Pipelines and Run Pipelines with the details such as Process ID, Process Name, Process Description, Version, Instance, Application, and Last Modified.

Computation Engine

Type RUN

Last Modified Date 2021-05-03 20:49:14

3

Instances

You can perform the following tasks from the Process Modeller page:

0

Click the Add icon to create a new Pipeline.

ty dimension

Process Id POP\_DIM\_LE

- Click the Process Name link to launch and edit the Process Flow.
- Click the **Delete** icon to delete a Pipeline.



. •

Click the **More** icon to view the following menu:

Figure 9-4 Process Modeller Menu



- Click View to see the process flow.
- Click Copy to create a new Pipeline with the same process flow.
- Click Process Flow Monitor to monitor the Pipeline.
- Click Execute Run to execute a Run Pipeline.
- Click Filter to apply a filter condition to a Run Pipeline.



The export process is performed using the Object Migration feature.

- Use the Search grid to search for a specific Pipeline by providing a keyword from the Process ID, Process Name, or Process Description and then click **Search**. Click **Reset** to reset the Search fields.
- You can sort the Pipelines based on Process ID, Process Name, or Application. Click the Sort by drop-down and select the required attribute to sort.
- You can use the Filter Pipeline field to filter pipelines based on the pipeline type. For
  example, to view only the Run Pipelines, remove Process from the Filter Pipeline field.
- Click the Launch icon to launch Process in a new window.
- Click the Process Monitor icon to launch the Process Monitor page.

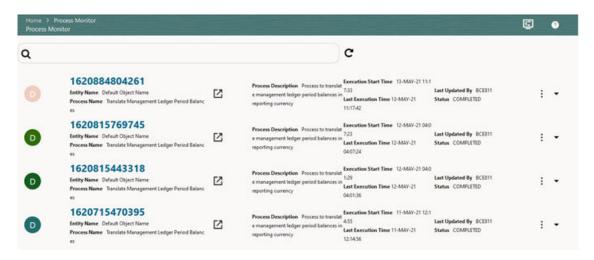
### 9.4.2 Process Monitor

The Process Monitor is used to supervise the current stage of the process for different instances. After integration with an application, you can invoke the workflow. After invoking, the workflow goes through all the stages defined. The Process Monitor displays all the completed stages, current stage, and future stages. Your user group must be mapped to the function role WFMACC (Workflow Monitor Access) to access the Process Monitor page. For the list of the PMF Roles, see the Process Modelling Framework Roles section.

This is a sample of the Process Monitor page in PMF.



Figure 9-5 Sample Process Monitor Page



This page displays all the workflows, which are invoked from the application with details such as Entity Name, Process Name, Process Description, Execution Start Time, Last Execution Time, Last Updated By, and Status.

You can perform the following tasks on the Process Monitor page:

Click the More icon to view the following submenu :

Figure 9-6 Process Monitor with Re-Run, Abort, and Resume options



- Abort: To abort an ongoing Run Pipeline process.
- Resume: To resume a Run Pipeline process.
- Re Run: To execute a Run Pipeline process again irrespective of the previous execution status
- Use the Search grid to search for a specific Pipeline by providing a keyword from the Job ID, Process Name, or Process Description, and then click **Search**. Click **Reset** to reset the Search fields.
- You can sort the Pipelines based on Job ID, Process Name, or Application. Click the Sort by list and select the required attribute to sort.
- You can use the **Filter Pipeline** field to filter pipelines based on the pipeline type. For example, to view only the Run Pipelines, remove Process from the Filter Pipeline field.
- Click the **Launch** icon to launch Process in a new window.
- Click the Process Modeller icon to open the Process Modeller page.



## 9.4.3 Use Standard OFSBCE Run Pipelines

After OFSBCE is installed successfully, the following standard Run pipelines (pipelines are PMF processes) are available out of the box in the PMF:

- Balance Computation Management Ledger process
- Balance Revaluation Management Ledger process
- Translate Management Ledger Period Balances process

#### ✓ Note:

If there are any failures during the BCE run execution, perform the below steps:

- delete from FSI\_MGMT\_LGR\_PERIOD\_BALANCES where N\_RUN\_SKEY=?
   and N\_MIS\_DATE\_SKEY = ?;
- delete from FSI\_MGMT\_LGR\_DAILY\_BALANCES where N\_RUN\_SKEY=? and N\_MIS\_DATE\_SKEY = ?;

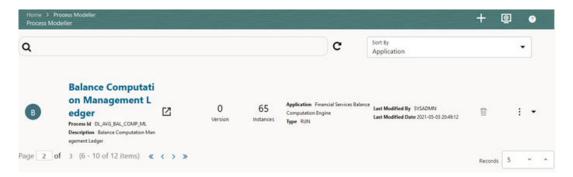
### 9.4.3.1 Balance Computation Management Ledger Process

This is the Run pipeline (Process) to compute the daily movements, period-to-date, period-to-date, and backdated execution of average balances in OFSBCE.

To compute the daily movements, period-to-date, and period-to-date average balance processes using the Balance Computation Management Ledger process, follow these steps:

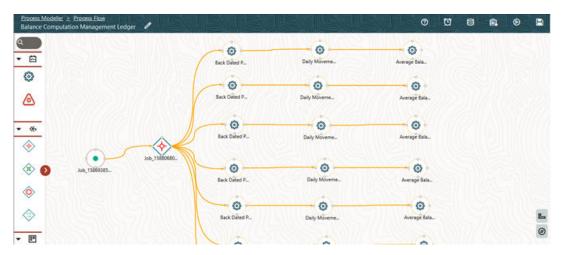
 From OFSAA Home, select the Financial Services Balance Computation Engine, select the Administration. In the Information Domain list, select the information domain required for OFSBCE. Then click the Process Modelling Framework tile. A submenu is displayed. To access the Process Modeller, click Process Modeller. The Process Modeller page opens. In the following illustration, the out of the box Balance Computation Management Ledger Process is shown.

Figure 9-7 Process Modeller page with Balance Computation Management Ledger Process



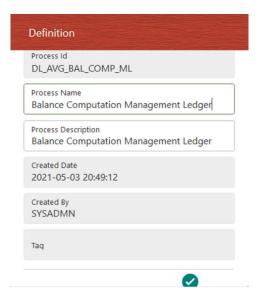
 Select the Balance Computation Management Ledger process. The corresponding process flow is displayed in a page. This process flow is designed using the drawing canvas with the Transition, Activity, and Widgets components available in the toolbar and with Service Task as the base. Each Service Task represents GL type for Assets, Liabilities, Expenses, Revenue, Gains, Losses, Contra Asset, Contra Liability, and Owner's Equity. The Service tasks are sequenced in the order of the Backdated process, Daily Balances process, and Average Balances process. The tasks are repeated in the Run for each General Ledger Type and are executed in parallel.

Figure 9-8 Balance Computation Management Ledger process flow



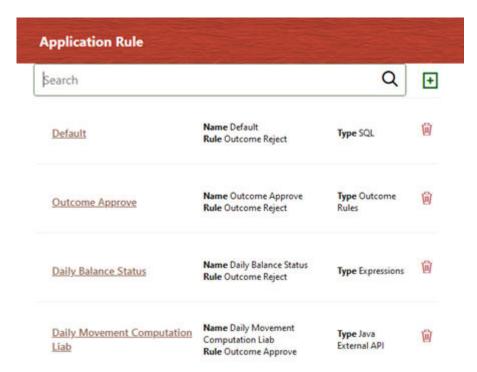
- 3. Double-click a Service task to see the details related to its Activity, Implementation, Transitions, Actions, and Notifications (represented by icons). To save the details, click **Save** icon.
- 4. 4. On the drawing canvas, select the Definition, Application Rule, and Data Fields icons to see the respective details.
  - a. Click Edit icon to open the Definition details. To save the details, click.

Figure 9-9 Balance Computation Management Ledger process with Definition details



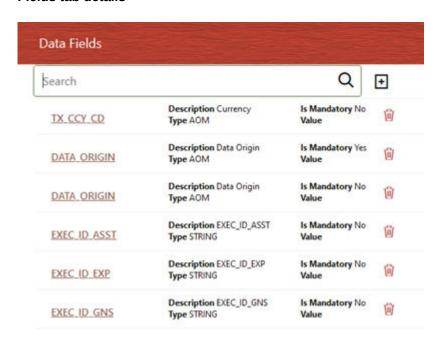
b. Click the Application Rule icon to open the Application Rule details. You can add or modify or delete the Rule details.

Figure 9-10 Balance Computation Management Ledger process with Application Rule tab details



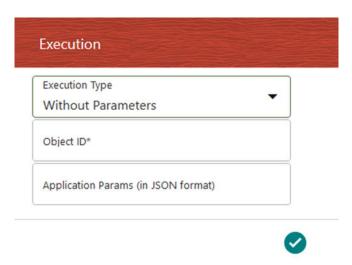
c. Click the **Data Fields** icon to open the Data Fields details. Add, modify, delete, or view the Data Fields details.

Figure 9-11 Balance Computation Management Ledger process with Data Fields tab details



d. Click the Execution Type icon to open the Execution details. To save the details, click the Save icon.

Figure 9-12 : Balance Computation Management Ledger process without Execution Parameters



e. Enter and select the required details to execute the Run without parameters. To execute with parameters, select **With Parameters** in the **Execution Type** list. To save the details, click **Save** icon.

Figure 9-13 Balance Computation Management Ledger Process with Execution Parameters





#### Note:

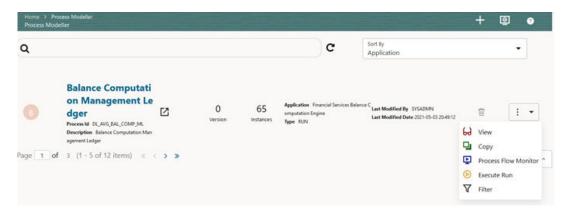
- Data Flow Step
  - Load Legal Entity Dimension as parent-child data and identify all valid records using LRI= Y. A valid hierarchy with one single root is expected in the table.
  - Configure all the legal entities with Unrealized Gain/Unrealized Loss GL Accounts.
- Execution Step
  - Select parent Legal Entity in Computation Run (PMF parameter).
  - Start Computation Run and find all the children of Legal Entity selected in the PMF parameter.
  - Once the child nodes have been identified, perform balance computation of only the child nodes under the node that is selected as parent. It is expected that data will be present for the leaf nodes in Legal Entity dimension.

Locking is required only for the parent LE selected in the PMF.

To save the details, click **Save** icon. In the Process Flow canvas, click **Save** to save the process flow.

In the **Process Modeller** page, click corresponding to the Balance Computation Management Ledger Run process that must be executed. Click **Execute Run**.

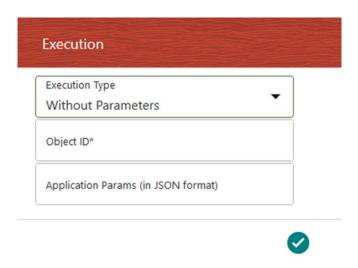
Figure 9-14 Balance Computation Management Ledger process - Select Execute Run



6. The Execution page is displayed. This page consists of the Run parameters specific to the Balance Computation Management Ledger process.

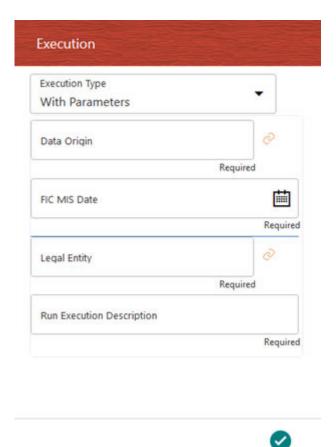


Figure 9-15 Balance Computation Management Ledger process without Execution Parameters



• Enter and select the required details to execute the Run without parameters. To execute with parameters, select **With Parameters** in the Execution Type list. To save the details, click **Save** icon.

Figure 9-16 Balance Computation Management Ledger Process with Execution Parameters





To save the details, click **Save**. In the Process Flow canvas, click **Save** to save the process flow. Select or enter the required values for each field as follows.

Table 9-2 Balance Computation Management Ledger process - Execution page field names and description

Field Name	Description or Instruction
Legal Entity	Use the icon to select the required Legal Entity Code to identify the legal entity used for the Run.  If the selected Legal Entity node during Balance Computation execution is a parent node in DIM_ORG_STRUCTURE table, then all its children will be considered during Balance Computation Run.  If the selected Legal Entity node is a leaf, then only the selected Legal Entity will be considered.  If the Balance Computation execution is already executed using Legal Entity node which is a leaf, further executions should be done using leaf legal entities only and not its parent Legal Entity.  In case of multiple legal entity execution, you must configure all the legal entities with Unrealized Gain/Unrealized Loss General Ledger Accounts in FSI_LE_PROPS table. Locking of all the legal entities is also required in FSI_LE_PERIOD_SETUP table.
FIC MIS Date	Use the calendar icon to select the extraction date.
Run Execution Description	Enter a longer description of the Run.
Data Origin	Use the selection icon to select the required Data Origin from the Available Values list and click <b>OK</b> .

7. To save the details and execute the Run, click **Save**.

#### Note:

The execution of the Balance Computation Management Ledger Run process is triggered using the selected FIC MIS DATE. The Run SKey is generated and inserted into the DIM\_RUN table. For the Run SKey generated, the corresponding user-selected Run parameters are inserted into the RUN\_EXE\_PARAMETERS table.

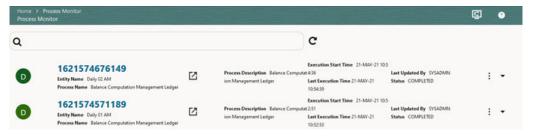


#### Note:

See the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for information about the following topics:

- To abort, resume, or rerun the Run Pipeline Process, see the Abort Run Pipeline, Resume Run Pipeline, and Re-run Run Pipeline sections respectively.
- To verify the execution logs, see the Viewing Activity Execution Logs and Viewing Execution Log for Widgets sections.
- **8.** To verify the Run execution status of the Balance Computation Management Ledger process, follow these steps:
  - a. To open the Process Monitor page, in the Process Modeller page, click Process Flow Monitor icon or select Process Flow Monitor from the Process Modeller menu.
  - b. The Process Monitor page opens displaying all the Run instances corresponding to the Balance Computation Management Ledger process. In the Process Monitor page, for the required Run pipeline (process) that was executed, search the Run instance by Process ID, or by the Process Name Balance Computation Management Ledger, and select the process instance.

Figure 9-17 Balance Computation Management Ledger Process – Process Monitor Page – Select Job



9. A status page opens, which displays the execution status of the executed Run instance for the Balance Computation Management Ledger process. In this illustration, the Run for the Daily and Average Balance Computation is successfully executed.



Refresh Interval (in Min) 10 + 0 0 **E** 0 0 0 0 Back Dated P. 0 00 0 3" 0 0 0 Og K Back Dated P... 00 0

Figure 9-18 Balance Computation Management Ledger process – Run Execution status

For information about the complete functioning of the PMF, see the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

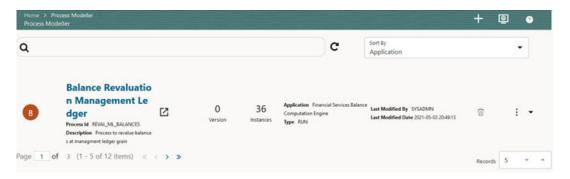
### 9.4.3.2 Balance Revaluation Management Ledger Process

This is the Run pipeline (process) to compute the revaluation amounts based on the currency exchange rates and generate offsets for the period balances based on user-configured settings in OFSBCE.

To compute the revaluation amount using the Balance Revaluation Management Ledger process, follow these steps

 From OFSAA Home, select the Financial Services Balance Computation Engine, select the Administration. In the Information Domain list, select the information domain required for OFSBCE. Then click the Process Modelling Framework tile. A submenu is displayed. To access the Process Modeller, click Process Modeller. The Process Modeller page opens. In the following illustration, the out of the box Balance Revaluation Management Ledger Process is shown.

Figure 9-19 Process Modeller page with Balance Revaluation Management Ledger Process



The corresponding process flow is displayed. This process flow is designed using the drawing canvas with the Transition, Activity, and Widgets components available in the floating toolbar and with Service Task as the base. Each Service Task represents GL type for Assets, Liabilities, Expenses, Revenue, Gains, Losses, Contra Asset, Contra Liability, and Owner's Equity. The tasks are repeated in the Run for each General Ledger Type and are executed in parallel. You can set up which of these tasks must be executed in the Revaluation Settings section.

Process Modeller 2 - Process Elicat

Balance Revaluation Management Ledger

Committee

Service task

Sub Pipeline

Familia Sateway

Assistant

Multichoice Gateway

Multichoice Gateway

Connector

Mudget

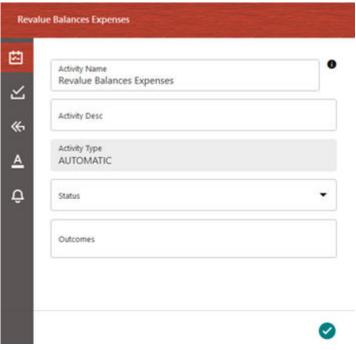
Connector

Widget

Figure 9-20 Balance Revaluation Management Ledger process flow

3. Double-click a Service task to see the details related to its Activity, Implementation, Transitions, Actions, and Notifications. To save the details, click **Save** icon.

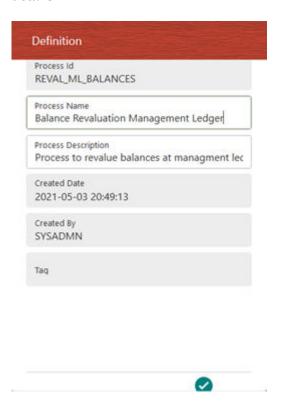




4. On the drawing canvas, select the Definition, Application Rule, and Data Fields icons to see the respective details.

a. Click **Edit** icon to open the Definition details. To save the details, click.

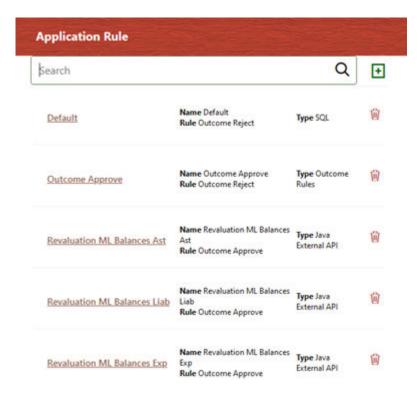
Figure 9-22 Balance Revaluation Management Ledger process with Definition details



b. Click the Application Rule icon to open the Application Rule details. You can add or modify or delete the Rule details.

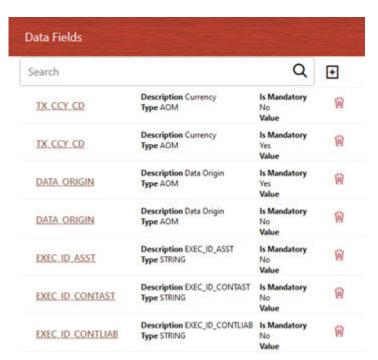


Figure 9-23 Balance Revaluation Management Ledger process with Application Rule tab details



c. Click the Data Fields icon to open the Data Fields details. Add, modify, delete, or view the Data Fields details.

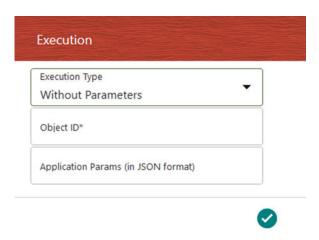
Figure 9-24 Balance Revaluation Management Ledger process with Data Fields details





- **d.** Click **Save** icon to save the Revaluation Process Flow. Continue with the next steps or execute the Run on the Process Modeller page.
- e. Click the Execution icon to open the Execution details. To save the details, click the Save icon.

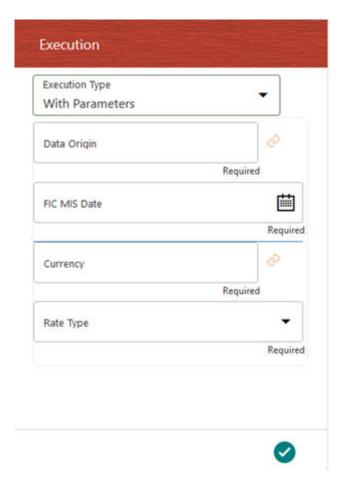
Figure 9-25 Balance Revaluation Management Ledger process without Execution Parameters



f. Enter and select the required details to execute the Run without parameters. To execute with parameters, select With Parameters in the Execution Type list. To save the details, click Save icon.



Figure 9-26 Balance Revaluation Management Ledger Process with Execution Parameters





The values are fetched from the FSI\_EXCG\_RATES and SETUP\_MASTER tables.

g. Select or enter the required values for each field as follows.

Table 9-3 Balance Revaluation Management Ledger Process - Execution Page With Parameters and description

Field Name	<b>Description or Instruction</b>
FIC MIS Date	Use the calendar icon to select the extraction date.
Currency	Use the Selection icon to select the Currency Code used to calculate the amount during the data population in the target table.
Data Origin	Use the Selection icon to select the required Data Origin from the Available Values list and click OK.



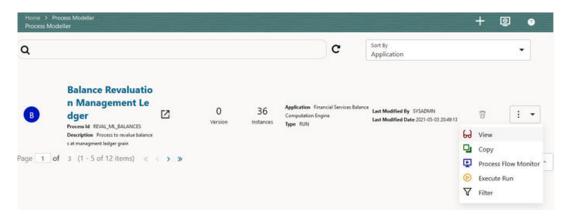
Table 9-3 (Cont.) Balance Revaluation Management Ledger Process - Execution Page With Parameters and description

Field Name	Description or Instruction
Rate Type	Select the Rate Type from the drop-down list. The options are as follows:

To save the details and execute the run, click **Save** icon.

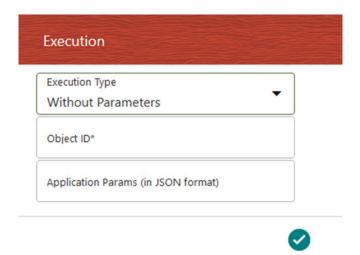
5. In the **Process Modeller** page, click corresponding to the Balance Revaluation Management Ledger Run process that must be executed. Click **Execute Run**.

Figure 9-27 Balance Revaluation Management Ledger process - Select Execute Run



6. 6. When you click **Execute Run**, the Execution page is displayed

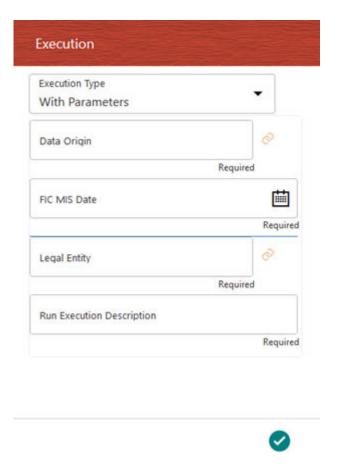
Figure 9-28 Balance Revaluation Management Ledger process without Execution Parameters





• Enter and select the required details to execute the Run without parameters. To execute with parameters, select **With Parameters** in the **Execution Type** list. To save the details, click **Save** icon.

Figure 9-29 Balance Revaluation Management Ledger Process with Execution Parameters





The values are fetched from the FSI\_EXCG\_RATES and SETUP\_MASTER tables.

Select or enter the required values for each field as follows.

Table 9-4 Balance Revaluation Management Ledger Process - Execution Page With Parameters and description

Field Name	Description or Instruction
FIC MIS Date	Use the calendar icon to select the extraction date.



Table 9-4 (Cont.) Balance Revaluation Management Ledger Process - Execution Page With Parameters and description

Field Name	Description or Instruction
Currency	Use the Selection icon to select the Currency Code used to calculate the amount during the data population in the target table.
Data Origin	Use the Selection icon to select the required Data Origin from the Available Values list and click OK.
Rate Type	Select the Rate Type from the drop-down list. The options are as follows:

7. To save the details and execute the Run, click **Save**. The Run execution begins.



The execution of the Balance Revaluation Management Ledger Run process is triggered using the selected FIC MIS DATE. The Run SKey is generated and inserted into the DIM\_RUN table. For the Run SKey generated, the corresponding user-selected Run parameters are inserted into the RUN\_EXE\_PARAMETERS table.

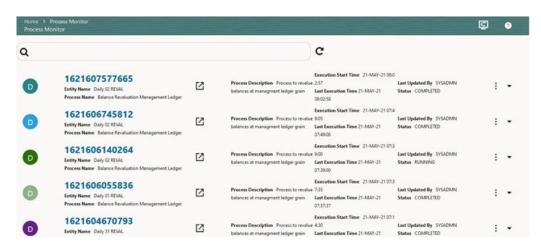
#### Note:

See the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for information about the following topics:

- To abort, resume, or rerun the Run Pipeline Process, see the Abort Run Pipeline, Resume Run Pipeline, and Re-run Run Pipeline sections respectively.
- To verify the execution logs, see the Viewing Activity Execution Logs and Viewing Execution Log for Widgets sections.
- 8. To verify the Run execution status of the Balance Revaluation Management Ledger process, follow these steps:
  - **a.** To open the **Process Monitor** page, in the Process Modeller page, click Process Flow Monitor icon or select **Process Flow Monitor** from the Process Modeller menu.
  - b. The Process Monitor page opens displaying all the Run instances corresponding to the Balance Revaluation Management Ledger process. In the Process Monitor page, for the required Run pipeline (process) that was executed, search the Run instance by Process ID, or by the Process Name Balance Revaluation Management Ledger, and select the process instance for the required Run pipeline (process) that was executed.

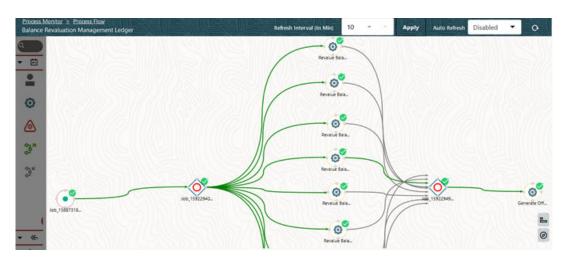


Figure 9-30 Balance Revaluation Management Ledger Process – Process Monitor Page – Select Job ID



 A status page opens, which displays the execution status of the executed Run instance for the Balance Revaluation Management Ledger process. In this illustration, the Run for Revaluation is successfully executed.

Figure 9-31 Balance Revaluation Management Ledger process – Run Execution status



For information about the complete functioning of the PMF, see the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

You can also check the execution status details in the Execution Summary page.

To design and execute a custom Balance Revaluation Management Ledger process, see the Create and Execute a Custom Run Pipeline for Balance Revaluation Management Ledger Process section.

## 9.4.3.3 Translate Management Ledger Period Balances Process

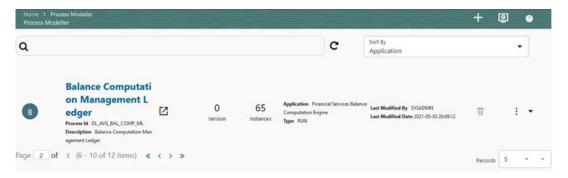
This is the Run pipeline (process) to compute all the period balance measures in the Reporting Currency associated with a Legal Entity. The rate types to be used for each General Ledger

Type during computation is based on the user configuration in the Currency Conversion Settings.

To compute the daily movements, period-to-date, and period-to-date average balance processes using the Balance Computation Management Ledger process, follow these steps:

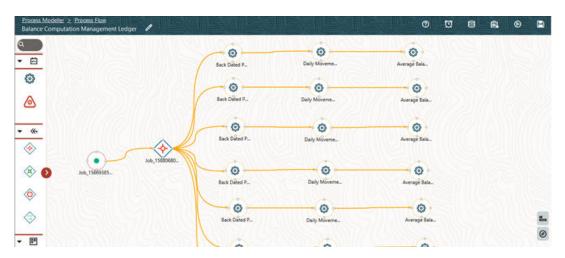
 From OFSAA Home, select the Financial Services Balance Computation Engine, select the Administration. In the Information Domain list, select the information domain required for OFSBCE. Then click the Process Modelling Framework tile. A submenu is displayed. To access the Process Modeller, click Process Modeller. The Process Modeller page opens. In the following illustration, the out of the box Balance Computation Management Ledger Process is shown.

Figure 9-32 Process Modeller page with Balance Computation Management Ledger Process



2. Select the Balance Computation Management Ledger process. The corresponding process flow is displayed in a page. This process flow is designed using the drawing canvas with the Transition, Activity, and Widgets components available in the toolbar and with Service Task as the base. Each Service Task represents GL type for Assets, Liabilities, Expenses, Revenue, Gains, Losses, Contra Asset, Contra Liability, and Owner's Equity. The Service tasks are sequenced in the order of the Backdated process, Daily Balances process, and Average Balances process. The tasks are repeated in the Run for each General Ledger Type and are executed in parallel.

Figure 9-33 Balance Computation Management Ledger process flow





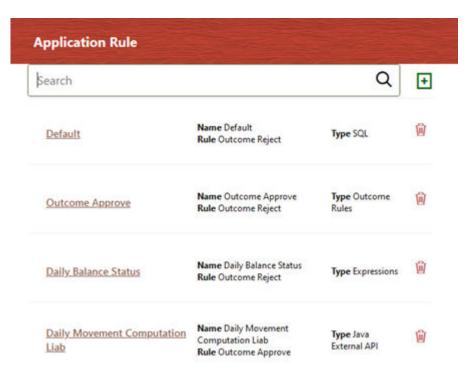
- 3. Double-click a Service task to see the details related to its Activity, Implementation, Transitions, Actions, and Notifications (represented by icons). To save the details, click **Save** icon.
- **4.** On the drawing canvas, select the Definition, Application Rule, and Data Fields icons to see the respective details.
  - a. Click Edit icon to open the Definition details. To save the details, click.

Figure 9-34 Balance Computation Management Ledger process with Definition details



 Click the Application Rule icon to open the Application Rule details. You can add or modify or delete the Rule details.

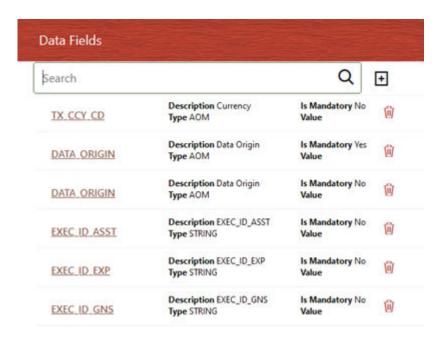
Figure 9-35 Balance Computation Management Ledger process with Application Rule tab details





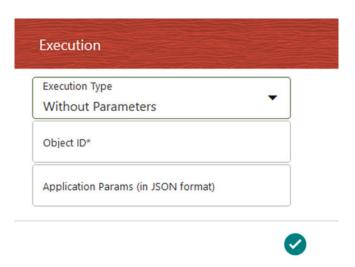
c. Click the **Data Fields** icon to open the Data Fields details. Add, modify, delete, or view the Data Fields details.

Figure 9-36 Balance Computation Management Ledger process with Data Fields tab details



d. Click the Execution Type icon to open the Execution details. To save the details, click the Save icon.

Figure 9-37 : Balance Computation Management Ledger process without Execution Parameters



e. Enter and select the required details to execute the Run without parameters. To execute with parameters, select **With Parameters** in the **Execution Type** list. To save the details, click **Save** icon.

Figure 9-38 Balance Computation Management Ledger Process with Execution Parameters



#### Note:

- Data Flow Step
  - Load Legal Entity Dimension as parent-child data and identify all valid records using LRI= Y. A valid hierarchy with one single root is expected in the table.
  - Configure all the legal entities with Unrealized Gain/Unrealized Loss GL Accounts.
- Execution Step
  - Select parent Legal Entity in Computation Run (PMF parameter).
  - Start Computation Run and find all the children of Legal Entity selected in the PMF parameter.
  - Once the child nodes have been identified, perform balance computation of only the child nodes under the node that is selected as parent. It is expected that data will be present for the leaf nodes in Legal Entity dimension.

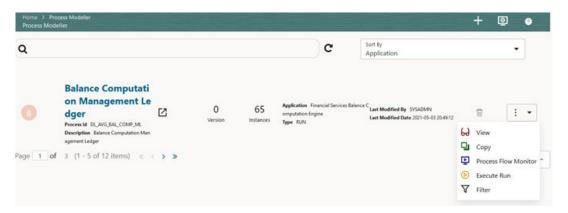
Locking is required only for the parent LE selected in the PMF.

To save the details, click **Save** icon. In the Process Flow canvas, click **Save** to save the process flow.

5. In the **Process Modeller** page, click corresponding to the Balance Computation Management Ledger Run process that must be executed. Click **Execute Run**.

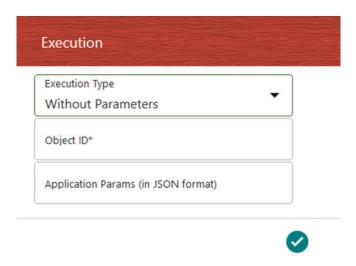


Figure 9-39 Balance Computation Management Ledger process - Select Execute Run



6. The Execution page is displayed. This page consists of the Run parameters specific to the Balance Computation Management Ledger process.

Figure 9-40 Balance Computation Management Ledger process without Execution Parameters



Enter and select the required details to execute the Run without parameters. To
execute with parameters, select With Parameters in the Execution Type list. To save
the details, click Save icon.



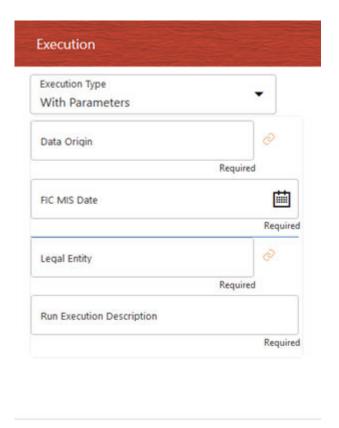


Figure 9-41 Balance Computation Management Ledger Process with Execution Parameters

To save the details, click **Save**. In the Process Flow canvas, click **Save** to save the process flow. Select or enter the required values for each field as follows.



Table 9-5 Balance Computation Management Ledger process - Execution page field names and description

Field Name	Description or Instruction
Legal Entity	Use the icon to select the required Legal Entity Code to identify the legal entity used for the Run.  If the selected Legal Entity node during Balance Computation execution is a parent node in DIM_ORG_STRUCTURE table, then all its children will be considered during Balance Computation Run.  If the selected Legal Entity node is a leaf, then only the selected Legal Entity will be considered.  If the Balance Computation execution is already executed using Legal Entity node which is a leaf, further executions should be done using leaf legal entities only and not its parent Legal Entity.  In case of multiple legal entity execution, you must configure all the legal entities with Unrealized Gain/Unrealized Loss General Ledger Accounts in FSI_LE_PROPS table. Locking of all the legal entities is also required in FSI_LE_PERIOD_SETUP table.
FIC MIS Date	Use the calendar icon to select the extraction date.
Run Execution Description	Enter a longer description of the Run.
Data Origin	Use the selection icon to select the required Data Origin from the Available Values list and click <b>OK</b> .

7. To save the details and execute the Run, click Save.

#### Note:

The execution of the Balance Computation Management Ledger Run process is triggered using the selected FIC MIS DATE. The Run SKey is generated and inserted into the DIM\_RUN table. For the Run SKey generated, the corresponding user-selected Run parameters are inserted into the RUN\_EXE\_PARAMETERS table.

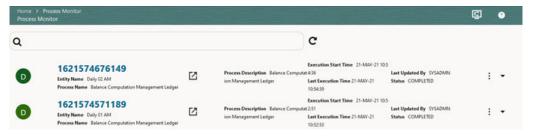


#### Note:

See the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for information about the following topics:

- To abort, resume, or rerun the Run Pipeline Process, see the Abort Run Pipeline, Resume Run Pipeline, and Re-run Run Pipeline sections respectively.
- To verify the execution logs, see the Viewing Activity Execution Logs and Viewing Execution Log for Widgets sections.
- **8.** To verify the Run execution status of the Balance Computation Management Ledger process, follow these steps:
  - a. To open the Process Monitor page, in the Process Modeller page, click Process Flow Monitor icon or select Process Flow Monitor from the Process Modeller menu.
  - b. The Process Monitor page opens displaying all the Run instances corresponding to the Balance Computation Management Ledger process. In the Process Monitor page, for the required Run pipeline (process) that was executed, search the Run instance by Process ID, or by the Process Name Balance Computation Management Ledger, and select the process instance.

Figure 9-42 Balance Computation Management Ledger Process – Process Monitor Page – Select Job



9. A status page opens, which displays the execution status of the executed Run instance for the Balance Computation Management Ledger process. In this illustration, the Run for the Daily and Average Balance Computation is successfully executed.



Balance Computation Management Ledger

Sefresh Interval (in Min)

Back Disted P.

Back Disted P.

Daily Moveme.

Average Bala.

Figure 9-43 Balance Computation Management Ledger process – Run Execution status

For information about the complete functioning of the PMF, see the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

# 9.5 Configure and Manage Custom Pipelines for OFSBCE Functions

To configure and manage the custom pipelines (processes) for OFSBCE functions such as Daily and Average Balances, Revaluation, and Currency Translation, follow steps in these corresponding sections:

- Create and Execute a Custom Run Pipeline for Balance Computation Management Ledger Process
- Create and Execute a Custom Run Pipeline for Balance Revaluation Management Ledger Process
- Create and Execute a Custom Run Pipeline for Translate Management Ledger Period Balances Process



Ensure you have completed the required settings mentioned in the following sections:

- Application Setup in OFSBCE
- Legal Entity Settings
- Portfolio Definition



# 9.5.1 Create and Execute a Custom Run Pipeline for Balance Computation Management Ledger Process

Create a custom Run pipeline for Balance Computation Management Ledger Process to compute the Daily Balances and Average Balances. Follow these steps:

- Create a Run Pipeline
- Create a Process Flow for a Run Pipeline
- Select the Run Parameters and Execute the Run
- Verify the Run Execution

The visual representation of the preceding steps is depicted in the following illustration. This is also an illustration of creating and executing a Run pipeline (process) using PMF in OFSBCE, in general.

Figure 9-44 Create and Execute a Custom Run Pipeline

#### Create and Execute a Custom Run Pipeline



#### Note:

For information about designing a Business Pipeline, see the Orchestration of a Business Pipeline section in the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

Use a Business Pipeline to design a Business Process, which consists of a sequence of internal or external tasks through well-defined interfaces. Using the designer, you can design the entire business flows consisting of various types of tasks or another business pipeline.

To use a standard out of the box Run pipeline for Balance Computation Management Ledger Process, see the Balance Computation Management Ledger process section in the Use Standard OFSBCE Run Pipelines section.

## 9.5.1.1 Create a Run Pipeline

Visual representation of the Run is enabled through PMF by the construction of a Run pipeline. Various OFSAA widgets that enable the construction of Run pipeline are available in the Component toolbar. For detailed information about the Components in PMF, see the Components for Designing Your Process Flow section in the Oracle Financial Services

Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

Figure 9-45 Create a Run Pipeline

# Create a Run Pipeline Create Process Flow for Run Pipeline Select Run Parameters Execute the Run Verify Run Execution

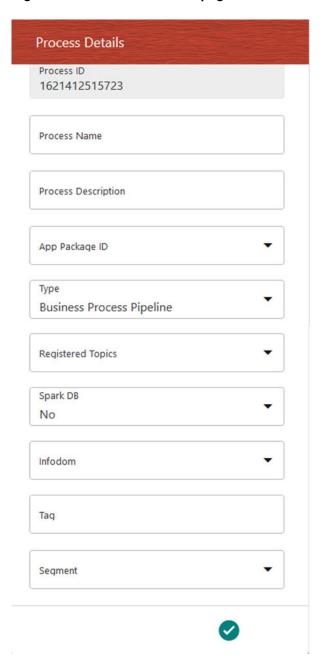
Create a Run Pipeline

To create a new Run pipeline for Balance Computation Management Ledger process in the Process Modeller, follow these steps:

- From OFSAA Home, select the Financial Services Balance Computation Engine, select the Administrator icon. In the Information Domain list, select the information domain required for OFSBCE. Then click the Process Modelling Framework tile. A submenu is displayed. To access the Process Modeller, click Process Modeller. The Process Modeller page is displayed.
- 2. In the Process Modeller page, click the **Add** icon. The Process Details page is displayed.



Figure 9-46 Process Details page



3. Enter or select the required values for each field.

Table 9-6 Process Details page field names and description

Field Name	Description and instruction
Process ID	This value is automatically generated.
Process Name	Enter a unique and easily recognizable value in the Process Name field.
Process Description	Enter a unique and easily recognizable value in the Process Description field.



Table 9-6 (Cont.) Process Details page field names and description

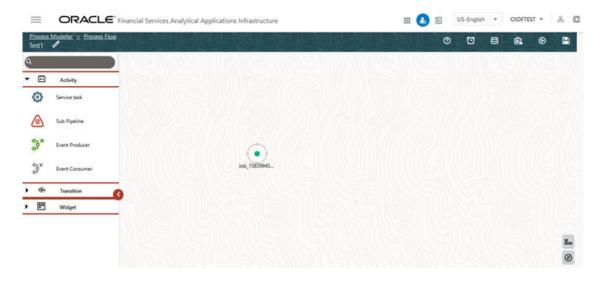
Field Name	Description and instruction
App Package ID	Select the required application package in which the process must be created from the drop-down list.
Туре	Select the required process type from the Type drop-down list. The options are as follows:  Sub Run Process Run Pipeline Workflow Pipeline
Registered Topics	Note: This functionality is currently not applicable to OFSBCE.
Spark DB	Enable the Spark DB option if you are executing the Run for Hive metadata.
Infodom	Select the information domain from the Infodom drop-down list in which the Run Pipeline must be created. The list displays all the infodoms mapped to the applications configured in your OFSAA instance.
Tag	Enter the text that can be used as search keywords or helpful in defining a relationship between two or more Pipelines.
Segment	Select the application segment. The options are as follows:
	BCESEG: OFSBCE segment

4. To save the details, click Save icon. The Process Flow canvas is displayed.

## 9.5.1.2 Create a Process Flow for a Run Pipeline

After you save the details and click **Save**, the Process Flow canvas is displayed.

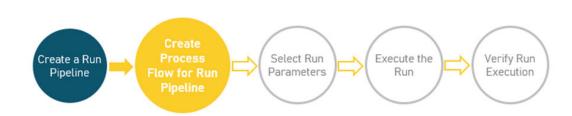
Figure 9-47 Process Flow Canvas Page



In the Process Flow canvas page, design a Process flow Run pipeline. By default, START from the toolbar appears. This Start activity indicates the beginning of the process. Use the drawing

canvas to design the process flow with the Activity, Transition, and Widget components available in the toolbar. To design a process flow diagram for any Run Pipeline, see the Run Pipeline section, and to use various components available in the Process Flow tab, see the Components for Designing Your Process Flow section in the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

Figure 9-48 Create Process Flow for Run Pipeline



Create Process Flow for Run Pipeline

To create a process flow diagram for a Balance Computation Management Ledger Process (a Run Pipeline for Daily and Average Balance Computation) follow these steps:

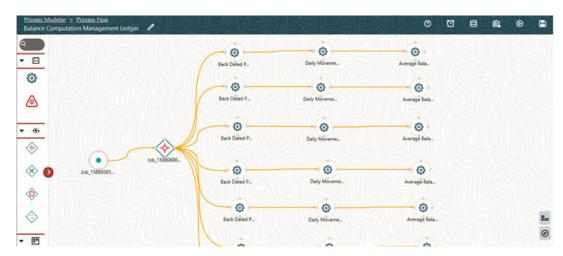
Use the drawing canvas with Service Task as the base. In the illustration, each Service
Task represents GL type for Assets, Liabilities, Expenses, Revenue, Gains, Losses, Contra
Asset, Contra Liability, and Owner's Equity.



The data from the balance sheet are categorized by the GL types. Within each of these GL types (Service Tasks), for execution, you can invoke multiple threads in the database, and this process is governed by the

FSI\_OPTIMIZATION\_SETTINGS table. For more information, see the Appendix A: FSI Optimization Settings section.

Figure 9-49 Balance Computation Management Ledger process flow

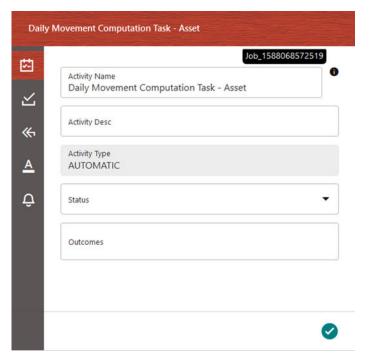


 Double-click a Service task to configure the details related to its Activity, Implementation, Transition, Action, and Notification.



To create an Application Rule, see the Application Rules section, and to create a Data Field, see the Data Fields section in the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

Figure 9-50 Balance Computation Management Ledger process with Service Task details



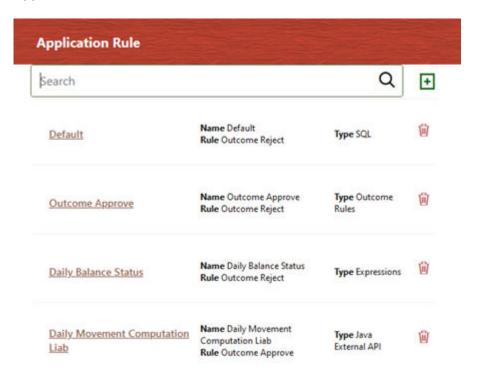
- **3.** On the drawing canvas, select the Definition, Application Rule, and Data Fields icons to see the respective details.
  - a. Click **Edit** icon to open the Definition details. To save the details, click **Save** icon.

Figure 9-51 Balance Computation Management Ledger process with Definition details



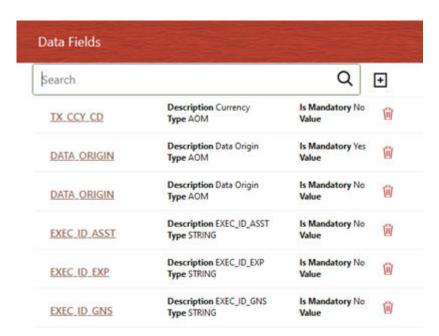
b. Click Application Rule icon to open the Application Rule details. You can add or modify or delete the Rule details.

Figure 9-52 Balance Computation Management Ledger process with Application Rule tab details



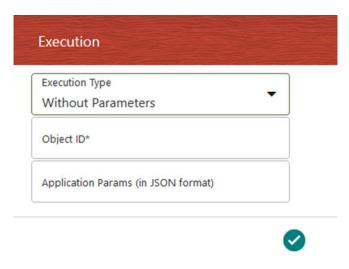
c. Click Data Fields icon to open the Data Fields details. Add, modify, delete, or view the Data Fields details.

Figure 9-53 Balance Computation Management Ledger process with Data Fields tab details



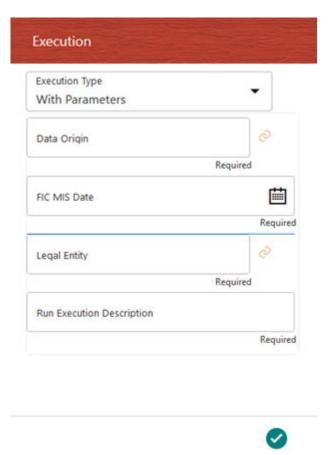
- d. Click Execution icon to open the Execution details. To save the details, click Save icon.
- Enter and select the required details to execute the Run without parameters.

Figure 9-54 Balance Computation Management Ledger process without Execution Parameters



 To execute with parameters, select With Parameters in the Execution Type list. To save the details, click Save icon.

Figure 9-55 Balance Computation Management Ledger Process with Execution Parameters



To save the details, click Save icon. In the Process Flow canvas, click to save the process flow.

To execute the created Run pipeline (process), see the Select the Run Parameters and Execute the Run section.

#### 9.5.1.3 Select the Run Parameters and Execute the Run

After a Run pipeline (process) is designed and defined in the process flow diagram, you must assign values to the Run parameters, and execute the Run.



You can use PMF to invoke the PMF process through a PMF specific ESIC (External Scheduler Interface Component) option. You can execute a Run Pipeline on the UI or using a command-line utility called wfExecExternal.sh.

This shell script file wfExec.sh is available in the ficdb/bin directory. To execute the utility, navigate to the \$FIC\_DB\_HOME/bin directory and execute wfExec.sh with parameters such as objectId, objectType, Infodom, segments, userID, locale, appParams, and secMap.



Figure 9-56 Select Run Parameters and Execute the Run

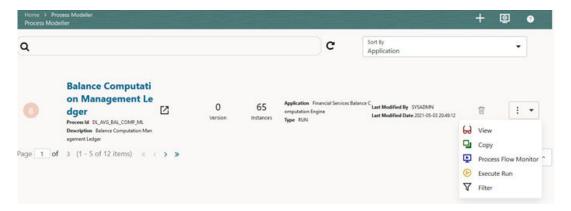
#### Select Run Parameters and Execute the Run



To select the Run parameters and execute the Run, follow these steps:

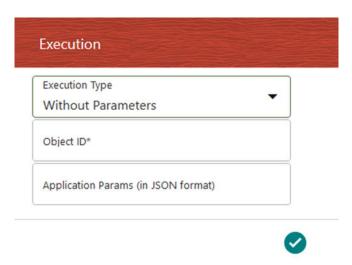
 In the Process Modeller page, click More icon corresponding to the Balance Computation Management Ledger Run process that must be executed. Click Execute Run.

Figure 9-57 Balance Computation Management Ledger process - Select Execute Run



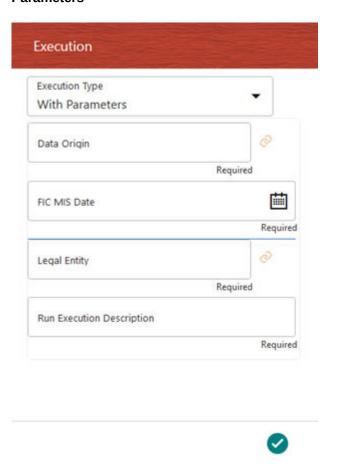
- 2. The Execution page is displayed. This page consists of the Run parameters specific to the Balance Computation Management Ledger process.
  - a. Enter and select the required details to execute the Run without parameters.

Figure 9-58 Balance Computation Management Ledger process without Execution Parameters



**b.** To execute with parameters, select **With Parameters** in the **Execution Type** list. To save the details, click **Save**.

Figure 9-59 Balance Computation Management Ledger Process with Execution Parameters



**c.** To save the details, click **Save**. In the Process Flow canvas, click Save to save the process flow. Select or enter the required values for each field as follows.

#### Note:

- BCE should NOT be executed more than once for any combination of run-time parameters.
- Even when there are no journals present for a particular day, BCE pipeline must be executed.
- Only one Legal Entity and Source Code must be selected for execution of the Balance Computation process pipeline.
- All accounting balance figures processed by BCE are as of a given MIS
  Date and Effective Date. BCE should be executed chronologically for
  contiguous dates through the fiscal year.
- Even when attempted over a closed fiscal period, BCE batch does not fail - it does not process anything.

Table 9-7 Balance Computation Management Ledger process - Execution page field names and description

Field Name	Description or Instruction
Legal Entity	Use the Selection icon to select the required Legal Entity Code to identify the legal entity used for the Run.
FIC MIS Date	Use the calendar icon to select the extraction date.
Run Execution Description	Enter a longer description of the Run.
Data Origin	Use the Selection icon to select the required Data Origin from the Available Values list and click OK.

3. To save the details and execute the Run, click **Save**.

#### Note:

The execution of the Balance Computation Management Ledger Run process is triggered using the selected FIC MIS DATE. The Run SKey is generated and inserted into the DIM\_RUN table. For the Run SKey generated, the corresponding user-selected Run parameters are inserted into the RUN EXE PARAMETERS table.

#### Note:

Processes that compute day, period and period-average accounting balance should be executed for every calendar date, **chronologically**. If process execution skips dates, the balance figures computed could be inconsistent or erroneous.



#### Note:

See the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0 for information about the following topics:

 To abort, resume, or rerun the Run Pipeline Process, see the Abort Run Pipeline, Resume Run Pipeline, and Re-run Run Pipeline sections respectively.

To verify the execution logs, see the Viewing Activity Execution Logs and Viewing Execution Log for Widgets sections.

### 9.5.1.4 Verify the Run Execution

After the Run pipeline (process) execution, you can check the status of the execution.

Figure 9-60 Verify Run Execution



To verify the Run execution, follow these steps:

- 1. To verify the Run execution status of the Balance Computation Management Ledger process, follow these steps:
  - a. To open the **Process Monitor** page, in the Process Modeller page, click **Process**Flow Monitor icon or select **Process Flow Monitor** from the Process Modeller menu.

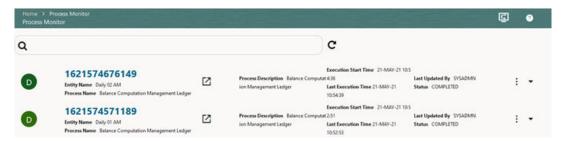
Figure 9-61 Process Monitor Menu



b. The **Process Monitor** page opens displaying all the Run instances corresponding to the Balance Computation Management Ledger process. In the **Process Monitor** page, for the required Run pipeline (process) that was executed, search the Run

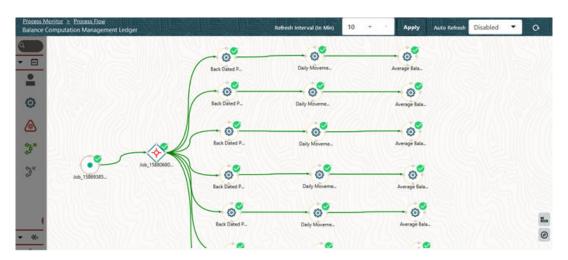
instance by Process ID, or by the Process Name **Balance Computation Management Ledger**, and select the process instance.

Figure 9-62 Balance Computation Management Ledger process – Process Monitor Page – Select Job ID



2. A status page opens, which displays the execution status of the executed Run for the Balance Computation Management Ledger process. In this illustration, the Run for the Daily and Average Balance Computation is successfully executed.

Figure 9-63 : Balance Computation Management Ledger process – Run Execution status



For information about the complete functioning of PMF, see the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide Release 8.1.1.0.0.

You can also check the execution status details in the Execution Summary page.

## 9.5.2 Execute the Runs Using Command Line Utility

A command line utility ./wfExecExternal.sh is available in \$FIC\_DB\_HOME/bin folder.

To execute the Run Pipeline using the command-line utility:

- To execute the Run Pipeline using the command-line utility :
- 2. Execute the script file using the following command: ./wfExecExternal.sh processInstanceId processId '\$objectId' objectType infodom userID segment locale 'applicationparams' 'securityparams'

- processInstanceId Instance Id of the Process or Run Pipeline
- processId Process ID of the Run Pipeline. This is a mandatory parameter.
- objectId This is an auto-generated unique Object ID. Enter '\$objectId' as a mandatory parameter value.
- objectType Specify the Object Type if it is defined in the aai\_wf\_app\_definition\_map table.
- infodom Information Domain Name
- userID Specify the user ID
- segment Segment Name
- locale Locale selected. For example, en US
- 'applicationparams'- Specify values for the Run execution parameters stored in APP\_COMP\_ATTR\_MAP\_ID within single quotes separated by a comma.
  - Legal Entity This name of the Legal Entity. This is a mandatory parameter.
  - Data Source Code This is the numeric value of the data source code.
- 'securityparams'- Specify any security parameters within single quotes separated by comma.

```
For example:./wfExecExternal.sh null DL_AVG_BAL_COMP_ML '$objectId' null FSDFINFO BCEUSER BFNDSEG en_US '{"hierDetailsLE": [{"hierValueCode":"1", "value":"YourLegalEntityName", "hierNodeCode":"1", "le afCondition":"CASE WHEN DIM_ORG_STRUCTURE.F_LATEST_RECORD_INDICATOR = 'Y' THEN DIM_ORG_STRUCTURE.N_ENTITY_SKEY END='1'", "hierNodeDesc":"YourLegalEntityName"}], "FIC_MIS_DATE":"2019-12-30 ", "V_RUN_MAIN_DESC":"test", "hierDetailsDATA_ORIGIN": [{"hierValueCode":"3", "value":"SFT", "hierNodeCode":"3", "leafCondition":"DI M_DATA_ORIGIN.N_DATA_SOURCE_CD = '21'", "hierNodeDesc":"STL"}]}' null
```

#### Note:

- Users must pass the value for parameters same as that was passed in the User Interface.
- Null should be passed if users do not want to pass the value for a parameter.

For more details to execute the rules using command line utility see section Using Command Line Utility in the the Oracle Financial Services Analytical Applications Infrastructure Process Modelling Framework Orchestration Guide.

# 9.5.3 Create and Execute a Custom Run Pipeline for Balance Revaluation Management Ledger Process

To create and execute the custom Revaluation process using the custom Run pipeline for Balance Revaluation Management Ledger process, see the Create and Execute Revaluation Process section.

To use a standard out of the box Run pipeline for Balance Revaluation Management Ledger Process, see the Balance Revaluation Management Ledger process section in the Use Standard OFSBCE Run Pipelines section.

# 9.5.4 Create and Execute a Custom Run Pipeline for Translate Management Ledger Period Balances Process

To create and execute the custom Currency Translation process using the custom Run pipeline for Translate Management Ledger Period Balances process, see the Currency Translation Process section.

To use a standard out of the box Run pipeline for Translate Management Ledger Period Balances Process, see the Translate Management Ledger Period Balances process section in the Use Standard OFSBCE Run Pipelines section.



# **Execution Summary**

The Execution Summary provides information on all the instances of any Run executed in the Process Modelling Framework (PMF). The Execution Summary page displays all the Runs executed in the PMF.

In the **Execution Summary** page, to view the details of a Run executed, follow these steps:

1. From OFSAA Home, select Financial Services Balance Computation Engine, and then select Execution Summary.

The Execution Summary page is displayed. This page lists all the Processes and Runs executed in PMF.

Execution Summary

Execution History

| Bulance | Computation Management Ledger | LOS | Bulance | Description | Desc

Figure 10-1 Execution Summary page

2. In the Execution History pane, select the required record. In this illustration, the execution summary details for a Daily Balance with Asset GL Type is considered. This page lists all the Run instances in the timeline. Hover the cursor on the process execution instance to see the instance details.



Figure 10-2 Run Execution Summary Details page

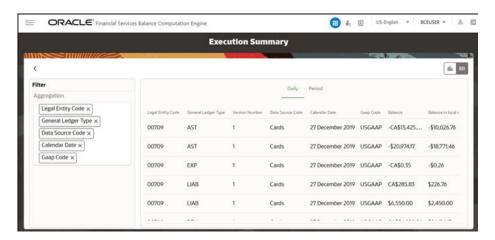
3. A chart for the selected instance is displayed. Select the Currency type for which you executed this process.

Figure 10-3 Run Execution Summary for a specific Currency Type in the Chart View



4. Use the toggle icons to toggle to the List view or the Chart view. The following data is shown in the List view.

Figure 10-4 Run Execution Summary for a specific Currency Type in the List View



After all the executions are completed in PMF, you can use the **Execution Summary** page to verify the execution status with the timeline.

For information about the Process Modeller and Process Monitor features in OFSBCE, see the Process Modeller and Process Monitor sections.

# Restatement Support Feature in OFSBCE

This chapter provides information about the Restatement Support feature in the Oracle Financial Services Balance Computation Engine application explicitly for the Start Date/End Date attributes.

# 11.1 Overview

When a regulatory body asks a bank or financial institution to revise, make a correction, and refile the report for a prior reporting period, the Restatement Support feature can be used to correct and refile the report. In the Restatement Support feature, using data versioning property, the bank or financial institution can make the required modifications or add a few more data records to the existing report or delete the records from an existing report. The Start Date/End Date attributes of dimensions support the backdated Run execution. Default T2Ts are configured to use Latest Record Indicator to select the appropriate dimensional attributes irrespective of an execution date. Therefore, Start Date/End Date attributes need to be used while rerunning the report for a prior date. A backdated Run execution for Restatement Support is similar to a regular Run execution in OFSBCE.

For more information about Restatement and the following topics, see the Restatement Support Feature in OFSDF section in the Oracle Financial Services Data Foundation Application Pack User Guide Release 8.1.1.0.0:

- Features Supporting Restatement
- Prerequisites
- Assumptions for the Restatement Implementation

#### **Data Identification Criteria**

When the user executes a Balance Computation process for a given MIS Date, all the journal entries in the system for the said MIS Date and the Posting Date less than the MIS Date are considered for processing during the restatement process.

#### **Process Details**

The restatement process works similar to the Daily Movement and Period Balance Computation on the basis of the Legal Entity, MIS Date, Data Origin and GL Type. The process runs for each posting date which lies between the earliest posting date for all journals of the specific GL Type. The process re-computes the Daily Movement and (or) the Period Balances for each journal entry identified as backdated for each date lying in the above specified range. The difference in treatment between GL Types is as follows:

- Balance Sheet GL Types
   The balances are added on the basis of Credit or Debit vector of the journal entries and the process impacts the Daily Movements and Period Balances for all the dates lying within the above specified range.
- Profit and Loss GL Types
   The balances are summed up on the basis of the Credit or Debit vector of the journal entries and the process impacts the Daily Movements for the specific dates for which backdated journals are identified. The process re-computes the period balances for all dates which lie within the above specified range.

The preceding process adds a new version of the existing record with the re-computed balances. This record also shows a difference in terms of the MIS Date versus Posting Date (Effective Date) in the processing entities.

See the following details of date fields in the Stage Accounting Entries entity of OFSDF. See the Oracle Financial Services Data Foundation Application Pack Release 8.1.x documents for the latest information about all the aspects of the data model.

Table 11-1 Details of the Date fields in the Stage Accounting Entries table

Column Name	Logical Column Name	Column Description
FIC_MIS_DATE	Extraction Date	This column stores the date as on which the snapshot of source data extracted for processing.
D_TXN_DATE	Transaction Date	This is the date of the transaction, which will always be the system date along with timestamp
D_VALUE_DATE	Value Date	This column stores the value date of the contract. Value date is the date on which the contract becomes effective.
D_POSTING_DATE	Transaction Posting Date	The date on which this transaction was posted against the associated account for monetary instruments and checks.
D_PROCESS_DATE	Processing Date	This is the process date of the transaction, which will be populated with current date of ACCT_BRANCH_CODE
D_REVERSAL_DATE	Transaction Reversal Date	This column stores date of the transaction which is a reversal entry that made to cancel out a specific entry. These reversal entries are the entries that can be passed as a result of a cancelled transaction.

For an institution that does daily processing of instrument-level balance, for illustration, a current- dated journal entry extracted and provided to OFSAA 15-August-2020 to be processed as of the same date, bears the following date values, as supplied into STG\_ACCOUNTING\_ENTRIES:

Table 11-2 Current dated entries

Column Name	Column Values or Description
FIC_MIS_DATE	15-Aug-20
D_TXN_DATE	As assigned by Systems of Record (Data Origin)
D_VALUE_DATE	As assigned by accounting system
D_POSTING_DATE	15-Aug-20
D_PROCESS_DATE	15-Aug-20
D_REVERSAL_DATE	NULL



OFSBCE identifies prior-dated journal entries from the comparative combination of MIS Date and Posting Date (D\_POSTING\_DATE). When Posting Date is prior to MIS Date, OFSBCE processes Balance Sheet and Income Statement ledger account-types as follows:

- The restatement process works similar to the daily movement and period balance computation processes, by Legal Entity, MIS Date, Data Origin and GL Type. Restatement is performed for each Posting Date between the earliest one for any journal entry of a specific GL Type and the present MIS Date. The process re-computes the Daily Movement and (or) the Period Balances based on journal entries thus identified as back-dated for each MIS Date in the aforementioned date-range. The treatment of Balance Sheet and P&L:
  - Balance Sheet ledger accounts: The balances are summed up on the basis of Credit/Debit vector of the journal entries and the process impacts the daily movements as well as period balances for all the dates lying within the above specified horizon.
  - Profit & Loss ledger accounts: The balances are summed up on the basis of the Credit/Debit vector of the journal entries and the process impacts the daily movements for the specific dates for which backdated journals are identified. The process recomputes the period balances for all dates which lie within the above specified horizon.



# Initial Instrument-Grain Accounting Balance for Management Ledger

Initial balance for Management Ledger can be ingested through a data file and automated processes thereafter. The Initial balance figures should be provided with the General Ledger and the Customer Account Identification, alongside other relevant segment values as relevant to the General Ledger Chart of Accounts.

The following GL Type Attributes are supported in the Balance Computation Engine Management Ledger.

Table 12-1 GL Type Attribute Code and their Names

GL Type Attribute Codes	Name
AST	Asset
CONAS	Contra-Asset
CONLI	Contra-Liability
EXP	Expense
GNS	Gain
LIAB	Liability
LOS	Loss
OWNEQ	Owner's Equity
REV	Revenue

Initial balance information should be rendered through Accounting Entries Staging entity as follows:

- Initial balance can be ingested into BCE as journals.
- Balance against Asset, Expense and Contra-Liability GL account types should be flagged as DR journal lines.
- Balance against Liability, Revenue, Equity and Contra-Asset should be flagged as CR journal lines.
- Initial balance should be provided with GL and customer account identification.
- Other Ledger Account Types:
  - Balance against Unrealised Gain should be ingested as CR journals.
  - Balance against Unrealised Loss should be ingested as DR journals.
- In all the cases, balance figures are computed by adding prior balance and movement, where movement is net of debit and credit.

## Note:

- 1. Balance information should be provided designated in Entered and Functional currencies.
- 2. Initial balance information should only be ingested once.
- 3. Initial balance information so provided is limited to day balance balance As of Date specified as process-pipeline above is executed. Period to Date and Period to Date Average Balance figures cannot be provided as part of the initial balance information.

# 12.1 Ingest Initial Balance

To ingest initial balance figures, please follow the steps below:

- Prepare initial balance data as detailed above from appropriate sources. Please refer to the Catalog information on Accounting Entries entity and your choice of Chart of Account segments.
- 2. Configure a Connector to load the initial balance data into Accounting Entries.
- 3. Execute the Data Quality checks on Accounting Entries according to the run-chart.
- 4. Prepare Access Management Ledger reports and validate initial balance information.



# Decomposition

Decomposition is the process of volume optimization of high-volume accounting journals done in the interest of volume and performance. Events and Journals are two important factors of information on which Decomposition works. Decomposition is done to journals that are received from Oracle Fusion Cloud ERP and is performed by BCE based on grouping information that is maintained in the FSDF-AHCS INT i.e., Data Foundation integration with Accounting Hub (Oracle Financial Services Accounting Hub Cloud Service Integration for Banking). Due to this dependency with FSDF-AHCS INT, it is recommended that the Decomposition feature should be used together with the Oracle FSDF-AHCS INT application.

Decomposition will only cover ERP journals that are built based on information published via OFSAA FSDF-AHCS integration. The Decomposition results will be in the FSI entity - FSI\_DECOMPOSED\_FAH\_JOURNALS. The ERP journals that are not built based on information published via OFSAA FSDF-AHCS integration and those from any other source will not be picked or processed by decomposition.

From version 8.1.1.1.0, the application will only consider journal information in FSI\_DECOMPOSED\_FAH\_JOURNALS when it computes balance information. The primary intent is to support ERP interface. Grouped and non-grouped transactions and journals will be in scope.

It is technically possible that there are journals from external sources that are not published to ERP but need to be used for balance computation as is. It is also technically possible that ERP journals will include those based on transactions or journals not published via OFSAA FSDF-AHCS integration. These journals have to be identified based on filter parameters and posted into FSI\_DECOMPOSED\_FAH\_JOURNALS through data movement via a process connector or T2T configured (as shown below) during the implementation.

PP\_TXN\_ENTITIES

STG\_ACCT\_ENT

DECOMP (ERP-FAH source only)

BCE INPUT POI of DECOMPOSITE PAH SOURCE ONLY)

BCE INPUT POI of DECOMPOSITE PAH SOURCE ONLY)

Figure 13-1 Implementation

From version 8.1.1.2.0, a Table to Table T2T\_STG\_PASSTHROUGH\_JOURNALS has been introduced to process pre accounted pass through entries from non Oracle ERP sources. The pre accounted pass through is generated only when the Data Origin is set as "PT".

# 13.1 Grouping

Grouping logic essentially contains information on which Events compose the grouped Event and in what proportion those Events constitute the grouped Event before this information is

published to Oracle ERP Financials Cloud Accounting Hub. FSDF-AHCS INT (Data foundation Accounting Hub Integration Application) supports grouping of Events.

Grouping information consisting of Header IDs, Event IDs, and the aggregated Grouped Event ID and the lookup values of the respective Product Processor tables to be used for Decomposition are maintained in the mapping table: FSI\_TXN\_AH\_HEADER\_MAP. This mapping is used to decompose the grouped journals received from ERP along with the Account and Amount information gathered from transaction tables (Stage Casa Transactions, Stage loan Contract transactions, Stage Card Transactions, and so on) and customer information gathered from Product Processor tables (Stage Casa, Stage Loan contracts, Stage cards, and so on). They are then loaded into the FSI\_DECOMPOSED\_FAH\_JOURNALS table in the BCE processing area. Hence, the Journal that is received back from ERP is Decomposed using Event information and Transaction lookups so that the proportion in which originally sourced Events constituted the grouped Event is reflected back in the received Journals.

# 13.2 Transaction Number

Decomposition process understands the relationship between Journals received from ERP and Events that were published to the ERP through the transaction number which is the primary basis for Decomposition. FSDF-AHCS assigns a unique identifying value to all events and journals for audit and lineage. This is referred to as Transaction Number and is a unique identification value that maintains the relationship between events and journals and their details. Transaction Number is maintained across OFSAA and ERP Fusion Accounting Hub.

# 13.3 Subledger Event Grouping using Header and Line

When the journals get published to ERP, the Header and Line relationship is governed by ERP, and each of these can be individually grouped. In the interest of volume and performance, it is recommended to remove information, which can be fetched later from Product Processor tables e.g. Customer, Account etc., from the COA segment codes in ERP. It is recommended that the Header-Line relationship should be appropriate with all common properties of Line being reflected in the Header e.g. if the Line contains properties like Legal Entity, LOB, Branch, Product, Date, Amount, Flag, etc, and if the Header is designed to balance all the Lines per Product, then the Header should contain all common properties of Line other than the Product i.e., LE, LOB, Branch, Date, Amount, Flag. This will ensure that all transactions for a particular Product will get grouped under the same Header.



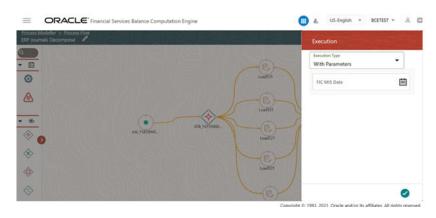
For more details on how to group events using header and line, and how to manage group attributes for various product processor types like Loan contracts, Credit cards, and so on, see FSDF Integration with FAH Cloud User Guide

#### **Process and Configuration**

Decomposition is run during the POP\_DECOMP\_JOURNALS step in the RunChart for BCE Process Modeller Framework (PMF).



Figure 13-2 Runchart for BCE PMF



Journals are sent by ERP. Journals with Data source – 'ERP-FAH' are grouped together. Grouped journal information is placed in Stage accounting entries table.

Data is taken as input from transaction tables/PP tables, FSI\_TXN\_AH\_HEADER\_MAP and Stage Accounting entries.

Decomposition is done and output is placed in FSI\_DECOMPOSED\_FAH\_JOURNALS

Grouping across contract/account grain is allowed.

#### **Run Parameters**

FIC\_MIS\_DATE is the parameter used for Decomposition.

The following Product Processors for Journal Decomposition had been added in 8.1.1.1.0 release:

- Stage Over Draft Accounts
- Stage Bill Contracts
- Stage Letter Of Credit Contracts
- Stage Term Deposit Contracts

The following Product Processors for Journal Decomposition had been added in 8.1.1.1.2 release:

- Stage Borrowings
- Stage Casa Accounts
- Stage Loan Contracts
- Stage Investments
- Stage Cards
- Stage Annuity Contracts
- Stage Correspondent Accounts
- Stage Leases Contracts
- Stage Mutual Funds
- Stage Retirement Accounts
- Stage Trading Account



- Stage Merchant Cards
- Stage Cards
- Stage Futures Contract
- Stage Guarantees
- Stage Option Contracts
- Stage Repo Contracts
- Stage Commitment Contracts
- Stage Foreign Exchange Contracts
- Stage Money Market Contracts
- Stage Swaps Contracts



# Appendix A: FSI Optimization Settings

A typical Balance Computation implementation can involve a large number of computation instances given the number of Data Origins, GL Types and currencies. There is commonly a bell-curve distribution of processing times for each computation rule. Some complete in seconds, some complete in minutes, and others may take hours to complete. The run time of a computation is normally closely related to the volume of data it generates, however, there may be instances when a computation runs slower than it must due to stale database statistics, skews in the data being queried, a lack of appropriate indexes, or a poor execution plan generated by the database optimizer. Your DBA may be able to enhance the overall performance of the database by gathering database statistics more frequently, generating additional indexes, or by other tuning techniques. One such additional tuning technique is to add hints to your queries. The data from the balance sheet is categorized by the GL types. Within each of these GL types (Service Tasks), for execution, you can invoke multiple threads in the database. This process can be governed by the following methods:

- Parallelize Executions using the FSI\_OPTIMIZATION\_SETTINGS Table
- SQL Hints

# 14.1 Parallelize Executions using the FSI\_OPTIMIZATION\_SETTINGS Table

A typical Balance Computation implementation can involve a large number of computation instances given the number of Data Origins, GL Types and currencies. Frequently, many of these rules must be executed sequentially; and in larger implementations, end-to-end execution times can exceed allowable thresholds. One way to reduce end-to-end runtime is to execute as many processes as possible in parallel. Other ways to reduce your end-to-end runtime include tuning your database, employing hints on your slowest running computations (see SQL Hints), or upgrading your hardware (more CPUs, more memory, faster Input/Output subsystems, and so on). Having a more powerful database server will not improve your performance if hardware resources are left idle. When executing computation rules sequentially, you will utilize only a single CPU on your database server.

OFSBCE allows you to utilize Oracle Parallel Execution. To capture the idle system resources, Oracle Parallel Execution subdivides the SQL statements into multiple independent units of work each of which can run in parallel.



In OFSBCE, you can add the alter table partition for all the processing tables for each posting date or effective date of the journal entries.

The Oracle database supports parallel execution of SQL statements through the use of the following:

The PARALLEL clause for selected tables and indexes

- Parallel SQL Hints
- Alter Session statements to enable subsequent SQL operations to run in parallel

Working with your DBA, you can choose to establish specific degrees of parallelism for selected tables and indexes utilizing the PARALLEL clause. You can also elect to employ parallel SQL Hints on selected computation rules (see SQL Hints). Either of these approaches can be employed to encourage the database the run SELECT statements in parallel (Parallel Query), but the third mechanism is required if you want to encourage the database to run DML statements in parallel (UPDATE, INSERT, DELETE, MERGE, and so on). Employing Parallel Query can help, however, most of the computation execution time is consumed by the DML queries where you are modifying the database. To utilize Parallel DML, the session from which a SQL query is issued must be specifically enabled for Parallel DML.

Each time a computation rule is executed, a new database session is established. Each computation starts by issuing a series of Alter Session statements based on parameters that you define in the FSI\_OPTIMIZATION\_SETTINGS table. This parameter table contains four parallel parameters as follows:

- Parallel Query
- Parallel DML
- Parallel Degree of Parallelism
- Parallel Degree Policy

There must be only one row in the FSI\_OPTIMIZATION\_SETTINGS table. Upon installation, this one row is seeded with the following values:

Table 14-1 Seeded values in the FSI\_OPTIMIZATION\_SETTINGS table row

Column Name	Seeded Value in a Row
PROCESS_TYPE	2
PARALLEL_QUERY	1
PARALLEL_DML	1
PARALLEL_DOP	
PARALLEL_DEGREE_POLICY	3

The data seeded into the FSI\_OPTIMIZATION\_SETTINGS table OOTB is shown in the following image.



There must be only one row of data for each PROCESS\_TYPE and V\_EXECUTION\_IDENTIFIER combination. If there are more than one rows for a given combination, the engines refer to the row for which the rownum is returned as 1 for the given combination of values.

The columns in the FSI\_OPTIMIZATION\_SETTINGS table and possible values are as follows:

 The PROCESS\_TYPE column: For the Process Type, 2, 4, 6, and 12 are passed from the PMF process when setting up the Service Tasks. The Process Types 8 and 10 are read by the system during the backdated daily and average balance processes. The possible values for this column are as follows:



Table 14-2 The PROCESS\_TYPE column details

PROCESS_TYPE column	Process Name to which the Process Type is applicable
2	Management Ledger Daily Movement Computation
4	Management Ledger Average Balance Computation
6	Management Ledger Revaluation Computation
8	Management Ledger Backdated Daily Movement Computation
10	Management Ledger Backdated Average Balance Computation
12	Management Ledger Backdated Data Identification Process

• The PARALLEL\_DML column: The default value is 1 - Enable. The possible values for this column are as follows:

Table 14-3 The PARALLEL\_DML column details

PARALLEL_DML column	Associated Action
1	Enable
2	Disable
3	Force

 The PARALLEL\_QUERY column: The default value is 1 – Enable. The possible values for this column are as follows:

Table 14-4 The PARALLEL\_QUERY column details

PARALLEL_QUERY column	Associated Action
1	Enable
2	Disable
3	Force

The PARALLEL\_DEGREE\_POLICY column: The default value is 3 – Auto. The possible values for this column are as follows:

Table 14-5 The PARALLEL\_DEGREE\_POLICY column details

PARALLEL_QUERY column	Associated Action
1	Manual
2	Limited
3	Auto

- The PARALLEL\_DOP column: Use this column to mention the number of parallel threads required in an execution process. The possible values are integers between 0 and 99.
- The SOURCE\_HINT column: This column contains database hints that are used during the select operations performed during processing. See the SQL Hints section for more information.



- The TARGET\_HINT column: This column contains database hints that are used during the insert operations performed during processing. See the SQL Hints section for more information.
- The V\_EXECUTION\_IDENTIFIER column: This column is used to identify the optimization settings to a specific branch within the PMF process. This can be helpful in the following illustrated scenario.
  - Scenario: When the volume distribution by the General Ledger types is such that the Assets contains a significantly higher volume when compared to the Revenue accounts. For performance reasons, the user may want to the process the journals specific to Assets at a parallelism degree of 16 v/s revenue accounts at a parallelism degree of 4. The value in this column helps the process to identify the row of optimization settings to be used for a specific branch. This column allows an input of type VARCHAR2 with a maximum length of 50 characters. This value is passed to the system from within the PMF process when you double-click the required Service Task. This illustration is shown in the following image (click the ).
  - Navigate to the Process Modeller page and select the Balance Computation Management Ledger process. In the Process Flow page, double-click any Service task, then select.

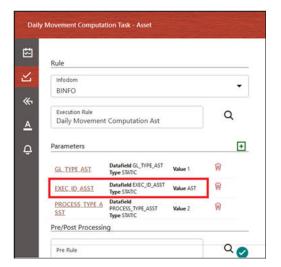
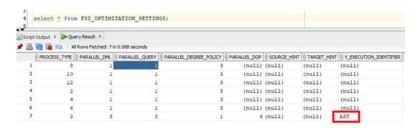


Figure 14-1 Rule Implementation in the Service Task

In the preceding illustration, the EXEC\_ID\_ASST Value is AST, which is same as the V\_EXECUTION\_IDENTIFIER column (see the next illustration) of the FSI\_OPTIMIZATION\_SETTINGS table for a process.

Figure 14-2 V\_EXECUTION\_IDENTIFIER column value in the FSI\_OPTIMIZATION\_SETTINGS table







Ensure that the Rule engine Execution Identifier Value (for example, AST) is same as the V\_EXECUTION\_IDENTIFIER column value in the FSI\_OPTIMIZATION\_SETTINGS table for a PMF process.

The specific Alter Session statements generated by the computation engine for the different possible parallel parameter values are mentioned in the following sections.

# 14.1.1 Parallelism Options

The following sections provide information about the behavior of the Balance Computation engine given different possible configuration options of the parameters found in the FSI\_OPTIMIZATION\_SETTINGS. Oracle Parallel Execution refers to a rich set of core database functionality. For a thorough discussion of Oracle Parallel Execution, including Parallel Query and Parallel DML, see the list of documentation resources found at the end of this appendix.

## 14.1.1.1 Parallel Query

#### 14.1.1.1.1 DISABLE

When the PARALLEL\_QUERY option in the FSI\_OPTIMIZATION\_SETTINGS table is set to DISABLE, the engine will begin each rule by issuing the following statement:

```
ALTER SESSION DISABLE PARALLEL QUERY;
```

Setting Parallel Query to DISABLE will ensure that no SELECT statement issued by the computation engine will run in parallel.

#### 14.1.1.1.2 ENABLE

When the PARALLEL\_QUERY option in the FSI\_OPTIMIZATION\_SETTINGS table is set to ENABLE, the engine will begin each rule by issuing the following statement:

```
ALTER SESSION ENABLE PARALLEL QUERY;
```

When Parallel Query is enabled, the database may elect to execute a SELECT statement in parallel if it is run against an object (table or index) that has been declared or altered through the use of the PARALLEL clause.

Two examples of the use of the PARALLEL clause to alter a table follow:

```
ALTER TABLE FSI_MGMT_LGR_DAILY_BALANCES PARALLEL 8;

ALTER TABLE FSI MGMT LGR DAILY BALANCES PARALLEL (DEGREE DEFAULT);
```

In the earlier first example, the database may elect to parallelize a SELECT statement against the FSI\_MGMT\_LGR\_DAILY\_BALANCES table using a Degree of Parallelism equal to 8. In the second example, the database may elect to parallelize a SELECT statement against the FSI\_MGMT\_LGR\_DAILY\_BALANCES table using the **default** Degree of Parallelism as determined by the database but only if PARALLEL\_DEGREE\_POLICY is set to Auto (default parallelism and PARALLEL\_DEGREE\_POLICY are discussed further as follows).

The database may also elect to execute a SELECT statement in parallel if a parallel SQL hint is included in the SELECT statement. A parallel SQL hint will override the Degree of Parallelism assigned to a table or index through the PARALLEL clause. If the tables and

indexes against which a SELECT statement is executed have not been defined using the PARALLEL clause and if the SELECT statement does not include a parallel hint, then the SQL statement will always run serially (in a single thread).

If the tables and indexes against which a SELECT statement is executed have been defined using the PARALLEL clause or if the SELECT statement includes a parallel hint, the database may elect to run in parallel if it is possible to do so. The conditions necessary for the database to choose parallelize a query are complex and beyond the scope of this discussion – for details, see the listing of documentation resources found at the end of this appendix.

## 14.1.1.1.3 FORCE

When the PARALLEL\_QUERY option in the FSI\_OPTIMIZATION\_SETTINGS table and the PARALLEL\_DOP parameter are set to values mentioned in the FSI\_OPTIMIZATION\_SETTINGS table, the engine will begin each rule by issuing the following statement:

ALTER SESSION FORCE PARALLEL QUERY;

After this ALTER SESSION statement, subsequent SELECT statements are executed with a default Degree of Parallelism unless (a) the objects against which the SELECT statement operates have been defined as having a specific Degree of Parallelism through the use of the PARALLEL clause or (b) the SELECT statement includes a parallel hint. Again, a parallel hint will override the Degree of Parallelism specified through a PARALLEL clause.

The default Degree of Parallelism is determined by the database and is generally a function of the number of CPU's on your server. For details on how the Oracle database determines the default Degree of Parallelism, see Oracle Database VLDB and Partitioning Guide.

## 14.1.1.1.4 FORCE with PARALLEL DOP

When the PARALLEL\_QUERY option in the FSI\_OPTIMIZATION\_SETTINGS table is set to FORCE and the PARALLEL\_DOP parameter is set to a non-NULL integer value (8 in this example), the engine will begin each rule by issuing the following statement:

ALTER SESSION FORCE PARALLEL QUERY PARALLEL 8;

The subsequent behavior of Parallel Query is the same as where no specific Degree of Parallelism has been specified except that the database will employ the Degree of Parallelism you have set in your PARALLEL\_DOP parameter instead of using the database's default Degree of Parallelism. Your PARALLEL\_DOP parameter will override any Degree of Parallelism stemming from a PARALLEL clause associated with a table or index, but a Degree of Parallelism specified in a parallel hint will override your PARALLEL\_DOP parameter setting.

Regardless of its value, the PARALLEL\_DOP parameter is ignored when the PARALLEL QUERY parameter is set to either DISABLE or ENABLE.

## 14.1.1.1.5 PARALLEL DML

#### **Limitations in Using Parallel DML**

A Parallel DML operation's lock requirements are very different from the serial DML requirements. For these and other reasons, the database imposes some restrictions on Parallel DML operations.

One such restriction is that while a single transaction can contain multiple parallel DML statements that modify different tables, after a parallel DML statement modifies a table no subsequent statement (DML or query) can access the same table again in the same transaction. For this reason, Parallel DML is disabled, regardless of your parameter settings,



for any computation rule that both debit and credit the same table. For computation rules that both debit and credit the same table and which you want to ensure run in parallel, it is recommended that you divide your one computation rule into two rules (one rule for the debit side and one rule for the credit side). Parallel DML cannot be set (regardless of the parameter settings) for any computation rule where the Output tables (Credit/Debit) are the same tables as the Source/Driver tables.

For more information regarding the restrictions on Parallel DML, see *Oracle Database Data Warehousing Guide*.

## 14.1.1.1.6 DISABLE

When the PARALLEL\_DML option in the FSI\_OPTIMIZATION\_SETTINGS table is set to DISABLE, the engine will begin each rule by issuing the following statement:

ALTER SESSION DISABLE PARALLEL DML;

Setting Parallel DML to DISABLE will ensure that no DML statement issued by the computation engine will ever run in parallel.

## 14.1.1.1.7 ENABLE

When the PARALLEL\_DML option in the FSI\_OPTIMIZATION\_SETTINGS table is set to ENABLE, the engine will begin each rule by issuing the following statement:

ALTER SESSION ENABLE PARALLEL DML;

When Parallel DML is enabled, the database may elect to execute a DML statement in parallel if it is run against an object (table or index) that has been declared (or altered) using the PARALLEL clause.

The database may also elect to execute a DML statement in parallel if a parallel SQL hint is included in the DML statement. A parallel SQL hint will override the Degree of Parallelism assigned to a table or index through the PARALLEL clause. If the tables and indexes against which a SELECT statement is executed have not been defined using the PARALLEL clause and if the SELECT statement does not include a parallel hint, then the SQL statement will always run serially (in a single thread).

#### 14.1.1.1.8 FORCE

When the PARALLEL\_DML option in the FSI\_OPTIMIZATION\_SETTINGS table is set to FORCE and the PARALLEL\_DOP parameter is set to NULL, the engine will begin each rule by issuing the following statement:

ALTER SESSION FORCE PARALLEL DML;

After this ALTER SESSION statement, subsequent DML statements are executed with the default Degree of Parallelism for the database unless (a) the objects against which the SELECT statement operates have been defined as having a specific Degree of Parallelism through the use of the PARALLEL clause or (b) the SELECT statement includes a parallel hint. A parallel hint will override the Degree of Parallelism specified through a PARALLEL clause. Again, for details on how the Oracle database determines the default Degree of Parallelism, see Oracle Database VLDB and Partitioning Guide.

## 14.1.1.1.9 FORCE with PARALLEL DOP

When the PARALLEL\_DML option in the FSI\_OPTIMIZATION\_SETTINGS table is set to FORCE and the PARALLEL\_DOP parameter is set to a non-NULL integer value (4 in this example), the engine will begin each rule by issuing the following statement:

ALTER SESSION FORCE PARALLEL DML PARALLEL 4;

The subsequent behavior of Parallel DML is the same as where no specific Degree of Parallelism has been specified except that the database will employ the Degree of Parallelism you have set in your PARALLEL\_DOP parameter instead of using the database's default Degree of Parallelism. Your PARALLEL\_DOP parameter will override any Degree of Parallelism stemming from a PARALLEL clause associated with a table or index, but a Degree of Parallelism specified in a parallel hint will override your PARALLEL\_DOP parameter setting.

Regardless of its value, the PARALLEL\_DOP parameter is ignored when the PARALLEL\_QUERY parameter is set to either DISABLE or ENABLE.

# 14.1.1.2 PARALLEL\_DEGREE\_POLICY

A new feature in Oracle 11gR2, PARALLEL\_DEGREE\_POLICY specifies whether or not automatic Degree of Parallelism, statement queuing, and in-memory parallel execution will be enabled. These 3 topics are covered in depth by the documentation resources found at the end of this appendix.

#### 14.1.1.2.1 MANUAL

When the PARALLEL\_DEGREE\_POLICY option in the FSI\_OPTIMIZATION\_SETTINGS table is set to MANUAL, the engine will begin each rule by issuing the following statement:ALTER SESSION SET PARALLEL\_DEGREE\_POLICY = 'MANUAL';

The subsequent behavior of both Parallel Query & Parallel DML is the same is it would have been prior to Oracle 11gR2. SQL statements will only be processed in parallel for objects declared with a PARALLEL clause or if a parallel SQL hint is included. Additionally, the Balance Computation Engine PARALLEL\_QUERY parameter must be set to either ENABLE or FORCE (for Parallel Query) and the PARALLEL\_DML parameter must be set to either ENABLE or FORE (for Parallel DML).

#### 14.1.1.2.2 LIMITED

When the PARALLEL\_DEGREE\_POLICY option in the FSI\_OPTIMIZATION\_SETTINGS table is set to LIMITED, the engine will begin each rule by issuing the following statement:ALTER SESSION SET PARALLEL DEGREE POLICY = 'LIMITED';

Under the LIMITED policy, automatic Degree of Parallelism is enabled for some statements but statement queuing, and in-memory Parallel Execution are disabled. Automatic Degree of Parallelism is only applied to those statements that access tables or indexes decorated explicitly with the DEFAULT degree of parallelism using the PARALLEL clause. Statements executed against tables or indexes defined using an explicit Degree of Parallelism through the PARALLEL clause or statements including a parallel SQL hint may also run in parallel.

## 14.1.1.2.3 AUTO

When the PARALLEL\_DEGREE\_POLICY option in the FSI\_OPTIMIZATION\_SETTINGS table is set to AUTO, the engine will begin each rule by issuing the following statement: ALTER SESSION SET PARALLEL\_DEGREE\_POLICY = 'AUTO';

Under the AUTO policy, the automatic Degree of Parallelism, statement queuing, and inmemory parallel execution features are all enabled. Under this policy, the Oracle database automatically decides if a statement must execute in parallel or not and what Degree of Parallelism it must use. The database also determines if the statement can be executed immediately or if it must be gueued until more system resources are available. Finally, the



database decides if the statement can take advantage of the aggregated cluster memory or not. For more details, see the documentation resources as follows.

## 14.1.1.3 Parallel Execution Documentation Resources

The documentation resources are as follows:

- Oracle Database Parallel Execution Fundamentals: An Oracle White Paper October 2010
- Oracle® Database Data Warehousing Guide, 11g Release 1, Part Number B28313-02
  - See the following sections:
  - Enabling Parallel DML
  - Space Considerations for Parallel DML
  - Locks for Parallel DML
  - Restrictions on Parallel DML
- Oracle® Database New Features Guide, 11g Release 2, Part Number E10881-01
- Oracle® Database VLDB and Partitioning Guide, 11g Release 2 (11.2), Part Number E16541-08
  - See the section Chapter 8: Using Parallel Execution
- Oracle® Database Performance Tuning Guide, 11g Release 2 (11.2), Part Number E16638-04

# 14.2 SQL Hints

OFSBCE allows users to utilize SQL Hints to tune the performance of computation rules. SQL Hints provide a mechanism to instruct the optimizer to choose a desired query execution plan based on specified hint criteria. The Balance Computation engine reads user-defined hints that are stored in the FSI\_OPTIMIZATION\_SETTINGS in the SOURCE\_HINT and the TARGET\_HINT columns. The hints specified in SOURCE\_HINT column are used applied during processing by the computation engine in the fetch part of the query. Similarly, TARGET\_HINT column values are applied during processing to the insert/set part of the computation.

# 14.2.1 Types of SQL hints

For information about using the Hints, see the Using Optimizer Hints section in the Oracle Database Performance Tuning Guide, 11g Release 2 (11.2).



## Note:

- Hints must be defined by users; there are no default hints.
- There is currently no user interface for the definition of hints. Your DBA can assist you in defining, testing, and optimizing SQL Hints. SQL Hints must be manually inserted into the FSI\_OPTIMIZATION\_SETTINGS table.
- You may determine an allocation's SYS\_ID\_NUM by performing a mouse-over on the allocation rule's name in the Allocation Specification summary screen.
- Hints are limited to 250 characters for each SOURCE\_HINT and TARGET\_HINT.

# 14.3 Balance Computation Migration

The below table provides you the details to migrate the UI configuration from the source environment to the target environment. You must extract the Insert SQLs from source environment and then execute it in the target environment to migrate the UI configuration.

**Table 14-6 Balance Computation Migration** 

Module Name	Table Name
Setup Fiscal Period	FSI_FISCAL_PERIOD_SETUP
Legal Entity	FSI_LE_PERIOD_SETUP
	FSI_LE_PERIOD_AUDIT_TRAIL
	FSI_LE_PROPS
Revaluation Settings	FSI_REVALUATION_SETTINGS
Currency Conversion	FSI_BC_GL_RATE_TYPE_MAP
Portfolio Summary	FSI_PORTFOLIO_MASTER
	FSI_PORTFOLIO_DIM_MAP
	FSI_PORTFOLIO_DIM_MEMBERS_MAP



15

# **OFSAA Support**

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

# 15.1 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/page number (if available) and contact the Oracle Support.

Before sending us your comments, you might like to ensure that you have the latest version of the document wherein any of your concerns have already been addressed. You can access My Oracle Support site that has all the revised/recently released documents.