

Oracle® Financial Services IFRS 9 Solution Cloud Service User Guide



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1

About This Content

This guide provides information on the newly released Oracle Financial Services IFRS 9 Solution Cloud Service (OFS IFRS9SCS).

Audience

This document is intended for users of the Oracle Financial Services IFRS 9 Solution Cloud Service (OFS IFRS9SCS) application.

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Related Resources

See these Oracle resources:

- [Getting Started with Oracle Cloud](#)
- [Admin Console User Guide](#)
- [Oracle Financial Services IFRS 9 Solution Cloud Service User Guide](#)

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.
<i>italic</i>	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.

2

Getting Started with IFRS 9 Solution Cloud Service

Oracle Financial Services IFRS 9 Solution allows financial institutions to address the first phase of IFRS 9 requirements i.e., Classification and Measurement. The application supports Stage determination and account classification. The application measures the Effective Interest Rate (EIR). The application supports two amortization methodologies: The effective Yield Method and the Straight-Line Method. The application supports various reports which can be used for multiple non-regulatory and regulatory purposes.

Key Benefits:

- Segmentation can be achieved with the help of multi-dimensions.
- Build Stage Determination and Stage Curing rules based on the financial institution's requirements.
- Build Account Classification rules based on the financial institution's requirements
- Override of IFRS 9 Stage and Account classification with the workflow management process.
- Generate account-level cash flows and EIR
- Selection of Amortization process at the granularity of multi-dimensions
- Amortization of Fees, Premium/Discount, Cost, and calculation of Modification Gain/Loss Amortization cost supported to fulfill the requirements of IFRS 9
- Slice and dice data with user-customizable analytical reports

Key Features

The following are the key features of the OFS IFRS 9 Solution Cloud Service

- Segmentation is supported by the Modelling set
- IFRS 9 Stage Determination and Stage Curing
- Account Classification
- Manual override for Account stage and Account Classification
- CFE CS Integration for cash flow generation and EIR calculation
- Amortization methods: Effective Yield Method and Straight-Line Method Submit to the Cash flow engine the modelling horizon for which you want to calculate cash flows
- Pre-Build Reports for Account stage, Account classification, and Amortization

User Groups

The following table provides the information on the User Groups and the related activities:

Table 2-1 User Groups and Activities

User Groups	Activities
Identity Administrator Group	<ul style="list-style-type: none"> View Object Storage View OAuth Credentials Perform Identity and Access Management Operations
IDCS Administrator	<ul style="list-style-type: none"> Create Users Map Users to the Instance
IFRS 9 Analyst Group	<ul style="list-style-type: none"> Set User and Application Preferences Set Setup Parameters Currency and Rate Management Dimension Management Data Management: Metadata and Data Loaders Schedule Batch Processes
IFRS 9 Auditor Group	<ul style="list-style-type: none"> View privileges for all application-specific modules: <ul style="list-style-type: none"> Review/Analyze Results Review Process Logs View Reports

In addition to this, custom user groups can be created and managed as per requirement. For more information, see the User Roles and Privileges Section.

Launching Oracle Financial Services IFRS 9 Solution Cloud Service

1. In the Web browser, click the link provided by Oracle.
2. Enter your user name and password.

If requested, select an application. The password is case-sensitive.

3. Click Sign In.

The **Oracle Financial Services IFRS 9 Solution Cloud Service** Home Page is displayed.

Figure 2-1 Oracle Financial Services IFRS 9 Solution Cloud Service



Oracle Financial Services IFRS 9 Solution Cloud Service Home Page

When you log in, you see the OFS IFRS 9 Cloud Service Home page.

Click the Navigator Screen icon

Figure 2-2 Navigator Screen Icon



to display the Navigator Screen. This screen serves as a sitemap of the application features and displays links to all of the pages you can access. Use the Navigator Screen to navigate among the rules and processes required to define, review, and analyze the application, and to report results.

OFS IFRS 9 S Cloud Service Navigation Paths are displayed in the List of Navigation Paths.

Common Icons

Use the icons to view and analyze data and related information for each feature.

Figure 2-3 Common Icons

Icon Name	Icon	Uses
Action	...	Click to perform view various action options.
View/Edit		Click in the Action column and select View/Edit to view or edit the contents of a rule in Read/Write format. Depending on User Privileges, the rule will open in either View or Edit mode.
Copy or Save As		Click in the Action column and select Save As to create a copy of an existing rule.
Delete		Click in the Action column and select Delete to delete an existing rule.
Execute		To execute a process.
Execution Details		To view the execution details of the process.
Add New	+	Click Add icon to add new items on Rule screen.

Audit Pane

The Audit pane is a standard footer pane for every OFSAA rule type.

The Audit pane displays the following tabs – **Audit**, **Comments** and **Tags**.

- **Audit:** It displays the audit data for the object such as:
 - Created By
 - Created Date
 - Modified By
 - Modified Date
 - Authorized By
 - Authorized Date

The details in this tab are automatically populated when the rule or process is saved.

- **Comments:** The Comments panel shows the existing comments for the object. Only the latest comment is editable and deletion of existing comments is not allowed. Users can also add new comments for the current object.
- **Tags:** The Tags panel shows the tag associated with the object. The user can add new tags or remove the existing tags.

Quick Tour

The following table provides a bird's eye view of the tasks and the order to execute these tasks using the application. Click the links to read the details of each task. You can use the links on this page to help you immediately begin using Oracle Financial Services IFRS 9 Solution Cloud Service.

Table 2-2 Quick Tour

1	Configure the application preference and global preference	Configure the Application Preference , and Global Preference by using the Preferences screen.
2	Configure/load the mandatory dimensions	<ul style="list-style-type: none"> a. Create a legal entity dimension, members, and hierarchy. b. Create the organization unit dimension members and hierarchy. c. Create the product dimension members and hierarchy. d. Update or validate the out-of-the-box customer type dimension members.
3	Configure/load the optional dimensions	Create the dimension members and hierarchies (only for key dimensions)
4	Configure/load the external and Internal ratings	By using the dimension management UI or by using the Dimension Data Loader , create external and internal ratings.
5	Dimension loader	The Dimension Loader provides the option to load all required dimension members, attributes and hierarchies from a text file instead of creating them via the Dimension Management screen.
6	Configure the cashflow reference data	<ul style="list-style-type: none"> a. Define and load the interest rate curves. b. Define and load the economic indicators. c. Define and load the holiday calendars.
7	Configure cashflow assumptions	<ul style="list-style-type: none"> Configure the forecast rates. Configure the reprice patterns.

Table 2-2 (Cont.) Quick Tour

		Configure the behaviour patterns.
8	Currency and currency exchange rates	Activate the applicable currencies from the out-of-the-box provided currency list. Load the currency exchange rates.
9	Configure modelling set	Configure the modelling set for the required legal entity and organization unit.
10	Configure the stage determination and account classification assumptions	a. Configure the rating mapping rules. b. Configure the stage determination rules. c. Configure the stage curing rules. d. Configure the account classification rules.
11	Configure the amortization rules	Configure the amortization rules.
12	Stage the determination and account classification process	Configure the stage determination and account classification process.
13	Configure the amortization process	Configure the amortization process.
14	Data Maintenance Interface (Optional)	The Data Maintenance Interface (DMI) helps to design a Data Form in a user-specified format. Further, it allows you to perform maintenance activities by using the designed form.
15	Load the instrument data	Load the instrument data from text files by using data file administration and operation and processes scheduler.
16	Load the rating data	Load the origination and current external ratings data from text files by using the data file administration and operation and processes-scheduler.
17	Load the transaction data	Load the detailed transaction data from the text files by using the data file administration and operation and processes-scheduler.
18	Data Quality Framework (Optional)	The user can create data quality rules and run the same to validate data loaded in the staging area before promoting it to the processing data layer.
19	Cashflow Edit Rule (Optional)	Users can define the cashflow edit rules for validating and cleansing the Instrument Tables.
20	Cashflow Edit Process (Optional)	Users can define the cashflow edit process to run the already defined cashflow edit rules.
21	Execute the stage determination and account classification process	Execute the stage determination and account classification process from the scheduler feature, then stage determination and account classification process screen or from the scheduler feature.
22	Override stage and account classification	Override Stage and Account Classification by using the Override Screen Maker and Override Screen Checker screen.
23	Execute the amortization process	Execute the amortization process.

3

Data Model Extension

Customization of Physical Data Model is restricted in the Cloud Service. However, there may be a need to extend the Data Model to meet multiple business requirements. For this purpose, the Cloud Service provides OOTB placeholder Columns and Tables that can be configured to use as custom Columns, Custom Dimensions, and Custom Management Ledger Tables as suitable to the business requirements.



Note:

The Management Ledger tables are applicable only to Profitability and Balance Sheet Management Cloud Services.

These placeholder Columns and Tables must be registered before use. The Data Model Extension Module allows you to do the following types of registrations:

- Dimensions Registration
- Columns Registration
- Management Ledger Registration

After registration, you can start loading the data in the selected placeholder Columns and Tables and use them to define the Rules and Assumptions for further processing and reporting.

Appropriate user roles must be created and maintained for the users to perform the registration and registration approval processes.

To register the placeholder Columns and Tables, from the LHS Menu, select **Data Management Tools**, and then select **Data Model Extension** to display the DataModel Extension summary screen.

The Data Model Extension summary screen displays the following tiles:

- Dimensions
- Columns
- Management Ledger
- Pending Registration

Using this UI, you do the registration of Dimensions, Columns, and Management Ledger Tables. After the registration is done, the detail will be sent to the Supervisor or Approver User who either approves or rejects the registration.

Registering Dimensions

Through the Dimension Registration UI, you register two types of Dimensions; Simple Dimensions and Key Processing Dimensions that are explained in the following topics.

Dimensions are the Placeholder Columns and Tables. The column names appear in the Instrument Tables as Physical Column Names. The Data Model Extension UI allows you to define the Logical Layer with details Name, Description, and the purpose of the column. After these columns are defined, they appear in the drop-down lists in the application screens as UDPs (User Defined Properties) that you can use. This process of defining the Dimensions is called Registering.

Register a Simple Dimension

Simple Dimensions are list of values that support neither attributes nor hierarchies.

Simple Dimensions are list of values that support neither attributes nor hierarchies. Their three key uses are:

- Reserved for use within the Analytical Application Engines
- Stratifying your data for process or report filtering purposes
- Serving as list of values when used as attributes

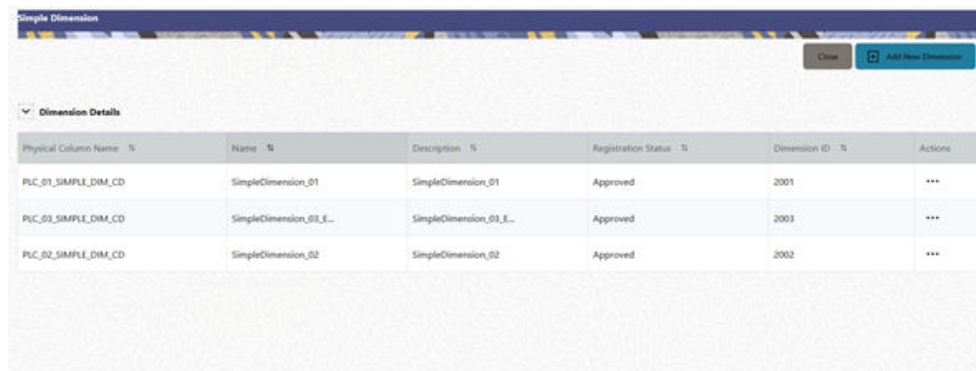
The Cloud Service Data Model comes with a set of placeholder Simple Dimensions for configuration and use. The member details of simple dimensions are stored in two tables:

- A code table (For example, FSI_SIMPLE_DIM_01_CD)
- A Multi-Language Support table (for example, FSI_SIMPLE_DIM_01_MLS)

To register a Simple Dimension:

1. Navigate to the summary screen, and click the **Simple Dimensions** tile to display the **Simple Dimension** summary screen.

Figure 3-1 Simple Dimension summary screen



Physical Column Name	Name	Description	Registration Status	Dimension ID	Actions
PLC_01_SIMPLE_DIM_CD	SimpleDimension_01	SimpleDimension_01	Approved	2001	***
PLC_03_SIMPLE_DIM_CD	SimpleDimension_03_E_	SimpleDimension_03_E_	Approved	2003	***
PLC_02_SIMPLE_DIM_CD	SimpleDimension_02	SimpleDimension_02	Approved	2002	***

The Simple Dimension summary screen displays the summary of existing Simple Dimensions with the Physical Column Names, Name, Description, Registration Status, Dimension ID details, and Actions icon.

2. Click **Add New Dimension** to collapse the Dimension Details summary and to display the dimension details.

When you click **Add New Dimension**, the UI displays **Save** and **Submit for Approval** buttons.

3. Enter the following details:
 - **Name** (mandatory): Specify the required logical name of the dimension.
 - **Description** (mandatory): Specify the required description of the dimension.
 - **Comment**: Specify the required maker/checker comment. Note that special characters *, newline, and double quotes are not allowed.
The **Details** section displays the Physical Column and Data Type information that the dimension uses for user reference. As and when a registration takes place successfully and the physical column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.
4. Click **Save**. The details are saved as a Draft and displayed on the summary screen. You can change the Name, Description, and Comments later by double clicking the details.
5. Click **Submit for Approval** to send the Dimension Details for approval. Or select a Name from the list and click the Actions icon to View, View, Edit, Submit for Approval or Delete the simple dimension.

Or

Select a Name from the list and click the Actions icon to View, View, Edit, Submit for Approval or Delete the simple dimension.

 **Note:**

- You can delete a registration when it is in Draft state.
- If the selected Dimension is in Approved state, then the Actions menu displays only View, Edit, and Submit for Approval actions.

View a Simple Dimension

To view a Simple Dimension, perform the following steps.

To view a Simple Dimension, perform the following steps:

1. Click the **Actions** Icon against the selected Simple Dimension to expand the Actions Menu.
2. Click **View** to see the details of the selected Simple Dimension.

Edit a Simple Dimension

To edit a Simple Dimension, perform the following steps:

1. Click the **Actions** Icon against the selected Simple Dimension to expand the Actions Menu.
2. Click **Edit** to display the selected Dimension details in edit mode.
3. Edit the following details:
 - a. **Name**: This is mandatory.
 - b. **Description**: This is mandatory.

- c. **Comment:** Specify the required maker/checker comment. Note that special characters *, newline, and double quotes are not allowed.
4. Click **Save** to save the details as a draft.
5. Click **Submit for Approval** to send the Dimension Details for approval.

 **Note:**

- When you edit an already approved Dimension, the Dimension must be submitted for approval again. You cannot delete or edit the Dimension again.
- Additionally, if you edit an approved Dimension, then the Actions Icon displays only the View option for the Dimension.

Delete a Simple Dimension

To delete a Simple Dimension, perform the following steps:

1. Click the **Actions** Icon against the selected Simple Dimension to expand the Actions Menu.
2. Click **Delete** to delete the Dimension.

 **Note:**

You can only delete a Dimension that is in Draft stage. The Actions Menu does not display the Delete action for an approved dimension.

Register a Key Processing Dimension

Key Processing Dimensions have the following features:

- Accessible as modeling dimensions for all of the Cloud Service Analytical Engines.
- Expressed as columns in nearly all of your Business Fact Tables.
- Support both attributes and hierarchies.

Metadata for Key Processing Dimensions is stored in four tables:

- A base table (For example, **DIM_<Dimension Name>_B**)
- A translation table (For example, **DIM_<Dimension Name>_TL**)
- An attribute table (For example, **DIM_<Dimension Name>_ATTR**)
- A hierarchy table (For example, **DIM_<Dimension Name>_HIER**)

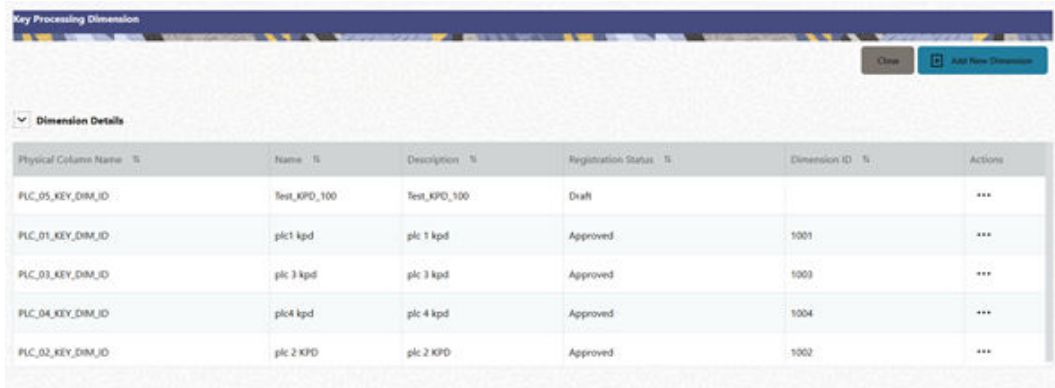
Base tables store basic information about each Dimension Member and Translation Tables store names and descriptions for each Dimension Member in multiple languages.

Attribute Tables store one or many attribute values for each Dimension Member. Hierarchy Tables store one or more hierarchies for each dimension (you may define as many hierarchies as you wish for any dimension that supports hierarchies).

The DM Extension Module enables you to create Custom Dimensions as required by the business. To register a Key Processing Dimension:

1. Navigate to the summary screen, and click the **Key Processing Dimension** tile to display the Key Processing Dimension summary screen.

Figure 3-2 Key Processing Dimensions summary screen



Physical Column Name	Name	Description	Registration Status	Dimension ID	Actions
PLC_05_KEY_DIM_ID	test_KPD_100	test_KPD_100	Draft		...
PLC_01_KEY_DIM_ID	plc1 kpd	plc 1 kpd	Approved	1001	...
PLC_03_KEY_DIM_ID	plc 3 kpd	plc 3 kpd	Approved	1003	...
PLC_04_KEY_DIM_ID	plc4 kpd	plc 4 kpd	Approved	1004	...
PLC_02_KEY_DIM_ID	plc 2 KPD	plc 2 KPD	Approved	1002	...

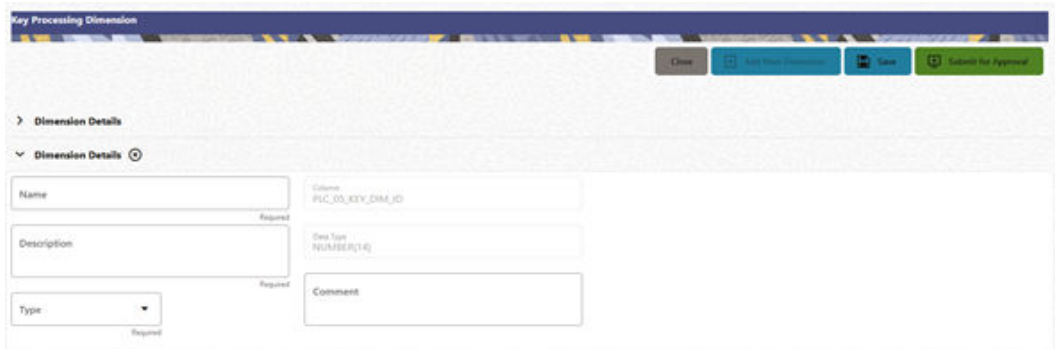
The summary screen displays the summary of existing Key Processing Dimensions with the details Physical Column Names, Name, Description, Registration Status, Dimension ID, and Actions icon.

The Actions icon displays the **View** button. You can click the **View** button and see the Dimension Details in View Only mode.

The registration of a dimension happens after the dimension is approved. The Dimension ID is displayed only for the approved dimensions.

2. Click **Add New Dimension** to collapse the Dimension Details summary and to display the dimension details.
When you click **Add New Dimension**, the UI displays the **Save** and **Submit for Approval** buttons.

Figure 3-3 Key Processing Dimension Screen



3. Enter the following details:
 - **Name:** This is a mandatory field. Specify the required logical name of the dimension.

- **Description:** This is a mandatory field. Specify the required description of the dimension.
- **Type:** This is a mandatory field. Select a relevant Dimension Type.
 - **Product (Prod):** Select this option if you want to use the placeholder Dimension to define Business Rules and Assumptions.
 - **Organization (Org):** Select this option if you want to use the Placeholder Dimension to define a new Organization structure.
 - **Other:** Select this option if you want to use the placeholder Dimension for any other purpose.
- **Comment** Specify the required maker/checker comment. Note that special characters *, newline, and double quotes are not allowed.

The **Details** section displays the Physical Column and Data Type information that the dimension uses for user reference. As and when a registration is successful and the physical column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.

4. Click **Save** to save the details. The details are saved as a Draft and displayed on the Summary Screen. You can change the Name, Description, and Comments later by double clicking the details.
5. Click **Submit for Approval** to send the Dimension Details for approval.
Or

Select a **Name** from the list and click the **Actions** Icon to View, Edit, Submit for Approval or Delete the key processing dimension.

 **Note:**

- You can delete a registration when it is in Draft state.
- If the selected Dimension is in Approved state, then the Actions Menu displays only View, Edit, and Submit for Approval actions.

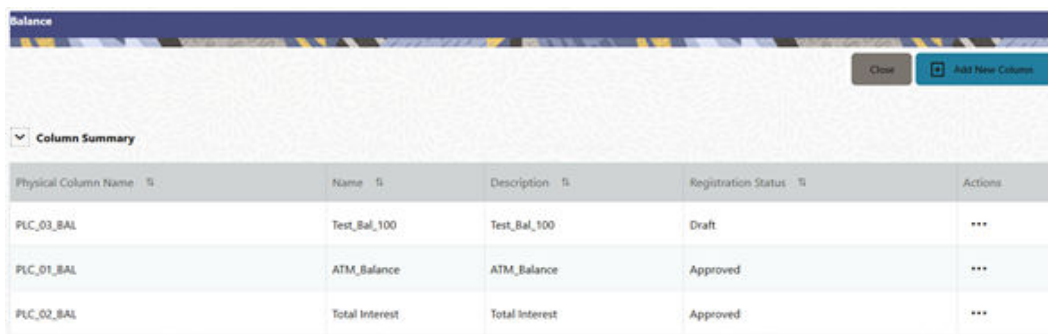
Registering Columns

The Placeholder Columns are categorized under the different domains to be used for different purposes.

The procedures to register the listed Columns are similar. To register a Column:

1. Navigate to the Data Model Summary screen, and click a **Column** tile to display the Column Summary screen.

Figure 3-4 Column Summary screen



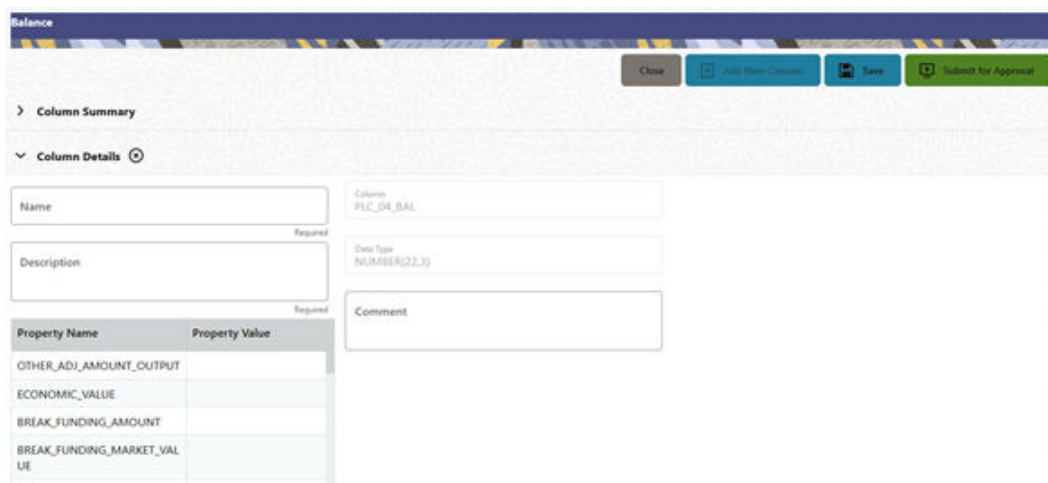
Physical Column Name	Name	Description	Registration Status	Actions
PLC_03_BAL	Test_Bal_100	Test_Bal_100	Draft	***
PLC_01_BAL	ATM_Balance	ATM_Balance	Approved	***
PLC_02_BAL	Total Interest	Total Interest	Approved	***

The Summary Screen displays the summary of existing Columns with the details Physical Column Names, Name, Description, Registration Status, and Actions icon.

The registration of a Column happens after the Column is approved.

- Click **Add New Column** to collapse the Column Summary and to display the Column Details. When you click **Add New Column**, the UI displays the **Save** and **Submit for Approval** buttons.

Figure 3-5 Column Screen



Column Summary

Column Details

Name: PLC_04_BAL (Required)

Description: (Required)

Data Type: NUMBER(22,3)

Comment:

Property Name	Property Value
OTHER_ADJ_AMOUNT_OUTPUT	
ECONOMIC_VALUE	
BREAK_FUNDING_AMOUNT	
BREAK_FUNDING_MARKET_VAL UE	

- Enter the following details:
 - Name:** This is mandatory. Specify the required logical name of the column.
 - Description:** This is a mandatory field. Specify the required description of the column.
 - Property Name:** This is an optional field used to select a relevant Property from the drop-down list, as applicable to the Column.
 - Property Value:** Double click to display a drop-down where you can select Yes if it is applicable to the Column.
 - Comment:** Specify any maker/approver comment. Note that special characters *, newline, and double quotes are not allowed.

The **Details** section displays the Physical Column and Data Type Information that the column uses for user reference. As and when a registration takes place successfully and the Physical Column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.

4. Click **Save**. The details are saved as a Draft and are displayed on the Summary screen. You can change the Name, Description, and Comments later by double clicking the details.
5. Click **Submit for Approval** to send the column details for approval.
OR

Select a **Name** from the list and click the **Actions** icon to View, Edit, Submit for Approval, or Delete the Column. Editing, Submitting for Approval, or Deleting procedures are similar to Dimension Edit, Submit for Approval, or Delete procedures.

 **Note:**

- You can delete a registration when it is in Draft state.
- If the selected Dimension is in Approved state, then the Actions menu displays only View, Edit, and Submit for Approval actions.

Domain Types

The following domain types are available for the Cloud Service columns:

Table 3-1 Domain Types

Profitability and Balance Sheet Management Domain Types	Climate Chante Analytics Domain Types	Accounting Standards for Banking Cloud Service
<ul style="list-style-type: none"> • Data • Rate • Volume • CHAR • Long Description • Flag • Balance 	<ul style="list-style-type: none"> • Date • Number • Short Description • Rate • Percentage • CHAR • Long Description • Flag • Balance 	<ul style="list-style-type: none"> • Data • Rate • Volume • CHAR • Long Description • Flag • Balance

Registering a Management Ledger

PBSM Cloud Service is contains the default Management Ledger (FSI_D_MANAGEMENT_LEDGER). However, you can add upto five other Management Ledgers to the Service.

To view and edit the Management Ledger:

1. Navigate to the **Data Model Summary** screen, and click the **Management Ledger** tile to display the **Edit Management Ledger** screen.

Figure 3-6 Edit Management Ledger Screen

This screen displays the following details of the Management Ledger as follows:

- **Name** (non-editable)
 - **Physical Name** (non-editable)
 - **Description** (non-editable)
2. Click **Standard Management Ledger Attribute** to collapse and see the available Standard Dimensions, Standard Columns, and Approved Dimensions.

The Standard Dimensions section shows the Key Processing Dimensions that are available OOTB for the Management Ledger. In addition to this, the screen enables the selection of custom Key Processing Dimensions for the Management Ledger through a shuttle box component that displays the registered custom dimensions in the Available Dimensions and the Selected Dimensions boxes. You can select from the **Available Dimensions** box and move them to the **Selected Dimension** box using the **Move** button. Additionally, you can remove the Selected Dimensions by clicking the **Move Back** button.

The Standard Columns comprises of the OOTB Ledger-level Simple Dimensions and Admin Columns. The Approved Dimensions shows the list of Custom Dimensions approved for the Management Ledger.

Adding a Management Ledger

To add a new Management Ledger, perform the following steps:

1. Navigate to the **Data Model Summary** screen, and click the **Add Management Ledger** tile to display the Add Management Ledger screen.

Figure 3-7 Add Management Ledger Screen

2. Enter the following details:
 - **Name:** This is a mandatory field. Specify the logical name of the Management Ledger.
 - **Description:** This is a mandatory field. Specify the description of the Management Ledger.
3. Select the applicable Dimensions from the **Available Dimensions** box and click the **Move** button to move them to Selected Dimensions box. The selected Dimensions are included as the additional activated Key Processing Dimensions for the Management Ledger.
4. Click **Submit for Approval** to send the column details for approval.

The details are sent to the Supervisor or Approver for approval. The newly added Management Ledger is displayed on the summary screen in a new tile.

 **Note:**

- You can delete a registration when it is in Draft state.
- If the selected Dimension is in Approved state, then the Actions Menu displays only View, Edit, and Submit for Approval actions.

Approving or Rejecting the Registrations

The Supervisor or Approver can see the Dimensions or Columns or Management Ledgers that are ready for approval on the Data Model Extension Summary Screen.

To approve the Dimensions, Columns, and Management Ledgers, perform the following steps:

1. Navigate to the **Data Model Extension** Summary Screen.

Figure 3-8 Data Model Extension Summary Screen



The Dimensions and Columns that are ready for approval are displayed in one tile and the Management Ledgers that are ready for approval are displayed in another tile against the **Pending Approval** Table.

2. Click on any Tile to open to the **Pending Dimension and Column Registration** Screen or **Approve Management Ledger Registration** Screen.
3. Enter a comment and click the **Approve** or **Reject** Buttons.
4. Select **OK**.
 - a. The approved Dimension or Column or Management Ledger is displayed in the Summary Screen with *Approved* status.
 - b. Select **Cancel** to keep the Dimension or Column or Management Ledger in a Pending for Approval Status.
5. Click **Reject** to reject the registration. Complete the approval process. The Registration will be marked with status Rejected in the Summary Screen.
6. After it is approved or rejected, the registration is available for further modification by the Maker and can be submitted again.

A registration cannot be deleted after it has passed the Draft State and is currently in Pending, *Approved* or *Rejected* state.

4

Dimension Management

Dimension Management 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.

The roles mapped to Dimension Management are as follows:

- Dimension Advanced
- Dimension Authorization
- Dimension Read Only
- Dimension Write

Components of Dimension Management

You can create and manage the following Object Definitions using from Dimension Management:

- [Members](#)
- [Attributes](#)
- [Hierarchy](#)

Object Security

Object security helps to secure data and also to decide what each user can access. You can apply Object security to various object definitions like Hierarchy definitions, Filters, Expressions and Migration definitions.

You can assign specific user roles and functions to user groups, to implement Object Security. To assign user roles and functions, Seeded User Groups and Seeded User Roles are mapped to the User Groups. If you are using the Seeded User Groups, the security to access objects depends on the associated User Groups.

Map your User Group to the folder in case of public or shared folder, for creating/editing/copying/removing an object in Dimension Management Module. You should also be the owner of the folder in case of Private Folder. Additionally, the WRITE role should be mapped to your User Group.

To access the link and the Summary page, map your User Group to ACCESS Role. You can view all objects created in Public Folders - Shared Folders to which you are mapped and Private Folders for which you are the owner.

Members

Dimension Members refer to the individual items that constitute a dimension when data is categorized into a single object such as Product, Organization, Time, and so on. Members are available within Dimension Management Section.

Member Summary Page

The list of created member definitions are displayed in the Member Summary.

To access the Member Summary Page, complete the following procedure.

1. From the left menu, click **Common Object Maintenance**.
2. Select Dimension Management and select **Member**.
The **Member Summary Page** containing the following details is displayed.
 - **Alphanumeric Code** - The Alphanumeric Code assigned to a Member.
 - **Numeric Code** - The Numeric Code assigned to a Member.
 - **Name** - The unique Member Name.
 - **Is Leaf** - The leaf node status of the member definition.
 - **Yes** - The member is set as a leaf node in any hierarchy and child cannot be added to this node.
 - **No** - The member is a not a leaf and can have Child Nodes.
 - **Action** - Click to View, Edit, Copy or Delete a Member Definition.

Creating Member Definitions

You can add new Member Definitions from the Member Summary page.

To create a Member Definition in the Members Page, complete the following steps.

1. To create a Member definition, click the **Add** in the Member Summary Page. The Add Member Definition Page is displayed.
2. Enter the following **Member Details** as described in the following table:
 - **Dimension** - Select the Dimension to be associated with the new Member.
 - **Alphanumeric Code** - The Alphanumeric Code to be assigned to the new Member Definition.
You can enter up to 100 characters. We recommend using only Underscore (" _ ") as a special character.
 - **Numeric Code** - The Numeric Code to be assigned to the new Member Definition. You can enter the value between 0 and 999,999,999 manually or click **Generate**, to auto-generate a unique code.
If you enter the value manually, it is assigned after validation.
 - **Name** - The unique Member Definition Name.
You can enter up to 100 characters. All characters are allowed except " & ' and " ' " .
 - **Description** - A brief description about the Member Definition.
You can enter up to 100 characters. All characters are allowed except " & ' and " ' " .
 - **Is Leaf** - Check this option if the member is a leaf of another member. By default, it is set to **Yes**.
 - **Yes** - The member can be used as a Leaf Node in any hierarchy and Child cannot be added to this node.

- **No** -The Member is not set as a Leaf and can have Child Nodes.

 **Note:**

If a Member is set as a Non-Leaf and is associated with Child Nodes, it cannot be set as a Leaf again.

- **Enabled** - This field is set to **Yes** by default and can be edited only after the Member is created. To edit a Member, refer [Editing Member Definition Details](#).

 **Note:**

You can change the option to **No** only when the particular member is not used in any hierarchy. The disabled members will not be displayed in Hierarchy Rules, or utilities which are based on Hierarchies, such as Hierarchy Filters and Hierarchical Assumption Browsers used in applications.

- **Copy Attribute Assignment** - Attach an existing attribute to this new Member Definition.
3. Click **Copy Attribute Assignment** ().

The **Attributes Page** associated with the selected Dimension is displayed. This field can be left blank so that the Member Attributes Panel can be filled in without considering the values already assigned.

Click **Search** to search for a specific Member based on Alphanumeric Code, Numeric Code, Name, Description, Enabled status, Is Leaf status, Attribute Name, or Attribute Value. You can also enter any of these parameters as Keywords in the Search field and click **Search**.

4. Locate the Attribute to be copied and click Move and select **Copy**, located under **Actions**.
5. Click **Save**.

Managing Member Definitions

You can View, Edit, Copy, and Delete the existing Member Definitions from the Member Summary Page.

In the Members Summary Page, highlight a specific Member Definition and click the **Action**. The following Options are displayed:

- **View** - View the **Member Details** for a specific Member Definition.
- **Edit** - Edit the **Member Details** for a specific Member Definition.
- **Copy** - Copy the Member Definition Details and create another Member Definition by changing Alphanumeric Code, Numeric Code and Name.
- **Delete** - Delete the Member Definition Details.

Viewing Member Definition Details

You can view the details of an individual Member Definition, from Member Summary page.

To view a Member Definition, the Read Only Role should be mapped to your User Group.

You can view the details of an individual Member Definition, using the following procedure:

1. Highlight the Member Definition and click the **Action**.
2. Click the **View** button.

The Member Definition Page is displayed with the details Dimension, Alphanumeric Code, Numeric Code, Name, Is Leaf and Enabled status.

Editing Member Definition Details

To edit the existing Member Definition details, the Write Role should be mapped to your User Group.

You can edit individual Member Definition Details, using the following procedure:

1. Highlight the Member Definition and click the **Action**.
2. Click the **Edit** button.

The Member Definition Page is displayed with the details Dimension, Alphanumeric Code, Numeric Code, Name, Is Leaf and Enabled status.

Edit the required information and click **Save**.

Copying Member Definition Details

To copy the Member Definition Details, the Write Role should be mapped to your User Group.

You can copy individual Member Definition Details, to recreate another new Member Definition, using the following procedure:

1. Highlight the Member Definition and click the **Action**.
2. Click the **Copy** button.

The **Member Definition Page** is displayed with the details Dimension, Alphanumeric Code, Numeric Code, Name, Is Leaf and Enabled status.

Edit the unique information such as Name, Alphanumeric Code, Numeric Code and click **Save**.

Deleting Member Definition Details

To delete a Member Definition, the Write Role should be mapped to your User Group.

You can delete individual Member Definition Details, using the following procedure:

1. Highlight the Member Definition and click the **Action**.
2. Click the **Delete** button.

The Member Definition is deleted after confirmation.

Attributes

Attributes refers to the distinguished properties or qualifiers that describes a Dimension Member. Attributes are applicable to key dimensions only.

Attribute Summary Page

The list of created attribute definitions are displayed in the Attribute Summary.

To access the Attribute Summary Page, complete the following procedure:

1. From the left menu, click **Common Object Maintenance**.
2. Select Dimension Management and select **Attribute**.

The **Attribute Summary Page** containing the following details is displayed.

The Attribute Summary Page provides the list of Member Definitions with the following details:

Field	Description
Code	The Numeric Code assigned to the Attribute Definition.
Name	The unique Attribute Definition Name.
Data Type	The Data Type associated with the Attribute. The Data Type is set to Date, Dimension, Number or String.
Required	<ul style="list-style-type: none"> • Yes – Attribute Value is mandatory for the Dimension Member. • No - The Attribute value is optional for the Dimension Member.
Seeded	<ul style="list-style-type: none"> • Yes - This Attribute is seeded by the service. • No - The Attribute is created by the user.
Action	Click to View, Edit, Copy or Delete an Attribute Definition.

Navigating Attribute Summary Page

To access records in a Summary Page, you can search, sort and navigate to multiple pages.

Creating Attribute Definition

To create a new Attribute for a dimension, complete the following steps:

1. Click the **Add** in the Attribute Summary Page.
The **Add Attribute Definition** Page is displayed.
2. Enter the Attribute Details as described in the following table:

Field	Description
Attribute Details	

Field	Description
Dimension	Select the Dimension for which the new Attribute is getting created.
Numeric Code	<p>The Numeric Code to be assigned to the new Attribute Definition.</p> <p>You can enter the value manually or click Generate, to auto-generate a unique code.</p> <p>If you enter the value manually, the system will verify if the value is unique and assigns it.</p> <p>You can enter any number between 0 and 999,999,999.</p>
Name	<p>The unique Attribute Definition Name.</p> <p>You can enter up to 100 characters. All characters are allowed except " & ' and " " " .</p>
Alphanumeric Field Value	<p>The name of physical column name that will be used to store attribute value in the Report Dimension Table.</p> <p>You can enter up to 100 characters. We recommend using only Underscore (" _ ") as a special character.</p>
Description	<p>A brief description about the Attribute Definition.</p> <p>You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.</p>
Attribute Properties	
Data Type	<p>Select the Data Type as Date, Dimension, Number, or String from the drop-down list.</p> <p>If Number is selected as the Data Type:</p> <p>Enter a Scale value ≥ 0. If it is left as 0, values for this attribute will be limited to Integers. If you wish to enable decimal entries for this attribute, the maximum Scale Value must be > 0 and \leq the scale defined for NUMBER in the dimension's underlying attribute table.</p> <p>The maximum value of the NUMBER is set to 22.</p>
Dimension	<p>Select the Dimension to be associated with the new Attribute Definition.</p> <p>This field is enabled only if the Data Type is set to Dimension.</p>

Field	Description
Default Value	<p>The Default Value is set based on the selected Data Type. The Default Value is mandatory if this attribute is set as a Required Attribute.</p> <ul style="list-style-type: none"> If Dimension is set as the Data Type, select the Default Value from the drop-down list of members mapped to the selected Dimension. If NUMBER is selected as the Data Type, enter a Numeric Value in the Default Value field, and it must be consistent with the Scale you have defined. If DATE is selected as the Data Type: Click button to select a valid date as the Default Value from the calendar. If STRING is selected as the Data Type: Enter the Alphanumeric Value in the Default Value field. <p>The Maximum characters allowed in Default Value field for String Data Type is 1000.</p>
Required Attribute	<ul style="list-style-type: none"> Yes - This Attribute is mandatory for the associated Dimension Members. No - This is an optional Attribute for the associated Dimension Members. <p>This field is disabled in Add and Edit Modes if any members already exist for the Dimension on which this attribute is defined.</p>
Seeded Value	<ul style="list-style-type: none"> Yes – This is selected only when the attribute is seeded out of box by the Cloud Service. No – Always select this when you are creating a new attribute.

- Click **Save**.

Managing Attribute Definitions

You can view, edit, copy and delete the existing Attribute Definitions from the Summary Page.

In the Attribute Summary Page, highlight a specific Attribute Definition and click the **Action**. The following Options are displayed.

Field	Description
View	View the details for a selected Attribute.
Edit	Edit theselected Attribute.
Copy	Copy the Attribute Definition Details and create another Attribute Definition by changing the unique values like Alphanumeric Field Value, Numeric Code and Name.
Delete	Delete the selected Attribute.

Viewing Attribute Definition

You can view individual Attribute Definition Details at any given point. The Read Only Role should be mapped to your User Group.

To view the existing Attribute Definition details in the Attribute page:

1. Highlight the Attribute Definition and click **Action**.
2. Click **View**.

The **Attribute Definition** Page is displayed with the details Code, Name, Data Type, Required and Seeded status.

Copying Attribute Definition

The Copy Attribute Definition facilitates you to quickly create a new Attribute Definition based on the existing attributes or by updating the values of the required attributes.

To copy an existing Attribute Definition, the Write Role should be mapped to your User Group.

Refer to the following steps, to copy an attribute definition.

1. Highlight the Attribute Definition and click **Action**.
2. Click **Copy**.

The Attribute Definition Page is displayed with the details: Code, Name, Data Type, Required and Seeded status.

Edit the unique information such as Name, Alphanumeric Field Value, Numeric Code and click **Save**.

Deleting Attribute Definition

You can remove the Attribute Definitions which are not required in the system by deleting from the Attributes summary.

To delete an attribute definition, the Write role should be mapped to your User Group.

1. Highlight the Attribute Definition and click the **Menu** button.
2. Click the **Delete** button.

The Attribute Definition is deleted after confirmation.

Note:

You cannot delete a definition if any dependency like Attribute, Hierarchy or Filter is attached to it. Detach the dependency before deleting the definition.

Hierarchy

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. Hierarchies are available within the Dimension Management Section.

A Default Hierarchy definition is required to support BI Users to perform multi dimensional analysis, in the BI reporting. The hierarchy name of a default hierarchy definitions are suffixed with the term **System Hierarchy**. You can only view the details of the default hierarchy, from the Hierarchy summary page. All orphan members under their corresponding default hierarchy, are automatically updated, when they are added/deleted to/from the system.

Hierarchy Summary Page


The list of created Hierarchy definitions are displayed in the Hierarchy Summary.

To access the Hierarchy Summary Page, complete the following procedure.

1. From the left menu, click **Common Object Maintenance**.
2. Select Dimension Management and select **Hierarchy**.

The Hierarchy Summary Page provides the list of Member Definitions with the following details:

Field	Description
Name	The unique Hierarchy Name.
Description	The brief description about the Hierarchy.
Folder	The folder in which the Hierarchy is stored.
Dimension	The Dimension associated with the Hierarchy.
Tag	Tags are labels that help to simplify the data search and locate the required details.
Action	Click to View, Edit, Copy or Delete a Hierarchy Definition.

 **Note:**
The name of a default hierarchy is always suffixed with the term **System Hierarchy**.

Navigating Hierarchy Summary Page

To access records in a Summary Page, you can search, sort and navigate to multiple pages.

Creating Hierarchy Definitions

To create a Hierarchy Definition in the Hierarchy Summary Page, complete the following steps.

1. To create a Hierarchy definition, click **Add** in the Hierarchy Summary Page. The **Add Hierarchy Definition** Page is displayed.

Enter the **Hierarchy Details** as described in the following table:

Table 4-1 Field Description

Field	Description
Basic Details	
Name	The unique Hierarchy Definition Name. <div></div> Note: You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
Description	A brief description about the Hierarchy Definition. <div></div> Note: You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.
Hierarchy Sub Type	By default, the sub type is set to Member based and cannot be changed.
Folder	Select the Folder in which the Hierarchy is to be stored.
Based On	
Dimension	Select the Dimension to be associated with the new Hierarchy Definition.
Start Date	The date from which this Hierarchy will be activated. By default the Start Date is set to the current System Date.
Data Grid	
Hierarchy View	The Members associated with the selected Dimension are displayed. You can sort this list in Ascending/Descending order, expand or collapse the list to view in details and search for a specific Member. You can focus on a Member to view the Member Properties. You can add a Child or add a Sibling to an existing Member in the Data Grid.
Search Results	The search results based on the specific keyword entered to search a Member is populated.

To Add a Child to the Hierarchy:

- a. Right-click in the **Hierarchy View** tab.
- b. Select **Add Child** option and the **Add Member Page** are displayed.

- c. Select the required Member and click **Move**, to move the Member to the Selected Members panel. To select multiple members, press CTRL and select the members. The selected members are added to the **Selected Members** pane.
 - Click **Move All** to move all Members listed in the Show Members pane, to the Selected Members pane. Click **Fetch from DB** to select all nodes/ members in the server.
 - Select a member and Click **Remove** to deselect a Member. To remove multiple members, press CTRL and select the members.
 - To remove all the members from the **Selected Members** pane, click **Remove all**.
 - You can click **Search** button for the required member using Alphanumeric Code, Numeric Code, Name, Description, Attribute Name, or Attribute Value. Enter the search criteria and Click **Search**, in the Search Panel.
 - You can also click **Search** button to toggle the display of Numeric Code left, right, or name and click button to display Alphanumeric Code left, right, or name.
 - d. Click **OK**. The selected Member is displayed as Child under **Data Grid** panel in the **Hierarchy View** tab.
2. **To add a Sibling to the Child in the Hierarchy Definition:**
 - a. Right-click on the Child and select the option **Add Sibling**. The **Add Sibling** Page is displayed.
 - b. Select the required Members and **Move**, to move the Member to the Selected Members panel. The Member is displayed in the **Selected Members** panel.
 - c. Click **OK**. The selected Member is added as **Sibling** below the **Parent** under Data Grid Panel in the **Hierarchy View** Tab.
3. **To add a Leaf under a Parent/Child or Sibling:**
 - a. Right-click the Parent or Child and select **Add Leaf**. The Add Member Page is displayed.
 - b. Select the required Members and click **Move**, to move the Member to the Selected Members panel. The Member is displayed in the **Selected Members** panel.
 - c. Click **OK**. The selected Member is displayed as Leaf below the Parent or Sibling under **Show Hierarchy** Panel in the Hierarchy View Tab.
4. **To define Level Properties:**
 - a. Right-click the Parent or Child and select **Level Properties**. The details are displayed in the Member Properties Panel.
 - b. Enter the valid **Name** and **Description** in the respective fields.
 - c. Click **OK** and the Levels defined are displayed in the drop-down in **Initial Level Display** field in **Data Grid** in **Hierarchy View** Tab.
5. **To cut and paste Child or Sibling:**
 - a. Right-click on any node and select **Cut**.
 - b. Right-click on any node and **Paste as Child** or **Paste as Sibling**.
6. **To Delete/Undelete**
 - a. Right-click on the node to be deleted and select **Delete Node**. The node deleted is struck out.

- b. Right-click and select **UnDelete** to cancel deletion of the node.
7. To view the Member Properties and Member Attributes of a node in the **Hierarchy View Panel**:
 - a. Click on a Member.
The properties such as Alphanumeric Code, Numeric Code, Name, Description, Enabled, Is Leaf, Created By, Creation Date, Last Modified By, Last Modification Date, Attribute, and Value of the selected Member are displayed in the Member Properties and Member Attributes Grids.

In the Hierarchies page you can also:
 - Click **Collapse** or Expand, to collapse or expand a branch .
 - Click **Focus** or **Unfocus**, to focus or unfocus a selected node except the Root Node.
 - Click **Sort** to sort the list in ascending or descending order.
8. Click **Save**.
The new Hierarchy Definition is created successfully.

Audit Info

The Audit Info Section provides details such as Created By and Modified By Users, Creation and Modification Date, and Authorized By user Details. You can add Additional information as comments and Tags. Tags are labels that help to simplify the data search and locate the required details.

Managing Hierarchy Definitions

You can View, Edit, Copy, and Delete the existing Hierarchy Definitions from the Hierarchy Summary Page.

In the Hierarchy Summary Page, highlight a specific Hierarchy Definition and click **Action**. The following options are displayed.

Field	Description
View	View the Hierarchy Details for a specific Member Definition.
Edit	Edit the Hierarchy Details for a specific Member Definition.
Copy	Copy the Hierarchy Definition details and create another Hierarchy Definition by changing the unique values like Name, Description and so on.
Delete	Edit the Hierarchy Definition Details.

Viewing Hierarchy Definition Details

You can view the details of an individual Hierarchy Definition, using the following procedure:

1. Highlight the Hierarchy Definition and click **Action (three dots)** .
2. Click **View** .

The Hierarchy Definition Page is displayed with the details Name, Description, Folder, Dimension, Start Date and Hierarchy View details.

Editing Hierarchy Definition Details

You can edit individual Hierarchy Definition Details at any given point.

To edit the existing Hierarchy Definition Details:

1. Highlight the Hierarchy Definition and click the **Action (three dots)**.
2. Click **Edit** .

The Hierarchy Definition Page is displayed with the details Name, Description, Folder, Dimension, Start Date and Hierarchy View details.

Edit the required information and click **Save**.

Copying Hierarchy Definition Details

You can copy individual Hierarchy Definition Details, to recreate another new Member Definition. To copy the Member Definition Details:

1. Highlight the Hierarchy Definition and click **Action**.
2. Click **Copy**.

The Hierarchy Definition Page is displayed with the details Name, Description, Folder, Dimension, Start Date and Hierarchy View details.

Edit the unique information such as Name, Description, Folder, Dimension, Start Date and Hierarchy View details and click **Save**.

Deleting Hierarchy Definition Details

To delete a Hierarchy Definition:

1. Highlight the Hierarchy Definition and click **Action**.
2. Click **Delete** .

The Hierarchy Definition is deleted after confirmation.

Note:

You cannot delete a definition if any dependency like Attribute, Hierarchy or Filter is attached to it. Detach the dependency before deleting the definition.

Viewing Data in a Summary Page

A Summary Page will contain a list of definitions associated with a specific Dimension Data, Filters, Batch or Schedules.

You can search, filter and customize the view to access the required data faster.

5

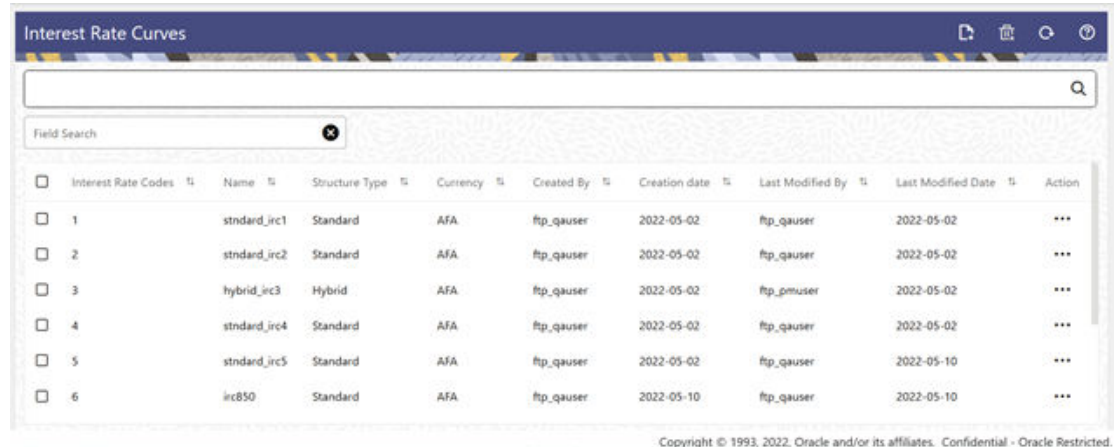
Interest Rate Curve

The quality and availability of Interest Rate information vary throughout the world. In many markets, gathering comprehensive rate information is a challenge because of insufficient security types, inconsistent quoting conventions, and lack of liquidity. The Interest Rate Curve in Cloud Service allows you to define and manage complex Yield Curve definitions using multiple Rate Formats and other Rate Attributes to give you data storage capabilities appropriate to your market. The Interest Rate Curve supports the creation and maintenance of Historical Rate Data for each Yield Curve you define.

Historical Interest Rate Data is utilized in the Cloud Service to generate the Transfer Rates, add-On Rates, Discount rates for market value calculations, Option Costs, and Forecasted Interest Rate Scenarios.

Navigate to **Reference Data**, and then select **Interest Rates** to display the **Interest Rate Curves Summary Page**.

Figure 5-1 Interest Rate Curves Summary Page



The screenshot shows the 'Interest Rate Curves' summary page. It features a search bar at the top, a 'Field Search' dropdown, and a table listing six interest rate curves. The table columns are: Interest Rate Codes, Name, Structure Type, Currency, Created By, Creation date, Last Modified By, Last Modified Date, and Action. The data rows are as follows:

Interest Rate Codes	Name	Structure Type	Currency	Created By	Creation date	Last Modified By	Last Modified Date	Action
1	standard_irc1	Standard	AFA	ftp_qauser	2022-05-02	ftp_qauser	2022-05-02	...
2	standard_irc2	Standard	AFA	ftp_qauser	2022-05-02	ftp_qauser	2022-05-02	...
3	hybrid_irc3	Hybrid	AFA	ftp_qauser	2022-05-02	ftp_pmuser	2022-05-02	...
4	standard_irc4	Standard	AFA	ftp_qauser	2022-05-02	ftp_qauser	2022-05-02	...
5	standard_irc5	Standard	AFA	ftp_qauser	2022-05-02	ftp_qauser	2022-05-10	...
6	irc850	Standard	AFA	ftp_qauser	2022-05-10	ftp_qauser	2022-05-10	...

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Searching for Interest Rate Curve

There are two Search panes provided to search for Interest Rate Curves, which are explained.

To search the Interest Rate, perform the following steps:

1. Click the **Search** icon on the Search Pane to collapse (display) the **Search Criteria** Window.
2. Enter the Search Criteria by entering one or more of the **Interest Rate Code**, **Name**, **Currency**, **Rate Format**, and **Structure Type**.
3. Click **Reset** to remove the filter criteria on the Search Window and refresh the window.

4. Click **Search** after entering the search criteria.
The search results are displayed in a Table containing all the Interest Rate Curves that meet the Search Criteria with the following details:
 - **Interest Rate Code:** Displays the Interest Rate Curve's Code. The code is a unique number in the range of 1 to 9999999. Hover on a row in the pane to display the Interest Rate Curve's detailed description.
 - **Name:** Displays the Interest Rate Curve's short name.
 - **Structure Type:** Displays the Structure Type (Standard, Hybrid) of the Interest Rate Curve.
 - **Currency:** Displays the Currency (Reference Currency) for which Interest rate curve is defined.
 - **Created By:** Displays the Name of the user who created the Interest Rate Curve.
 - **Creation Date:** Displays the Date and Time when Interest Rate Curve was created.
 - **Last Modified By:** Displays the Name of the user who last modified the Interest Rate Curve.
 - **Last Modified Date:** Displays the Date and Time when Interest Rate Curve was last modified.
5. Click on the **Action** icon against the Interest Rate Code to do further actions View, Edit, Delete, and **Save As** on the selected Interest Rate Code.

The **Interest Rate Curve Summary** Page offers several icons that allow you to perform different functions when an Interest Rate Curve is selected.

The other method to search an Interest Rate Code or Codes is using the **Field Search** Pane. You can enter any one of the details of an Interest Rate curve, displayed on summary UI and press the **Enter** key to display list of filtered Interest Rate Curves.

The top bar displays the Title of the screen and the following icons:

- **Add:** This allows you to add a new Interest Rate Code.
- **Delete:** This allows you select one or multiple Interest Rate Codes from the Summary Table and delete them.
- **Refresh:** Clears the search criteria definitions and refreshes the Screen.
- **Help:** Opens the help page of the Interest Rate Curves Screen.

Creating an Interest Rate Curve

To create an Interest Rate Curve, perform the following steps:

1. Click **Add** from the **Interest Rate Curve Summary** Page to display the **Interest Rate Curve** Page.
2. Enter the following information in the **Interest Rate Curve Details** Window.
 - **Interest Rate Code:** When constructing a new Yield Curve, you must specify an Interest Rate Code between 1 and 9999999. Interest Rate Codes are used internally to uniquely identify Yield Curves. When working with Cloud service, you reference Yield Curves by Name, not by Interest Rate Codes. Interest Rate Codes are embedded within your instrument data (for example, the

INTEREST_RATE_CD columns within the Instrument Data are populated with Interest Rate Codes). After you have saved a Yield Curve, you cannot modify its Interest Rate Code.

- **Name:** Provide a unique Name for the Interest Rate Curve.
- **Description:** You can enter a description for the Interest Rate Curve. You can modify this description at any time using the Edit action.
- **Display for All Currencies:** This flag allows you to designate certain Interest Rate Curves to make them available for assumption mapping to any currency. Assumption Rules filter the list of Interest Rate Codes based on the currency when defining assumptions for a specific Product/Currency combination. When this option is enabled, the Interest Rate Curve appears in assumption rules for all currencies.
- **Reference Currency:** Select a Reference Currency for your Interest Rate Curve. You can change the Reference Currency for previously saved Interest Rate Curves though such changes are unlikely. An Interest Rate Curve's Reference Currency is the currency for which your market rates are valid. For example, the Reference Currency for a Prime Rate Yield Curve would be US Dollars. The Reference Currencies drop-down list displays only Active currencies. For more information on Active and Inactive currencies, see the [Currency](#) Documentation.
- **Date Based Term Points:** This toggle switch is applicable only for Standard Structure Type. If you select Structure Type as Hybrid, the toggle switch is disabled. When you select the Date Based Term Points, and add a Term Point, the Historical Rates Tab allows you to define a Custom Date and Rate for each Term Point. By default, the Date is inserted based on the Term that you define. You can change the Date to a custom Date and define the Rate.
- **Risk-Free:** (Optional) This flag is for tagging the Interest Rate Curve as risk-free. That is Edit Table in new and Edit Modes. It is available for Non-Hybrid Curves and Hybrid Curves.
- **Structure Type:** This attribute is required for each Yield Curve. Structure Type supports both Standard and Hybrid Yield Curve Definitions. Hybrid Yield Curves are re-expressions of one or more pre-existing Standard Yield Curves. For more information, see Hybrid Term Structure Tab under Interest Rate Code Tabs. After you have saved the Yield Curve, you cannot change the selected Structure Type.

Interest Rate Curve Tabs

Interest Rate Curve Tabs are used to define the Yield Curve and to add, edit, or delete Historical Interest Rate Data. The Interest Rate Curve Tabs are:

- Terms & Attributes
- Historical Rates
- Hybrid Term Structure

For new Yield Curves, you must begin with the Terms & Attributes Tab. After you have selected the term structure and attributes for a Yield Curve, you cannot edit them. After assigning the attributes, navigate to the Terms Tab to define a term structure for your Yield Curve, for example, an overnight rate, a one-month rate, a three-month rate, and so on. Click Apply after defining the term structure and attributes to the Interest Rate Curve.

 **Note:**

You must specify an Interest Rate Code and Name in the Interest Rate Curve Details Window before navigating to the Terms & Attributes Tab.

The first time you navigate to the Terms & Attributes Tab, an initial 1-month term point is provided, but even if this is the only term point you want for the curve, you must click **Apply** to finish term structure specification. In future revisions to the Curve's Definition, navigate directly to the **Historical Rates** Tab, but if you modify the term structure, you must always click **Apply** on the **Terms & Attributes** Tab before navigating to the **Historical Rates** Tab.

The **Historical Rates** Tab is used to input historical interest rate data. This Tab is used for maintaining the Interest Rates Database. To navigate to the Historical Rates Tab, either click **Apply** on the **Terms & Attributes** Tab or select the **Historical Rates** Tab if you have already defined your term structure.

 **Note:**

You must specify the following before navigating to the **Historical Rates** Tab:

- An Interest Rate Code, Name, and Reference Currency in the Interest Rate Code Details Window.
- A term structure in the **Terms & Attributes** Tab.

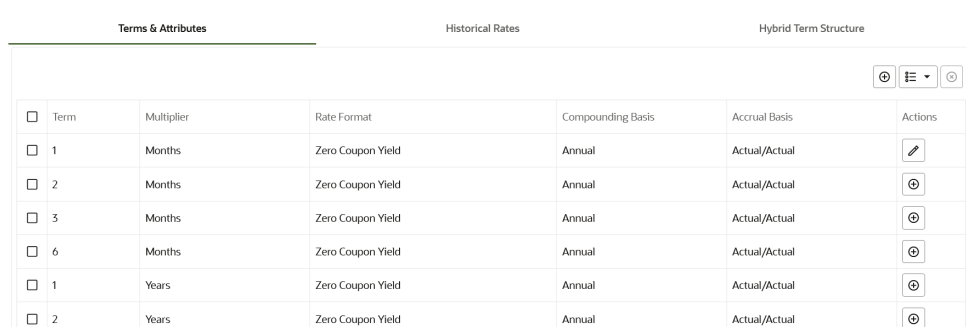
Terms & Attributes Tab







The Terms & Attributes Tab displays the following fields:

- **Adding New Term Points:** Click **Add** to add a new row. (New term points by entering a Term value and selecting a Multiplier (such as 7 days, 2 months, 5 years, and so on). Rate Format, Compounding Basis, and Accrual Basis can be selected for the term point. Zero Coupon Yield, Annual, Actual/Actual are the pre-selected values in UI which you can modify.

One Yield Curve can have two combinations of attributes. For example, first 3 term points have Zero Coupon Yield, Annual, Actual/Actual attributes and remaining term points are Yield to Maturity, Annual and 30/360.

Figure 5-2 Terms and Attributes Tab



<input type="checkbox"/>	Term	Multiplier	Rate Format	Compounding Basis	Accrual Basis	Actions
<input type="checkbox"/>	1	Months	Zero Coupon Yield	Annual	Actual/Actual	
<input type="checkbox"/>	2	Months	Zero Coupon Yield	Annual	Actual/Actual	
<input type="checkbox"/>	3	Months	Zero Coupon Yield	Annual	Actual/Actual	
<input type="checkbox"/>	6	Months	Zero Coupon Yield	Annual	Actual/Actual	
<input type="checkbox"/>	1	Years	Zero Coupon Yield	Annual	Actual/Actual	
<input type="checkbox"/>	2	Years	Zero Coupon Yield	Annual	Actual/Actual	

Click “+” at the term point where you want to modify attributes. Rate Format, Compounding Basis, and Accrual Basis fields are enabled for modification.

- **Rate Format:** You should select either the Zero Coupon Yield or Yield to Maturity Rate Format. Rates entered in the Historical Rates Tab are always entered in the nominal form, such as 5.125% or 6.875%, not as discount factors.
- **Compounding Basis:** Select a Compounding Basis for the term point:
 - Daily
 - Monthly
 - Quarterly
 - Semiannual
 - Annual
 - Simple
 - Continuous
 - At Maturity
- **Accrual Basis:** Select an Accrual Basis for the Yield Curve.
 - 30/360
 - Actual/360
 - Actual/Actual
 - 30/365
 - 30/Actual
 - Actual/365
 - Business/252
- **Deleting Existing Term Points:** To delete an existing term, select the term point (or terms), and click **Delete**.

You can also click **Add Multiple Rows** to select the number of multiple rows that you want to add.

You can construct the Yield Curve's Term Structure. You can specify as many Yield Curve Terms from the 1 day to 100 years range. However, the UI allows only two combinations of Rate Format, Compounding Basis, and Accrual Basis per one Interest Rate Curve Definition.

The Interest Rate Curve Definition Module automatically selects the combination of Rate Format, Compounding Basis, and Accrual Basis when a new Term Point is greater than the already defined Term Points. For example, if you define two Term Points with 15 Days, one Month Multipliers, and another Term Point with 2 Years Multiplier. When you define a new Term Point with 45 Days Multiplier, the Interest Rate Curve Definition Module automatically selects the combination of Rate Format, Compounding Basis, and Accrual Basis that is selected for the first two Term Points. Similarly, if you define a Term Point, which is greater than the 2 Years Multiplier, then the module selects the combination of Rate Format, Compounding Basis, and Accrual Basis that is selected for the 2 Years Term Point.

Historical Rates Tab

Use the Historical Rates Tab to define, modify, or view Interest Rate Data. Enter data in simple percentages (such as 5.125, 4.875, and so on).

The **Rate Data Source** Column shows from where the rates are taken from, they are either entered through the User Interface, loaded through the Data Loader, or generated using the Generate Rates of Hybrid IRC.

You can perform the following tasks:

- Add Historical Rates
- Excel Import or Export
- Deletion of Historical Rates

Add Historical Rates

By default, the **Historical Rates** Tab displays Interest Rate Data for the past month (for example, for the 30 days leading up to the current date). Click the **Effective Date Range** drop-down list to expand your view to the last 3 months, 6 months, one year, 3 years, 6 years, or all rate data.

Deletion of Historical Rates

To delete Historical Rates entered, select one or more rows and then click **Delete**.

Excel Import or Export

To aid in data entry, use the Excel Import or Export functionality to add or edit rate data to Historical Rates. This is an optional step.

Excel Export:

To export the data, perform the following steps:

1. Click **Export** to export data for the chosen selected effective date range. Within the same block, select Export to Excel, which launches the Excel application and displays the Data Window including headers.

Excel Import:

The excel file exported above can be used as a template to import the Historical Rates.



Note:

Ensure that the date format is yyyy-MM-dd in the excel file. For example, 2022-06-13.

1. On the Interest Rates toolbar, click the **Import** icon. Select the file containing the Historical Rates.
2. Data from the file is displayed on the UI. If appending data that pre-existed for the same effective date, the import will overwrite existing data.
3. Add or edit data if required.
4. Click **Apply** to save.

Hybrid Term Structure Tab

Hybrid Term Structures allows you to specify the following types of Hybrid Yield Curves:

- Merge
- Spread
- Moving Average
- Custom Weighted Average

Hybrid Yield Curves are built up from either one or more Standard Yield Curves. When you add, modify, or delete any historical rate data from a Standard Yield Curve, the data associated with any related Hybrid Yield Curve must be updated. After defining, the Hybrid Yield Curves can be used like any other Interest Rate Curve in the system. You can reference these curves within the Cloud Service Business Rules that allow the selection of an Interest Rate Code.

Hybrid Curve Type Spread: A Spread Hybrid Yield Curve is defined as the difference between two standard yield curves. The Spread type of hybrid yield curve is useful in establishing liquidity risk or basis risk yield curves.

- **Merge:** Merge hybrid yield curves represent a blending of two or more underlying yield curves. In constructing a Merge type of Hybrid Yield Curve, specify the percentage weighting applied to each of the underlying Standard Hybrid Yield Curves.
- **Spread:** A Spread hybrid yield curve is defined as the difference between two standard yield curves. The Spread type of Hybrid Yield Curve is useful in establishing liquidity risk or basis Risk Yield Curves.
- **Moving Average:** Moving average Hybrid Yield Curves represent moving average data of a single underlying Standard Yield Curve. These curves are used in Funds Transfer Pricing.
- **Custom Weighted Average:** Custom Weighted Average Rate is the sum of weighted rates as per the defined Custom Weights for the Historical Rates.

Define a Hybrid Curve

Defining a Hybrid Curve supports the following different definitions based on the Hybrid Curve Type:

- [Hybrid Curve Type as Merge](#)
- [Hybrid Curve Type as Spread](#)
- [Hybrid Curve Type as Moving Average](#)
- [Hybrid Curve Type as Custom Weighted Average](#)

Defining a Hybrid Curve with Hybrid Curve Type as Merge

To define a Hybrid Curve, perform the following steps:

1. Select the **Structure Type** as **Hybrid**, and then select the **Hybrid Curve Type** as **Merge**.
2. Select the **Interest Rate Curves** for the hybrid type and click **Apply**. You must select at least two Interest Rate Curve Definitions.

The screen displays the Hybrid Term Structure Weights for the selected Interest Rate Curves and the Merge type Hybrid Curve.

3. By default, all the Term Points are selected and displayed. You can uncheck one or more Term Points.
4. You can click on the icon next to the Selected Term Structure to see the Term Points for the Interest Rate Curve. A box displays the Term and Multiplier for the select Interest Rate Curve.
5. Enter the Weights for the selected Terms.
6. Click **Apply** to save the Weights in the grid.

Defining a Hybrid Curve with Hybrid Curve Type as Spread

To define a Hybrid Curve, perform the following steps:

1. Select the **Structure Type** as **Hybrid**, and then select the **Hybrid Curve Type** as **Spread**.
2. Select the **Interest Rate Curves** for the hybrid type and click **Apply**. Only two Interest Rate Curves are allowed for selection.
3. Click the **Swap** icon to re-order the Interest Rate Curves.

The screen displays the Hybrid Term Structure Weights for the selected Interest Rate Curves and the Merge type Hybrid Curve.

4. By default, all the Term Points are selected and displayed. You can uncheck one or more Term Points.
5. Click **Apply** to save the selected Terms.

Defining a Hybrid Curve with Hybrid Curve Type as Moving Average

To define a hybrid curve, perform the following steps:

1. Select the **Structure Type** as **Hybrid**, and then select the **Hybrid Curve Type** as **Moving Average**.
2. Select the **Interest Rate Curves** for the hybrid type and click **Apply**. Only one Interest Rate Curve Definition is allowed for selection.

The screen displays the Hybrid Term Structure Weights for the selected Interest Rate Curves and the Merge type Hybrid Curve.

3. By default, all the Term Points are selected and displayed. You can uncheck one or more Term Points.
4. Enter the Terms and Multipliers for each of the selected Terms.

OR Optionally, you can select the **Moving Average Term** toggle switch to define the Terms and Multipliers for the selected terms at once.

5. Click **Apply** to save the Terms in the grid.

Defining a Hybrid Curve with Hybrid Curve Type as Custom Weighted Average

To define a Hybrid Curve, perform the following steps:

1. Select the **Structure Type** as **Hybrid**, and then select the **Hybrid Curve Type** as **Custom Weighted Average**.

2. Select the **Interest Rate Curves** for the Hybrid Type and click **Apply**. Only one Interest Rate Curve Definition is allowed for selection.

The screen displays the Hybrid Term Structure Weights for the selected Interest Rate Curves and the Merge type Hybrid Curve.
3. By default, all the Term Points are selected and displayed. You can uncheck one or more Term Points.
4. Enter the Terms and Multipliers for each of the selected Terms.

OR Optionally, you can select the **Moving Average Term** toggle switch to define the Terms and Multipliers for the selected terms at once.
5. Enter the Weights for the each term and respective Historical Effective Dates. By default, all the Weights are zero. You can change the values as per your requirement.
6. Click **Apply** to save the Terms in the grid.

Generate Historical Rates

After a Hybrid Curve is defined, generate the Historical Rates as far back as the Rate Source Curves allow. The Generate Frequency determines the frequency of the historical rates populated with the Generate function. If you select the Generate Frequency as monthly, it generates month-end values only. If you select daily, it generates the maximum number of Historical Values. By default, the Interpolation is selected as Linear and you cannot change it.

To generate the rates, perform the following steps:

1. Select the **Generate Frequency** (Daily, Weekly, Bi-Weekly, or Monthly) and enter the **Specific Date Range** (From Date and To Date). For Custom Weighted Average Hybrid Curve Type, you need to select only the From Date.
2. Click **Generate**. The rates will be populated and you will be directed to the Historical Rates Tab to view the results.

6

Holiday Calendar

This section discusses the procedure to create a Holiday Calendar and generate a list of the weekend and holiday dates. Individual Cloud Service may consume the Holiday Calendar events in different ways.

A Holiday is a day designated as having special significance for which individuals, a government, or some religious groups have deemed that observance is warranted and thus no business is carried on this day. The Holiday Calendar Code can range from 1 to 99999.

Topics:

- [Holiday Calendar Summary Page](#)
- [Search a Holiday Calendar](#)
- [Create Holiday Calendar](#)
- [Holiday Exceptions](#)

Holiday Calendar Summary Page

This page holds all Holiday Calendars and related functionality. You can navigate to other pages relating to the Holiday Calendar from this page.

The Holiday Calendar Summary Page displays the following columns.

Table 6-1 Holiday Calendar Rule – Fields and Descriptions

Column	Description
Code	Displays the code of Holiday Calendar
Name	Displays the Holiday Calendar's Short Name
Status	Displays status of Holiday List generation
Created By	Displays the Name of the user who created the Holiday Calendar
Created Date	Displays the Date when Holiday Calendar was created.
Last Modified By	Displays the Name of the user who last modified the Holiday Calendar
Last Modified Date	Displays the Date and Time when Holiday Calendar was modified last.
Action	Displays the list of actions that can be performed on the Holiday Calendar. For more information, see Holiday Calendar – Icons and Descriptions .

Figure 6-1 Holiday Calendar Summary page

Code	Name	Created Date	Created By	Modified Date	Modified By	Status	Action
1001	HCAL1001	01/06/2022 05:13:02	CFETEST	01/06/2022 05:13:03	CFETEST	Processed	...
1002	hc_test	03/06/2022 07:34:58	CFETEST	03/06/2022 07:34:59	CFETEST	Processed	...

The **Action** column on Holiday Calendar Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Holiday Calendar Summary Page.

Table 6-2 Holiday Calendar Rule – Icons and Descriptions

Fields	Description
Add	Click Add icon to build a new Holiday Calendar Rule.
Multiple Delete	Select one or more rules in the summary page and then click the Delete All icon at the top right of the Summary Page to delete more than one rule at the same time.
Refresh	Click Refresh icon to refresh the Summary Page.
Help	Click Help icon to view the Holiday Calendar Rule Help.
View	Click on the Action icon against the Holiday Calendar Rule Name and select View to view the contents of a Holiday Calendar in Read/Write format.
Edit	Click on the Action icon against the Holiday Calendar Rule Name and select Edit to edit the contents of a Holiday Calendar in Read/Write format.
Save As	Click on the Action icon against the Holiday Calendar Rule Name and select Save As to create a copy of an existing Holiday Calendar.
Delete	Click on the Action icon against the Holiday Calendar Rule Name and select Delete to delete an existing Holiday Calendar.

Search Holiday Calendar

Search for a Holiday Calendar to perform any of the following tasks:

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Holiday Calendar Rule

Procedure

To search for a new Holiday Calendar rule, follow these steps:

- Navigate to the **Holiday Calendar Summary** Page.
 - Click **Search** icon in the Field Search section. Enter the Code, Name, and Description of the Holiday Calendar. You can specify one or multiple search criteria in this section.

Figure 6-2 Search Holiday Calendar

- Click **Search** .
- or
- Enter the search data in the **Search** field.

Figure 6-3 Search Holiday Calendar

<input type="checkbox"/>	Code	Name	Created Date	Created By	Modified Date	Modified By	Status	Action
<input type="checkbox"/>	1001	Holiday_1001	17/04/2023 09:33:32	ALMQA	17/04/2023 09:33:32	ALMQA	Processed	...

Only Holiday Calendars that match the search criteria are displayed.

Create a Holiday Calendar

You create Holiday Calendars to capture holidays for a given date range for any organization. It is possible to create and use multiple Holiday Calendars.

To create a new Holiday Calendar Rule, follow these steps:

1. Navigate to the Holiday Calendar Summary Page.
2. Click Add icon. The Holiday Calendar Details Page is displayed. This page is divided into following sections:
 - Holiday Calendar

- Holiday Details
- Generate Holidays And Exceptions

Figure 6-4 Holiday Calander Details Page

3. Enter details in above sections and Click **Save**.

Holiday Calendar section

1. Navigate to Holiday Calendar section.
2. Enter the following details:
 - **Holiday Code:** Enter a code value for the new Holiday Calendar. The code is a Numeric Identifier for the Holiday Calendar. The Code Value must be a number between 1 and 99999. The Code Value you assign to the new Holiday Calendar must be unique.
 - **Name:** Enter the name and a brief description for the Holiday Calendar. The name you assign to the Holiday Calendar must be unique. The name can hold a maximum of 30 characters.
 - **Description:** Enter the description of Holiday Calendar Rule.
 - **Weekend Days:** In the Holiday Weekend Days checkboxes, select not more than two weekend days.
3. Click **Next** to navigate to **Holiday Details** section.

Holiday Details section

1. Enter the following details in Holiday Details Section:
2. Click **Add** icon. Define the Holiday details for any period within the Holiday range. Enter the following details in Holiday Calendar Grid:

- **Name:** Name of Holiday
- **Date:** The date of Holiday
- **Holiday Type:** Type of Holiday. Two types of holidays can be defined: Fixed and Moving.
A Fixed Holiday is deemed as a Holiday for every year in the Holiday Period, for that particular day.

Example

25th December – Christmas, is a fixed Holiday.

 **Note:**

To define a Fixed Holiday, input the Holiday Date for the first occurrence in the date range. For example, if your Date Range runs from 01-JAN-2000 to 31-DEC-2050, you should input the fixed holiday, Christmas, as 25-DEC-2000. The Holiday Calendar Procedure will populate all subsequent 25-DEC entries in the holiday list table (FSI_HOLIDAY_LIST). A HOLIDAY_TYPE code = 0 is a Fixed type holiday, code = 1 is a Moving type Holiday, and code = 2 is a weekend. The Holiday Calendar Procedure will also ensure that Holiday and Weekend entries are not duplicated. For example, if weekends are defined as Saturday/Sunday and Christmas falls on a weekend day, there will be only one entry in the FSI_HOLIDAY_LIST table. The PREVIOUS_WORKINGDAY and NEXT_WORKINGDAY fields designate the valid prior and following working days, respectively.

A Moving Holiday is deemed as a Holiday only for that particular date and year, and not for every year in the Holiday Period. All occurrences of a Moving Holiday must be input manually.

Example

10th April 2020 is a Moving Holiday for Good Friday.

- You can add more Holiday Periods using **Add** icon. Add Multiple icon allows you to add multiple Holiday Periods.
- Click **Next** to navigate to **Generate Holidays And Exceptions** section.

Generate Holidays And Exceptions Section

This section is used to execute a Holiday Calendar Definition to generate the Calendar Dates listing the various types of holidays for a given Holiday Period.

1. Enter the following details in Generate Holidays And Exceptions Section:
 - **Generate Holidays:** Enter the Holiday Period in Generate Holidays Section. The Holiday Period can be defined for a range of up to 40 years less than the Current Date and 40 years greater than the Current Date, totally spanning a maximum of 80 years.
2. Holiday List for Holiday ID #1 generated successfully message appears (where #1 is the Holiday Calendar Code).
3. The status of a Holiday Calendar where Holiday Dates have been generated displays as Processed in the Status column in the Summary Page.

In case you do not want to Generate Calendar Dates immediately, you can select that particular Holiday Calendar anytime later from the Summary Page with its status defined, and then click the Generate button to execute the selected Holiday Calendar.

The generated holiday list is no longer valid if:

- There is a change in the definition of the Holiday Calendar.
- There is any update or modification to the Holiday Exceptions defined for that Holiday Calendar.

In such a case, you will get a message “This Holiday Calendar has been modified, Please generate the holiday list again.” and the Holiday Calendar state will be changed to defined until the Holiday list is regenerated with the new definition.

Edit Holiday Calendar

You can view existing Holiday Calendar Rule, and edit existing Holiday Calendar Rules, provided you have Read/Write privileges.

To view and edit a Holiday Calendar Rule, follow these steps:

1. Navigate to **Reference Data** and select **Holiday Calendar**.
2. Search for a Holiday Calendar.
For further information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Holiday Calendar rule and select View or Edit to open the Holiday Calendar you want to update.
4. Update the rule details.
5. Click **Apply** or **Save**, depending on the Rule Type.

View Holiday Calendar List

To view list of Holiday that have been generated, follow these steps:

1. Navigate to Reference Data and select Holiday Calendar .
2. Search for a Holiday Calendar.
3. Click on the **Action** icon against the Holiday Calendar Rule Name and select View to open the Holiday Calendar for which you want to see the generated list
4. Browse to Generate Holidays And Exceptions Section.
5. Click View List icon on RHS.

This opens a new window where Holiday Dates for selected month and year can be seen.

Holiday Exceptions

You can specify exceptions to Holidays. As a prerequisite, a Holiday Calendar should have been properly defined and the status of the Holiday Calendar on the Summary Page should be Processed. Generating the Holiday list will populate the Holidays (weekends, fixed, and moving) along with the working days. Then, the Exceptions button is enabled. Any changes in the Holiday Definition will disable the Exceptions Button. You must generate the Holiday List again to define or view the exceptions.

1. Click **Exceptions** in the **Generate Holidays And Exceptions** section. The **Holiday Exceptions** window opens.

Figure 6-5 Holiday Exceptions Page

Holiday Name	Holiday Type	Holiday Date	Exception Type	Shift To	Notes
HCAL	Fixed	18-06-2020			
HCAL	Fixed	18-06-2021			

2. The search section in the **Holiday Exceptions** window has the following fields:
 - **From and To:** Denotes the range of years which is a subset out of the Holiday List generated, for which exceptions are required to be defined.
 - **Fixed Holidays:** You can filter the list of holidays by the type of Fixed Holidays.
 - **Moving Holidays:** You can filter the list of holidays by the type of Moving Holidays.
 - **Holiday Date:** For a particular known Holiday Date, exceptions can be defined.
 - **All Exceptions:** This check box when selected lists all the exceptions, if already defined, for the holidays within the From, To Date Range.
3. The search result gives the list of all holidays based on the selection of the above search criteria fields.
 - In the **Holiday Exceptions** section, there are two types of exceptions that can be defined: Not a Holiday and Shift to.
 - Any Holiday can be marked as not a Holiday, in which case that day is removed from the Holiday List. If you select **Not a Holiday** from the **Exception Type** drop-down, then the Shift to date field is disabled.
 - Spring earlier considered as a Holiday in the Holiday Calendar can be marked as Not a Holiday in the Holiday Exceptions Window. You can write your comments or remarks in the Notes next to the **Exception Type** drop-down list.
 - Any Holiday can be shifted to another day, in which case the earlier declared Holiday is removed from the Holiday List, while the shifted today is included as a Holiday.
 - Once the Holiday Calendar Definition is saved, its status in the Holiday Calendar Summary Page is marked as Defined.

7

Economic Indicators

An Economic Indicator is any economic statistic such as the Consumer Price Index (CPI), growth rate of the Gross Domestic Product (GDP), unemployment rate, Purchasing Managers Index, indices of consumer confidence, and so on. Such macroeconomic statistics tell us how well the economy has behaved in the past. Some economic indicators are referred to as lagging indicators while others are classified as leading indicators. Leading indicators can provide insights into the future direction of the economy.

Economic Indicators Module allows you to define and store such historical indicators. It provides baseline from which forecasts of future values can be generated that can affect cash flow calculation for Inflation Indexed Instruments, new business or other modeling assumptions.

To view the Economic Indicators, navigate to Maintenance and then select Economic Indicators, an empty window is displayed. After you have defined one or more Economic Indicators, the Economic Indicators Summary Page shows all the Economic Indicators that you have previously defined.

Topics:

- [Economic Indicator Summary Page](#)
- [Search Economic Indicator Rule](#)
- [Add Economic Indicator Rule](#)
- [View and Edit Economic Indicator Rule](#)
- [Copy Economic Indicator Rule](#)
- [Delete Economic Indicator Rule](#)

Economic Indicator Summary Page

The **Economic Indicator Summary** Page displays the following information.

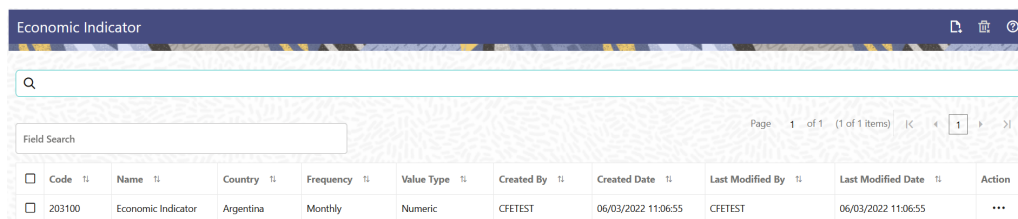
Table 7-1 Economic Indicator Summary – Fields and Descriptions

Column	Description
Code	Displays the code of Economic Indicator
Name	Displays the Economic Indicator's Name
Country	Displays the Country of for which Economic Indicator has been defined
Frequency	Displays the Frequency at which value of Economic Indicator is expected to be updated
Value Type	Displays the Value Type of an Economic Indicator
Created By	Displays the Name of the user who created the Economic Indicator
Created Date	Displays the Date and Time at which the Economic Indicator was created

Table 7-1 (Cont.) Economic Indicator Summary – Fields and Descriptions

Column	Description
Last Modified By	Displays the Name of the user who last modified the Economic Indicator
Last Modified Date	Displays the Date and Time when Economic Indicator was modified last
Action	Displays the list of actions that can be performed on the Economic Indicator. For more information, see Economic Indicator – Icons and Descriptions

Figure 7-1 Economic Indicator Summary Page



The Action Column on **Economic Indicator Summary** Page offers several actions that allow you to perform different functions. The following options are available for the Economic Indicator Summary Page.

Table: Economic Indicator – Icons and Descriptions

Table 7-2 Economic Indicator – Icons and Descriptions

Fields	Description
Add	Click Add icon to build a new Economic Indicator.
Multiple Delete	Select one or more rules in the table and then click the Delete icon at the top right of the summary page to delete more than Economic Indicator Rules at the same time.
View/Edit	Click on the Action icon against the Economic Indicator Name and select View/Edit to view or edit the contents of an Economic Indicator rule in read/write format. Depending on user privileges the rule will open in either View or Edit Mode.
Save As	Click on the Action icon against the Economic Indicator Name and select Save As to create a copy of an existing Economic Indicator Rule.
Delete	Click on the Action icon against the Economic Indicator Name and select Delete to delete an existing Economic Indicator Rule.

Search Economic Indicator

Search for an Economic Indicator to perform any of the following tasks:

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Economic Indicator

Procedure

To search for an Economic Indicator Rule, follow these steps:

1. Navigate to the **Economic Indicator Summary** Page.
2. Enter the **Code**, **Name**, **Country**, and/or **Description** of the Economic Indicator and click **Search**.
3. Only Economic Indicator Rules that match the search criteria are displayed.

Add an Economic Indicator

To add an Economic Indicator, follow these steps:

1. Navigate to the **Economic Indicator Summary** Page.
2. Click **Add**.
The **Economic Indicator** Page is displayed.

Figure 7-2 Economic Indicator Details Page

3. Enter the following information in the **Economic Indicator Details** section as tabulated.

Table 7-3 Economic Indicator Window – Fields and Descriptions

Fields	Description
Code	Enter the Code of Economic Indicator. You can click Generate Code Option in Code field to generate the code automatically.
Name	The name to your Economic Indicator is how you will subsequently refer to your rule within other the PBSM Services. You cannot rename existing Economic Indicators during Edit.
Description	Enter the Description of Economic Indicator. This field allows maximum 300 characters. Do not enter special characters ~, ', &, +, @.
Country	Select a country to which your Economic Indicator applies from the Country drop-down list. The value set of Countries is drawn from the seeded Country dimension. PBSM is seeded with over 70 country values, and you can add user-defined countries.
Frequency	The frequency of your Economic Indicator must match the frequency which with the indicator's data is made public. Unemployment statistics, for example, are generally released on a monthly frequency. Select a frequency from the Frequency drop-down list. Available frequencies are Weekly, Monthly, Quarterly, Semi-Annually, and Annually.
Value Type	Select a Value Type from the Value Type drop-down list. Available Value Types are Numeric, Percentage, and Amount. Numeric 0-999999 Percentage -100 to +100 Amount 0-999999

- To build out your Historical Data, enter data within the **Economic Indicators – Historical Data** Section. The **Economic Indicators – Historical Data** Section displays a single blank row followed by the most recent period's data (if data has previously been stored in the database).
- Enter the following information in the **Economic Indicators – Historical Data** Section as tabulated:

Table 7-4 Economic Indicator window – Fields and Descriptions

Fields	Description
Start Date and End Date	Select the Calendar icon immediately adjacent to the Start Date to choose a starting date for your Economic Indicator data point. The application will automatically populate the End Date based on the Economic Indicator's frequency. For example, if your Economic Indicator is an unemployment statistic that has a monthly frequency, select an start date that is the first day of the month that the unemployment rate describes. In this example, the application will automatically populate the End Date with the last day of the month you have selected.
Value	Enter the value for your Economic Indicator (such as the unemployment rate).
Adding a Data Points	Click Add to add a blank row into which you can enter additional Economic Indicator Data.
Adding Multiple Data Points	Click Add to add multiple blank rows into which you can enter additional Economic Indicator Data.
Deleting Data Points	Select one or more check boxes on the left-hand side of any row to enable the Delete icon. After clicking Delete, a confirmation message is displayed to delete the selected rows.
Download Excel	Excel export functionality is used to download the Economic Indicator information in xlsx format. Click Download Excel Option. After downloading, you can modify the value and paste back in the displayed data grid. Note: The date format in the Excel File should be same as provided in Global Preferences. For more information, see the Global Preference Section.

View and Edit Economic Indicator

You can view existing Economic Indicator, and you can edit existing Economic Indicator Rules, provided you have Read/Write privileges.

To view and edit an Economic Indicator, follow these steps:

1. Navigate to the **Reference Data** and select **Economic Indicator**.
2. Search for Economic Indicator. For further information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Economic Indicator Name and select **View/Edit** to open the rule you want to update.
4. Update the details, if required.
5. Click **Save**.

Copy Economic Indicator

You can copy Economic Indicator to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

To copy an Economic Indicator, follow these steps:

1. Navigate to the **Reference Data** and select **Economic Indicator**.
2. Search for an Economic Indicator.
For more information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Economic Indicator Name and select **Save As** to duplicate the rule.
4. Enter a unique code.
5. Enter a unique name.
6. Enter a brief description.
7. Click the **Save** button.

Delete Economic Indicator

You can delete Economic Indicator Rules that are no longer required.



Note:

An Economic Indicator cannot be retrieved after deletion.

Restrictions on deleting Economic Indicator Rules are:

- You cannot delete Economic Indicator Rules if you have only Read privileges. Only users with Read/Write privileges and Economic Indicator owners can delete Economic Indicators.
- You cannot delete an Economic Indicator that has a dependency.

To delete an Economic Indicator, follow these steps:

1. Navigate to the **Reference Data** and select **Economic Indicator**.
2. Search for Economic Indicator.
3. Click on the **Action** icon against the Economic Indicator Name and select **Delete**.

Dependency Check

You can check dependencies for rules to know where a particular Economic Indicator Rule has been used. This also prevents accidental deletion of rules having dependencies.

To check the dependency of a rule, follow these steps:

1. Navigate to the Reference Data and select Economic Indicator.

2. Search for a rule. For more information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Economic Indicator Name and select Dependency Check to the rule that you want to check for.



Note:

This is functionality will be released in future.

8

File Upload and Download

This section contains information on the File Upload and Download feature.

Roles and Functions

The following table lists the role codes and function codes required to configure the File Upload/Download Utility.

Role Codes

Role Code	Function Code
FILE_READ	FILE_SUMMARY
FILE_UPLOAD	FILE_UPLOAD
FILE_DOWNLOAD	FILE_DOWNLOAD
FILE_ADV	FILE_UPLOAD
	FILE_DOWNLOAD
	FILE_DELETE
	FILE_SUMMARY

File Upload and Download Utility

The File Upload and Download Utility enables you to upload or download files to the Object Store. Complete the following steps to Upload or Download a file.

Upload or Download File from Object Store Using Console

1. From the left menu, click **Common Object Maintenance**.
2. Click **Data Management** in the left navigation pane.

The **File Upload and Download** Page is displayed. The Files that are uploaded to the Object Store are listed here. The following details are provided for each File.

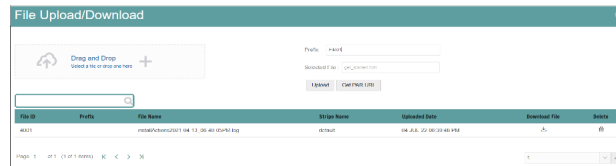
- **File ID** - The unique file ID associated with the file. This is auto-generated during the upload.
- **Prefix** - The prefix is added to the file name.
- **File Name** - The name of the file that is uploaded. This is automatically updated after you select the file.
- **Stripe Name** - The Unique Identifier for storing a collection of files. Collection examples: Project, organization, tenant.
- **Uploaded Date** - The file upload date.
- **Download File** - Click to download a copy of the uploaded file.
- **Delete** - Click to delete the file.

Related Topics

- [Uploading/Downloading a File Using Utility](#)
Complete the following steps to Upload or Download a file using the Utility.
-

Uploading/Downloading a File Using Utility

Complete the following steps to Upload or Download a file using the Utility.

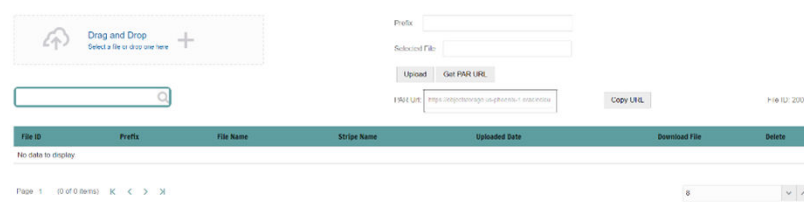


1. Click **Drag and Drop** to browse and select a file for upload from the local directory.
You can also browse to the local directory from the **File Explorer** and select the file and drop it here.
The file name is automatically updated in the **Selected File** field.
2. Enter the **Prefix** to be added to the file name.
The Prefix is added to the file name. In case, you have two files with the same file name, you can save them with different prefixes.
Example: **/abc/test.txt** and **/def/test.txt**. Both these files have the same file name but different Prefixes.
3. Click **Upload** to upload the selected file.
A confirmation message is displayed after successful upload and the file is listed in the Uploaded Files list.

Uploading/Downloading a File Using PAR URL

Complete the following steps to upload or download a file using the PAR URL.

Figure 8-1 Get PAR URL



1. Click **Drag and Drop** to browse and select a file for upload from the local directory.
You can also browse to the local directory from the File Explorer and select the file and drop it here. The file name is automatically updated in the **Selected File** field.
2. Enter the **Prefix** to be added to the file name.
3. Click **Get PAR URL**.

This will generate the PAR URL and File ID which are required to upload the file.

You can also generate PAR URL using Rest API.

4. Copy the PAR URL and note the related File ID.
5. You can upload the file content referred with the specific PAR URL into the object store using one of the following options: Console, CLI, or SDK.

For example, you may use the following curl command directly in local Gitbash.

```
curl -X PUT --data-binary '@<local-filename>' <unique-PAR-URL>
```

You can also use the following command.

```
curl -T '<Filepath>' -X PUT <PAR_URL>
```

You can scan the file referred with the specific File ID (obtained in Step 3) using one of the following options: Console, CLI, or SDK. For example, use the following CURL command to scan the File. Use the File ID.

```
curl -k --location --request PUT 'https://<Host:Port>/<Tenant-ID>/utils-service/v1/file/scan/<FileID>' \
--header 'ofs_tenant_id: <Tenant-ID>' \
--header 'ofs_service_id: <Service-ID>' \
--header 'ofs_workspace_id: <WorkspaceId>' \
--header 'Authorization: Bearer <Generated_Token>'
```

A confirmation message is displayed after successful upload and the file is listed in the Uploaded Files list.

File Upload Automation

To simplify the file upload process, configure and execute the File Upload automation utility.

File Upload automation can be implemented by completing the following steps in sequence.

- [Background Information](#)
- [Step 1: Generate Access Token](#)
- [Step 2: Generate PAR URL](#)
- [Step 3: Upload file to Object Store](#)
- [Step 4: Scan the file to ensure Upload was Successful](#)

Background Information

Client for URLs

For information regarding how to use Client for URLs (cURL), access the following link:

[Sending API requests using cURL](#)

[View list of Uploaded Files](#)

For information regarding how to view a list of uploaded files in your Oracle Financial Services IFRS 9 Solution Cloud Service, access the following link:

[Viewing List of Uploaded Files](#)

Step 1: Generate Access Token

Generate the Access Token for your Cloud Service by:

1. Submitting a RESTful API Post Request to your Oracle IDCS environment as defined in the Identity Cloud Service User Guide. For information, see [OAuth Runtime Tokens REST Endpoints](#).

Note that a sample code snippet has been provided below using cURL to generate the access token for Basic Authorization and assign it to a variable for use within a script:

```
access_token=`curl -s --insecure -H "Authorization: Basic $ENCODED" -H
"Content-Type: application/x-www-form-urlencoded;charset=UTF-8" --
request POST $IDCS_URL -d
"grant_type=password&username=$USERNAME&password=$PASSWORD&scope=urn:opc:
idm:__myscopes__ urn:opc:resource:expiry=9153600" | python3 -c
"import sys, json; print(json.load(sys.stdin)['access_token'])"`
```

Step 2: Generate PAR URL

Generate the PAR URL for your Cloud Service by:

1. Submitting a RESTful API Post Request to your Cloud Service as defined in the [Calling the API to Generate the URL](#) section.

Note a sample code snippet has been provided below using cURL to generate the PAR URL and assign it to a variable for use within a script:

PAR URL Generation Code Snippet

```
curl --location --insecure --request POST "$FILEUPLOADURL" --header
"Authorization: Bearer $access_token" --header 'Content-Type:
application/json' --data-raw "{
  \"fileName\": \"$1\",
  \"fileSize\": \"$2\",
  \"mimeType\": \"$3\"
}" >> "$HOME"/FILEUPLOAD_UTIL/"$1"_PARURLresponse.out 2>&1
```

PAR URL Variable Assignment Code Snippet

```
grep -oE '(https)[^ ]*' "$HOME"/
FILEUPLOAD_UTIL/"$1"_PARURLresponse.out > "$HOME"/
FILEUPLOAD_UTIL/"$1"_PARURLresponse1.csv
while IFS="," read -r H1 H2
do
  URLtrim="$H1"
  FinalPAR=${URLtrim::-1}
  echo -e "\n PAR_URL is $FinalPAR"
done < "$HOME"/FILEUPLOAD_UTIL/"$1"_PARURLresponse1.csv
```


PAR URL Variable Assignment Code Snippet – used in File Scanning Step

```
grep -oE '(fileId)[^ ]*' "$HOME"/FILEUPLOAD_UTIL/"$1"_PARURLresponse.out >
"$HOME"/FILEUPLOAD_UTIL/"$1"_PARURLresponse2.csv
while IFS="," read -r F1 F2
do
    FILEIDtrim="$F1"
    FINALFILEID=`echo "$FILEIDtrim"| sed -r 's/^{8}//'`

    echo -e "\n FILE ID is $FINALFILEID"
done < "$HOME"/FILEUPLOAD_UTIL/"$1"_PARURLresponse2.csv
```

Step 3: Upload file to Object Store

Upload the file to the Object Store of your Cloud Service by:

1. Submitting a RESTful API Post Request to your Cloud Service as defined in the [#unique_104](#) topic.

Note a sample code snippet has been provided below using cURL to upload the file:

```
curl -T "$HOME"/FILEUPLOAD_UTIL/"$1" -X PUT "$FinalPAR"
```

Step 4: Scan the file to ensure Upload was Successful

Scan the file that was uploaded to the Object Store of your Cloud Service by:

1. Submitting a RESTful API Put Request to your Cloud Service as defined by the code snippet below:

File Scanning Code Snippet – using File ID from Step 2 – Generate PAR URL

```
if [ $last_error -eq 0 ]; then
    echo -e "\n *****Scanning the File *****"
    curl -k --location --request PUT "$SCANURL/$FINALFILEID" --header
'ofs_tenant_id: $TENANT' --header 'ofs_service_id: OFS_FTP' --header
'ofs_workspace_id: WS001' --header "Authorization: Bearer $access_token"
    last_error=$?
    if [ $last_error -eq 0 ]; then
        echo -e "\n ***File Upload is Successful please check File
Upload / Download UI***"
    else
        echo "Scan failed"
        exit -2;
    fi
else
    echo "Upload failed"
    exit -3;
fi
```

Generating PAR URL for File Operations

The PAR URL for File Operations API creates a PAR File that you can use to perform file operations in the Object Store for end-to-end integrations.

Generating PAR URL for File Upload

You can use this REST API to generate the PAR URL for File Upload. See the following sections for information on how to perform the POST operation.

Related Topics

-

End Point Details

- **Method** – POST
- **URL** - `https://<HOST_NAME:PORT>/<TENANT>/utils-service/v1/file/uploadfile/parURL?prefix=<prefix>`
- **Content-Type** - Application/Json

Calling the API to Generate PAR URL for File Download Using File Name

To call the API, follow these steps:

1. Open a relevant tool, such as via the cURL command.
2. Prepare a cURL command with the authentication token and other details. For more information refer to the following code.

Syntax

```
curl -k --location --request GET < 'https://<hostname>/<TENANT-ID>/
utils-service/v1/file/download?fileName=<file
name>&stripeName=default&prefix=' \
  --header 'ofs_remote_user: <userid>' \
  --header 'locale: en-US' \
  --header 'ofs_tenant_id: <TENANT-ID>' \
  --header 'ofs_workspace_id: WS001' \
  --header "Authorization: Bearer <TOKEN>"
```

Example

```
curl -k --location --request GET 'https://<hostname>/<TENANT-ID>/
utils-service/v1/file/download?
fileName=test3GB.xml&stripeName=default&prefix=' \
  --header 'ofs_remote_user: cneadmin' \
  --header 'locale: en-US' \
  --header 'ofs_tenant_id: aaitestdev1001-prd' \
  --header 'ofs_workspace_id: WS001' \
  --header "Authorization: Bearer ${TOKEN}"
```

Response

```
{ "payload": { "downloadURL": "https://objectstorage.us-
phoenix-1.oraclecloud.com/p/8R68eVcQAxQjNjK__S04MZjS-
v4BqEbWSILvu0w40kJNrzfKeCB8vWBwugW5XvsK/n/oraclegbudevcorp/b/
fsgbu_pbsm_cndevcorp_aaitestdev1001-prd_default/o/default/2023-01-20/rnz/
6c023e75-09e2-4265-815e-32cedcd2415e?
httpResponseContentDisposition=ATTACHMENT%3B%20filename%3Dtest3GB.xml" } }
```

Request JSON Parameters

This section provides the list of parameters in the JSON Request.

Table 8-1 Request JSON Parameters

Name	Type	Required	Description
fileName	STRING	Yes	<p>The name of the file to be uploaded.</p> <p>The following are the conditions for to enter in this field:</p> <ul style="list-style-type: none"> • Must start with an Alphanumeric Character • Allowed characters are alphabets, numbers, and special characters - hyphen(-), dot(.), and underscore(_) • Length of characters must not be greater than 255 characters
fileSize	INTEGER	Yes	<p>The size of the file (in Bytes) to be uploaded.</p> <p>The size of the file should be greater than 1 Byte and should be less than 10 TB.</p> <p>It is recommended to use multipart upload for uploading files of size more than 100 MB. For more information about uploading large objects and multipart uploads, refer to Working with Pre-Authenticated Requests.</p>

Table 8-1 (Cont.) Request JSON Parameters

Name	Type	Required	Description
contentType	STRING	Yes	The mime type to be uploaded. The following mime types are allowed: <ul style="list-style-type: none"> Text/CSV Text/plain DAT

Request JSON Sample

```
[{
  "fileName": "File.csv",
  "fileSize": 7654,
  "contentType": "text/csv"
}]
```

Response JSON Parameters

This section provides the list of parameters in the JSON Response.

Table 8-2 POST JSON Response

Name	Type	Description
fileName	STRING	The name of the file to be uploaded.
uploadURL	STRING	The generated pre-authenticated URL to upload a file.
fileId	INTEGER	The unique File Identifier.

Response JSON Sample

```
{
  "payload": {
    "uploadURL": "https://objectstorage.us-phoenix-1.oraclecloud.com/p/bdSI-hzigiAoUU0lyEKnuK0YGs05L172gt_woZAgqNFYmUFQeexV3BDfTO97mhBI/n/oraclegbudevcorp/b/fsgbu_pbsm_cndevcorp_ftpqa101231-prd_default/o/default/2023-01-31/jfr/f9ce031f-4a42-471d-b4da-d0577f3eca15",
    "createUser": "user1",
    "stripeName": "default",
    "fileId": 5025,
    "createDate": "2023-01-31T09:14:16",
    "token": "",
    "status": "success"
  }
}
```

Viewing List of Uploaded Files

Run the following cURL command to generate and view all the files that are uploaded using PAR URL.

Syntax

```
curl -k --location --request GET 'https://<hostname>/<TENANT-ID>/utils-  
service/v1/listfiles stripeName=default' \  
--header 'locale: en-US' \  
--header 'ofs_remote_user: <user id>' \  
--header 'ofs_tenant_id: < TENANT-ID >' \  
--header 'ofs_workspace_id: WS001' \  
--header "Authorization: Bearer <TOKEN>"
```

Example

```
curl -k --location --request GET 'https://dc.pbsmcloud.us-phoenix-1.ocs.oc-  
test.com/aaitestdev1001-prd/utils-service/v1/listfiles?stripeName=default' \  
--header 'locale: en-US' \  
--header 'ofs_remote_user: cneadmin' \  
--header 'ofs_tenant_id: aaitestdev1001-prd' \  
--header 'ofs_workspace_id: WS001' \  
--header "Authorization: Bearer ${TOKEN}"
```

Response

```
{  
  "payload":  
  [{"v_file_name": "Idcs_log3.txt", "n_file_id": 9916, "d_upload_date": "31-JAN-23  
06:33:43 AM", "v_stripe_name": "default"},  
  {"v_file_name": "Idcs_log4.txt", "n_file_id": 9917, "d_upload_date": "31-JAN-23  
06:40:25 AM", "v_stripe_name": "default"}], "count": 2}
```

Generating PAR URL For File Download

You can use this REST API to generate the PAR URL for File Download. See the following sections for information on how to perform the post operation.

Calling the API to Generate PAR URL for File Download Using File Name

To call the API, follow these steps:

1. Open a relevant tool, such as via the cURL command.
2. Prepare a cURL command with the authentication token and other details. For more information refer to the following code.

Syntax

```
curl -k --location --request GET < 'https://<hostname>/<TENANT-ID>/utils-  
service/v1/file/download?fileName=<file name>&stripeName=default&prefix='  
<
```

```
--header 'ofs_remote_user: <userid>' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: <TENANT-ID>' \
--header 'ofs_workspace_id: WS001' \
--header "Authorization: Bearer <TOKEN>"
```

Example

```
curl -k --location --request GET 'https://<hostname>/<TENANT-ID>/
utils-service/v1/file/download?
fileName=test3GB.xml&stripeName=default&prefix=' \
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header "Authorization: Bearer ${TOKEN}"
```

Response

```
{"payload":{"downloadURL":"https://objectstorage.us-
phoenix-1.oraclecloud.com/p/8R68eVcQAxQjNjK__S04MZjS-
v4BqEbWSILvu0w40kJNrzfKeCB8vWBwugW5XvsK/n/oraclegbudevcorp/b/
fsgbu_pbsm_cndevcorp_aaitestdev1001-prd_default/o/default/
2023-01-20/rnz/6c023e75-09e2-4265-815e-32cedcd2415e?
httpResponseContentDisposition=ATTACHMENT%3B%20filename%3Dtest3GB.xm
l"}}}
```

Calling the API to Generate PAR URL for File Download Using File ID

To call the API, follow these steps:

1. Open a relevant tool, such as via the cURL command.
2. Prepare a cURL command with the authentication token and other details. For more information, refer to the following code.

Syntax

```
curl -k --location --request GET 'https://<hostname>/<TENANT-ID> /
utils-service/v1/file/downloadfile/<file id>' \
--header 'ofs_remote_user: <userid>' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: < TENANT-ID> ' \
--header 'ofs_workspace_id: WS001' \
--header "Authorization: Bearer <TOKEN>"
```

Example

```
curl -k --location --request GET 'https://<hostname>/<TENANT-ID>/
utils-service/v1/file/downloadfile/9916' \
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
```

```
--header 'ofs_workspace_id: WS001' \  
--header "Authorization: Bearer ${TOKEN}"
```

Response

```
{"payload":{"downloadURL":"https://objectstorage.us-  
phoenix-1.oraclecloud.com/p/  
gTxxzhqLEea4Or2TRkBqTqHxt_JogVF9G_0wtN8NYy_op0Zk4lvKGDxxeXGhLq7/n/  
oraclegbudevcorp/b/fsgbu_pbsm_cndevcorp_aaitestdev1001-prd_default/o/  
default/2023-01-31/fae/2d63d2fe-2090-4fb7-a4c8-9940d22987db?  
httpResponseContentDisposition=ATTACHMENT%3B%20filename%3DIcsc_log3.txt"}}
```

9

Data Maintenance Interface

Data Maintenance Interface (DMI) helps to design a Data Form in a user-specified format. Further, it allows to perform maintenance activities using the Designed Form.

Designer View

The Designer allows the user to design a form to maintain the underlying data.

Data View

This allows the user to maintain the data either through the form that has been defined or do a bulk upload using the excel upload mechanism. A strong data governance process is enabled through an approval workflow of the data maintained.

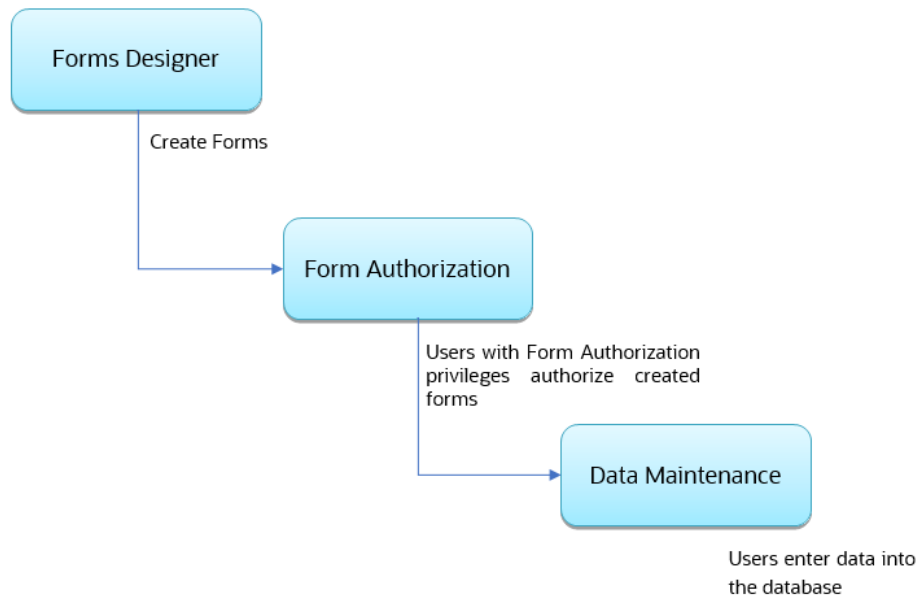
Related Topics

- [Process of DMI Windows](#)
- [User Role Mapping and Access Rights](#)
- [Access the Data Maintenance Interface](#)
- [Form Designer Summary Page](#)
- [Creating New Forms in Form Designer](#)
- [Approving and Rejecting New Form Definitions](#)
- [Managing Form Definitions](#)

Process of DMI Windows

The DMI Process starts with a user creating forms in the Form Designer. After the creation of forms, a user with Authorization Privileges authorizes the forms. The Authorized Forms are then used by users to enter data into the database.

Figure 9-1 DMI Process Flowchart



User Role Mapping and Access Rights

User access to the DMI UI and the ability to perform functions in it is dependent on the mapping of the user profile to the roles and the access rights assigned.

To access the DMI features, you must be mapped to the following roles:

Table 9-1 User Role Mapping for Data Maintenance Interface

Role Code	Role Name	Functionality
DMIDSGNREAD	Data Designer Read	Assign this role to the user to access the Configure View menu from Navigation Tree. NOTE: The mapping of this role does not allow view, edit, and add actions.
DMIDSGNAUTH	Data Designer Auth	Assign this role to the user to Authorize, Excel Upload, and Designer Summary.
DMIDSGNREJ	Data Designer Reject	Assign this role to the user to Reject, Excel Upload, and Designer Summary.
DMIDGNFORM	Data Designer Form	Assign this role to the user to Create Designer Form Definition.
DMIDGNTEMPLATE	Data Designer Template	Assign this role to the user to Create Excel upload Definition.

Table 9-1 (Cont.) User Role Mapping for Data Maintenance Interface

Role Code	Role Name	Functionality
DMIDSGNDEL	Data Designer Delete	Assign this role to the user to Delete, Excel upload, and Designer Summary.
DMIDGNVIEW	Data Designer View	Assign this role to the user to Create View Definition.
DMIDSGNWRITE	Data Designer Write	Assign this role to the user to Add, Edit and Copy all kinds of definitions in Designer screen.
DMIDATAREAD	Data Entry Read	Assign this role to the user to access the Data View menu from the Navigation Tree. NOTE: The mapping of this role does not allow view, edit, and add actions.
DMIDATAALL	Data All Summary	Assign this role to view the list of all Component Records in Data Entry Screen.
DMIDATAWRTE	Data Entry Write	Assign this role to the user to Add, Edit Records in Data Entry Screen.
DMIDATADEL	Data Entry Delete	Assign this role to the user to Delete a Record Summary Data Entry Screen
DMIDATAAUTH	Data Entry Auth	Assign this role to Authorize a Record Summary in Data Entry Screen.
DMIDATAREJ	Data Entry Reject	Assign this role to Reject a Record Summary in Data Entry Screen.
DMIDGNAUTO	Enable Auto Approve	The user mapped to this function will have access to create Auto Approved Forms

**Note:**

All the DMI roles are mapped to a single group, Data Maintenance admin group. If a user is mapped to this group all the DMI roles are automatically assigned to the user.

Access the Data Maintenance Interface

To access the Data Maintenance Interface (DMI), proceed with the following steps:

1. Login to your Oracle Cloud account, with the required credentials to access DMI.
2. Select an application, to access the DMI for that application.

For example, to access DMI for CFECS, select **Cash Flow Engine Cloud Service (CFECS)**.

 **Note:**

The navigation steps vary for different applications. Refer to the respective application documentation for accessing Data Maintenance Interface.

3. Click **Data Management Tools** and click **Data Management Interface**.
The **Navigation List** is displayed.
4. Click one of the following menu items to access the respective windows:
 - [Designer View](#)
 - [Data View](#)

Form Designer Summary Page

You can create forms from the Form Designer View. The forms in the application are created with details configured for data maintenance and require authorization for use after creation.

To view the Forms Designer page, follow these steps:

1. Click **Data Maintenance Interface**.
2. Click **Designer View**, in the DMI navigation list.

The Form Definitions Summary page comprising the list of Form definitions is displayed. The following details are included the Summary page.

Table 9-2 Field Description

Field	Description
Name	The unique name of the Form Definition.
Status	The processing status of the form definition. The various processing statuses are: <ul style="list-style-type: none"> • Draft – when the form is under development and is yet to be submitted for approval. • Waiting for Approval – When the approval is pending. • Approved – When the form definition is approved.

Table 9-2 (Cont.) Field Description

Field	Description
Type	The form definition type: <ul style="list-style-type: none"> • Data Exporter – creates form based on an entity table. • Excel Upload – creates form based on uploaded Excel Sheet. • View – Creates form based on Database views. • Designer – creates the form based on the entities, attributes and rulesets provided by the user.
Description	The Form Definition description.
Created By	The username of the logged in User who created the form.

It has a [Search](#) tile to search for forms and a Forms tile that shows a list of existing forms in the application. You can sort the Form definition based on Name, Description and Created By fields.

To filter and view Form definitions with a specific processing status, click the respective status name in the top of the page.

You can also add, edit, view, and delete forms, from the Forms Definitions Summary page, based on the assigned roles and privileges. For more information, refer [User Role Mapping and Access Rights](#).

Related Topics

- [Creating Forms Using Data Exporter](#)
Forms created using Data Exporter are used to export table data to CSV or JSON format.
- [Creating Forms Using Excel Upload](#)
- [Creating Forms Using View](#)
- [Creating Forms Using Designer](#)

Accessing Information in Summary Page

A Form definition Summary Page contains a list of existing Form definitions. You can search, filter, and customize the view to access the required data.

Searching a Summary Page

Search for forms in the application from this pane. The search pane is common to all the windows in DMI and shows at the top. Enter search terms in the **Form Name** or **Form Code** field, or use a combination of both the fields. Click **Search**. The search result is displayed in the Forms pane. Click **Cancel**, to clear the search criteria and view all the form records.

Select the required records, to view data, and edit or delete records.

Sorting a Summary Page

You can sort the Definitions list using **Name**, **Description** and **Created By** fields. You can also sort the page in ascending/descending order.





Setting Number of Records Per Page

At the bottom of the page, you can enter the number of entries that are available on a single page in the Records box. By default, this value is set to 10.

You can increase or decrease the number of entries that are displayed using the up and down arrows.

To access a particular page, enter the page number in the Page Box located at the bottom of the page.

To navigate between pages, use the following buttons:

- Use the **First Page** () to view the entries in the First page.
- Use the **Previous Page** () to view the entries in the Previous page.
- Use the **Next page** () to view the entries in the Next page.
- Use the **Last page** () to view the entries in the Last page.

Creating New Forms in Form Designer

Form creation involves selecting entities, displaying columns with attributes on the form, and if required, selecting authorization of data. Security settings provide for the creation of specific-user access for the forms and authorization.

To add a form, follow these steps:

1. In the DMI Summary page, click **Add**.
The **Create Forms Definition page** is displayed.
2. Enter/select the following details.

Table 9-3 Field Description

Field	Description
Type	Select the Definition Type: <ul style="list-style-type: none"> • Data Exporter – creates form based on an entity table. • Excel Upload – creates form based on uploaded excel sheet. • View – Creates form based on Database views. • Designer – creates the form based on the entities, attributes and rulesets provided by the user.

Table 9-3 (Cont.) Field Description

Field	Description
Code	The application generates a unique value for Form Code and does not require any input.
Name	Enter the name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Description	The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Created By	The username of the logged in User who created the form.

3. Click **Apply** to create a new Form definition or **Close** to cancel the Form creation process.

The **New Form Configuration page** is displayed based on the selected input type.

For more information about each form creation method, refer to the respective sections:

Related Topics

- [Creating Forms Using Data Exporter](#)
Forms created using Data Exporter are used to export table data to CSV or JSON format.
- [Creating Forms Using Excel Upload](#)
- [Creating Forms Using View](#)
- [Creating Forms Using Designer](#)

Creating Forms Using Data Exporter

Forms created using Data Exporter are used to export table data to CSV or JSON format.

You can also include filters and Dynamic placeholders to view and export specific set of data.

1. Select **Data Exporter** in Create New Form Definition page.
2. Enter the following details:
 - **Source** - Select one of the following input sources for the new form definition.
 - Table
 - View
 - **Code** - The application generates a unique value for Form Code and does not require any input.
 - **Name** - The name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Description** - The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Created By** - The username of the logged in User who created the form.
3. Click **Apply** to proceed with the Form creation.
Click **Close** to return to the Form Designer Summary Page.

The **Table selection** tab is displayed.

4. Select the Table from the drop-down list and click **Apply**.

The **Attributes** tab is displayed.

5. Click the drop-down arrow corresponding to the table in the **Entity Name** field.

The source attributes from the table and the mapped attributes from the Excel file are displayed.

If the selected table has Child tables, the Child tables that you select from the Mapped Entities tab are also displayed in the **Attributes** tab. You can configure the attributes for the master table and its child tables.

6. Click **Filter** to apply filters to the form data. For more information, refer [Creating Data Filters for New Form Definitions](#).
7. Select **Participate in Data Security** if you want to configure a specific condition. The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer [Enabling Data Security for New Form Definitions](#).
8. Click **Select columns** to view only specific columns.
9. Click **Data Preview** to preview the form data.
10. Select **Auto Approve** if you do not want to the Forms Definition through the PMF workflow. When you select this option, the Forms Definition is automatically approved from Forms **Definition Summary Page** and is available for Data Entry. A user with the required role can then perform the data entry without the need for an approval process. For more information, see [Enabling Data Security for New Form Definitions](#).
11. Click **Save as Draft** if you want to save the Forms Definition in draft format.
12. Click **Submit** if you want to submit the Forms Definition for approval.

Creating Forms Using Excel Upload

Excel Upload Definition Type creates new forms based on the uploaded Excel file that has column names as per the table in the application data source. You can also modify the mapping for the attributes while you create the Forms Definition. When the Forms Definition that you create using the Excel option is approved from the Forms Definition Summary Page, users with the necessary role and permission can perform Data Entry for the records updated by the Excel file.

1. Select **Excel Upload** in Create New Form Definition pane.
2. Select **Auto Map Entities**, to auto map the attributes in the Excel file with the attributes in the Entity Table.
3. Enter the following details:

Table 9-4 Field Description

Field	Description
Code	The application generates a unique value for Form Code and does not require any input.

Table 9-4 (Cont.) Field Description

Field	Description
Name	The name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Description	The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Created By	The username of the logged in User who created the form.

- Click **Apply**.
The **File Upload tab** is displayed.
- Enter the following details. a name and description for the excel template in the Template Name, and Description Fields.

Table 9-5 Field Description

Field	Description
Name	Enter the name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Description	The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Created By	The username of the logged in User who created the form.

- Click **Drag and Drop** and select the excel file to update the required table.

 **Note:**

You can also drag and drop the required excel file in the Drag and Drop Field.

The excel file is uploaded and a confirmation box is displayed.

The **Mapped Entities Tab** is displayed.

- Enter the name of the table that you want to modify in the Primary Entity Field.
If the table has Child tables, the Child tables also get displayed in the **Mapped Entities** tab. You can select the required child tables for which data should be input during data entry.
- Select **Enable Bulk Authorization** if you want to enable the bulk authorization of all the records when you edit an approved Form from Data Entry.
- Click **Apply**. To update the data in the mapped attribute tab, you have click **Apply** every time you update the Mapped entities.
The **Mapped Attributes Tab** is displayed.

10. Click the drop-down arrow corresponding to the table in the Entity Name.
The source attributes from the table and the mapped attributes from the Excel file are displayed.
If the selected table has Child tables, the Child tables that you select from the Mapped Entities tab are also displayed in the Attributes tab. You can configure the attributes for the master table and its child tables here.
11. Click the required mapping in the **Override Mapping Column** and enter the required attribute name if you want to change the default mapping.
12. Click **Select Columns** to select the columns for bulk update, during Data entry.
13. Select **Participate in Data Security** if you want to configure a specific condition. The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer [Enabling Data Security for New Form Definitions](#).
14. Click **Filter** to apply filters to the form definition.
This filters the data based on specified filter conditions. For more information, refer [Creating Data Filters for New Form Definitions](#).
15. Click **User Security** to select the user or user groups who can perform data entry to maintain the data in the table. For more information about adding user security, refer to [Enabling User Security for New Form Definitions](#).
16. Click **Data Preview** to preview the form data.
17. Select **Auto Approve** if you do not want to the Forms Definition through the PMF workflow. When you select this option, the Forms Definition is automatically approved from Forms Definition Summary page and is available for Data Entry. A user with the required role can then perform the data entry without the need for an approval process. For more information, see [User Role Mapping and Access Rights](#).
18. Click **Save as Draft** if you want to save the Forms Definition in draft format. The form is added to the summary page with Draft status.
19. Click **Submit** if you want to submit the Forms Definition for approval. For more information refer to [Approving and Rejecting New Form Definitions](#). After approval/ auto approval, the form is added to the Form Definition Summary page.

Creating Forms Using View

View Definition Type creates new forms based on Database views. You can also download the Database data in CSV format.

1. Select **View** Option in Create New Form Definition pane.
2. Enter the following details:

Table 9-6 Field Description

Field	Description
Code	The application generates a unique value for Form Code and does not require any input.

Table 9-6 (Cont.) Field Description

Field	Description
Name	Enter the name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Description	The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Created By	The username of the logged in User who created the form.

3. Click **Apply**.
The **View Selection tab** is displayed.
4. Click **Apply**.
The **Attribute Selection Tab** is displayed.
5. Click the drop-down arrow in the **View Name** field.
The source attributes from the table and the mapped attributes from the Excel file are displayed. If the selected table has Child tables, the Child tables that you select from the Mapped Entities tab are also displayed in the Attributes tab.
6. Click the check-box next to an Attribute Name , to include the Attribute in the Form definition.
To remove the attribute from the form definition, uncheck the selection.
7. Click **Filter** to apply filters to the form definition.
For more information, refer [Creating Attribute Filters for New Form Definitions](#).
8. Click **Apply**.
The **Data Preview Tab** is displayed. You can view the sample form based on the selected view, attributes and filter conditions.
9. Click **Download CSV** to download the preview data.
10. Click **Save as Draft** if you want to save the Forms Definition in draft format.
11. Click **Submit** if you want to submit the Forms Definition for approval.

Creating Forms Using Designer

You can use the Designer option to create a Forms Definition and select the table and attributes that you want to modify. When the Forms Definition that you create using the Designer option is approved from the Forms Definition Summary Page, you can enter the values for the table records in the approved Forms Definition from Data Entry.

To create a Forms Definition by using the Designer option, perform the following steps:

1. Select **Designer** in Create New Form Definition page.
2. Enter the following details:

Table 9-7 Field Description

Field	Description
Code	The application generates a unique value for Form Code and does not require any input.
Name	The name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Description	The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Created By	The username of the logged in User who created the form.

3. Click **Apply**.

The **Entities tab** is displayed.

4. Select the table that you want to modify in the **Primary Entity Field**.

If the selected table have child tables, the child tables is also displayed. You can select the required Child tables for which you wish to input the data during data entry.

 **Note:**

You can select up to four Child tables only for each Master table.

5. Select **Enable Bulk Authorization**, if you want to enable the bulk authorization of records while performing data entry.
6. Click **Apply**.
The **Attributes tab** is displayed.
7. Click the drop-down arrow corresponding to the table in the Entity Name field.
The attributes in the entity table are displayed.
If your table has Child tables, the Child tables that you select from the Entities tab also gets displayed in the Attributes tab.
8. Select the attributes for which you want to modify the data from the Attribute Name field.
9. Select **Participate in Data Security** if you want to configure a specific condition. The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer [Enabling Data Security for New Form Definitions](#).
10. Click **Filter** to apply filters to the form definition.
For more information, refer [Creating Attribute Filters for New Form Definitions](#).
11. Click **Select Columns** to search and select specific columns.
12. Click **Apply**.

The **Ruleset Tab** is displayed. This tab enables you to give permission to add data during data entry for those attributes that are set to Editable mode. The key fields that cannot be modified are set to Read-only mode.

Attributes that you select from the Child tables are also displayed in the Ruleset tab.

13. Select the checkbox corresponding to **Allow Add column** for the attributes that you want to modify.
14. Click **User Security** to select the user or user groups who can perform data entry to maintain the data in the table. For more information about adding user security, refer to [Enabling User Security for New Form Definitions](#).
15. Select **Auto Approve** if you do not want to the Forms Definition through the PMF workflow. When you select this option, the Forms Definition is automatically approved from Forms Definition Summary Page and is available for Data Entry.

A user with the required role can then perform the data entry without the need for an approval process. For more information, see [Enabling Data Security for New Form Definitions](#).

16. 16. Click **Save as Draft** if you want to save the Forms Definition in draft format.
Click **Submit** if you want to submit the Forms Definition for approval.

Creating Data Filters for New Form Definitions

Complete the following steps if you want to add filters to the Forms Definition:

1. Click **Launch Filter** Condition.
The Filter Condition pane is displayed.
2. Enter/ select the following details.
 - **Column** - Select the column from the applying the filter.
 - **Condition** - Select one of the following filter conditions, to filter the column data.
 - = - Equal to
 - **IN** - <Verify>Validates the filter condition and return True or False.
 - <> - Not equal to
 - < - Lesser than
 - <= - Lesser than or equal to
 - > - Greater than
 - >= - Greater than or equal to
 - **IS** - <TBD>
 - **Type** - Select one of the following filter types.
 - **Static** - Select Static, to enter a value and execute the filter using only one value. You cannot change the value at a later point.
 - **Dynamic** - Select Dynamic, to change the filter value when needed. After setting the filter type to Dynamic, select the **Placeholder** and set one of the default seeded values, to process the filter.

 **Note:**

Only values that are already seeded in the Database table, are displayed in the Placeholder drop-down list.

- **Filter Value** - Select/enter the filter value.

 **Note:**

For Language Placeholder the default locale language is displayed and cannot be modified.

3. Click **Add**. to add a new Filter expression. You can add multiple Filter expressions to the same filter.

The filter is added to the list of filters.

Mouse-over the place holder filter, to view more details about the filter.

4. Click **Validate** to verify the filter condition is valid.
A confirmation message is displayed, if the filter is valid.
5. Click **Apply**.
The filter is displayed in the Filter Condition Field.
6. Click **Reset**, to clear all the filter expressions and create a new expression.
7. Click **Delete** to delete an existing filter expression.
8. Click **Edit** to modify a filter expression. After editing the expression, click **Validate**, to verify if the condition is valid.
9. Click **Apply** to add the filter expression to the form definition.

Enabling Data Security for New Form Definitions

Data security conditions allows you to apply certain filters when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry page.

For example, consider that you configure the condition `COUNTRY_NAME = 'INDIA'` for the reference table **DIM_COUNTRY**. When a user performs the data entry for this Forms Definition from the Forms Definition - Summary Page and enters a country name other than 'INDIA', the record gets rejected by the application when another user approves this record.

Complete the following steps to configure Data Security for the Forms Definition:

1. Select the check box next to the **Attribute Name**, in the **Participate in Data Security** Column.

 **Note:**

Data Security information must be configured for each attribute name, separately.

2. Click **Data Security**.
The **Data Security page** is displayed.
3. Select the table based on which you want to build your condition from the Reference Table drop-down list.
4. Build your expression by selecting the required column, condition, and filter value.
5. Click **Apply**.

Enabling User Security for New Form Definitions

The User Security option helps you to select the users/user groups who can add, edit, delete and/or authorize data entry.

1. Click **User Security** to select the user or user groups who can perform data entry to maintain the data in the table.
The **User Security page** is displayed.
2. Enter the required user group or user to assign permissions from the Map Users /Groups Field.

When you select the user group or user, the permissions for each approved Forms Definition are displayed. These permissions are the actions that the selected user group or user can perform while performing Data Entry.

Table 9-8 Permissions in the Map Users / Groups Pane

Option	Description
Add /Edit	Add or modify records in an approved Forms Definition
Delete	Delete records in an approved Forms Definition
Authorize	Authorize the records in an approved Forms Definition
Duration From	Optional. Select the start date for which the permissions are available to the user or user group.
Duration To	Optional. Select the end date for which the permissions are available to the user or user group.

The User Security Configuration is complete.

 **Note:**

If you select a user group for User Security, you can view the users mapped to that group by clicking the **Users** icon.

Approving and Rejecting New Form Definitions

You can validate and approve the new Forms Definition if you have the required role assigned to you.

If the configuration in the Forms Definition is incorrect, you can reject the Forms Definition. The rejected Forms Definition changes into Draft status. You can then request the required user to edit the Forms Definition and submit it for approval again.

You can also view, copy, and edit each Forms Definition from the Forms Definition – Summary page by clicking Menu. These actions are available based on the roles assigned to you. For more information, refer [User Role Mapping and Access Rights](#).

Approving a Forms Definition

You can approve new forms based on the assigned roles. For more information about the roles, refer. [User Role Mapping and Access Rights](#).

To approve a Forms Definition, perform the following steps:

1. In the Designer View, click **Menu** in the Forms Definition that is in Awaiting status, and then click **Approve**.

The **Configure page** is displayed.

2. Click **Approve** and then enter the required description for the approval in the Comments field.

3. Click **Submit**.

The Forms Definition is approved and is displayed in the **Data Entry page** as a new entry.

Rejecting a Forms Definition

You can reject new forms based on the assigned roles. For more information about the roles, refer. [User Role Mapping and Access Rights](#).

To reject a Forms Definition, perform the following steps:

1. In the Designer View, click **Menu** in the Forms Definition that is in Awaiting status, and then click **Reject**.

The **Configure page** is displayed.

2. Click **Reject** and then enter the required description for the approval in the Comments field.

3. Click **Submit**.

The Forms Definition is rejected, moved to draft status. The form definition is displayed in Forms Definition Summary page. You can then edit the Forms Definition in draft status and submit it for approval again.

For more information on editing a Forms Definition, see [Editing Form Definitions](#).

Managing Form Definitions

You can view, edit, copy, and delete the existing Form Definitions from the Form Definition Summary Page, based on the assigned roles. For more information, refer to [User Role Mapping and Access Rights](#).

In the Summary Page, highlight a specific Definition and click **Action**. The following options are displayed:

Table 9-9 Action Details

Action	Description
View	View the Member details for a specific Member Definition.
Edit	Edit the Member details of a form definition.
Copy	Copy the Member Definition Details and create another Member Definition by changing Alphanumeric Code, Numeric Code and Name.
Upload	Upload a new Excel sheet for an Excel upload form definition. You need to delete the attached excel sheet before uploading the new data.
Delete	
Approve	If you have the required role, you can approve a new Form that is in Awaiting Approval status. For more information, refer to Approving a Forms Definition .
Reject	If you have the required role, you can approve a new Form that is in Awaiting Approval status. For more information, refer to Rejecting a Forms Definition .

Viewing Form Definitions

To view a form definition, you will require specific roles. For more information about Roles, refer [User Role Mapping and Access Rights](#).

You can view the details of an individual Form Definition, using the following procedure:

1. Highlight the Form Definition and click **Action**.
2. Click **View**.

The **Form Definition page** is displayed.

Editing Form Definitions

Editing form details requires specific assigned roles. For more information about the roles, refer [User Role Mapping and Access Rights](#). Forms that are already approved cannot be edited.

You can edit individual Definition Details, using the following procedure:

1. Highlight the Definition and click the Action button
2. Click **Edit**.

The **Form Definition page** is displayed with the details.

3. Edit the required information and click **Save**.

Copying Form Definitions

You can copy form details, based on the assigned roles. For more information about the roles, refer. [User Role Mapping and Access Rights](#).

You can copy individual Definition Details, to recreate another new Definition, using the following procedure:

1. Highlight the Definition and click **Action**.
2. Click **Copy**.
The **Form Definition Page** is displayed with the Details.
3. Edit the unique information and modify details like entity table, attribute filters, user and data security details and click **Save**.

Re-Uploading Form Definitions

You can upload a new Excel Sheet based on the assigned roles.

For more information about the roles, refer. [User Role Mapping and Access Rights](#). You can change the Excel Sheet attached to an Excel Upload form Definition, using the following procedure:

1. Highlight the Definition and click **Action**.
2. Click **Upload**.
The **Definition page** is displayed with the details.
3. In the Entities tab, click **Remove**, to delete the existing Excel sheet.
4. Click **Drag and Drop** and select the new Excel sheet to be uploaded.

Deleting Form Definitions

You can only delete the form definitions that are in Draft status, you can delete a form based on the assigned roles. For more information about the roles, refer. [User Role Mapping and Access Rights](#).

Highlight the draft form definition and click **Delete**.

Data View

The Data View feature of Data Maintenance Interface (DMI) enables you to maintain or modify the table data by using the Forms Definition that is created and approved from Forms Definition Summary page. For more information on Forms Definitions, see [Creating Forms Definition](#).

If the approved Forms Definition is created by using the designer option, a user with the necessary role can add or modify the records in the table as per the configuration in the Forms Definition. These records are then sent to another user with the necessary permission for final approval.

If the approved Forms Definition is created by using an Excel file, a user with the necessary permission can verify and approve the records that are modified with the values from the Excel file. If the records modified by the Excel file are incorrect, the user can reject the records. The rejected record can be modified by a different user with the necessary role and can be sent for the final approval again. The Forms Definitions that are created by using an Excel file are labeled with an Excel icon in Data Entry.

Viewing Data Entry

You can view records based on the assigned roles. For more information about the roles, refer to [User Role Mapping and Access Rights](#).

Complete the following steps to view Data entry:

1. Login to your Oracle Cloud account, with the required credentials to access DMI.
2. Select an application, to access the DMI for that application.

For example, to access DMI for CFECS, select **Cash Flow Engine Cloud Service (CFECS)**.

 **Note:**

The navigation steps vary for different applications. Refer to the respective application documentation for accessing Data Maintenance Interface.

3. Click **Data Management Tools** and click **Data Management Interface**.

The **Navigation List** is displayed.

4. Click **Data View**.

The **Data Entry page** is displayed. All the approved forms are displayed in the Data Entry page. Forms in Draft and Awaiting Approval status can be accessed from the Designer View page.

Data Entry – Forms Created Using Designer

If the Forms Definition is created by using the designer option, the user with the necessary role can enter the values for the table records as per the configuration in the Forms Definition. This user can also add or delete records. These records are then submitted for approval to another user with the necessary role. For more information, refer to [User Role Mapping and Access Rights](#).

Complete the following procedure, to update/delete data in the table records:

1. Click **Menu** button in the required Forms Definition from the Data Entry Page.
2. Click **Edit**.

The **Entity Details Page** is displayed.

The records are classified based on the following Status:

- **Draft** – Records that are created but not submitted. In Draft state, you can add, new rows or delete/edit an existing row submit for Auto-approval.
- **Ready** – Records that are approved. You can only edit the records.

For adding/deleting records and editing existing draft or Ready records, refer to the following sections:

Related Topics

- [Adding/Editing a Draft Record](#)
- [Deleting Draft Records](#)

Adding/Editing a Draft Record

To Add or Edit a draft record, follow these steps:

1. Select **Draft** from the Status drop-down list.
The entity records with Draft status are displayed.
2. To add a new record, click **Add**.
A new entry with Draft Status is added to Entity details page. This entry is empty. Edit the record to add the attribute details.
3. To edit a record, click **Edit** next to the record.
The **Edit page** is displayed.
4. Enter the values in the attributes that you want to modify and click **OK**.
You can repeat the steps for all the records for which the data needs to be entered.
5. Click the modified record in draft status, and then click **Submit for Approval** or **Submit with Auto Approval**.

If the record is submitted with Auto approval, it is approved instantaneously.

If the record is submitted for approval, is sent for approval, and is changed to **Awaiting status**. A user with the necessary role can approve these records. For more information, see [Approving and Rejecting Records after Data Entry](#).

After Approval, the status is changed from Draft to Ready. Refer [Editing Approved Records](#), to edit the records in Ready Status.

Note:

If the user has configured the Participate In Data Security option while creating a Forms Definition, you must enter the value as per the configured condition. If you enter a value that does not meet the condition, then the record is rejected by the application and the approval gets failed. You can view the details of the rejection by using the Audit trail option for each record. For information on the Participate In Data Security option, see [Enabling Data Security for New Form Definitions](#).

Deleting Draft Records

You can delete the records in Draft status. If the record is approved and moved to Ready status, it cannot be deleted.

1. Select **Draft** from the Status drop-down list.
The entity records with Draft status are displayed for entering data are displayed.
2. Select a record and click **Delete**.
To delete multiple records, select all the required records and click **Delete**.
To bulk delete all the records, select the Check box on the Header. All the records are selected. Then, click **Delete**.

Editing Approved Records

The Approved records are set to Ready Status. When you edit the record, it is moved to Draft Status.

1. Select **Ready** from the Status drop-down list.

The entity records with Ready status are displayed for entering data are displayed.

2. To edit a record, click **Edit** next to the record.

An edit pane is displayed.

3. Update the values for the attributes that you want to modify and click **OK**.

4. Enter a valid reason for modification.

You can repeat the steps for all the records for which the data needs to be entered.

5. Click the modified record in draft status, and then click **Submit for Approval** or **Submit with Auto Approval**.

To submit multiple records, select all the required records and click **Submit**.

To bulk submit all the records, select the Check box on the Header. All the records are selected. Then, click **Submit**.

If the record is submitted with Auto approval, it is approved instantaneously. The record is sent for approval and is changed to Awaiting status. A user with the necessary role can approve these records. For more information, see [Approving and Rejecting Records after Data Entry](#).

Forms Created Using Excel Upload

When a Forms Definition created using an Excel file is approved from Forms Definition Summary Page, the table records in the selected table are updated using the data in the Excel file. These records are in Awaiting status for the approved Forms Definition in Data Entry. You can verify the records modified by the Excel file records and approve them if you are assigned to the necessary role. If the records modified by the Excel file are incorrect, you can reject the records. The status of the rejected records is changed to Draft. A user with the necessary role can edit the records in draft status and submit them for approval again.

- To approve records, see [Approving a Record](#).
- To reject records, see [Rejecting a Record](#).
- To edit a record in draft status, see [Editing a Rejected Record](#).

Approving and Rejecting Records

A user with the necessary role can approve or reject the edited records. For more information, refer to [User Role Mapping and Access Rights](#).

Approving Draft Records

To approve records that are in the Draft status, perform the following steps:

1. In the **Entity Details page**, select **Draft** from the Status drop-down list.

The entity records with Draft status are displayed.

2. Select the required record.
You can select multiple records, to perform bulk Approval. Bulk Approval is enabled only if Bulk Authorization is activated during Form Creation.
3. Enter the required comment in the Comments Field, and then click **Approve**.
The record is approved successfully with the values from the Excel file.

Rejecting a Record

To reject a record in Awaiting status, perform the following steps:

1. Click **Menu button** in the required Forms Definition from the Data Reporting - Data Entry page.
2. Click **Edit**.
The Entity Details page is displayed. The records that are waiting for the final approval are displayed here.
Select the required record, and then click **Reject**.
You can select multiple records to perform bulk rejection. Bulk rejection is enabled only if Bulk Authorization is activated during Form Creation.
3. Enter the required comment in the Comments field, and then click **Reject**.
The record is rejected, and the status is changed to **Draft**. A user with the necessary role can now edit the record.

Editing a Rejected Record

You can edit the records that are in draft status and send them approval to the user with the necessary role.

To edit a record, perform the following steps:

1. Select **Draft** from the Status drop-down list.
2. Click **Edit** in the record that you want to edit.
The Edit pane is displayed.
3. Modify the required attributes, and click **OK**.
4. Select the record and then click **Send for Approval**.

The modified record is now moved to **Awaiting** status. A user with the necessary role can approve the record.

Note:

If the user has configured the Participate In Data Security option while creating a Forms Definition, you must enter the value as per the configured condition. If an incorrect value is entered, the record gets rejected by the application and the approval is failed. You can view the details of the rejection by using the Audit Trail option for each record. For information on the Participate In Data Security option, see [Enabling Data Security for New Form Definitions](#).

Audit Trail

The Audit Trail option for each record enables you to view the history of changes made to that record.

10

Data Quality Framework

Data Maintenance Interface (DMI) helps to design a Data Form in a user-specified format. Further, it allows to perform maintenance activities using the Designed Form.

Data Quality Framework within the Infrastructure system facilitates you to define rules and execute them to query, validate, and correct the transformed data existing in an environment. This framework includes the following components:

- **Data Quality Rules:** Data Quality Rules allows you to create a DQ (Data Quality) definition and perform Data Quality checks using Single column and Multi-column checks.
- **Data Quality Groups:** Data Quality Groups facilitates you to logically group the defined DQ definitions.

Roles and Functions for Managing DQ Framework

The following roles and function are required to create, view and manage the Rules and Groups in DQ Framework.

Role	Action
DQACC - DQ Access	Data Quality Rule Access Role
DQADVND - DQ Advanced	Data Quality Rule Advanced Role
DQAUTH - DQ Authorize	Data Quality Rule Authorize Role
DQAUTOAUTHR - DQ Auto Authorize Rulw	Data Quality Auto Authorize Rule
DQREAD - DQ Read	Data Quality Rule Read-only Role
DQWRITE - DQ Write	Data Quality Rule Write Role

Functions	Action
DQ_SUMM - Data Quality Rule Summary	Access DQ Rule Summary
DQ_GP_EXEC - Execute Data Quality Group	Execute DQ Rule Group
DQ_GP_ADD - Add Data Quality Group	Add DQ group
DQ_ADD - Add Data Quality Rule	Add DQ Rule
DQ_EDT - Data Quality Edit Rule	Edit DQ Rule
DQ_VIW - Data Quality View Rule	View DQ Rule
DQ_GP_VIW - Data Quality View Rule Group	View DQ Rule Group
DQ_GP_DEL - Data Quality Delete Rule Group	Delete DQ Rule Group
DQ_DEL - Data Quality Delete Rule	Delete DQ Rule
DQ_AUTH - Data Quality Authorisation Rule	Authorize DQ Rule
DQ_GP_EDT - Data Quality Edit Rule Group	Edit DQ Rule Group
DQ_GP_ADD -Data Quality Add Rule Group	Add DQ Rule Group
DQAUTOAUTH - Data Quality Auto Authorize	Save the Rule/Group in authorized state
DQ_PURGE - DQ Rule Purge	Purge the DQ Rule

Functions	Action
DQ_GP_SUMM - Data Quality Group Summary	Access DQ Group Summary
DQ_GP_EXEC - Data Quality Execute Rule Group	Execute DQ Rule
DQ_GP_PURGE - DQ Group Purge	Purge the DQ Group
DQ_GP_AUTH - DQ Group Authorisation	Authorize DQ Group
DQ_EXE_SUMMARY - DQ Execution Summary	Access DQ Execution Summary
DQ_EXE_ASSIGN - DQ Execution Assignment	Enable Data correction in the execution summary

Data Quality Rules

Data Quality Rules allows you to create a DQ (Data Quality) definition using data quality checks based on single column or multiple columns of a single base table. The defined Data Quality Rules can be logically grouped and executed together.

Data Check Definitions

Data Check definitions included the Data Quality Rules help in performing data quality check and correction.

You can include the following Data quality checks in the DQ Rule.

- **Single Column Check** - You can set the Check Type to Single Column Check during DQ Rule creation. This check will perform Data Quality Check on only one column selected during Rule creation. For more details about the various Single column Checks, refer to [Single Column Data Check Definitions](#).
- **Multi Column Check** -You can set the Check Type to Multi Column Check during DQ Rule creation. This check will perform Data Quality Check on one or more columns of a single base table, selected during Rule creation. For more details about the various Multi-column Checks, refer to [Multi Column Data Check Definitions](#).

Single Column Data Check Definitions

Single Column Data Checks help to perform data quality check on only one column selected during DQ Rule creation.

You can include the following Data Quality checks in the DQ Rule, if the check type is set to Single Column Check.

- **Range Check** - Range Check identifies if the base column data falls outside a specified range of Minimum and Maximum value. Range check can be enabled only if the base column has date or number value.
 - Select the check-box to enable the Range check.
 - Set the warning level to **Severity, Warning or Information**.
 - If the selected Base Column is of **Date** type, select Minimum and Maximum date range. If the selected base column is of **Number** type, enter the Range value. You can specify numeric, decimal, and negative values for number Data type.
 - Check the Inclusive check-box, to include the specified date/value during the data check.

- Click **Edit** to add specific filter expressions, as additional conditions. For more information, refer to [Creating Expressions](#).
- Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Null Value Check** -Null Value Check checks identifies if there is any null value in the selected column.
 - Select the check-box to enable the Null Value check.
 - Set the warning level to **Severity, Warning or Information**.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Blank Value Check** -Null Value Check checks identifies if there is any entry in the selected column is blank.
 - Select the check-box to enable the Blank Value check.
 - Set the warning level to **Severity, Warning or Information**.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.

- **Data Length Check** -Data Length Check checks for the length of the base column data using a minimum and maximum value and identifies if it falls outside the specified range.
 - Select the check-box to enable the Data Length check.
 - Set the warning level to **Severity, Warning or Information**.
 - Enter the Minimum and maximum values for validation.
 - Click **Edit** to add specific filter expressions, as additional conditions.
- **Duplicate Check** - Duplicate Check can be used when a combination of column is unique and identifies all the duplicate data of the base table in terms of the columns selected for the duplicate check.
 - Select the check-box to enable the Duplicate Check.
 - Set the warning level to **Severity, Warning or Information**.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Click **Edit** and select the required column to be added to the **Column List**, for duplicate check validation.
- **Custom Check/Business Check**- Custom Check/Business Check is a valid SQL query to identify the data with the query specified as the Custom/business SQL. You can define the SQL, but the Select clause of the query has to follow the order as specified in the template of the Custom Check panel.
Sample Template : "SELECT 'N_COUNTRY_SKEY' PKNAMES, N_COUNTRY_SKEY PK1, null PK2, null PK3, null PK4, null PK5, null PK6, null PK7, null PK8, V_COUNTRY_DESC ERRORCOL FROM DIM_COUNTRY WHERE N_COUNTRY_SKEY >50"
 - Select the check-box to enable the Custom Check.
 - Set the warning level to **Severity, Warning or Information**.
 - Enter the SQL Query to perform the custom check.
- **Column Reference/Specific Value Check** - Column Reference / Specific Value Check compares the base column data with another column of the base table or with a specified direct value using the list of pre-defined operators.
 - Select the check-box to enable the Column Reference check.
 - Set the warning level to **Severity, Warning or Information**. Column reference check can be enabled only if the base column has date or number value.
 - Select the **Mathematical Operator** from the drop-down list.
 - Select the **Filter Type** as one of the following:
 - * Select **Specific Value** and specify the Value. You can specify numeric, decimal, and negative values for number Data type.
 - * Select **Another Column** and select Column Name from the drop-down list.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.

- * Select the **Message Severity** as 1 or 2 from the drop-down list.
- * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **List of Value** - List of Value Check verifies the values where a dimension / master table is not present. This check identifies if the base column data is not matching with any value or code specified in a list of values.
 - Select the check-box to enable the List of Value check.
 - Set the warning level to **Severity, Warning** or **Information**.
 - Select **Input Values** and specify the List of Values. You can specify numeric or String values.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/ Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Referential Integrity Check** - Referential Integrity Check identifies all base column data which has not been referenced by the selected column of the referenced table. Here, the reference table and columns are user specified.
 - Select the check-box to enable the Referential Integrity Check.
 - Set the warning level to **Severity, Warning** or **Information**. Column reference check can be enabled only if the base column has date or number value.
 - Select the **Table** (Referential Integrity Check dimension table) from the drop-down list. The base table selected under the Select grid is excluded from the drop-down list.
 - Select the Column from the drop-down list. The list displays those columns that have the same Data Type as that of the Base Column selected under Select grid.
 - Select the **Is Composite Key** check-box if the base column is part of a Composite Key.
 - Click **Edit** to add specific filter expressions, as additional conditions.

Multi Column Data Check Definitions

Multi Column Data Check definitions help in data quality checks and correction of one or more columns of a single table, selected during Rule creation.

Assignment Types

To populate the Assignment Type details, select any of the below Assignment Type option from the dropdown list and do the following:

- **No Assignment** - This assignment is selected by default and does not have any target column update, but the message details are pushed.
- **Direct Value** - Enter the **Assigned Value**. You can specify number, date or string values, as required.
- **Another Column** - Select the required Column as **Assigned Value** from the dropdown list.
- **Expression** - Specify the required expression in the Specify Expression Page. For more information, refer to [Creating Expressions](#).

Creating Expressions

You can define an expression in the Expression Builder to combine two selected tables.

The expression builder includes the following sections:

- **Entities** - consists of the Entities folder with the list of tables that you selected from the Entity Groups folder. Double-click the Entities folder to view the selected dimension tables (Product and Segment tables).
- **Functions** – The 2 types of functions are,
 - **Database Functions** - consists of functions that are specific to databases.
 - **User Defined Functions** - use these functions along with Operators to specify the join condition.
- **Operators** - Consists of the function operators categorized into folders. The various types of operators are,
 - **Arithmetic** - +, -, %, * and /
 - **Comparison** - '=', '!=', '< >', '>', '<', '>=', '<=', 'IN', 'NOT IN', 'ANY', 'BETWEEN', 'LIKE', 'IS NULL', and 'IS NOT NULL'.
 - **Logical** - 'NOT', 'AND' and 'OR'
 - **Set** - UNION, UNION ALL, INTERSECT and MINUS
 - **Other** - The Other operators are 'PRIOR', '(+)', '(' and ')'

To specify the join condition:

1. Select the **Entity** of the fact table to which you want join the dimension entities.
2. Select a **Function** depending on the database type.
3. Select the **Operator** you want to use for the join condition.
4. Select the **Second Entity** from the Entities pane that you want to join with the first entity. You can also select more than one table and link to the fact table.

The defined expression is displayed in the Expression pane. Click **Reset** to reset the values.

5. Click **OK**.

The defined expression is validated as per the selected table and entity definition and on successful validation, it is added to the DQ Rule.

DQ Rules Summary

The Data Quality Rule Summary page contains the list of user-defined Data Quality Rules with details such as Name, Status, Folder, Is Executed, Version, Is Grouped, Check Type and Base table.

Refer to the following procedure to view DQ Rules Summary and the relevant details:

- Click **Data Quality Rules**, to access the Data Quality Rules Summary.

The Data Quality Rules Summary page with the following details is displayed.

- **Name** - The Unique Identifier Name of the Data Quality Rule.
- **Status** - The Approval status of the specific rule.
 - **Approval** - The Rule is approved and ready for execution. The approved rules can be grouped further for execution.
 - **Pending for Approval** - The rule requires approval and can be executed only after approval.
 - **Draft** - A defined rule is set to **Draft** status until it is submitted for approval by the creator.
 - **Rejected** - The rejected rules are sent back to the creator with the Approver comments.
- **Folder** - The folder associated with the rule.
- **Version** - The current active version of the rule.

When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Rule and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Rule of version 2 and the highest version available is 4, after you save the definition, its version becomes 5. Only the latest version will be in Active status.
- **Check Type** - Select one of the following check types:
 - **Single Column Check** - define conditions based on individual checks on a single column. For more information, refer to [Single Column Data Check Definitions](#).
 - **Multi Column Check** - define conditions based on multiple columns of a single base table. These checks are not pre-defined and can be specified (user-defined) as required. For more information, refer to [Multi Column Data Check Definitions](#).
- **Base Table** - The base table within the environment, associated with the rule.
- **Created By** - The login name of the user who created the rule.
- **Created Date** - The rule creation date.
- **Action** - Click **Action**, to view, approve, reject edit, or delete the rule.

To search for a particular rule, enter the first few letters of the rule name in the Search column.

You can also sort the rule summary based on the Status, Folder name, check type, record status, Rule name and Select table.

To sort the Summary based on the Status, click **Status** in the Search bar, and select the required status.

Creating DQ Rule

You can create a Data Quality Rule Definition by specifying the DQ Definition details along with the entity details and the type of data quality check to be performed on the selected base table. You can also define the required search conditions to query and correct the transformed data.

1. To create a DQ Rule, click **Add Rule** on the DQ Rules Summary.

The Data Quality Rules page with DQ Group Details and DQ Rules Mapping tab is displayed.

2. Click **Start**, to enter the following basic details for the new DQ Rule.
 - **Name** - The unique identifier name for the rule.
The name should start with alphabet and should not be more than 50 characters.
Blank space (), Underscore (_) and Hyphen (-) are allowed as special characters.
 - **Description** - The description/details for the rule.
The description should start with alphabet and should not be more than 250 characters.
 - **Folder** - Select the folder present in the current environment, to be associated with the rule.
 - **Check Type** - Select one of the following check types for the rule.
 - **Single Column** - Select Single column to perform data quality check only on one column. For more information, refer to [Single Column Data Check Definitions](#).
 - **Multi-Column** - Select Multi-Column to perform data quality check on more than one column in a single table. For more information, refer to [Multi Column Data Check Definitions](#).
 - **Access-type** - Select one of the following Access types.
 - **Read-only** - only the creator can edit the rule. Other users can only view the rule.
 - **Read-Write** - all users can view, modify any fields (including Access Type), and also delete the DQ Rule.
 - Check **Auto DQ Group Required** option, to create a new DQ group, for this Rule.
The new group will be associated only with the created DQ rule. The group name will be set as <DQ_Rule_Name_group>, and this group will have only Read-only access.
 - Check **Auto Assignment**, to execute the rule, and also perform the assignment.

 **Note:**

The Auto Assignment is applicable only to the Auto DQ Group.

- Click **Continue** to proceed with the Entity Selection page.
3. Enter/select the following entities:
 - **Table** - Select the basic table on which the rule is executed.
 - If the rule is a single-column rule, select the **Base Column**, to be included for the rule execution. Base column will not be present for Multi-Column rule. You can search table based on physical and logical names.
 - Select the **Identifier Columns** required to execute the rule.
 - To select multiple columns, click **Edit**.
 - Select the required columns from the **Available Members** pane and move them to **Selected Members** pane.
 - Click **Edit**, to include the filter expression. The **Specify Expression** page is displayed. For more information refer to [Creating Expressions](#).
 - Select the entities to be included in the filter expression and click **OK**.
 4. Click **Continue**, to proceed with the **Data Check Definitions**.
 5. Select the required Data Check Definitions, to validate the data.
 6. Click **Submit**, to submit the new DQ Rule for approval.

Enter/select the required information for each Data Check Definition. For more information about each Data check type, refer to [Data Check Definitions](#).

The DQ Rule is saved with the status **Pending for Approval**, in the Rules Summary and a confirmation message is displayed.

While creating the DQ Rule, you can also click **Save As Draft**, to save the new incomplete DQ Rule at any point of time and resume the process at a later point. A confirmation message is displayed, after the draft is saved successfully.

The new Rule added to the DQ Rules Summary, and is set to **Draft** Status in the DQ Rules Summary.

 **Note:**

If the user has **DQAUTOAUTH** Role assigned, the Rule will be auto-approved.

Editing DQ Rules

You can update all the definition details except for the Definition Name, Check Type, Table, and the Base Column selected.

You can only edit the DQ rules that are set to **Draft**, **Approved** and **Rejected** status. You cannot edit the rules that are set to **Pending for Approval** status.

To edit the required Data Quality Rule definition details:

1. Click **Action** adjacent to the DQ Rule to be modified.
2. Click **Edit**, to modify the DQ Rule.
3. Click **Start** to edit the **DQ Rule Details**.
4. Modify the description and click **Continue** to proceed with editing the Entity Selection details.
You can also click **Save as Draft**, to save the changes and proceed with Submission later.
5. Modify the Filter expression and click **Continue** to proceed to **Data Check Definitions** page.
6. Add/remove the data checks required during rule execution and click **Submit**, to submit the modified rule for approval.

The rule is updated and added to the DQ Rules Summary. A confirmation message is displayed.

The Rule is set to **Pending for Approval** state.

 **Note:**

If the user has **DQAUTOAUTH** Role assigned, the Rule will be auto-approved.

Approving/Rejecting a Data Quality Rule

An authorizer can approve a user-defined Data Quality Rule definition or reject an inappropriate DQ Definition listed within the Data Quality Rule Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

 **Note:**

You can only approve those DQ Rules that are set to **Pending for Approval** status.

If the user has **DQAUTOAUTH** Role assigned, the DQ rule will be auto-approved.

To view a Data Quality rule, and approve/ reject Data Quality rule:

1. Click **Action** adjacent to the DQ Rule to be approved/rejected.
2. Click **Preview**, to view the DQ Rule.
All the details pertaining to the selected rule is displayed.
3. Click **Approve/Reject**, after reviewing the rule.
4. Enter valid reason for approval or rejection.
5. Click **Approve/Reject**.

The DQ Rule is approved/rejected and a confirmation message is displayed.

Bulk Approving/Rejecting Data Quality Rules

An authorizer can approve multiple user-defined Data Quality Rule definitions or reject an inappropriate DQ Definition listed within the Data Quality Rule Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

 **Note:**

You can only approve those DQ Rules that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, the DQ rule will be auto-approved.

 **Note:**

When you initiate bulk approval/rejection, all the selected rules are approved/rejected based on the user input. If you want to stop the approval/rejection of one specific rule, cancel the whole process and restart again.

To view several Data Quality rules, and approve/ reject them:

1. Filter Rule Summary, to view only the rules with **Pending For Approval** Status.
All the rules that need be approved/rejected are displayed.
2. Select the rules for approval/rejection.
You can select all the rules displayed in a page, by clicking the check box next to the **Name** header. To select all the rules in the Summary, with **Pending** Status, select **Click All Rules in Summary** link.
3. Click **View Details**, to view the Rule details of all the selected rules.
All the rule details, and base table for the selected rules are displayed. Review the details and add appropriate comments and click **OK**.
You can also **Proceed without Viewing** the details.
4. Click **Approve/Reject**.
The selected DQ Rules are approved/rejected and a confirmation message is displayed.

Deleting a Data Quality Rule

You can remove the Data Quality Rule definition(s) that are not grouped in the Data Quality Framework. A grouped and non-executed Data Quality Rule definition can still be deleted by unmapping the same from all the associated group(s).

To delete a DQ Rule:

1. Click **Action** adjacent to the DQ Rule to be approved/rejected.
2. Click **Delete**, to delete the DQ Rule.

The selected rule is set to **Pending for Approval** status and is deleted after approval.

 **Note:**

If the user has **DQAUTOAUTH** Role assigned, the Rule will be auto-deleted.

Purging a Data Quality Rule

You can delete a Data Quality Rule definition permanently from the setup.

You can purge only those DQ Rules that are deleted after approval.

To delete a DQ Rule:

1. Click **Action** adjacent to the deleted DQ Rule.
2. Click **Purge**, to delete the DQ Rule from the setup.

The selected rule is deleted permanently after confirmation.

Data Quality Groups

Data Quality Groups facilitates you to logically group the defined DQ Definitions .

DQ Group Definitions can be executed through Scheduler Services. For more information, refer to [Adding a DQ Check Task](#) .

DQ Groups Summary

The Data Quality Groups Summary displays the list of user-defined Data Quality Groups with the other details such as Name, Folder, Creation Date, Created By, Last Modification Date, Last Modified By, Last Run Date, and Last Run Status. .

You can create and execute DQ Group definitions and view, modify, copy, refresh, or delete DQ Group definitions within the Data Quality Groups Summary.

- Click **Data Quality Groups**, to access the Data Quality Groups Summary.

The Data Quality Rules Summary with the following details is displayed.

- **Name** - The Unique Identifier Name of the Data Quality Group.
- **Status** - The Approval status of the specific group.
 - **Approval** - The group is approved and ready for execution.
 - **Pending for Approval** - The group requires approval and can be executed only after approval.
 - **Draft** - A defined group is set to **Draft** status until it is submitted for approval by the creator.
 - **Rejected** - The rejected rules are sent back to the user with the Approver comments.
- **Version** - The current active version of the group.

When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Group and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Group of version 2 and the highest version

available is 4, after you save the definition, its version becomes 5. Only the latest version will be in **Active** status.

- **Folder** - The folder associated with the group.
- **Created Date** - The group creation date.
- **Created By** - The login name of the user who created the Group.
- **Last Run Date** - The last date on which the DQ Group was executed.
- **Last Run Status** - The last execution state if the specific DQ Group.
 - **Success** - The last execution of the selected DQ Group was completed successfully.
 - **Failed** - The last execution did not complete.
 - **NA** - The DQ Group was not executed.
- **Action** - Click **Action**, to view, approve, reject edit, or delete the group.

To search for a particular group, enter the first few letters of the group name in the Search column.

You can also sort the groups summary based on the Status, Folder name, record status and group name.

Creating DQ Groups

You can create a DQ Group definition by defining the DQ Definition details and mapping the required DQ Rules which are authorized and approved within the system.

The DQ Group definition is flexible and purpose driven. Groups can be created for different subject areas such as Credit and Market or it can be application specific like Basel II, Economic capital.

1. To create a DQ Group, click **Add Group** in the DQ Group Summary.

The Data Quality Group page with DQ group Details and DQ Rules Mapping tab is displayed.

2. Click **Start**, to enter the following basic details for the new DQ Group.

- **Name** - The unique identifier name for the groups.
The name should start with alphabet and should not be more than 50 characters.
Blank space (), Underscore (_) and Hyphen (-) are allowed as special characters.
- **Folder** - Select the folder present in the current environment, to be associated with the group.
- **Description** - The description/details for the group.
The description should start with alphabet and should not be more than 250 characters.
- Check **Auto Assignment**, to execute the group, and also perform the assignment.

3. Click **Continue** to proceed with the Data Rules Mapping page.

The list of available rules are displayed in the Data Rules Mapping page.

4. Select the Rules to be added to the new DQ Group.
5. Click **Submit**, to submit the new DQ Group for approval.

The DQ Groups is saved with the status **Pending for Approval**, in the Group Summary and a confirmation message is displayed.

While creating the DQ Group, you can also click **Save As Draft**, to save the new incomplete DQ Group at any point of time and resume the process at a later point. A confirmation message is displayed, after the draft is saved successfully.

The new Group added to the DQ Groups Summary, and is set to **Draft** Status in the DQ Groups Summary.

 **Note:**

If the user has **DQAUTOAUTH** Role assigned, they can save and approve the DQ Group, immediately after creating it.

Editing DQ Groups

You can modify all the details of a saved Data Quality Group Definition, except the Group name.

To edit the required Data Quality Group Definition details:

1. Click **Action** adjacent to the DQ Group to be modified.
2. Click **Edit**, to modify the DQ Group.
3. Click **Start** to edit the **DQ Group Details**.
4. (Optional). Modify the description and click **Continue** to proceed with adding/deleting the rules associated with the DQ Group.
5. Add/remove the DQ Rules associated with the DQ Groups and click **Submit**, to submit the modified group for approval.

The group is updated and added to the DQ Groups Summary. A confirmation message is displayed.

The Group is set to **Pending for Approval** state.

 **Note:**

If the user has **DQAUTOAUTH** Role assigned, they can save and approve the DQ Group, immediately after creating it.

Approving/Rejecting a Data Quality Group

An authorizer can approve a user-defined Data Quality Group definition for further execution or reject an inappropriate DQ Definition listed within the Data Quality Rule Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

 **Note:**

You can only approve those DQ Rules that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, they can save and approve the DQ Group, immediately after creating it.

To view a Data Quality Group, and approve/ reject it:

1. Click **Action** adjacent to the DQ Groups to be approved/rejected.
2. Click **Preview**, to view the DQ Groups.
All the details pertaining to the selected rule is displayed.
3. Click **Approve/Reject**, after reviewing the groups.
4. Enter valid reason for approval or rejection.
5. Click **Approve/Reject**.
6. The DQ Group is approved/rejected and a confirmation message is displayed.

Bulk Approving/Rejecting Data Quality Groups

An authorizer can approve multiple user-defined Data Quality Groups or reject an inappropriate DQ Groups listed within the Data Quality Group Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

 **Note:**

You can only approve those DQ Groups that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, the DQ group will be auto-approved.

 **Note:**

When you initiate bulk approval/rejection, all the selected groups are approved/ rejected based on the user input. If you want to stop the approval/rejection of one specific group, cancel the whole process and restart again.

To view several Data Quality groups, and approve/ reject them:

1. Filter Group Summary, to view only the groups with **Pending For Approval** Status.
All the groups that need be approved/rejected are displayed.
2. Select the groups for approval/rejection.
You can select all the groups displayed in a page, by clicking the check box next to the **Name** header. To select all the groups in the Summary, with **Pending** Status, select **Click All Groups in Summary** link.
3. Click **View Details**, to view the Group details of all the selected Groups.

All the group details, and base table for the selected groups are displayed. Review the details and add appropriate comments and click **OK**.

You can also **Proceed without Viewing** the details.

4. Click **Approve/Reject**.

The selected DQ groups are approved/rejected and a confirmation message is displayed.

Deleting a Data Quality Group

You can remove the Data Quality Group definition(s) that are not grouped in the Data Quality Framework. A grouped and non-executed Data Quality Rule definition can still be deleted by unmapping the same from all the associated group(s).

To delete a DQ Group:

1. Click **Action** adjacent to the DQ Group.
2. Click **Delete**, to delete the DQ Group.

The selected group is deleted after confirmation.

 **Note:**

If the user has **DQAUTOAUTH** Role assigned, the Group will be auto-deleted.

Purging a Data Quality Group

You can delete a Data Quality Group definition permanently from the setup.

To delete a DQ Group:

1. Click **Action** adjacent to the deleted DQ Group.
2. Click **Purge**, to delete the DQ Group from the setup.

The selected Group is is deleted permanently after confirmation.

Adding a DQ Check Task

You can add a new DQ check Task in the Scheduler Services and add the task to a Batch Definition, for execution.

For more information about adding a task to the Batch and about Scheduler Services, refer to [Scheduler Services Documentation](#).

To add new task using the Define Tasks page in Scheduler Services, perform the following steps:

1. Click **Define Tasks** from the Header panel.
2. Select the **Batch**, to add new task.
3. Click **Add**, to add a new DQ task in the **Create Task** page.
 - Complete all the generic details in the Create Task Page. For more information refer to [Create Task Using Scheduler Services](#).

- Select the **Task Type** as DQ Task.
 - Select the **Group** to perform the DQ check.
 - Enter the **Threshold** percentage for the maximum number of errors permissible during the DQ check. By default this value is set to 100.
 - Set **Fail If Threshold Breaches** to **TRUE**, to abort the job and not include the failure records in the DQ table, when the DQ check errors are more than the set threshold value.

If the **Fail If Threshold Breaches** is set to **FALSE**, the job will proceed further and the failure records will be inserted in the DQ Result tables.
 - Enter the **Additional Parameters** required for the Run DQ Rule filtering criteria for execution in the pattern: Key#Data type#Value; Key#Data type#Value; and so on.
4. Click **Save** to add the new DQ task to the selected Batch.

Execution Summary

The Execution Summary provides the consolidated list of executed DQ batches, for the last 30 days .

You can also view the consolidated details related to the total number of records analysed, total number of passed records and the pass percentage and total number of error records and their percentage. The number of error records categorized based on the Data checks is also displayed as a pie chart.

To view the Execution Summary Details:

- Click **Execution Summary**, to access the consolidated Execution Summary.
The Execution Summary page with the following details is displayed.
 - **Batch ID** - The Unique Identifier Name of the particular Batch in which the DQ group is added for Data Quality Check.
 - **Process Instance ID** - The unique identifier of the execution process.
 - **DQ Group** - The DQ group associated with the Batch for Data Quality check.
 - **DQ Group Desc** - The DQ group description.
 - **FICMIS Date** - FICMIS Date refers to the date with which the data for the execution would be filtered. In case the specified MIS date is not present in the target table, execution completes with the message **No Records found**.
 - **Execution Date** - The last execution date of the Batch.
 - **Scanned Records** - The total number of records scanned for Data Quality check.
 - **Erroneous Records** - The total number of records that failed the Data Quality check.
 - **Execution Status** - The DQ Batch execution status.
 - **Assignment Status** - The current Assignment status of the DQ Batch.
 - **Action** - Click **Action**, to view the Run Details of the DQ Batch.

To search for a particular Batch, enter the first few letters of the Batch name in the Search column.

You can also sort the Execution summary based on the Execution Date, FICMIS Date, Execution status and Group Name, Assignment Status, Batch Id and Process Instance ID.

Viewing Run Details

Execution Details page provides the information related to the Data Quality Rule and the Data Quality Check executed during a Batch Execution.

You can also view the consolidated details related to the total number of records analysed, total number of passed records and the pass percentage and total number of error records and their percentage.

The number of error records categorized based on the Data checks is also displayed as a pie chart.

1. Click **Action** adjacent to the specific Batch.
2. Click **View Run Details**, to access the Run details of the particular Batch execution.

The Run details of the selected Batch is displayed with the following information.

- **Rule** - The Rule name of the executed DQ Rule.
 - **Entity** - The Table entity associated with the Rule.
 - **Column** - The column associated for Data Quality check
 - **Check Type** - The type of check performed on the Data.
 - **Consolidated Records Scanned** - The total number of records scanned.
 - **Error Records** - The total number of erroneous records.
 - **Assignment Type** - The assignment type set during the DQ rule creation.
3. Generate and download the report, and perform assignment action based on the report.

 **Note:**

To perform assignment, you must have the **DQ_EXE_ASSIGN** role assigned.

After the assignment process is completed, the Assignment status of the particular DQ Batch is set to **Success**.

11

Data File Specification

The three supported formats for the Data Files are TXT, DAT, and CSV. These files contain the name of the table for which the specifications are being created.

Ensure that there are no duplicate records in a single Data File. If there are duplicate records, then the Data File Upload results in a failure.

To open the Data File Specification Window, navigate to the **Data Management Tools**, select **Data File Administration**, and then select **Data File Specification** to display the Data File Specification Summary Page.

Figure 11-1 Data File Specification Summary Screen

<input type="checkbox"/>	Data file name	Target File name	Created By	Created Date	Modified By	Modified Date	Action
<input type="checkbox"/>	Flexcube_Corporate_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:23:42	cfeuser1	05-24-2022 06:23:42	...
<input type="checkbox"/>	Flexcube_Home_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:24:13			...

The Summary Page of Data File Specification displays the Search Criteria Pane, Specific Search Pane, and the already created Data Files and their details.

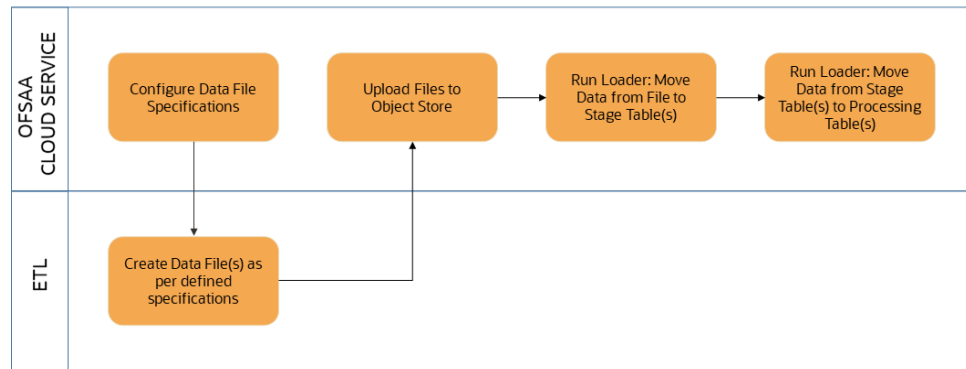
Loading External Data

The (OFSAA or Oracle) Cloud Services use following categories of data:

- Account or Instrument
- Management Ledger
- Transaction Summary
- Dimensions and Hierarchies
- Market data like Interest Rate, Currency Exchange Rate

The following illustration depicts the process of loading data from your systems into the Cloud Services:

Figure 11-2 Loading External Data



Oracle Cloud Services uses Oracle's Object Store Service to transfer data between your machine/laptop and its databases. Object Storage Service allows storing the files as objects in a highly secure, scalable, and durable way. Files can be uploaded through a Web Console; however, it is possible to do so only with files up to 1 GB.

Uploaded Data Files are temporarily stored in the Object Storage for Data Loaders to read and move them to the corresponding Database Tables for further use by the individual services.

Before the files can be created and uploaded, format, column order and other properties must be defined using Data File Specifications User Interface. This chapter discusses the supported formats and contents of the data file that is being imported into the Object Storage.

For information on uploading files, see the File Upload and Download section. For information on running the Data Loaders, see the [Data Loaders](#) section.

Data File Specification

The three supported formats for the Data Files are TXT, DAT, and CSV. These files contain the name of the table for which the specifications are being created.

Ensure that there are no duplicate records in a single Data File. If there are duplicate records, then the Data File Upload results in a failure.

To open the Data File Specification Window, navigate to the **Data Management Tools**, select **Data File Administration**, and then select **Data File Specification** to display the Data File Specification Summary Page.

Figure 11-3 Data File Specification Summary Screen

Data file name	Target File name	Created By	Created Date	Modified By	Modified Date	Action
<input type="checkbox"/> Flexcube_Corporate_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:23:42	cfeuser1	05-24-2022 06:23:42	...
<input type="checkbox"/> Flexcube_Home_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:24:13			...

The Summary Page of Data File Specification displays the Search Criteria Pane, Specific Search Pane, and the already created Data Files and their details.

Searching for a Data File Specification

There are two Search Panes provided to search the Data Files on the Summary Page.

To search the Data File, perform the following steps:

1. Click the **Search** icon on the Search pane to collapse (display) the Criteria Window.
2. Data File Name and/or Target File Name and click **Search** to display the Data File Names that match the criteria.
3. Click **Cancel/Reset** to remove the filter criteria on the Search Window and refresh the window.
4. Click **Search** after entering the search criteria.
The search results are displayed in a table containing all the Data Files that meet the search criteria with the following details:
 - **Data File Name:** The name of the Data File.
 - **Target File Name:** The Target File Name.
 - **Created By:** Displays the Name of the user who created the Data File.
 - **Created Date:** Displays the Date and Time at which the Data File was created.
 - **Modified By:** Displays the Name of the user who last modified the Data File.
 - **Modified Date:** Displays the Date and Time at which a Data File was last modified.
5. Click on the **Action** icon against the Data File Name to do further actions as follows:
 - **View:** Click View to view the contents of a Data File in read-only format.
 - **Edit:** Click the Edit icon to modify a previously saved Data File. Note that you cannot change the File Name.
 - **Save As:** Click Save As to create a copy of the selected Data File.
 - **Delete:** Click Delete to delete the selected Data File.
6. Click on the **Action** icon against the Data File to do further actions **View, Edit, Save As,** and **Delete** on the selected Data File.

The other method to search a Data File is using the **Field Search** pane. You can enter any one of the details of a Data File and press the **Enter** key to display the details of the Data File.

Creating the Data File

After the Data File Specification is defined, follow the below mentioned guidelines to prepare the Data Files:

- Columns to be included in the Data File must be as per the Data File Specification.
- Name of the Data File must be same as the Data File Specification with a prefix of "input_yyyymmdd" where yyyymmdd is the Date (As of Date) for which the Data File is prepared. For example:
 - Data File Specification Name is "Asset.dat"
 - The As of Date is 06-July-2022

- Data File Name must be “input_20220706_asset.dat”
- Unique Data Validations:
 - Instrument Data Files: Account Numbers must be unique across the data files for a single As of Date.
 - Management Ledger Data Files: The combination of KPDs and Simple Dimensions must be unique across the data files for a single As of Date.
 - Transaction Summary Data Files: The combination of Account Numbers and KPDs must be unique across the data files for a single As of Date.
- Permitted Delimiters are comma (,) and pipeline (|).
- Data Validations:
 - Number fields: only numbers and dot (.) are allowed.
 - Description fields: comma (,) pipeline (|), single quotes (’), and double quotes (“ ”) are not supported.
 - Any nullable fields which are mapped in the Data File Specification definitions should not be skipped in the Data File.
 - The column order in the Data File should be in sync with the order defined in the Data File Specification definition.
 - Field Enclosures: Only double quotes (“”) are considered as Field Enclosures.

See the following sample files for your reference:

- [input_20151009_asset.dat](#)
- [input_20150330_ASSETTXN.dat](#)
- [input_20220110_STGML.dat](#)

For more information about the data required by the IFRS 9 Solution Cloud Service, see the Download Specifications in the MOS Document ID [2959143.1](#).

Data File Specification

The three supported formats for the Data Files are TXT, DAT, and CSV. These files contain the name of the table for which the specifications are being created.

Ensure that there are no duplicate records in a single Data File. If there are duplicate records, then the Data File Upload results in a failure.

To open the Data File Specification Window, navigate to the **Data Management Tools**, select **Data File Administration**, and then select **Data File Specification** to display the Data File Specification Summary Page.

Figure 11-4 Data File Specification Summary Screen

<input type="checkbox"/>	Data file name	Target File name	Created By	Created Date	Modified By	Modified Date	Action
<input type="checkbox"/>	Flexcube_Corporate_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:23:42	cfeuser1	05-24-2022 06:23:42	...
<input type="checkbox"/>	Flexcube_Home_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:24:13			...

The Summary Page of Data File Specification displays the Search Criteria Pane, Specific Search Pane, and the already created Data Files and their details.

Creating a Data File Specification

The Data File usually contains the Name of the Physical Table on which the specifications are being created and the columns included in the file.

For the complete list of available columns, see the Download Specifications available at MOS Document ID [2959143.1](#)

To create a new Data File Specification, perform the following steps:

1. Navigate to the Data File Specification Summary Page and click the **Add** icon to open the Data File Specification window.

Figure 11-5 Data File Specification

2. Under the Details Section of the screen, enter the following details:
 - a. Click on **Target Table Name** to open a list **Category – Table Names**. The tables are categorized into different groups. Each of the above **Categories** lists the **Tables** available for data loading. The list of categories is dependent on the Metadata from the Seeded Tables that come with the various Cloud Services and may differ from that shown above based on the services you have subscribed.
 - b. Select a **Table** from the list for which you want to create the Data File Specification.
 - c. Enter a unique **Name** for Data File Specification with an extension of the file format. The formats supported are TXT, CSV, and DAT types.
3. Under the **Load Properties** Section of the screen, enter the following details:
 - a. Select the **Incremental** toggle switch if the data in the file is incremental. If the data is a complete load, then do not select this switch. This flag identifies if the Data File is incremental or fresh accounts. In the case of incremental accounts, if account 1 is loaded as part of the Data File 1 and needs a correction. In that case, the account is corrected and will be uploaded as part of Data File 2. In this case, Data File 2 is the incremental file.

- b. Select **File contains Header record** toggle switch if the file contains a Header Record.
- c. Select **Validate Manifest File** toggle switch if you want to validate the data in the Data File. This validation checks the Checksum of the file, the number of records that are being loaded from the file and other additional details such as Date Format and so on. To use this toggle switch, a prerequisite is to generate a manifest file for the Data File that is being created and it must be uploaded using the File Upload process. For more details, see [File Upload and Download](#) section.

This is an optional step. However, if you want to generate a manifest file in JSON format, then enter the following details and save it as a .manifest file. A sample JSON file format is as follows:

```
{"file_name":"test.dat","as_of_date":"2022-03-24","checksum":"2587c
db6a2b87835c6adfce627671486","record_count":"10","rejection_thres
hold":"0"}
```

 **Note:**

Ensure that the name of the manifest file is same as the Data File with .manifest extension. For example, if the Data File Name is asset.csv, then the manifest file must be named asset.manifest.

Table 11-1 MANIFEST File Details

Property Name	Notes
file_name	Full name of the file, without the leading path. Not validated; Only for information purposes.
as_of_date	Date for which file contains the data; Not validated; Only for information purposes.
checksum	Mandatory. The checksum of the file will be validated before loading commences.
record_count	Mandatory. The number of records in the file (ignoring header-record); will be validated after SQL*Loader completes.
rejection_threshold	Limit for % of records rejected, for calling the loading as “failed”. This can also be set from the UI.

- d. Select the **Date Format** from the drop-down list to indicate the Date Format used in the Data File.
- e. Select the **Delimiter** used in the Data File.
- f. Select the **Rejection Threshold**. You should enter a number that is greater than or equal to zero.
The Rejection Threshold is used to check the allowed percentage of rows that can be rejected in a Data File. As an example, if you define a 10% Rejection Threshold for a Data File that has 1000 rows, then the Data File Upload fails if more than 100 rows are rejected. If the number of rows rejected is less than 100, then Data File Upload succeeds.

4. Under the **Columns Order** section of the screen, enter the following details. If you enter zero, then none of the records from the Data File should fail.
 - a. Select the relevant option for Column Type from the following options:
 - **Key Columns:** The Key Columns are the primary keys of the record. A table displays the Key Columns available for the selected Target Table Name. By default, the primary keys will be selected.
 - **Dimension Columns:** If you select the Dimension Columns, all the Key Processing Dimensions for the selected Target Table are displayed in the drop-down list. This list displays the Placeholder Key Dimensions that are defined as part of the Data Model Extension Process. For more details, see the [Data Model Extension User Guide](#). Select the applicable Dimension Columns and click the **Move** button to display them in the table on the right-hand side.
 - **Other Columns:** If you select the Other Columns, all remaining columns (simple dimension, dates, measures, and so on) for the selected Target Table are displayed. Select the applicable columns from the list and click the Move button to display them in the table on the right-hand side.

Within the selected Column Type, Column Names can be re-ordered by dragging and dropping. The columns are always ordered by their type, that is, Key Columns will appear before the Dimension Columns and Dimension Columns will always appear before the Other Columns. After saving a definition, if you add a new Dimension Column then it will appear in the order before the remaining Other Columns. For example, assume that the initial definition is saved with the below columns:

Figure 11-6 Column Preview

The screenshot shows a dialog box titled "Column Preview" with a close button (X) in the top right corner. Below the title bar, there are two radio buttons: "Logical Name" (which is selected) and "Physical Name". Below the radio buttons is a table with three columns: "Name", "Default Value", and "Column Order". The table contains seven rows of data.

Name	Default Value	Column Order
Account Number		1
As Of Date		2
General Ledger Account Code		3
Ifrs9 Stage Code		4
Account Close Date		5
Accrual Basis Code		6
Accumulated Basis Risk Charge Credit		7

After this, if a new Dimension Column (say Product Id) is selected, it will push the Other Columns down in order.

Figure 11-7 Columns Preview

Column Preview

Logical Name Physical Name

Name	Default Value	Column Order
Account Number		1
As Of Date		2
General Ledger Account Code		3
Ifrs9 Stage Code		4
Product Code		5
Account Close Date		6
Accrual Basis Code		7
Accumulated Basis Risk Charge Credit		8

The same order must be followed while preparing the Data File.

The default value for each Column can also be given in the table. If the Column Value is null in the Data File, then the default value is used.

- b. Select Logical Name or Physical Name to display the logical or physical names for the columns in the table.
5. Click **Save** to save the file. The newly created file will be listed on the Data File Specification Summary Screen.
6. On the Summary Screen, click on the **Action** icon against the File Name to perform further actions **View**, **Edit**, **Save as**, and **Delete**.

After you create the Data File, you must upload the file into the Object Store using the File Upload and Download option. If you have created a MANIFEST file for the Data File, you must upload the MANIFEST file too. For more information and procedure to upload or download the file, see the File Upload and Download Utility User Guide.

Creating the Data File

After the Data File Specification is defined, follow the below mentioned guidelines to prepare the Data Files:

- Columns to be included in the Data File must be as per the Data File Specification.
- Name of the Data File must be same as the Data File Specification with a prefix of "input_yyyymmdd" where yyyymmdd is the Date (As of Date) for which the Data File is prepared. For example:
 - Data File Specification Name is "Asset.dat"
 - The As of Date is 06-July-2022
 - Data File Name must be "input_20220706_asset.dat"
- Unique Data Validations:
 - Instrument Data Files: Account Numbers must be unique across the data files for a single As of Date.
 - Management Ledger Data Files: The combination of KPDs and Simple Dimensions must be unique across the data files for a single As of Date.
 - Transaction Summary Data Files: The combination of Account Numbers and KPDs must be unique across the data files for a single As of Date.

- Permitted Delimiters are comma (,) and pipeline (|).
- Data Validations:
 - Number fields: only numbers and dot (.) are allowed.
 - Description fields: comma (,) pipeline (|), single quotes ('), and double quotes (" ") are not supported.
 - Any nullable fields which are mapped in the Data File Specification definitions should not be skipped in the Data File.
 - The column order in the Data File should be in sync with the order defined in the Data File Specification definition.
 - Field Enclosures: Only double quotes ("") are considered as Field Enclosures.

See the following sample files for your reference:

- [input_20151009_asset.dat](#)
- [input_20150330_ASSETTXN.dat](#)
- [input_20220110_STGML.dat](#)

For more information about the data required by the IFRS 9 Solution Cloud Service, see the Download Specifications in the MOS Document ID [2959143.1](#).

Data Loaders

OFS IFRS 9 Solution Cloud Service's Data Loaders are used to move the data from one stage to another stage and in turn update the underlying Database Tables.

The Cloud Service supports the following types of Data Loaders:

- **Dimension Data Loaders:** The Dimension Data Loaders are used to populate the Dimension Members, Attributes, and Hierarchies from the Staging Dimension Tables to the Dimension Tables registered with the Cloud Services.
- **Instrument Data Loaders:** The Instrument Data Loaders are used to move the data from the files to the staging instrument tables.
- **Management Ledger Data Loaders:** The Management Ledger Data Loaders are used to move the data from the files to the staging Ledger tables and then to the processing Ledger tables.
- **Transaction Summary Data Loaders:** The Transaction Summary Data Loaders are used to move the data from the files to the staging Ledger tables and then to the processing Transaction Summary tables.

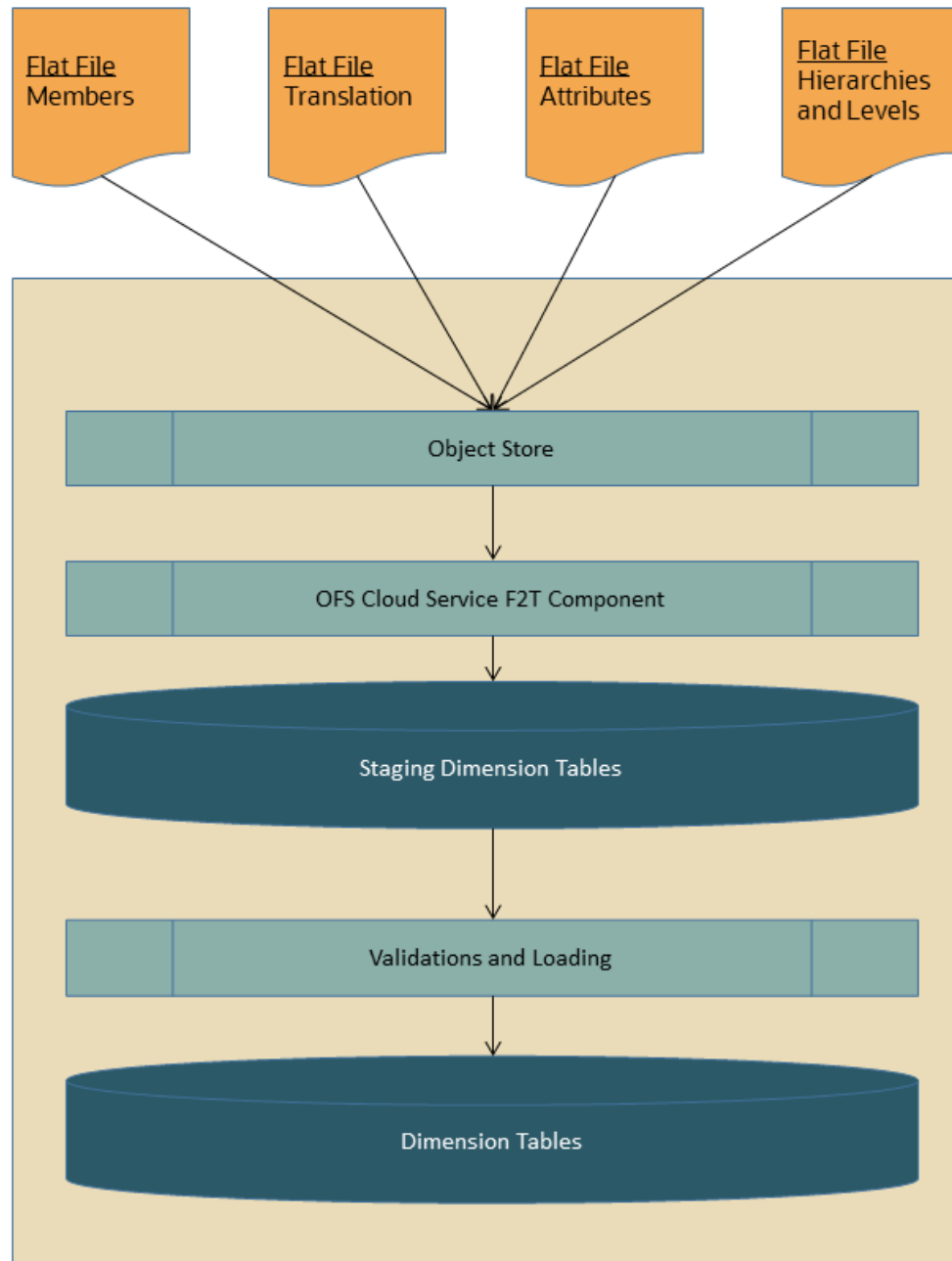
Dimension Data Loader

The Dimension Loader procedure populates Dimension Members, Attributes, and Hierarchies from Staging Dimension Tables into the Dimension Tables registered with the Cloud Service. You can view the Members and Hierarchies loaded by the Dimension Loader through the application Screens.

The Data File Specification is not applicable to Dimension Data Loaders. The file format and the file names are static in nature.

The following illustration depicts the process of Dimension Loading.

Figure 11-8 Dimension Loading Process



The Dimension Loader is used to:

- Load the Dimension Members and their Attributes from the Staging area into the Dimension Tables that are registered with OFS Cloud Service framework.
- Create Hierarchies for Key Dimensions in the Cloud Service.
- Load Hierarchical relationships between Key Dimension Members within the Hierarchies from the Staging area into the Cloud Service.

The following are the features of Dimension Loader:

- Loading Simple Dimensions from Staging Tables.
- Multiple Hierarchies can be loaded from Staging Tables.
- Validations of Members and Hierarchies are similar to that of being performed within the Cloud Service Screens.

Before you start the Dimension Loader, you must upload the Data Files that have the Dimension details.

As part of the File Definition, it is required Dimension Identifier for both Key and Simple Dimensions.

To get the correct DIMENSION ID to be used for the data file definition, you should use the SQL Query Browser and following query under OFSAAMETA schema the REV_DIMENSIONS_B table:

```
SELECT
dimension_id,
member_b_table_name,
member_tl_table_name,
dimension_active_flag,
simple_dimension_flag,
user_defined_flag,
write_flag,
dimension_editable_flag,
key_dimension_flag
FROM
ofsaameta.rev_dimensions_b
WHERE
dimension_active_flag = 'Y';
```

Then for the dimension table desired, available in REV_DIMENSIONS_B.MEMBER_B_TABLE_NAME or REV_DIMENSIONS_B.MEMBER_TL_TABLE_NAME table columns, the End User should pick up the correct value displayed in REV_DIMENSIONS_B.DIMENSION_ID to be used for correct input file definition.

The following sections list the sample files that you can use to build the Dimension Data. The name of the Data Files must be same as mentioned below and the File Extension must be .DAT. Click on each Data File Name to open a Sample Data File.

Instrument Data Loader

After the Data Files are uploaded to the Object Store, the Instrument Data Loaders are used to move the data from the files to the staging instrument tables and then to the processing instrument tables.

File to Stage

To load the Instrument Data to Staging Tables, perform the following steps:

1. Define a new Batch and save it.
2. Add the following Tasks to the above Batch:

Table 11-2 Instrument Data Loader – File to Stage Data

Task Code	Task Name	Component	Parameters
1 *	Stage Assets *	Stage Data Loader	Table Name: select the stage table name from the available list. File Name: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

- Execute the Batch for the As-of-Date used in the Data File.

 **Note:**

If you are uploading multiple files to the same Staging table, then you must upload them in a sequence. Parallel loading of data files to the same table is not supported.

Stage to Processing

To load the Instrument Data from Staging Tables to Processing, perform the following steps:

- Define a new Batch and save it.
- Add the following Tasks to the above Batch:

Table 11-3 Instrument Data Loader – Stage to Processing Data

Task Code	Task Name	Component	Parameters
1 *	Proc Assets *	Instrument Data Loader	Stage Table: select the stage table name from the available list. Data File Specification: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

- Execute the Batch for the As-of-Date used in the Data File.

Management Ledger Data Loader

After the Data Files are uploaded to the Object Store, the Management Ledger Data Loaders are used to move the data from the files to the staging Ledger tables and then to the processing Ledger tables.

File to Stage

To load the Management Ledger Data to Staging Tables, perform the following steps:

1. Define a new Batch and save it.
2. Add the following Tasks to the above Batch:

Table 11-4 Management Ledger Data Loader – File to Stage Data

Task Code	Task Name	Component	Parameters
1 *	Stage Management Ledger *	Stage Data Loader	Table Name: select the stage table name from the available list. File Name: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

3. Execute the Batch for the As-of-Date used in the Data File.

Note:

If you are uploading multiple files to the same Staging table, then you must upload them in a sequence. Parallel loading of data files to the same table is not supported.

Stage to Processing

To load the Management Ledger Data from Staging Tables to Processing, perform the following steps:

1. Define a new Batch and save it.
2. Add the following Tasks to the above Batch:

Table 11-5 Management Ledger Data Loader – Stage to Processing Data

Task Code	Task Name	Component	Parameters
1 *	Proc Management Ledger *	Ledger Data Loader	Stage Table: select the stage table name from the available list. Data File Specification: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

3. Execute the Batch for the As-of-Date used in the Data File.

Transaction Summary Data Loader

After the Data Files are uploaded to the Object Store, the Transaction Summary Data Loaders are used to move the data from the files to the staging Ledger tables and then to the processing Transaction Summary tables.

File to Stage

To load the Transaction Summary Data to Staging Tables, perform the following steps:

1. Define a new Batch and save it.
2. Add the following Tasks to the above Batch:

Table 11-6 Transaction Summary Data Loader – File to Stage Data

Task Code	Task Name	Component	Parameters
1 *	Stage Asset Transaction Summary *	Stage Data Loader	Table Name: select the stage table name from the available list. File Name: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

3. Execute the Batch for the As-of-Date used in the Data File.



Note:

If you are uploading multiple files to the same Staging table, then you must upload them in a sequence. Parallel loading of data files to the same table is not supported.

Stage to Processing

To load the Transaction Summary Data from Staging Tables to Processing, perform the following steps:

1. Define a new Batch and save it.
2. Add the following Tasks to the above Batch:

Table 11-7 Transaction Summary Data Loader – Stage to Processing Data

Task Code	Task Name	Component	Parameters
1 *	Proc Asset Transaction Summary *	Transaction Summary Loader	Stage Table: select the stage table name from the available list. Data File Specification: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

- Execute the Batch for the As-of-Date used in the Data File.

Generic Data Loader

The Generic Data Loader allows the user to load the Master Information required by the Oracle Financial Services Cloud Services to enrich the data. To load the generic data, you need to use the Generic Data Loader service. First you need to upload the data, and then run a Batch to propagate the data into the Processing Layer.

To load the data, follow these steps:

- From the LHS menu, select **Data Management Tools**, select **Data File Administration**, and then select **File upload and download** to display the File Upload/Download screen. The File Upload/Download screen displays the list of files that are uploaded to the Object Store. The list displays the following details for each file:
 - File ID:** The unique file id. This is auto generated during upload.
 - Prefix:** The prefix added to the file name.
 - File Name:** The name of the uploaded file.
 - Stripe Name:** The unique identifier for storing the files.
 - Uploaded Date:** The file upload date.
 - Download File:** Click the Download icon to download a copy of the file.
 - Delete:** Click Delete to delete the uploaded file.
- Click **Drag and Drop** to browse and select a file for upload from the local directory. You can also browse to the local directory from the File Explorer and select file and drop it here.

The File Upload/Download service supports upload of TXT, DAT, and CSV format files.

Name of the Data File must follow the format as given below:

- A prefix as **input_yyyymmdd** where the date format is related to the As of Date of Interest (i.e., 02-May-2023 becomes 20230502).
- A suffix as **_filename.dat**.
- An example of a Data File Name could be: **input_20230502_filename.dat**.

 **Note:**

The file name is case-sensitive.

For example, **input_20230622_stg_exchange_rates.dat** or **input_20230502_STG_CUSTOMER_MASTER.dat**

For more information about File Upload and Download, see [File Upload and Download](#).

3. After selecting the file to upload, click **Upload**.
The UI displays a confirmation message *Upload successful*.
4. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Schedule Batch**.
5. Select the relevant seeded **Batch** and click **Edit Parameters**. In the Dynamic Parameters pop-up window, change the date to the relevant As-of-Date, and then save the batch.
6. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Execute Batch**.
7. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
8. Select the **Batch** and then select the **MISDATE** and the **Batch name**. There may be multiple executions of the Customer Master Loader batch. Select the latest execution and click **Start Monitor**.
The UI displays the Status of the batch.

For more details about Scheduler processes, see the following links:

- [Schedule Batch](#)
- [Monitor Batch](#)

File to Stage

To load the Exchange Rate Data to Staging Tables, perform the following steps:

1. Define a new Batch and save it.
2. Add the following Tasks to the above Batch:

Table 11-8 Exchange Rate Data Loader – File to Stage Data

Task Code	Task Name	Component	Parameters
1 *	Stage Exchange Rate *	Stage Data Loader	Table Name: select the stage table name from the available list. File Name: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

- Execute the Batch for the As-of-Date used in the Data File.

Stage to Processing

To load the Exchange Rate Data from Staging Tables to Processing, perform the following steps:

- Define a new Batch and save it.
- Add the following Tasks to the above Batch:

Table 11-9 Exchange Rate Data Loader – Stage to Processing Data

Task Code	Task Name	Component	Parameters
1 *	Proc Exchange Rate *	Exchange Loader	Stage Table: select the stage table name from the available list. Data File Specification: select the Data File Specification name from the available list.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

- Execute the Batch for the As-of-Date used in the Data File.

Data File History

The Data File History Screen in the OFS Cloud Service allows you to see the Data Files that are uploaded to the Staging Tables and their status.

The Data File History UI allows you to do the following:

- Search for Data Files for which the Stage Data Loader Batch is already executed.
- Move the Data from State to Processing Tables.
- Delete the Data from the Stage.

To open the Data File History Window, perform the following steps:

- Navigate to the **Data Management Tools**, select **Data File Administration**, and then select **Data File History** to display the Data File History Summary Screen.

Figure 11-9 Data File History Summary Screen

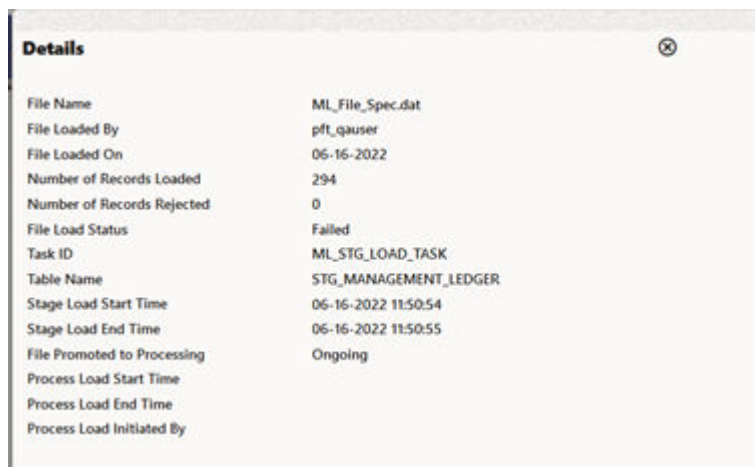
Batch Run ID	File Name	File Loaded On	Records Loaded	Records Rejected
ML_STG_LOAD_2022-03-01_165570391646_1	ML_File_Specdat	06-20-2022	117	0
ML_STG_LOAD_2022-03-01_165538020312_1	ML_File_Specdat	06-16-2022	294	0
ML_STG_LOAD_2022-03-01_165538260945_1	ML_File_Specdat	06-16-2022	294	0
ML_STG_LOAD_2022-03-01_1655381806522_1	ML_File_Specdat	06-16-2022	294	0
ML_STG_LOAD_2022-03-01_1659704223983_1	ML_File_Specdat	06-20-2022	19	0
ML_STG_LOAD_2022-03-01_1659725079933_1	ML_File_Specdat	06-20-2022	19	0

The Summary screen displays the following information of the Data Files:

- **Batch Run ID:** The ID used to run the Batch.
- **File Name:** The Data File Name.
- **File Loaded On:** The date on which the Data File is loaded.
- **Records Loaded:** The number of records loaded using the Data File.
- **Records Rejected:** The number of records that are rejected from the Data File.
- **View Details (Icon):** Select a Batch Run ID and click the details of the Data File.

The following illustration is a sample of the Data File's details.

Figure 11-10 File Details



Details	
File Name	ML_File_Spec.dat
File Loaded By	pft_qauser
File Loaded On	06-16-2022
Number of Records Loaded	294
Number of Records Rejected	0
File Load Status	Failed
Task ID	ML_STG_LOAD_TASK
Table Name	STG_MANAGEMENT_LEDGER
Stage Load Start Time	06-16-2022 11:50:54
Stage Load End Time	06-16-2022 11:50:55
File Promoted to Processing	Ongoing
Process Load Start Time	
Process Load End Time	
Process Load Initiated By	

- **Promote selected files to Processing (Button):** To promote the selected File or Files for processing. This triggers the Batch Scheduler and queues the selected File or Files for processing.
- **Advanced Actions (Button):** If you select a File and click this button, a Delete Data icon is displayed. You can select the Delete Data icon to delete the File.
- **Help (Button):** Click the Help icon to view the Data File History help.

Promoting a Data File for Processing

By promoting a Data File for processing, you insert the Data from the Data Staging Tables to the Processing Tables.

To promote a Data File for processing, perform the following steps:

1. Click on the **Table Name** icon to display the **Category – Table Names** window. This window displays the Stage Table Names where data is already loaded. The tables are categorized into different groups and are as follows:
 - Transaction Summary
 - Ledger
 - Others

- Schedule
- Instruments

Each of the above Categories lists the Tables available to which the data is loaded. The list of categories is dependent on the Metadata from the Seeded Tables that come with the various OFS Cloud Services and may differ from that shown above based on the services you have subscribed.

2. Select the **Table** for which you want to see the File History from the list.
3. Select the relevant **As Of Date** from the drop-down list. This drop-down list displays different As-of-Dates. These dates are based on processed or not processed data loading. For example, if you have already processed some data on a previous date, this drop-down displays that date and displays the current date.
4. Click on **Promoted to Processing** and select the following options:
 - **All**: To display all the Data Files that are specified on the selected As-of-Date.
 - **Yes**: To display only the Data Files that are already specified and processed on the selected As-of-Date.
 - **No**: To display only the Data Files that are specified but are in the queue to be processed on the selected As-of-Date.
5. Click the **Search** icon to display the Data Files information as per the option you selected in the previous step.
6. Select one or more **Batch Run IDs** that you want to promote for processing and click the **Promote selected files to Processing** button. This triggers the Batch Scheduler and schedules the Batch for processing. You can monitor the status using the Monitor Batch screen.

Reloading a Data File

OFS Cloud Services allows you to reload a Data File.

For the detailed instructions on Reloading the Data File, see the Scheduler Services User Guide.



Note:

While defining the Task, ensure that you select Delete Data Loader from the Component drop-down list.

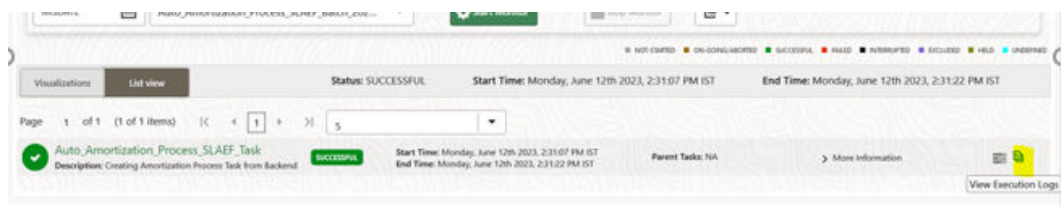
12

Viewing Logs

You can view the information about high-level processing steps from User Interface. To view the IFRS 9 S CS Process information, follow these steps:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
2. Select **Batch** and **Run Id**.
3. Click **Start Monitor**.
4. Click **List View** tab
5. Click **View Execution Logs** icon to view **Batch Logs**.

Figure 12-1 View the IFRS 9 S CS Process Information

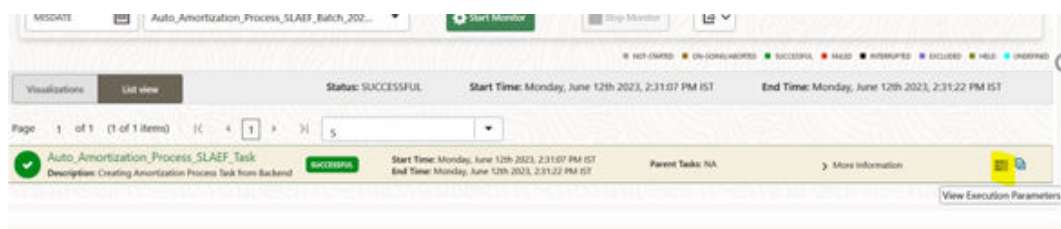


View the Execution Parameters

Perform the following steps to view the execution parameters:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
2. Select **Batch** and **Run Id**.
3. Click **Start Monitor**.
4. Click **List View** Tab.
5. Click **View Execution Logs** icon to view **Batch Logs**.

Figure 12-2 View Execution Parameter

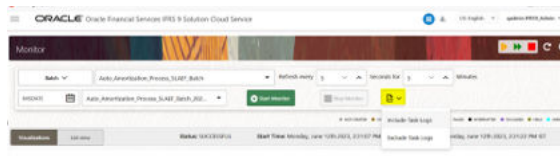


Generate the PDF

Perform the following steps to generate the PDF:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
2. Select **Batch** and **Run Id**.
3. Click **Start Monitor**.
4. Click **List View** tab
5. Click **Generate PDF - Include Task Logs**.
6. Click **Generate PDF - Exclude Task Logs**.

Figure 12-3 Generate the PDF



Instrument Data Loader (File to Stage)

You can see the messages from User Interface. To view messages, follow these steps:

- Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
- Select **Batch** and **Run Id**.
- Click **Start Monitor**.

Instrument Data Loader (Stage to Processing)

You can see the messages from User Interface. To view messages, follow these steps:

- Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
- Select **Batch** and **Run Id**.
- Click **Start Monitor**.

Dimension Loader (File to Stage to Dimension)

You can see the messages from User Interface. To view messages, follow these steps:

- Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
- Select **Batch** and **Run Id**.
- Click **Start Monitor**.

13

Preferences

You can access the Preferences module by clicking **Maintenance**, and then click the **Preferences** link in the LHS menu of the **IFRS 9 Solution Cloud Service**. The **Preferences** Page appears.

Setup Preferences

This section discusses the procedure to define and maintain the CFE Application, User, and Global Preference Settings.

Topics:

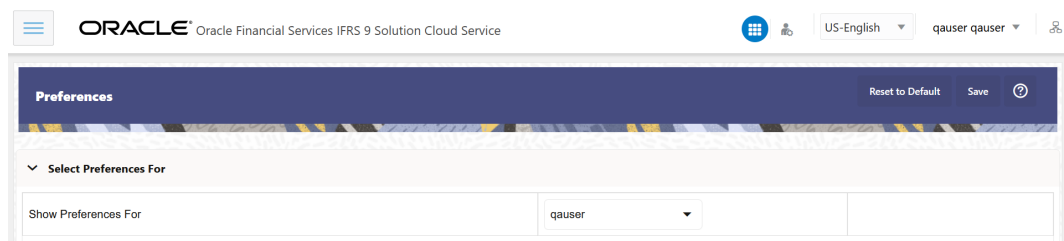
- [Select Preference For](#)
- [Configure Global Preference](#)
- [Configure Application Preference](#)
- [Configure User Preference](#)

Select Preferences For

To setup the Preferences, follow these steps:

1. Navigate to **Maintenance** and select **Preferences**.

Figure 13-1 Select Preferences For Section



2. Select the user from **Show Preferences For** drop-down list. This has following options:
 - **All User:** If you have Administrator Privileges, you can define preferences for the All User Group and their individual account, which may be the same or different from the All User settings. The Administrator can also designate the All User preferences as Editable or Non-editable on a row by row basis. If the individual preference is selected as is Editable, then End Users can update or override the Administrator's default value for their own individual account. If the Is Editable box is deselected, then End Users cannot change the default for their individual account.
 - **End-User:** If you do not have Administrator Privileges, then certain preference items are pre-set by the Administrator, and you may not be allowed to change the value. All Application Preference Settings are displayed, regardless of the access privilege.

Global Preference

Global Preferences items are used to configure your User Interface (UI).

To update the Global Preferences, follow these steps:

1. Navigate to **Maintenance** and select **Preferences**.
2. Select **Global Parameters**.

Figure 13-2 Global Preference Section

Global Parameters		
Property Name	Property Value	Is Editable
Date Format	dd-MM-yyyy	<input type="checkbox"/>
Pagination Count	20	<input type="checkbox"/>
Group Company Legal Hierarchy	LegalEntity	<input type="checkbox"/>
Currency Rate Provider	Default	<input type="checkbox"/>

3. Enter following values as described in Table:

Fields	Description
Date Format	Select one value from available list. dd-MMM-yy yyyy/MM/dd MM/dd/yyyy dd.MM.yyyy MM-dd-yyyy yyyy.MM.dd yyyy/MMM/dd dd-MMM-yyyy dd/MMM/yyyy yyyy.MMM.dd dd/MM/yyyy MM.dd.yyyy dd-MM-yyyy yyyy-MM-dd dd.MMM.yyyy yyyy-MMM-dd
Pagination Count	Pagination Records determine how many rows are displayed on summary and other screens. If you select Pagination Records to be 25 records, then any screen displaying results in a tabular format displays a maximum of 25 records.

Fields	Description
Group Company Legal Hierarchy	This displays list of Legal Entity Hierarchies that have been configured in Dimension Management. Select one hierarchy that must be used to identify internal (part of same financial group) customers of the institutions.
Currency Rate Provider	This displays list of providers of Currency Exchange Rate. Value "Default" is seeded and selected as default. If you load exchange rates from more than one source like Reuters and Bloomberg then select one which you want the engine to use during processing. Members of Dimension Rate Data Source are displayed in the drop-down list.
Functional Currency	A common functional currency is required which can be set here. This is required to consolidate the accounts' balances or charges at multiple hierarchy levels.

4. **Is Editable status** cannot be turned on since individual users are not expected to modify these parameters.
5. Click **Save** to confirm the changes.
6. **Reset to Default** option enables the factory settings to default.

User Preference

User Preferences items are used to configure the User Settings.

To update the Cash Flow Engine User Preferences, follow these steps:

1. Navigate to the **Maintenance** and select **Preferences**.
2. Click **User** tab.

Figure 13-3 User Preference Section

Property Name	Property Value	Is Editable
As of Date	01/31/2016	<input type="checkbox"/>

3. Enter following values in as described:
 - **As of Date** - All processes reference this date at Runtime to determine the data to include in the process. The As-of-Date value you set in Application Preferences applies to interactive job execution (that is, when you choose to execute a rule directly from a Summary window). For batch processing, the As-of-Date is derived from the Information Date. As of Date is also referenced by some assumptions UI's to display relevant information therein.
4. Click **Save** to confirm the changes.

Application Preference

Application Preferences UI allow Administrators and End Users to establish default values, manage other Core Application Parameters that affect the way Business Rules are created and the way Cash Flow Processes are run.

To update the Cash Flow Engine Application Preferences, follow these steps:

1. Navigate to **Maintenance** and select **Preferences**.
2. Click **Application Tab**.

Figure 13-4 Application Processing and Parameters



Figure 13-5 Processing - Cash Flow General section of Application Preference

Property Name	Property Value	Is Editable
Debugging Level	All	<input type="checkbox"/>
View Logs Level	Debug	<input type="checkbox"/>

3. Enter the following values in Application Tab as described in Table:

Fields	Description
Debugging Level	<p>The debugging output level determines the amount of SQL that will be written to the processing log. There are eight levels available:</p> <ul style="list-style-type: none">a. Trace: Designates finer-grained informational events than the DEBUG.b. All: All levels including custom levels.c. Error: Designates error events that might still allow the application to continue running.d. Information: Designates informational messages that highlight the progress of the application at coarse-grained level.e. Debug: Designates fine-grained informational events that are most useful to debug an application.f. Fatal: Designates very severe error events that will presumably lead the application to abort.g. Warning: Designates informational messages that highlight the progress of the application at coarse-grained level.h. Off: The highest possible rank and is intended to turn off logging. <p>Note: A log request of level p in a logger with level q is enabled if $p \geq q$. This rule is at the heart of log4j. It assumes that levels are ordered. For the standard levels, we have ALL < DEBUG < INFO < WARN < ERROR < FATAL < OFF.</p>
View Logs Level	<p>This shows the severity of the information telling you how important a given log message is. This shows the View level of the Log. There are three levels available:</p> <ul style="list-style-type: none">a. Information: Designates informational messages that highlight the progress of the application at coarse-grained level.b. Debug: Designates fine-grained informational events that are most useful to debug an application.c. Off: The highest possible rank and is intended to turn off logging.

Figure 13-6 Processing - Cash Flow Process section of Application Preference

Property Name	Property Value	Is Editable
Cash Flow Process Batch Size	1000	<input type="checkbox"/>
Cash Flow Process Parallel Requests	2	<input type="checkbox"/>
Cash Flow Process Parallel Threads	5	<input type="checkbox"/>
Cash Flow Process Flush Batch Size	500	<input type="checkbox"/>

Fields	Description
Cash Flow Process Batch Size	<p>Number of Account or Instruments that must be processed in a single batch. This is used by Cash Flow Engine for performance tuning.</p> <p>Default Value of 1000 is seeded by the service, and you can modify it as needed</p>
Cash Flow Process Parallel Requests	<p>Number of Parallel batches executed by each executor. This is a performance tuning parameter for Cash Flow Engine Cloud Service.</p> <p>Default Value of 2 is seeded by the service, and you can modify it as needed</p>
Cash Flow Process Parallel Threads	<p>Number of threads created by the executor for each batch. This is a performance tuning parameter for Cash Flow Engine Cloud Service. This defines how much memory can be used by the different components of the process such as the stack, data and text segments.</p> <p>Default Value of 5 is seeded by the service, and you can modify it as needed</p>
Cash Flow Process Flush Batch Size	<p>Number of records that gets saved or updated in a batch during Cash Flow Process execution. This is used by Cash Flow Engine for performance tuning.</p> <p>Default Value of 500 is seeded by the service, and you can modify it as needed</p>

Figure 13-7 Parameters - General

Property Name	Property Value	Is Editable
Fiscal Year Start Date (MM/DD)	01/01	<input type="checkbox"/>
First Execution Date	01/31/2016	<input type="checkbox"/>
FICO Score Source	<input type="text" value="Country X"/>	<input type="checkbox"/>

Fields	Description
Fiscal Year Start Date (MM/DD)	The start date of the Fiscal Year.
First Execution Date	The first date of the execution.
FICO Score Source	The FICO Score Source
Default Dimensions	<p>The default dimensions present in the application. The default dimensions are</p> <ul style="list-style-type: none">• Country• Geographic Location• Industry• Branch• Market Segment Code <p>The user can select other required dimensions from the drop-down list or select CTRL + F to search required dimensions.</p>

4. **Turn-on** the Is Editable status.
5. Click **Save** to confirm the changes.

14

Filter

Filters allow you to select data using the defined expressions.

Filters are categorized based on the different object types.

- [Data element filter](#)
- [Group filter](#)
- [Hierarchy filter](#)
- [Attribute filter](#)

Filter Summary Page

The **Filters Summary Page** shows the list of available filters. To access the Filter Summary page, complete the following procedure:

- From the left menu, click **Common Object Maintenance** and select **Filters**.

The Filter Summary Page provides the list of Filters with the following details.

Table 14-1 Field Description

Field	Description
Name	The unique Filter Name.
Folder	The folder in which the Filter Definition is stored.
Filter Type	The Filter Type associated with the Filter Definition.
Modified By	The last User who has modified the Filter Definition.
Modification Date	The date of modification.
Action	Click to View, Edit, Copy, Delete a Filter definition and View SQL.

Navigating Filters Summary Page

To access records in a Summary Page, you can search, sort and navigate to multiple pages.

For more information about accessing data in a summary page, refer [Viewing Data in a Summary Page](#)

Creating Filter Definitions

To create a Filter definition, complete the following steps:

1. To create a Filter Definition, click the **Add** () button in the Filter Summary Page.

The **Add Filter Definition** Page is displayed.

Figure 14-1 Add Filter Definition Page

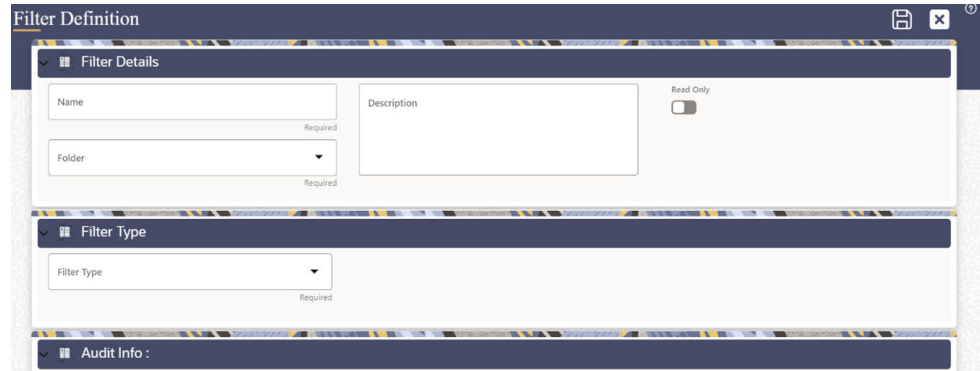




Table 14-2 Field Description

Field	Field
Name	The unique Filter Definition Name.
	<div style="border-left: 2px solid #0070C0; border-right: 2px solid #0070C0; border-bottom: 2px solid #0070C0; padding: 10px; background-color: #E6F2FF;"> <p> Note:</p> <p>You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".</p> </div>
Folder	Select the Folder Name where the Filter is to be stored from the drop-down list.
Description	A brief description about the Filter Definition.
	<div style="border-left: 2px solid #0070C0; border-right: 2px solid #0070C0; border-bottom: 2px solid #0070C0; padding: 10px; background-color: #E6F2FF;"> <p> Note:</p> <p>You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.</p> </div>
Read-Only	Toggle the button to set the Access Type. Read-Only: Select this option to give other users the access to only view the Filter Definition.
Filter Type	You can set the new Filter Definition, to any of the following Filter Types: <ul style="list-style-type: none"> • Data Element • Hierarchy Click the respective to filter for more information.

2. Click **Save** ().

The new Filter Definition is created successfully.

Defining a Hierarchy Filter

Hierarchy Filter allows you to utilize Rollup Nodes within a Hierarchy to help you exclude (filter out) or include data within an OFSAA Rule.

When you have selected the Filter Type as **Hierarchy**, define the Filter conditions by doing the following in the Hierarchy Selection Section:

Figure 14-2 Hierarchy Filter Type Selection



1. Select the required **Dimension** from the drop-down list.
2. Select the Folder from which you want to select Hierarchy.
3. Select the Hierarchy from the list of Hierarchies displayed based on the selected Folder.
4. Click

Figure 14-3 launch icon



to launch the Hierarchy Browser and select/unselect the Child/Sibling Members to be included in the Filter.

5. Click **Save**. The Hierarchy Filter definition is saved.

Defining a Data Element Filter

Data Element Filter is a stored rule that expresses a set of constraints. Only columns that match the data type of your Data Element selection are offered in the Data Element drop-down list box. For example, Balances between 10,000 and 20,000 Accounts opened in the current month Loans with amortization terms greater than 20 years.

Data Element Filters can access most instrument columns and most columns in the Management Ledger. Data Element Filters are used within other rule types such as Allocation Rules, Transfer Pricing Rules, Asset and Liability Management Rules.

When you have selected the Filter Type as **Data Element**, define the Filter conditions by doing the following in the Data Element Selection Section:

Figure 14-4 Data Element Filter Type Selection



1. Select the required database table from the **Entity Name** drop-down list. The associated members are displayed in the Show Members Section.
2. Select the associated **Attribute Name** from the drop-down list. The Attribute Name is based in the selected Database Table.
3. Select the **Data Element** from the drop-down list. This is based on the selected Entity and Attribute.
4. Select the method to be implemented. You can select from the following Filter Methods:

Table 14-3 Field Description

Field	Description
Specific Values	<p>Specific Values are used to match a selected database column to a specific value or values that you provide. You may either include or exclude Specific Values. You can add additional values by clicking the Add button.</p> <p>To remove a row, select the Checkbox and click the Delete button.</p> <p>When comparing Specific Values for a character type column, you must provide Specific Values that are character strings.</p> <p>When comparing Specific Values for a date type column, you must provide Specific Values that are dates (the application displays a Calendar Control).</p> <p>When comparing Specific Values for a Numeric Column, you must provide Specific Values that are numbers.</p> <p>Select Include Values or Exclude Values to include or exclude the selected values.</p>

Table 14-3 (Cont.) Field Description

Field	Description
Ranges	<p>Ranges are used to match a selected Database Column to a range of values or to ranges of values that you provide. You may either include or exclude Range Values.</p> <p>Range Type is available for datatypes Term, Frequency, Leaf, Code, Identity, Date, Numeric and Varchar.</p> <p>You can add additional values by clicking the Add button.</p> <p>To remove a row, select the checkbox and click Delete.</p> <p>If the column datatype is VARCHAR, provide Specific Values (Alphanumeric) that are character strings.</p> <p>If the column datatype is DATE, provide Specific Values that are dates (the application displays a Calendar Control).</p> <p>If the column datatype is Numeric, provide Specific Values that are numbers.</p> <p>If the column datatype is LEAF, provide either numeric values or click to select the Numeric Member IDs.</p> <p>If the column datatype is CODE, provide either numeric values or click to select the numeric member IDs.</p> <p>If the column datatype is IDENTITY, provide specific numeric values. However, no validation is done during save to validate the input value for a valid Identity Code.</p> <p>Select Include Values or Exclude Values to include or exclude the selected values.</p>
Another Element	<p>Another Data Element is used to match a selected database column to another database column. When constructing an Another Data Element Filter Method, you may only compare a column to other columns that you have already selected (the Data Element drop-down list box will only contain columns that you have already selected).</p> <p>You may use any of the following operators when choosing the Another Data Element Filter Method:</p> <p>=, <> (meaning "not equal to"), <, >, <=, or >=.</p>

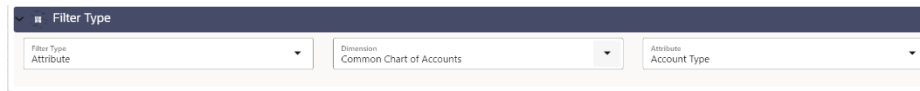
5. Click **Add** () list the completed filter conditions in the Filter Conditions Grid.
6. Click **Save** () to validate the entries and save the filter details

Defining an Attribute Filter

Attribute Filters are created using defined Attributes. Attribute filters facilitates you to filter on one or more Dimension Type Attributes. For each attribute, you can select one or more values.

When you have selected the Filter Type as Attribute, define the Filter conditions by doing the following in the Attribute Selection Section:

Figure 14-5 Attribute Filter Type Selection



1. Select the required **Dimension** from the drop-down list.
2. Select the associated **Attribute** from the drop-down list. The list consists of only Dimension Type attributes for selection. The Attribute Values pane displayed.
3. Click Search (🔍). The list of attribute values associated with the selected Attribute are displayed.
4. Click the **Action** (⋮) button adjacent to the attribute to be added and click **Copy**.
5. The Attribute value is added the Attribute Values pane.
6. Click **Add** button in the **Attribute Values** pane. The Filter Conditions grid is populated with the filter condition using all the Attribute values.
7. Select a filter condition and click **Delete** in the **Attribute Values** pane. The selected filter condition is deleted after confirmation.
8. Select the method to be implemented. You can select from the following Filter Methods:
9. Click **Add** to list the completed filter conditions in the Filter Conditions Grid.
10. Click **Save** (💾) to validate the entries and save the filter details.

Defining a Group Filter

Group Filters can be used to combine multiple Data Element Filters with a logical "AND".

When you have selected the Filter Type as Group, define the Filter conditions by doing the following in the Group Selection Section:

Figure 14-6 Group Filter Type Selection

1. Select the checkbox(s) adjacent to the required Data Element Filters in the Available Filters section and click . The selected filters are displayed in the Selected Filters pane. Select the checkbox adjacent to the Data element filter in the Selected Filters pane and click to deselect a filter.
You can also click the **Search** button to search for a filter in the Data Element Filter Search dialog using Folder Name and Filter Name.
2. Click **Save** () to validate the entries and save the filter details.

Managing Filter Definitions

You can view, edit, copy, delete and view SQL for the existing Filter Definitions from the Filter Summary Page.

In the Filter Summary Page, highlight a specific Filter Definition and click the **Action** button (). The following Options are displayed.

Table 14-4 Action Details

Field	Description
View	View the Filter Details for a specific Filter Definition.
Edit	Edit the Filter Details for a specific Filter Definition.
Copy	Copy the Filter Definition details and create another Hierarchy Definition by changing the unique values like Name, Description and so on.
Delete	Edit the Filter Definition Details.
View SQL	Displays SQL Statement for the filter.

Viewing Filter Definition Details


You can view the details of an individual Filter Definition, using the following procedure:

1. Highlight the Filter Definition and click the Action button ().
2. Click the **View** button.

The Filter Definition page is displayed with the details Name, Description, Folder, Filter Type, Filter Conditions and Audit Info.

Editing Filter Definition Details


You can edit individual Filter Definition details at any given point. To edit the existing Filter Definition details:

1. Highlight the Filter Definition and click the **Action** button ().
2. Click the **Edit** button.

The Filter Definition Page is displayed with the details: Name, Description, Folder, Filter Type, Filter Conditions and Audit Info. Edit the required information and click **Save**.

Copying Filter Definition Details

You can copy individual Filter Definition Details, to recreate another new Member Definition. To copy the Member Definition Details as follows:


1. Highlight the Filter Definition and click the **Action** button ().
2. Click the **Copy** button.

The Filter Definition Page is displayed with the details Name, Description, Folder, Filter Type and Filter Conditions.

Edit the unique information such as Filter Type and click **Save**.

Deleting Filter Details

To delete a Filter Definition:

1. Highlight the Filter Definition and click the Action button ().
2. Click the **Delete** button.



The Filter Definition is deleted after confirmation.

Note:

You cannot delete a definition if any dependency like Attribute, Hierarchy or Filter is attached to it. Detach the dependency before deleting the definition.

Checking Dependencies

To check the dependencies of a Filter Definition from the Filters Summary window:

1. Click the **Action** () button adjacent to the filter definition.
2. Click the **Check Dependency** () button.

The Dependent Objects window is displayed with Object ID, Name, and ID Type of the dependent Objects.

View SQL

To view SQL of a Filter Definition, perform the following steps:

1. Highlight the Filter Definition and click the **Action** button (☰).
2. Click the **View SQL** button.

The SQL statement of Filter Definition is displayed.

15

Currency

Financial institutions transact business in more than one currency. Transacting business in multiple currencies demands functional capabilities for multi-currency accounting and currency rate management.

Currency module supports the definitions and maintenance of currencies. Currency definitions are fundamental to the definition of both interest rate yield curves and currency exchange rates. A key attribute of every yield curve is the currency with which it is associated, and currency exchange rates can only be established between defined currencies. A comprehensive list of ISO-defined currencies is provided; you can also define and add your user-defined currencies.

Topics

- [Currency Summary Page](#)
- [Search for Currency](#)
- [Add a Currency](#)
- [View and Edit Currency](#)
- [Delete Currency](#)

Currency Summary Page

This page is the gateway to all Currencies and related functionality. You can navigate to other pages relating to Currency from this point. The Currency Summary Page displays the following columns.

Table 15-1 Table: Currency – Fields and Descriptions

Column	Description
Code	Displays the 3-letter ISO code of Currency
Name	Displays the name of currency
Reference Interest Rate Curve	Displays the Reference Interest Rate Curve of Currency
Reporting Currency	Indicates whether currency is marked for use as Reporting Currency
Status	Displays the Active or Inactive status of Currency.
User Defined	Identifies any user-defined currency, that is, a currency not seeded by Cloud Service
Last Modified By	Displays the Name of the user who last modified the Currency
Last Modified Date	Displays the Date and Time when Currency was modified last
Action	Displays the list of actions that can be performed on the Currency. For more information, see Currency – Icons and Descriptions .

Figure 15-1 Currency Summary Page

Code	Name	Reference Interest Rate Curve	Reporting Currency	Status	User Defined	Last Modified By	Last Modified Date	Action
USD	US Dollar	RT-IRC-101	Yes	Active	No	CFETEST	2022-11-10 11:14:15	...

The **Action** column on the **Currency Summary** page and icons on top right of the page offers several actions that allow you to perform different functions. The following actions are available for the Currency.

Table 15-2 Table: Currency– Icons and Descriptions

Fields	Description
Activate	Select one or more currency and click Activate icon to change status to active.
Add	Click Add icon to create a new Currency.
Multiple Delete	Select one or more currencies in the table and then click the Delete icon at the top right of the summary page to delete more than one Currencies at the same time.
View/Edit	Click on the Action icon against the Currency Name and select View/Edit to view or edit the contents of a Currency in read/write format. Depending on user privileges the currency will open in either View or Edit mode.
Delete	Click on the Action icon against the Currency Name and select Delete to delete an existing Currency.

Add Currency

To add a Currency, follow these steps:

1. Navigate to **Reference Data** and select **Currency**.
2. Click **Add** icon on Currency summary page. The **Add Currency** page is displayed.

Figure 15-2 Add Currency Page

The screenshot shows a web form titled "Add Currency". At the top right, there are two buttons: "Save" (with a floppy disk icon) and "Cancel" (with a close icon). The form contains five fields:

- Currency Code:** A text input field with a vertical cursor. Below it is the instruction "Enter 3 letter ISO currency code".
- Currency Name:** A text input field. To its right is the label "Required".
- Reference Interest Rate Curve:** A dropdown menu with a downward arrow.
- Reporting Currency:** A dropdown menu with "No" selected and a downward arrow.
- Status:** A dropdown menu with "Inactive" selected and a downward arrow.

3. Enter the following details:

Table 15-3 Adding a Currency – Fields and Descriptions

Fields	Description
Currency Code	For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these can be any pure character string (no numbers) up to a length of 3 characters.
Currency Name	For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these can be any string up to a length of 40 characters.
Reference Interest Rate Curve	Reference Interest Rate Curve is the Interest Rate Curve with which currency is associated for exchange rate forecasting purposes. Define multiple yield curves each of which has the same Reference Currency, but a currency can only have one Reference Interest Rate Curve.

Table 15-3 (Cont.) Adding a Currency – Fields and Descriptions

Fields	Description
Reporting Currency	A reporting currency is an active currency to which balances in other currencies can be consolidated to facilitate reporting. Balances in reporting currencies can be, in turn, consolidated to the functional currency. For example, an American multinational bank might consolidate its holdings in Asian currencies to the Japanese yen (Reporting Currency) and its balances in European currencies to the Euro (Reporting Currency) after which it might consolidate these reporting currencies to the U.S. dollar (Functional Currency).
Status	The status of any currency can be either Active or Inactive. You must Activate a currency before doing the followings: <ol style="list-style-type: none"> a. Define that currency as a Reference Currency for an Interest Rate curve. b. Enter Exchange Rate data for a currency. c. Define Forecast Rates for that currency. d. Define any other business rule like Prepayment, Transfer Pricing for that currency.

 **Note:**

- For the Oracle Financial Services Climate Change Analytics Cloud Service application, select 'Yes' for the Reporting Currency. This supports the Exchange Rate Conversion in the Currency Rate feature.
- The Reference Interest Rate Curve is not applicable for processing and analytical purposes in Oracle Financial Services Climate Change Analytics Cloud Service.

4. Click **Save**.

Search a Currency

Search for a Currency to perform any of the following tasks:

- Activate
- View
- Edit
- Delete

Prerequisites

Predefined Currencies

Procedure

To search the Currency, follow these steps:

1. Navigate to **Reference Data** and select **Currency** .
2. Enter the **Code, Name, Status, Reporting Currency**, or **User Defined** status of the Currency.
3. Click **Search**.

Only Currencies that match the search criteria are displayed.

View and Edit Currency

You can view existing Currency, and you can edit existing Currencies, provided you have read/write privileges.

To view and edit a Currency, follow these steps:

1. Navigate to **Currency Summary** Page.
2. Search for a Currency. For further information, see the [Searching a Currency](#) section.
3. Click on the **Action** icon against the Currency Name and select **View/Edit** to open the Currency you want to update.
4. Update the Currency details.
5. Click **Save**.

Delete a Currency

You can delete Currencies that are no longer required.

Note:

A Currency cannot be retrieved after deletion. Restrictions on deleting Currencies are:

- You cannot delete Currencies if you have only Read privileges. Only users with read/write privileges and Currency owners can delete Currencies.
- You cannot delete a Currency that has a dependency.

To delete a Currency, follow these steps:

1. Navigate to Currency Summary Page.
2. Search for a Currency and select it. For further information, see the [Searching a Currency](#) section.
3. Click on the **Action** icon against the Currency Name and select Delete.

16

Currency Rates

Currency Rates Module uses the currencies defined and activated in the Currency Module to support the creation and maintenance of Historical Exchange Rates. In the Currency Rate Window, you can manage historical Exchange Rates between currencies.

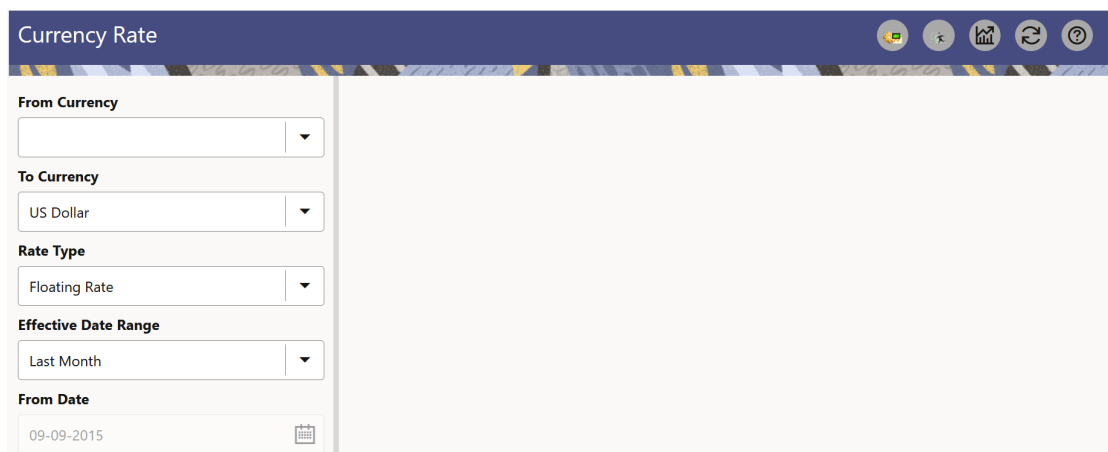
To Currency defaults to the Initial Currency selection from the Assumption Management defaults in the Active Preferences Window. You can select another To Currency from the drop-down list that displays all Active Currencies.

Adding Exchange Rate Data

Based on the Rate Types, you can add the following Exchange Rate Data:

- **Floating Rates**
Floating Exchange Rates, such as those between the US Dollar (USD), the Pound Sterling (GBP), the Japanese Yen (JPY), and the Euro (EUR), are market-driven and can change from day-to-day, hour-to-hour, or minute-to-minute.
- **Fixed Rates**
Some countries, especially smaller countries or countries that have experienced significant inflation in the recent past, can wish to “peg” their currency to a larger, more stable currency such as the US Dollar, Japanese Yen, or Euro.

Figure 16-1 Currency Rates



The screenshot shows the 'Currency Rate' window with the following configuration options:

- From Currency:** (Empty dropdown menu)
- To Currency:** US Dollar
- Rate Type:** Floating Rate
- Effective Date Range:** Last Month
- From Date:** 09-09-2015

Adding Floating Rate Data

To add the Exchange Rate Data, follow these steps:

1. Select a **From Currency**.
2. Select a **To Currency**.

3. Select **Rate Type** as **Floating Rate** (default selection is Floating Rate).
4. The RHS pane is displayed as Floating Currency Rates.
5. Select **Effective Date Range** to enter the values in From Date and To Date fields.
6. Select the **Rate Provider**.
7. Currency Rate Pane initially displays a single blank row followed by the most recent month's Exchange Rate data (if any such Exchange Rate Data already exists). To enter a single new Exchange Rate Data Point, enter data into the blank row.

Table 16-1 Floating Currency Rates

Fields	Description
Effective Date	Directly enter a date or select the Calendar icon to choose an effective date for your new Exchange Rate data point. Rate Management Stores the Historical Exchange Rate Data. You cannot enter Exchange Rate data for dates greater than the current date.
Exchange Rate	This must be entered as 1 unit of From Currency are converted to n unit of To Currency.
Status	Status is a read-only display that is updated after the Currency Rates Validation has been run.
Data Origin	The Data Origin is displayed read-only and indicates whether the rates were input through the UI or the Data Loader.

8. Click **Save**.
9. Click **Add** to add additional blank rows to enter the additional Effective Dates and Exchange Rates. After adding the multiple new Exchange Rates, click **Save**.

Adding Fixed Rate Data

To add the Exchange Rate Data, follow these steps:

1. Select a **From Currency**.
2. Select a **To Currency**.
3. Select **Rate Type** as **Fixed Rate**.
4. After selecting a **To Currency** value, the RHS pane is displayed as Fixed Currency Rates.
5. Select **Effective Date Range** to enter the values in From Date and To Date fields.
6. Select the **Rate Provider**.
7. Currency Rate Pane initially displays a single blank row followed by the most recent month's Exchange Rate Data (if any such Exchange Rate Data already exists). To enter a single new Exchange Rate Data Point, enter data into the blank row.

Table 16-2 Fixed Currency Rates

Fields	Description
Effective From Date	Directly enter a date or select the Calendar icon to choose a starting effective date for your new Exchange Rate Data Point.
Effective To Date	Directly enter a date or select the Calendar icon to choose an ending effective date for your new Exchange Rate Data Point.
Currency Exchange Rate	This must be entered as 1 unit of From Currency are converted to n unit of To Currency.
Status	Status is a read-only display that is updated after the Currency Rates Validation has been run.
Data Origin	The Data Origin is displayed read-only and indicates whether the rates were input through the UI or the Data Loader.

8. Click **Save**.
9. Click **Add** to add additional blank rows to enter the additional Effective Start and End Dates and Exchange Rates. After adding the multiple new Exchange Rates, click **Save**.

Viewing Exchange Rate Data

By default, both the Floating Currency Rates Pane and the Fixed Currency Rates Pane display the most recent month of historical Exchange Rate Data. You can control the amount of data displayed by selecting a different value from the **Effective Date Range** drop-down list in the **Currency Selection Window**.

From Date and **To Date** can also be modified to view relevant Currency Rates.

Editing Exchange Rate Data

Select the check box on the left-hand side of any row to enable the **Edit** icon. After clicking Edit, the row becomes active to edit the **Effective Date** and (or) the **Exchange Rate**. Click **Save** to save the changes.

Deleting Exchange Rate Data

Select one or more check boxes on the left-hand side of any row to enable the **Delete** icon. After clicking Delete, a confirmation message is displayed. Click **Ok**.

Currency Exchange Rate Validation

Exchange Rate Validation has the following features:

- Movement of historical Exchange Rates to the Currency Direct Access Table.
- Calculation of inverse Exchange Rates for Reporting Currencies.
- Calculation of triangulated Exchange Rates where possible.

Features of Exchange Rate Validation

The goal of Exchange Rate Validation is to ensure that Exchange Rates from all active currencies to all reporting currencies are available for processing. Some of these rates can come from the validated direct input, others are calculated based on relationships with other rates. To support triangulation, all fixed Exchange Rates are available for all currencies that make up an exchange that needs to be triangulated. Also, a direct Exchange Rate between each Child Currency and each reporting currency is calculated and supplied to support quick access to Exchange Rates. If a Child currency is a Reporting Currency, then Exchange Rates are calculated for all currencies having an exchange relationship with the Parent Currency.

Validating Exchange Rate Relationships

You must run the Exchange Rate Validation Process after adding or modifying Exchange Rate Data. Run the process immediately or schedule one or more to be run in the future.

Each Exchange Rate has one of the following statuses:

Table 16-3 Details of Exchange Rates

Fields	Description
Not Yet Validated	The Exchange Rate has been input or loaded but not yet validated.
Valid	The Exchange Rate has been validated.
Invalid	The Exchange Rate has violated one or more acceptance rules.

Only Exchange Rates in valid status are available for processing and they are not subject to future validation unless you edit them. The Rate Validation Status is displayed in the Currency Rates Window of the Rate Management.

Exchange Rate Validation Criteria

In the Rate Validation Process, all Exchange Rate relationships in the database are examined for compliance with the following criteria. Error messages and warnings are displayed if one or more criteria are not met.

- If a currency is defined as a Child in a fixed exchange relationship then it must not be in any floating (standard) Exchange Rate Relationship at the same time. Consequently, all floating Exchange Rates to or from the Child Currency must be defined through the Parent Currency. If this criterion is not met then the following message is displayed: Invalid fixed relationship—Child Currency exists in a standard Exchange Rate within the same time period.
- A Child Currency within a fixed relationship must not be a Child Currency in any other Fixed Relationship during the same time period. If this criterion is not met then the following message is displayed: Invalid fixed relationship—Child Currency already exists in a fixed relationship for the same time period.
- A Circular Relationship must not exist. In other words, a Child Currency cannot link back to its Parent in any other FixedRate Relationship within the same time period. If it does, then the following message is displayed: Invalid fixed relationship creates a circular relationship with other fixed Exchange Rates.
- Regarding new Floating (standard) Exchange Rates, from and To currencies must not exist as Child Currencies within any Fixed Exchange Rate Relationships. If this criterion is not met then the following message is displayed: From/To/Both

currency(ies) in the new Exchange Rate already exist in a fixed relationship for the same time period.

- If any Exchange Rate is equal to 0, then a warning message is displayed. Generally speaking, 0 is a valid value. You can use it, for example, to designate an Exchange Rate with a currency of a country that no longer exists.

If two Exchange Rate Relationships fail to meet these criteria then both of them will be labeled Invalid. (Exception, if one of the relationships is already in Valid status, then the other one will be labeled Invalid.) For example, if a currency is defined as a Child in a Fixed Rate Relationship and is also defined as being in a Floating Relationship at the same time, then both Fixed and Floating Rates for that currency will be labeled Invalid.

If there are both direct and Inverse Floating Exchange Rates defined for any two currencies (in other words, one currency is both a To and a From Currency in relation to the other), then both relationships will be marked valid.

Running an Exchange Rate Validation

You can run a validation immediately or schedule one or more for later. The Validation Status is displayed in the **Currency Rates** Window.

You can execute the Exchange Rate validation using the **Currency Rates Validation** option.

To execute the Exchange Rate Validation, follow these steps:

1. Click **Currency Rates** Validation.
2. To execute Exchange Rate validation from the **Currency Rates** Window, the following two options are available:
 - **Specify Dates:** After selecting this option, a Select Dates Pane is displayed to enter or verify the Start Date and End parameters. These dates will be passed to the batch for execution.
 - **Start Date:** This defaults to the date of last rate validation.
 - **End Date:** This defaults to the current date.
 - **Validate For All Dates:** Select this option to validate all the rates irrespective of dates.



Note:

This option will replace all of the validated Exchange Rate History and can be a time-consuming process depending on the amount of history available to be processed.

Download

The Download functionality is used to download the Historical Exchange Rates.

Importing Currency Rates

To import the Currency Rate, follow these steps:

1. Navigate to the **Currency Rate** page.

2. Select **Upload Data**.
3. Select the type of Rate as **Floating** or **Fixed**.
4. Click the **Drag and Drop** option to select the file.

 **Note:**

The excel file, you are uploading should be in a specific format. You can download the template using the Download Template option. The Templates for Fixed and Floating Rate Types. Currency rates UI bulk upload supports only **YYYY-MM-DD** date format

5. Click **Upload**.

Cash Flow Edits Process

This module discusses the procedure for validating and cleansing your Instrument Table Data before you process it to generate Cash Flow-based results. The Cash Flow Edits Process allows you to verify the accuracy and check the completeness of your Instrument Table Data.

Topics

- [Cash Flow Edits Process Summary Page](#)
- [Search Cash Flow Edits Process](#)
- [Create Cash Flow Edits Process](#)
- [Execute Cash Flow Edits Process](#)
- [View Cash Flow Edits Process Execution Details](#)

Cash Flow Edits Process Summary Page

This page is the gateway to all Cash Flow Edits Processes and related functionality. You can navigate to other pages relating to Cash Flow Edits Process from this point.

The **Cash Flow Edits Process Summary** Page displays the following column:

Table 17-1 Cash Flow Edits Process – Fields and Descriptions

Field	Description
Process ID	Displays the Process ID of Cash Flow Edits Process.
Name	Displays the Cash Flow Edits Process's short name.
Folder	Displays the Folder name where Cash Flow Edits Process is saved.
Access Type	Displays the access type of Process. It can be Read-Only or Read/Write.
Status	Displays the status of the Process.
Last Run By	Displays the Name of the user who last runs the Cash Flow Edits Process.
Last Run Date	Displays the Date and Time when Cash Flow Edits Process was run last.
Action	Displays the list of actions that can be performed on the Cash Flow Edits Process. For more information, see Cash Flow Edits Process – Icons and Descriptions .

The **Action** column on **Cash Flow Edits Process Summary** Page offers several actions that allow you to perform different functions. The following actions are available for the Cash Flow Edits Process Rule.

Table 17-2 Cash Flow Edits Process – Icons and Descriptions

Field	Description
Add	Click Add icon to build a new Cash Flow Edits Process.
View/Edits	Click on the Action icon against the Cash Flow Edits Process Name and select View/Edits to view or Edits the contents of a Cash Flow Edits Process in read/write format.
Save As	Click on the Action icon against the Cash Flow Edits Process Name and select Save As to create a copy of an existing Cash Flow Edits Process
Delete	Click on the Action icon against the Cash Flow Edits Process Name and select Delete to delete an existing Cash Flow Edits.
Execute	Click on the Action icon against the Cash Flow Edits Process Name and select Execute to execute an existing Cash Flow Edits Process. After clicking Execute, the Run Parameter Execution Window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Run. For more information, see Executing Cash Flow Edits Processes section.
Execution Details	Click on the Action icon against the Cash Flow Edits Process Name and select Execute Details to view execution details of the Cash Flow Edits Process.

You must create and run Cash Flow Edits processes on your Instrument Table Data before you submit Cash Flow Engine based rules for processing.

Search Cash Flow Edits Process

Search for a Cash Flow Edits Process to perform any of the following tasks:

- View
- Edits
- Copy
- Delete
- Refresh

Prerequisites

Predefined Cash Flow Edits Process

Procedure

To search for a new Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary Page**.

2. Enter the **Code, Name, Description, Dimension, Hierarchy, or Folder** of the **Cash Flow Edits Process** and click **Search** . Only Cash Flow Edits Process that match the search criteria are displayed.

Create Cash Flow Edits Process

Creating a Cash Flow Edits Process is a one-step process. You define both the attributes that uniquely describe a particular Cash Flow Edits Process and the data to be validated or cleansed by that process on the Create Cash Flow Edits Process Page.

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Click the **Add** icon. The **Create Cash Flow Edits Process** Page is displayed.

Figure 17-1 Process Details

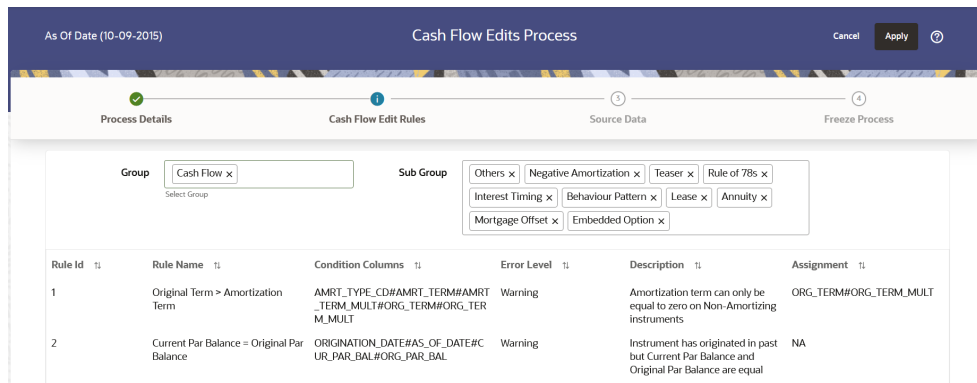
3. Enter the process details as shown in the following table:

Table 17-3 List of Process details used for Creating Cash Flow Edits Process

Field	Description
Name	Enter the name of the Cash Flow Edits Process.
Description	Enter the description of the Cash Flow Edits Process.
Select to view errors only	Selecting this parameter allows you to view the results of running a Cash Flow Edits Process before the system updates the underlying records in the Instrument tables. The default value of this parameter is checked.
Folder	Enter the Folder details where Cash Flow Edits Process needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.

4. Click **Apply** to navigate to the **Cash Flow Edits Rules** section.

Figure 17-2 Cash Flow Edits Rules



- Enter the Cash Flow Edits Rules details shown in the following table:

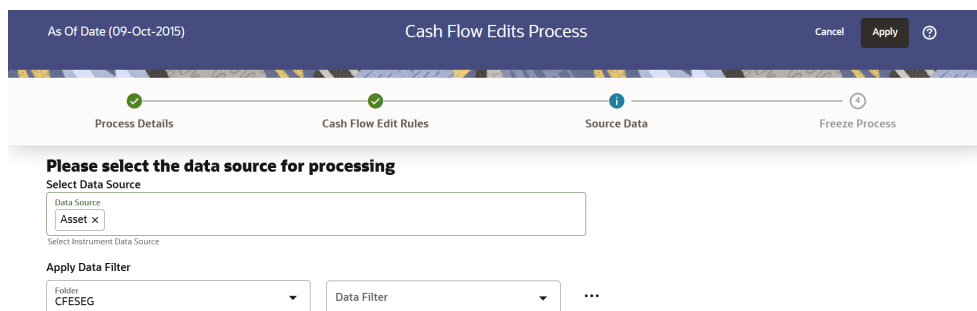
Table 17-4 List of Cash Flow Edits Rules details used for Creating Cash Flow Edits Process

Field	Description
Group	Select the group of Cash Flow Edits Rules that you want to include in the process. For example, Cash Flow
Sub Group	Select the sub group of Cash Flow Edits Rules that you want to include in the process. The value of this field varies based on the selected Group. The list of Rules with conditions is displayed.

The details of the process for the selected group and sub-group are listed on the screen for reference.

- Click **Apply** to navigate to the **Source Data** section.

Figure 17-3 Source Data



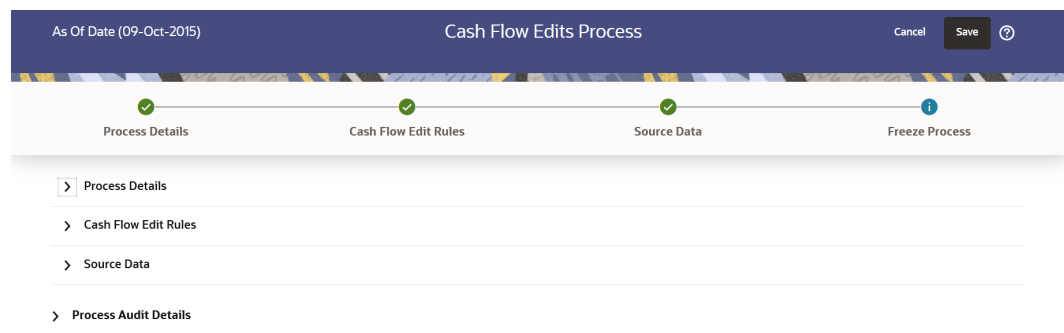
- Enter the Source Data details as shown in the following table:

Table 17-5 List of Source Data details used for Creating Cash Flow Edits Process

Field	Description
Data Source	This field allows you to select the Instrument tables that must be included in a Cash Flow Edits Process.
Data Filter Folder	Select the Folder from which you want to apply Data Filter.
Data Filter	This field allows you to select a subset of data for processing by selecting a filter that was previously created. Click Action button next to Data Filter to add, edit or view the Data Filter.

- Click **Apply** to navigate to the **Freeze Process** section.

Figure 17-4 Freeze Process



- Click **Save** on the **Freeze Process** Window after verifying all the details.
- The Cash Flow Edits Process is saved and the Summary Page is displayed.

Executing Cash Flow Edits Process

Execute a Cash Flow Edits Process to check the accuracy and the completeness of your Instrument Table Data. When run in Preview Mode, you can view the results of running a Cash Flow Edits Process by querying the FSI_O_CFE_EDITS_MESSAGES_HIST table for generated errors before the system updates the underlying records in the Instrument tables.

You can execute Cash Flow Edits Process using following methods:

- [Cash Flow Edits Process UI](#)
- [Scheduler Service](#)

Using Cash Flow Edits Process UI

To execute the Cash Flow Edits Process, follow these steps:

- Navigate to the **Cash Flow Edits Process Summary** Page.
- Search for a process.
- Click on the **Action** icon against the Cash Flow Edits Process Name and select Execute to execute an existing Cash Flow Edits Process. The **Run Parameter Execution** Window is displayed.

4. Select the **As of Date (Execution Date)** and **Legal Entity**, and then click **Run**.

 **Note:**

You can select multiple Legal Entities in list view of hierarchy browser at a time for execution. This is in addition to existing capability to process at parent level of Legal Entity hierarchy.

5. The **Cash Flow Edits Run Confirmation** Page is displayed. The status of the process is displayed in the **Status** Column. After completion of the process, you can navigate to the Execution Details Page by selecting the **Execution Details** option under the **Action** Column.

 **Note:**

You can view the results of running a Cash Flow Edits Process before the system updates the underlying records in the Instrument tables, provided you selected Preview Mode while defining it. If the Process runs in Preview Mode, query the FSI_O_CFE_EDITS_MESSAGES_HIST table for any generated errors

Using Scheduler Service

A batch with following details gets automatically created when Cash Flow Edits Process is saved:

- **Code:** Process Id of Cash Flow Edits Process
- **Name:** Name of Cash Flow Edits Process
- **Description:** Description of Cash Flow Edits Process

To execute the batch, navigate to Operations and Processes , select Scheduler, and then select Schedule Batch.

You can also define new batch to execute any Cash Flow Edits Process by following these steps:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**.
2. Define a new batch.
3. Enter the Batch Name and Description, and then Save the batch.
4. To add a task, navigate to **Define Task**.
5. Select the Batch from the **Batch** drop-down list on the **Define Task** Window.
6. Click the **Add** button.
7. Define the task with below details:
 - **Task Code:** Must be same as the Process Id of Cash Flow Edits Process
 - **Task Name:** This can be same a name of the Cash Flow Edits Process or something else

- **Task Description:** This can be same a name of the Cash Flow Edits Process or something else
 - **Task Type:** REST
 - **Component:** Cash Flow Edits
 - **Process Name:** Select one value from the list
 - **Legal Entity Hierarchy:** Select one value from the list
 - **Legal Entity:** Select one value from the list
8. **Save** and **Execute** the batch with Batch ID and MIS Date.
- For more information, see the [Scheduler Service](#).

Viewing Execution Details of Cash Flow Edits Process

To view the execution details of the Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Search for a Process.
3. Click on the **Action** icon against the Cash Flow Edits Process Name and select **Execution Details**. The **Execution Details** window is displayed.
4. Click any **Execution ID** to view the log details. The **Log Viewer** Window shows the complete details of process along with Batch Run ID Information.
5. Click **Download** to export the details of cash flow edits in **csv** format. This will help you to understand errors found in instrument data.
6. If process is executed in '**Non-preview**' mode, then records which are modified by Cash Flow Edits Process can be identified by looking at columns `CF_EDITS_BATCH_RUN_ID` and `UPDATED_BY_CF_EDITS` in instrument processing table.

Repricing Pattern

User Defined Repricing Patterns provide a mechanism to capture Instrument Repricing Patterns that are too complex to be accommodated through the use of the Standard Account Table Fields. You can utilize a Repricing Pattern to generating Cash Flows by entering the Adjustable Type Code as “Repricing Pattern” along with actual Repricing Pattern Code for the relevant Instrument Records.

The procedure for working with and managing Repricing Patterns is, similar to that of other Oracle Business Rules.

Topics

- [Repricing Pattern Summary Page](#)
- [Search Repricing Patterns](#)
- [Create a Repricing Pattern](#)
- [View and Edit Repricing Patterns](#)
- [Copy Repricing Patterns](#)
- [Delete Repricing Patterns](#)

Repricing Pattern Summary Page

This page is the gateway to all Repricing Patterns and related functionality. You can navigate to other pages relating to Repricing Patterns from this point.

The Repricing Summary Page displays the following columns.

Table: Repricing Pattern Rule – Fields and Descriptions

Column	Description
Name	Displays the Repricing Pattern Rule's Short Name. Mouse over the Name field to view the Code and Description details.
Pattern Type	Displays the Repricing Pattern Type, such as Absolute or Relative.
Created By	Displays the Name of the user who created the Repricing Pattern.
Created Date	Displays the Date and Time at which a Repricing Pattern was created.
Last Modified By	Displays the Name of the user who last modified the Repricing Pattern Rule.
Last Modified Date	Displays the Date and Time when Repricing Pattern was modified last.
Action	Displays the list of actions that can be performed on the Repricing Pattern Rule. For more information, see Repricing Pattern – Icons and Descriptions .

Figure 18-1 Repricing Summary Page

<input type="checkbox"/>	Name	Pattern type	Created By	Created Date	Last Modified By	Last Modified Date	Action
<input type="checkbox"/>	Check	Absolute	CFETEST	2022-09-15 11:17:30	CFETEST	2022-09-15 11:17:30	...
<input type="checkbox"/>	RP_504	Relative	CFETEST	2022-09-13 11:11:57	CFETEST	2022-09-13 11:11:57	...
<input type="checkbox"/>	RP_501	Relative	CFETEST	2022-09-13 11:11:32	CFETEST	2022-09-13 11:11:32	...
<input type="checkbox"/>	RP_600	Absolute	CFETEST	2022-09-13 11:10:09	CFETEST	2022-09-13 11:10:09	...

The Action column on the Repricing Pattern Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Repricing Pattern Rule.

Table: Repricing Pattern Rule – Icons and Descriptions

Table 18-1 Repricing Pattern – Icons and Descriptions

Fields	Description
Add	Click Add icon to build a new Repricing Pattern Rule.
Multiple Delete	Select one or more rules in the table and then click the Delete icon at the top right of the Summary Page to delete more than one rule at the same time.
View/Edit	Click on the Action icon against the Pattern Name and select View/Edit to view or edit the contents of a Repricing Pattern Rule in Read/Write format. Depending on User Privileges the rule will open in either View or Edit Mode.
Save As	Click on the Action icon against the Pattern Name and select Save As to create a copy of an existing Repricing Pattern Rule.
Delete	Click on the Action icon against the Pattern Name and select Delete to delete an existing Repricing Pattern Rule.
Dependency Check	Click on the Action icon against the Pattern Name and select Dependency Check to view objects where selected Repricing Pattern Rule is used.

Search Repricing Pattern

Search for a Repricing Pattern to perform any of the following tasks:

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Repricing Patterns

Procedure

To search the repricing patterns, follow these steps:

- Navigate to the Repricing Pattern Summary Page.
- Enter the code or name of the pattern in Search Criteria.
- Click the **Search** .
Only patterns that match the search criteria are displayed.

Create Repricing Patterns

You create Repricing patterns to capture the Repricing Behavior of instruments whose rates change according to complex schedules.

To create the Repricing Pattern, follow these steps:

1. Navigate to Repricing Pattern Summary Page.
2. Click **Add** icon.
The Add Repricing Pattern Page is displayed.
3. Enter a Numeric Code Value for the new Repricing Pattern. You can also click Generate Code Option in Code field to generate the code automatically.
4. Enter the name of the pattern.
5. Type a brief description for the pattern.
6. Select the Repricing Pattern Type: Absolute or Relative.
The selection of the Repricing Pattern type determines the fields that are displayed in the Repricing Events Table and the information you must provide to successfully define that pattern type. See:
 - [Defining Absolute Repricing Patterns](#)
 - [Defining Relative Repricing Patterns](#)
7. Click **Save**.

Define Absolute Repricing Patterns

The Absolute Repricing Pattern is used for instruments that are date dependent. Each specific date is a separate event. You need to enter the month and day for each event, except for the initial event.

Figure 18-2 Define Absolute Repricing Pattern

Prerequisites

Selecting Absolute as the pattern type.

Procedure

This table describes key terms used for this procedure.

Table: Key Terms used in Absolute Repricing Pattern

Key Terms	Description
Add Row	Allows you to add one or more Repricing Events.
Add Multiple Rows	Allows you to add more Repricing Events.
Define	Add detail for each Repricing Event.
Delete	Allows you to delete specific rows in the Repricing Events Table.
Month	In conjunction with the Day field, this drop-down menu, allows you to specify a unique month-day combination for a Repricing Event.
Day	In conjunction with the Month drop-down menu, this field allows you to specify a unique month-day combination for a Repricing Event.

To define Absolute Repricing Pattern, perform the following:

1. Select Pattern Type as **Absolute**.
2. Specify the required month-day combination for the event. You cannot specify a month-day combination for the first event as this row is reserved for the initial period.
3. Select the Repricing Type: **Flat** or **Indexed**.
The default is flat. If you select Indexed, the system automatically changes the fields available for entry.

Note: You can change your selection of the Repricing Type at any point in this process. Sometimes it may cause a loss of data.

For more information on Flat Repricing Type, see [Repricing Event is Flat Repricing](#).

For more information on Index Repricing Type, see [Repricing Event is Index Repricing](#).

- Select Balance Tier option:
 - **None:** If selected, the Balance Tiered Pricing is not applied.
 - **Current Balance:** Users can define balance tiers and associate different rates with the corresponding balance tier level. Balance tier in this case is decided using the principal balance of instrument on As of Date. Thus, even when actual balance goes down due to repayment, the instrument continues to be in original balance tier.
 - **Reducing Balance:** If the Balance Type is selected as Reducing Balance, then the repricing rate will be calculated using principal balance as on Repricing Date. Thus, the balance tier applicable to instrument change over its life due to repayment.

4. Click **Define**.

Repricing Event is Flat Repricing

Flat Rate: A Flat Rate is a specific rate—it is directly input.

To define a Flat Rate Event, follow these steps:

1. Select the Flat option from Repricing Method drop-down list for the event you are going to define. Notice the bottom half of the screen refreshes, displaying the required inputs. Complete the following steps on the Add Repricing Events Page:
2. Enter the Net Rate.
3. Enter the Gross Rate.
4. Enter the Transfer Rate.

 **Note:**

The Transfer Rate functionality will be released in future.
You must enter a valid value for at least one of these rate fields.

5. Click Apply.
The Event Summary Page is displayed. At this point, you have the option of defining additional events or saving. To add an additional event, repeat Click Add Row. You can edit the details of Defined Event.

Repricing Event is Indexed Repricing

An Indexed Rate is a set of parameters used to calculate a rate.

To define an Indexed Rate Event, follow these steps:

1. Select the Indexed option from Repricing Method drop-down list for the event you are going to define. Notice the bottom half of the screen refreshes, displaying the required inputs. Complete the following steps on the Add Repricing Events Page:
2. Select the Interest Rate Curve.
3. Select the Transfer Price Curve.

 **Note:**

The Transfer Price Curve functionality will be released in the future.

4. Enter the Yield Curve Term and select the appropriate Multiplier.
5. Enter the Net Margin.
6. Enter the Gross Margin.
7. Enter the Transfer Price Margin.
8. Enter the Rate Cap Life.
9. Enter the Rate Floor Life.
10. Enter the Rate Set Lag and select the appropriate Multiplier.
11. Click Apply. The Event Summary Page is displayed.
12. At this point, you have the option of defining additional events or saving. To add an additional event, repeat Click Add Row.
13. Click **Save**.
The Repricing Pattern is saved and the Repricing Pattern Summary Page is displayed.

Define Relative Repricing Patterns

The Relative Repricing Pattern is used for instruments where the repricing is determined by the elapsed time since origination. Defining a Relative Repricing Pattern involves the definition of a series of repricing events applicable to a specific Repricing Pattern Code. You need to specify the length of each Repricing Period and the number of times that event should occur before calculating the next event in the pattern.

Figure 18-3 Define Relative Repricing Pattern

As Of Date : 09-Oct-2015 Repricing Pattern Update Save As Cancel ?

Code: 611 Pattern Type: Relative

Name: RP_611_RB_RELATIVE_FLAT Description:

▼ Repricing Events - Relative

Frequency	Multiplier	Repeat	Repricing Method	Balance Tier Type	Definition Status	
▶ Initial			Flat	Reducing Balance	Defined	Edit
▶ 15	Days	5	Flat	Current Balance	Undefined	Define Delete

Prerequisites

Selecting Relative as the pattern type.

Procedure:

This table describes key terms used for this procedure.

Table: Key Terms used in Relative Repricing Pattern

Key Terms	Description
Add Row	This allows you to Add one or more Repricing Events.
Add Multiple Rows	Allows you to add more Repricing Events.
Delete	This allows you to delete specific rows in the Repricing Events Table. You need to specify the following parameters in the Repricing Events Table for a Relative Repricing Pattern:
Frequency	In conjunction with the Multiplier drop-down menu, this field allows you to specify how often Repricing occurs.
Multiplier	The unit of time applied to the frequency. The choices are: Days Months Years
Repeat	This allows you to specify the number of times a repricing event should be repeated.
Repricing Method	A drop-down list, it displays the Repricing Type, Flat Rate or Indexed Rate, associated with a particular event.

The steps to create relative Repricing Patterns are similar to creating [Creating Absolute Repricing Patterns](#).

The only difference is that the fields in the Repricing Events Table are different.

Select Pattern Type as Relative and follow the steps mentioned in [Creating Absolute Repricing Patterns](#) section.

View and Edit Repricing Pattern

You can view existing Repricing Pattern, and you can edit existing patterns, provided you have Read/Write privileges.

To view and edit a Repricing Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Repricing Pattern**.
2. Search for a Rule. For further information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Pattern Name and select **View/Edit** to open the rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

Copy Repricing Pattern

You can copy patterns to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

To copy a Repricing Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Repricing Pattern**.
2. Search for a Rule.
For more information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Pattern Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the Rule Copy.
5. Enter a unique name for the new Rule.
6. (Optional) Enter a brief description of the Rule.
7. Select the access type.
8. Click **Save**.

Delete Repricing Pattern

You can delete patterns that are no longer required.



Note:

A pattern cannot be retrieved after deletion.

Restrictions on deleting patterns are:

- You cannot delete patterns if you have only Read privileges. Only users with Read/Write privileges and pattern owners can delete patterns.
- You cannot delete a pattern that has a dependency.

To delete a Repricing Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Repricing Pattern**.
2. Search for a Rule. For more information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Pattern Name and select **Delete**.

Dependency Check

You can check dependencies for rules to know where a particular Repricing Pattern Rule has been used. This also prevents accidental deletion of rules having dependencies.

To check the dependency of a rule, follow these steps:

- Navigate to the **Maintenance** and select **Repricing Pattern**.
- Search for a Rule. For further information, see the [Searching for Rules](#) Section.
- Click on the **Action** icon against the Pattern Name and select **Dependency Check** to the Rule that you want to check for.



Note:

This is functionality will be released in future.

19

Behavior Patterns

PBSM (Profitability and Balance Sheet Management) Cloud Service's User Defined Behavior Patterns allow you to define Principal Amortization Schedules for Non-Maturity Products in your portfolio. You can utilize a Behavior Pattern to generate Cash Flows by entering the Amortization Type Code as "Behavior Pattern" along with the actual Behavior Pattern Code for the relevant Instrument Records.

The procedure for working with and managing Behavior Patterns includes the following steps:

- [Searching for Behavior Pattern](#)
- [Creating a Behavior Pattern](#)
- [Viewing and Editing Behavior Patterns](#)
- [Copying Behavior Patterns](#)
- [Deleting Behavior Patterns](#)

Search for Behavior Patterns

To open the Behavior Pattern Summary Window and search the Behavior Patterns, perform the following steps:

1. From the LHS menu, select **Maintenance**, and then select **Behavior Pattern** to open the Behavior Pattern Summary Page. This page is the gateway to all Behavior Patterns and related functionality. You can navigate to other pages relating to Behavior Patterns from this page.

Figure 19-1 Behavior Pattern Summary Page

<input type="checkbox"/>	Code	Name	Behavior Type	Last Modified By	Last Modified Date	Action
<input type="checkbox"/>	12	12	Non Performing	CFEUSER1	23/05/2022 12:03:50	...
<input type="checkbox"/>	33	Abhi	Non Maturity	CFEUSER1	05/05/2022 06:14:35	...

The Summary Page of Behavior Pattern displays the Search Criteria Pane, Field Search (Specific Search) Pane, and the already created Behavior Patterns and their details.

2. Click the **Search** icon and enter the Search Criteria from the following options:
 - Code
 - Name

- Description
 - Behavior Type
3. Click **Search** to display the Behavior Patterns that match the criteria.
 4. Click Search after entering the Search Criteria.
The search results are displayed in a table containing all the Behavior Patterns that meet the search criteria with the following details:
 - **Code:** The code of the Behavior Pattern.
 - **Name:** The name of the Behavior Pattern.
 - **Behavior Type:** The type of the Behavior Pattern.
 - **Last Modified By:** Displays the Name of the user who last modified the Behavior Pattern.
 - **Last Modified Date:** Displays the Date and Time at which a Behavior Pattern was last modified.
 5. Click on the Action icon against the Behavior Pattern to do further actions as follows:
 - **View:** Click View to view the details of a Behavior Pattern in Read-Only format.
 - **Edit:** Click Edit to modify a previously saved Behavior Pattern. Note that you cannot change the Code.
 - **Save As:** Click Save As to create a copy of the selected Behavior Pattern.
 - **Dependency Information:** Click Check Dependencies to generate a report on all rules that utilize your selected Behavior Pattern.
 - **Delete:** Click Delete to delete the selected Behavior Pattern.
 6. Click **Cancel/Reset** to remove the filter criteria on the Search Window and refresh the window.

The other method to search a Data File is using the Field Search Pane. You can enter any one of the details of a Data File and press the Enter key to display the details of the Data File.

Creating Behavior Patterns

You create Behavior Patterns to capture the principal run-off behavior of product types that do not have contractual maturities.

To create a Behavior Pattern, perform the following:

1. Navigate to the **Behavior Pattern Summary** Page.
2. Click **Add** to display the Behavior Pattern Details Page.

Figure 19-2 Behavior Patterns Details Page

Behavior Pattern

Code Required

Name Required

Description Required

Behavior Type Required

3. Enter a unique Numeric Code for the new Behavior Pattern. The code is must be mapped the appropriate instrument record's AMRT_TYPE_CD and BEHAVIOUR_PATTERN_CD to connect the instrument to the appropriate pattern.
4. Enter the **Name** and a **Description** for the pattern.
5. Select the Behavior Pattern Type from the following options:
 - Non Maturity
 - Non-Performing
 - Devolvement and Recovery.
6. Define the Behavior Pattern Tenor Specifications for the Maturity Branches.
7. The selection of the Behavior Pattern Type made in the previous step determines the information you must provide to successfully define that Pattern Type. For more information, see:
 - [Defining Non-Maturity Behavior Patterns](#)
 - [Defining Non-Performing Behavior Patterns](#)
 - [Defining Devolvement and Recovery Behavior Patterns](#)

 **Note:**

The Behavior Pattern Details Page above displays the specifications associated with the Non Maturity Pattern Type. Should you change this value for one of the other two alternatives, Non Performing or Devolvement and Recovery, the payment specifications section corresponding to the new Pattern Type get refreshed. Although you can change your selection of the Pattern Type at any point in this procedure, sometimes this might result in loss of data related to any prior selection.

Defining Devolvement and Recovery Behavior Patterns

Devolvement and Recovery Behavior Patterns are commonly used for estimating Cash Flows associated with Letters of Credit and Guarantees. These product types are categorized as Off-Balance-Sheet Accounts. Users can assign expected maturity profiles to the related balances classifying them into appropriate categories of Sight Devolvement and Sight Recovery or Usance Devolvement and Usance Recovery. Sight Devolvement and Recovery are the most common types.

To define the Non-Performing Behavior Patterns, perform the following steps:

1. In the **Behavior Pattern Details** Page, select **Devolvement and Recovery** as the Behavior Pattern Type.
2. Click the **Add** icon to open the Non-Performing Behavior Patterns Summary Page.

Figure 19-3 Behavior Pattern with Type as Devolvement and Recovery

The screenshot shows the 'Behavior Pattern' configuration page. The 'Behavior Pattern' section has the following details:

- Code: 455
- Name: BH455
- Description: BH455
- Behavior Type: Devolvement and Recovery

The 'Devolvement and Recovery' section contains a table with the following data:

Tenor	Multiplier	Percentage	Type
1	Month	10.000000	Sight Devolvement
6	Month	5.000000	Sight Recovery

A dropdown menu is open for the 'Type' column of the second row, showing the following options:

- Sight Devolvement
- Sight Recovery
- Usance Devolvement
- Usance Recovery

3. Enter or select the following details:
 - **Tenor:** Specify the maturity tenor for the first maturity strip. For example, if “1 Day” is defined, then the applicable percentage of the balance will Runoff (mature) on the As-of-Date + 1 Day.
 - **Multiplier:** The unit of time applied to the Tenor. The choices are:
 - Days
 - Months
 - Years
 - **Percentage:** The relative amount of the Principal Balance that will mature on the date specified by the Tenor + Multiplier. The percentage amounts can exceed 100% for devolvement and recovery patterns.
 - **Type:** This allows you to classify the Runoff based on the appropriate type. The options are:
 - **Sight Devolvement:** indicates the Beneficiary is paid as soon as the Paying Bank has determined that all necessary documents are in order. This is the preferred approach.
 - **Sight Recovery**
 - **Usance Devolvement:** Usance: is a period, which can be between 30 and 180 days after the bill of Lading Date.
 - Usance Recovery

 **Note:**

There is no difference in behavior from a Cash Flow perspective, but the Runoff Amount will be written to a Principal Runoff Financial Element corresponding to the selected Runoff Type.

4. Click the **Add** icon to add additional payment strips to the Pattern and define appropriate assumptions for each strip.
5. To delete a row, select the check box corresponding to the row(s) you want to remove and click the **Delete** icon.
6. Click **Save**.

The Behavior Pattern is saved and the Behavior Pattern Summary Page is displayed.

Defining Non-Maturity Behavior Patterns

Non-Maturity Behavior Patterns are commonly used for deposit products like Checking, Savings, and Money Market Accounts as well as for Credit Card Accounts. These account types are similar in that they do not have Contractual Cash Flows because Customers have the option to deposit or withdraw any amount at any time (up to any established limits).

When working with Non-Maturity Behavior Patterns, your percentage weights, assigned to maturity terms must add up to 100%.

To define a Non-Maturity Behavior Pattern, follow the Manual Method.

For Manual Model, you can perform the following steps:

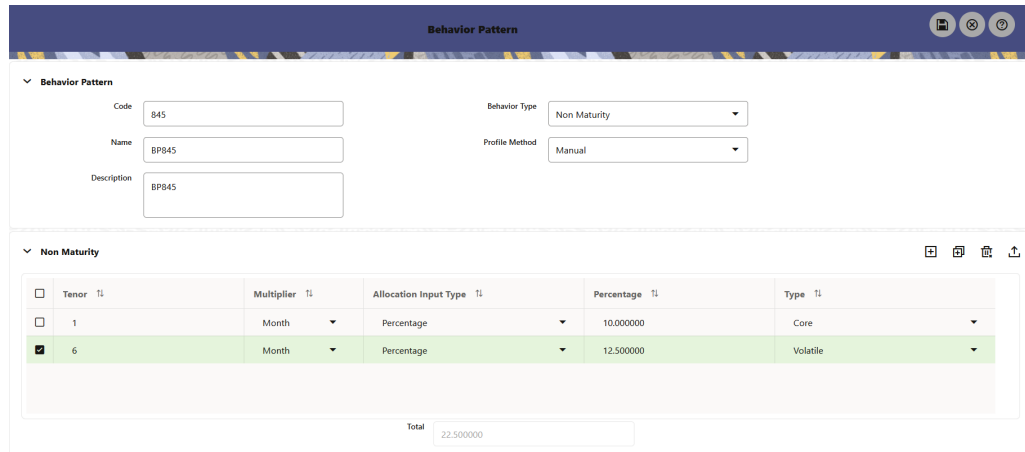
1. In the Behavior Pattern Details Page, select Non Maturity as the Behavior Pattern Type.
2. Select Non-Maturity Products Profile Method as Manual.
3. Enter or select the following details:
 - Tenor: Used to specify the maturity term for the particular row. For example, if “1 Day” is defined, then the applicable percentage of the balance will runoff (mature) on the As-of-Date + 1 Day.
 - Multiplier: The unit of time applied to the tenor. The choices are as follows:
 - Days
 - Months
 - Years
 - Allocation Input Type: This field has a default value of Percentage for each maturity tier.
 - Percentage: The outstanding balance indicating how much of the outstanding balance will mature on the specified term. Enter a number 0 and 100.
 - Type: This allows you to classify the Runoff based on the appropriate type. If you select Percentage under 'Allocation Input Type', this allows you to select Core or Volatile.
4. Click the **Add** icon to add additional payment strips to the Pattern. After defining the initial strip as Volatile, subsequent strips are usually classified as Core with varying maturity terms assigned.

 **Note:**

There is no difference in behavior from a Cash Flow perspective, but the Runoff Amount will be written to a Principal Runoff Financial Element corresponding to the selected Runoff Type.

5. Click **Add Multiple Row** icon to open a window. Enter the number of rows you want to add and click Add Rows.
6. The **Upload Excel** icon helps you to upload the Behavior Pattern information to an Excel Sheet. This feature will be available in future.
7. To delete a row, select the check box corresponding to the row you want to remove and click the Delete icon.
8. Click **Save**.

Figure 19-4 Behavior Pattern Type as Non-Maturity



Behavior Pattern

Code: B45 Behavior Type: Non Maturity

Name: BP845 Profile Method: Manual

Description: BP845

Non Maturity

<input type="checkbox"/>	Tenor ¹	Multiplier ¹	Allocation Input Type ¹	Percentage ¹	Type ¹
<input type="checkbox"/>	1	Month	Percentage	10.000000	Core
<input checked="" type="checkbox"/>	6	Month	Percentage	12.500000	Volatile
Total				22.500000	

The Behavior Pattern is saved and the Behavior Pattern Summary Page is displayed.

Defining Non-Performing Behavior Patterns

Non-Performing Behavior Patterns are commonly used for balances that are classified as non-earning assets. These balances are typically sourced from the Management Ledger as aggregate balances. Users can assign expected maturity profiles to these balances classifying them into appropriate categories of Sub Standard, Doubtful, or Loss.

To define the Non-Performing Behavior Patterns, perform the following steps:

1. In the Behavior Pattern Details Page, select **Non-Performing** as the **Behavior Pattern Type**.
2. Click the **Add** icon to open the **Non-Performing Behavior Patterns Summary** Page.

Figure 19-5 Behavior Pattern with Type as Non-Performing

Behavior Pattern

Code: 455 Behavior Type: Non Performing

Name: BH455

Description: BH455

Non Performing

<input type="checkbox"/>	Tenor ↑↓	Multiplier ↑↓	Percentage ↑↓	Type ↑↓
<input type="checkbox"/>	1	Days	10.000000	Substandard
<input type="checkbox"/>	1	Month	5.000000	Doubtful
<input type="checkbox"/>	1	Year	2.000000	Loss

3. Enter or select the following details:

- **Tenor:** Specify the maturity tenor for the first maturity strip. For example, if “1 Day” is defined, then the applicable percentage of the balance will runoff (mature) on the As-of-Date + 1 Day.
- **Multiplier:** The unit of time applied to the Tenor. The choices are:
 - Days
 - Months
 - Years
- **Percentage:** The relative amount of the Principal Balance that will mature on the date specified by the Tenor + Multiplier. The percentage amounts can exceed 100% for Non-Performing Patterns.
- **Type:** This allows you to classify the Runoff based on the appropriate type. The options are:
 - Substandard
 - Doubtful
 - Loss

 **Note:**

There is no difference in behavior from a Cash Flow perspective, but the Runoff Amount will be written to a Principal Runoff Financial Element corresponding to the selected Runoff Type.

4. Click the **Add** icon to add additional payment strips to the Pattern and define appropriate assumptions for each strip.
5. To delete a row, select the check box corresponding to the row(s) you want to remove and click the **Delete** icon.
6. Click **Save**.

The Behavior Pattern is saved and the **Behavior Pattern Summary** Page is displayed.

View and Edit Behavior Pattern

You can view existing Behavior Pattern, and you can edit existing patterns, provided you have Read/Write Privileges.

To view and edit a Behavior Pattern, perform the following steps:

1. Navigate to the **Behavior Pattern Summary** Screen.
2. Search for a Rule.
For further information, see the [Search for Behavior Pattern](#) section.
3. Click on the **Action** icon against the Pattern Name and select **View or Edit** to open the rule you want to update.
4. Update the rule details.
5. Click **Apply** or **Save**, depending on the rule type.

Copy Behavior Pattern

You can copy patterns to avoid having to enter data multiple times. This saves time and effort and reduces mistakes.

To copy a Behavior Pattern, perform the following steps:

1. Navigate to the Behavior Pattern Summary Screen.
2. Search for a Rule.
For more information, see the [Search for Behavior Pattern](#) section.
3. Click on the **Action** icon against the Pattern Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the rule copy.
5. Enter a unique Name for the new rule.
(Optional) Enter a brief Description of the rule.
6. Select the **Access Type**.
7. Click the **Save** button.

Delete Behavior Pattern

You can delete patterns that are no longer required. A pattern cannot be retrieved after deletion.

Restrictions on deleting patterns are:

- You cannot delete patterns if you have only Read Privileges. Only users with Read/Write Privileges and pattern owners can delete patterns.
- You cannot delete a pattern that has a dependency.

To delete a Behavior Pattern, perform the following steps:

1. Navigate to the Summary Screen and select Behavior Pattern.

2. Search for a Behavior Pattern
For more information, see the [Search for Behavior Pattern](#) section.
3. Click on the **Action** icon against the Pattern Name and select Delete.

Forecast Rates

Forecast Rate Scenario Assumptions allow you to define future interest rates, future economic indicators, future currency exchange rates, future interest rate volatility, and select behavior pattern rule for cash flow calculation. Interest rate forecasts are used to project cash flows, including pricing new business, repricing existing business, calculating prepayments, and determining discount methods. Interest rate volatility forecast are used for option valuation. Economic Indicator forecasts are used to calculate cash flow for inflation-indexed instruments, included in Behavioral Modeling and scenario or stress analysis. Currency Exchange Rate Forecasts are used to account for the effects of currency fluctuations on income.

The Forecast Rate Assumptions use interest rate curve, volatility surface, economic indicator, active and reporting currencies, and behavior pattern rule.

This module describes how to create a Forecast Rates Assumption Rule to forecast Cash Flows and, if you work with multiple currencies, to model relationships between Interest Rates and Exchange Rates.

Topics:

- [Forecast Rates Rule Summary Page](#)
- [Search Forecast Rate Rule](#)
- [Create Forecast Rate Rule](#)
- [View and Edit Forecast Rate Rule](#)
- [Copy Forecast Rate Rule](#)
- [Delete Forecast Rate Rule](#)
- [Dependency Check](#)

Forecast Rates Rule Summary Page

This page holds all Forecast Rate Rules and related functionality. You can navigate to other pages relating to the Forecast Rate Rule from this page.

The Forecast Rate Summary Page displays the following columns.

Table 20-1 Forecast Rate Rule Summary– Fields and Descriptions

Column	Description
Code	Displays the System ID of Forecast Rate Rule.
Name	Displays the Forecast Rate Rule's short name.
Reporting Currency	Displays the Reporting Currency selected in the Forecast Rates Rule.
IRRBB Shock	Displays Yes if IRRBB (Interest Rate Risk in Banking Book) scenario type is defined in the Forecast Rates Rule, Otherwise No is displayed.

Table 20-1 (Cont.) Forecast Rate Rule Summary– Fields and Descriptions

Column	Description
No. of Scenario	Displays number of scenarios defined in the Forecast Rates Rule
Folder	Displays the Folder name where the Forecast Rate Rule is saved.
Last Modified By	Displays the Name of the user who last modified the Forecast Rate Rule.
Last Modified Date	Displays the Date and Time when Forecast Rate was modified last.
Access Type	Displays the access type of rule. It can be Read-Only or Read/Write.
Action	Displays the list of actions that can be performed on the Forecast Rate Rule. For more information, see Forecast Rule – Icons and Descriptions.

Figure 20-1 Forecast Rate Summary Page

Code	Name	Reporting Currency	IRRB Shock	No Of Scenarios	Folder	Last Modified By	Last Modified Date	Access Type	Action
1652098876066	FCAST101	US Dollar	NO	1	CFESEG	CFETEST	12/05/2022 09:03:25	Read/Write	...
1653910996271	Test	US Dollar	NO	1	CFESEG	CFETEST	30/05/2022 11:43:16	Read/Write	...
1652359692629	test123	US Dollar	NO	1	CFESEG	CFETEST	12/05/2022 12:48:12	Read/Write	...

The Action column on the Forecast Rate Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Forecast Rate Summary Page.

Table 20-2 Forecast Rate rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary Page to build a new Forecast Rate Rule.
Multiple Delete	Select one or more rules in the table and then click the (-) icon at the top right of the Summary Page to delete more than one rule at the same time.
Help	Click icon to view the Holiday Calendar Rule Help.
View/Edit	Click on the Action icon against the Forecast Rate Rule Name and select View/Edit to view or edit the contents of a Forecast Rate Rule in Read/Write format. Depending on user privileges the rule will open in either View or Edit Mode.

Table 20-2 (Cont.) Forecast Rate rule – Icons and Descriptions

Fields	Description
Save As	Click on the Action icon against the Forecast Rate Rule Name and select Save As to create a copy of an existing Forecast Rate Rule.
Delete	Click on the Action icon against the Forecast Rate Rule Name and select Delete to delete an existing Forecast Rate Rule.
Dependency Check	Click on the Action icon against the Forecast Rate Rule Name and select Dependency Check to generate a report on all rules that utilize your selected Forecast Rate.

Search Forecast Rate Rule

Search for a Forecast Rate Rule to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies

Prerequisites

Predefined Forecast Rate Rule

Procedure

To search for a new Forecast Rate Rule, follow these steps:

1. Navigate to the **Forecast Rates Summary** Page.
2. Enter the **Code**, **Name**, and **Description** of the Forecast Rate Rule and click **Search** . Only Forecast Rate Rules that match the search criteria are displayed.

Create Forecast Rate Rule

To create a new Forecast Rate Rule, follow these steps:

1. Navigate to **Forecast Rates Summary** Page.
2. Click **Add** icon. The **Forecast Rates Details** Page is displayed.
3. Enter the following Details

Table 20-3 Forecast Rate Rule – Fields and Descriptions

Field	Description
Name	Enter the name of the Forecast Rate Rule.
Description	Enter the description of the Forecast Rate Rule. This is an optional field.

Table 20-3 (Cont.) Forecast Rate Rule – Fields and Descriptions

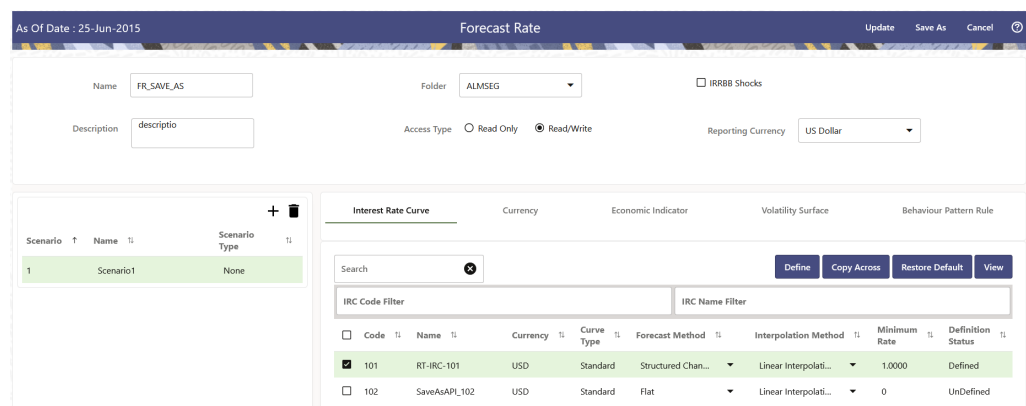
Field	Description
Folder	Select the Folder where the Forecast Rate Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.
IRRBB Shock	Select this checkbox if you want to define IRRBB Scenario. This option is available only in Asset Liability Management Cloud Service. If selected, IRRBB standardized and enhanced approach scenario types can be created.
Reporting Currency	Currencies that were marked as 'Reporting Currency' in Rate Management appear for selection here. Select one Reporting Currency.

- Scenario 1 is selected by default. You can change the name of scenario. Click + to add more scenario, if needed. More than one scenario can be created only in Asset Liability Management Cloud Service.
- Scenario Type is 'None' by default. When IRRBB Shock is enabled then you can select one of the available values from second scenario onwards.
- Click **Save**, if you want to save the Forecast Rate Rule and update it later.

Interest Rate Forecast Methods

The IRCs for all active currencies are listed under Interest Rate Curve Section. The options under Interest Rate Curve Forecast Method provide multiple ways to model the effects on portfolio Cash Flows due to Interest Rate changes.

Figure 20-2 Interest Rate Curve Forecast Rates



You can define Interest Rate Forecast for the following methods:

Table 20-4 Forecast Rate rule – Methods and Descriptions

Method	Description
Flat	Forecast no change in the Interest Rate for all dates beginning with the As-of Date.
Direct Input	Type Interest Rates directly for any modeling period or Interest Rate term.
Structured Change	Forecast exchange rates as an incremental change from the previous period. Forecast rate changes in terms of absolute or percent change, for any modeling period or interest rate term, such as: +100 basis points on Day 1 -200 basis points over the first 6 months Yield curve rotation (short point decreasing, long point increasing). This option is available only in Asset Liability Management Cloud Service.
Implied Forward	Forecast interest rates based on the yield-curve interest rates in effect at the as-of date and consistent with the modeling bucket definitions. This option is available only in Asset Liability Management Cloud Service.
Yield Curve Twist	Flatten or steepen the yield curve around a specific point on the curve. This option is available only in Asset Liability Management Cloud Service.
Change from Base	Make incremental changes to an existing forecast scenario. This option is available only in Asset Liability Management Cloud Service.
IRRBB Standardized Approach Shocks	Forecast an interest rate shock according to one of the BCBS IRRBB Standardized Approach shock specifications (Scenario-level specification). This option is available only in Asset Liability Management Cloud Service
IRRBB Enhanced Approach Shocks	Forecast an interest rate shock according to user specifications that will flow into IRRBB Table B reporting. This option is available only in Asset Liability Management Cloud Service.

For more information, see the [Cash Flow Engine Reference Guide](#).

The following Interpolation Methods are available.

Table 20-5 Forecast Rate Rule – Interpolation Methods and Descriptions

Method	Description
Linear Interpolation	Linear interpolation uses Linear Yield Curve smoothing. Linear Yield Curves are continuous but not smooth; at each knot point, there is a kink in the yield curve. You may not want to use a Linear Yield Curve with a model that assumes the existence of a continuous Forward Rate Curve, due to the nonlinear and discontinuous knot points of a Linear Yield Curve.
Cubic Spline of Yields	<p>A cubic spline is a series of third-degree polynomials that have the form:</p> $y = a + bx + cx^2 + dx^3$ <p>These polynomials are used to connect the dots formed by observable data. The polynomials are constrained so they fit together smoothly at each knot point (the observable data point.) This means that the slope and the rate of change in the slope with respect to time to maturity have to be equal for each polynomial at the knot point where they join. If this is not true, there is a kink in the yield curve and they are continuous but not differentiable.</p> <p>Two more constraints make the Cubic Spline Curve unique. The first restricts the zero-maturity yield to equal the 1-day interest rate. The second restricts the yield curve at the longest maturity to be either straight ($y''=0$) or flat ($y'=0$).</p>
Quartic Spline	<p>Quartic interpolation requires a minimum of 4 knot points. The quartic interpolation equation can be represented as:</p> $Y = a + bX + cX^2 + dX^3 + eX^4$ <p>The end knot points satisfy equations for one curve and all intermediate points satisfy two curves. Therefore, in a scenario with a minimum number of knot points, there are 6 equations. For n number of knot points, the number of equations is $2n-2$. If n is the number of points to be interpolated, the order of the matrix to be formed is $5*(n-1) \times 5*(n-1)$. The matrix is formed according to the following logic:</p> <p>The second derivative at the endpoints and the first derivative of the last point is Zero. At the points other than the endpoints, the value of the first derivatives, second derivatives, and the third derivatives of the function are equal.</p>

In looking up the Forecast Rates, the Cash Flow Engine (where necessary) performs an interpolation between yield curve term points. For example, in determining a three-month rate from a yield curve that contains only a one-month rate and a six-month

rate, the Cash Flow Engine performs an interpolation to determine the implied three-month rate. The Interpolation method used is defined by the selected interpolation method for the Interest Rate Curve.

Forecast rates for 360 calendar months starting from As-of-Date are generated.

Following options are available for Interest Rate Curve Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)
- [View](#)

Define

- **Flat Method**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Select the Interpolation method.
 3. Input Minimum Rate, if required.
 4. Click **Define**.
The status of the Interest Rate Curve is changed to **Defined**.
- **Direct Input**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Direct Input**.
 2. Select the **Interpolation Method**.
 3. Input Minimum Rate, if required.
 4. Click **Define**.
The **Direct Input** window is displayed:

Figure 20-3 Direct Input

As Of Date : 10-09-2015		Forecast Rate											Save	Cancel	ⓘ
RT-IRC-101: Direct Input															
Forecast Period	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y				
0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344				
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

5. Enter data and click **Apply**. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid.
 6. The status of the Interest Rate Curve is changed to **Defined**.
- **Structured Change**

1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Structured Change** .
2. Select the **Interpolation Method**.
3. Input Minimum Rate, if required.
4. Click **Define**.
The **Structured Change** window is displayed:

Figure 20-4 Structured Change

The screenshot shows the 'Forecast Rate' window for 'Structured Change'. The window title is 'Forecast Rate' and it includes 'Save' and 'Cancel' buttons. Below the title bar, there is a 'Shock Type' section with radio buttons for 'Rate' (selected) and 'Percent'. A table displays data for various periods:

Start Period	End Period	From Date	To Date	1M	2M	3M	6M	1Y	2Y	3Y	5Y
0	0	0	0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768
1	1	10-10-2015	11-09-2015								

At the bottom of the window, there are 'Apply' and 'Cancel' buttons.

5. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
 6. Enter a shock amount to apply to the IRC in absolute rate or percentage change. Enter Start and End period from 1 to 360 months and corresponding shock amount to apply to the IRC. Right click on data grid to all more rows or delete rows. Use the Excel Import or Export feature to add the interest rate changes.
 7. Click **Apply** to save.
 8. The status of the Interest Rate Curve is changed to **Defined**.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Implied Forward.
 2. Select the **Interpolation Method**.
 3. Input Minimum Rate, if required.
 4. Click **Define**.
The Implied Forward window is displayed:

Figure 20-5 Implied Forward

The screenshot shows the 'Forecast Rate' window for 'Implied Forward'. The window title is 'Forecast Rate' and it includes 'Save' and 'Cancel' buttons. Below the title bar, there is a 'Shock Type' section with radio buttons for 'Rate' (selected) and 'Percent'. A table displays data for various periods:

	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y
Base Rate	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344
Shock Rate											

At the bottom of the window, there are 'Apply' and 'Cancel' buttons.

5. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
6. Enter a shock amount to apply to the IRC in absolute rate or percentage change. If no change is required to the base curve, leave at 0.0, and click **Apply**.

7. The status of the Interest Rate Curve is changed to Defined.
- **Yield Curve Twist**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Yield Curve Twist.
 2. Select the **Interpolation** Method.
 3. Input Minimum Rate, if required.
 4. Click **Define**.
The Yield Curve Twist window is displayed:

Figure 20-6 Yield Curve Twist

Forecast Period	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y
0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2809	4.9768	5.168	5.5168	6.0344

5. Select Start and End Period. Start Period must 1 or higher while highest End Period can be 360.
 6. Select the tenors using the Short Point, Mid Point, and Long Point.
 7. Add the required shock amounts for each tenor. At runtime and display time, the rate changes are added to the as-of-date rates to create a future scenario.
 8. Click **Apply**.
The status of the Interest Rate Curve is changed to Defined.
- **Change From Base**

Note:

This method is available from second scenario onwards.

1. Select Scenario 2 or higher as Scenario.

Figure 20-7 Change From Base

Scenario	Name	Scenario Type
1	Scenario 1	None
2	Scenario 2	EA - Short Do...

Code	Name	Currency	Curve Type	Forecast Method	Interpolation Method	Minimum Rate	Definition Status	
<input type="checkbox"/>	101	RT-IRC-101	USD	Standard	Change From Ba...	Linear Interpolation	0.0000	Defined
<input checked="" type="checkbox"/>	102	SaveAsAPI_102	USD	Standard	Change From Ba...	Linear Interpolation	0	UnDefined

2. Select Interest Rate Code using corresponding checkbox and select Forecast Method as Change from Base.

3. Select the Interpolation Method.
4. Input Minimum Rate, if required.
5. Click Define. The Change From Base window is displayed.

Figure 20-8 Change From Base

Forecast Period	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y	36M
0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344	6
1												

6. Scenario 1 is used as base scenario.
 7. Enter the Forecast Period from 1 to 360 months and the corresponding change amount to apply to the base forecasts IRC. Right click on data grid to add more rows or delete rows. Use the **Excel Import or Export** feature to add the interest rate changes.
 8. The status of the Interest Rate Curve is changed to Defined.
- **Standardized Approach Shocks**
Standardized Approach shocks are different than other Interest Rate Rules as these are applied at the scenario level instead of at the IRC level. When you create a new Forecast Rates rule, the default Scenario 1 is always the base scenario for Standardized Approach purposes and cannot have a Standardized Approach shock definition.
 1. In Forecast Rates window, select the IRRBB Shocks. This allows you to define either Standardized or Enhanced Approach Scenarios, or both for a single Forecast Rates Rule. Once a forecast rates rule is designated as IRRBB Shocks, this check box cannot be unselected unless there are no defined scenarios as either Standardized or Enhanced Approach scenario type.
 2. To apply a Standardized Approach scenario, click the Add Scenario.
 3. In the Add Forecast Rates Scenario section, select the Scenario Type to apply the scenario. The following are the shock scenarios:
 - Standardized Approach Shock - Parallel UP
 - Standardized Approach Shock - Parallel DOWN
 - Standardized Approach Shock - Short UP
 - Standardized Approach Shock - Short DOWN
 - Standardized Approach Shock - Flattener
 - Standardized Approach Shock - Steppener
 4. Only one Standardized Approach shock can be applied to a single scenario, and no two SA shocks of the same type may be applied to the same Forecast Rates rule. All qualifying IRCs will inherit this SA shock and cannot be changed except for their interpolation method and minimum rate.
 5. Click Apply to make scenario as Standardized Approach shock.
 - **Enhanced Approach Shocks**
Like Standardized Approach shocks, Enhanced Approach shocks are scenario-level rules, and Scenario 1 is always referred to as the Base scenario for reporting

purposes. However, unlike Standardized Approach shocks, the Forecast method for each IRC is not pre-established. This means that users must define the Forecast method, interpolation method and minimum rate for all Interest Rates in each scenario. Once defined and processed, the results will flow through into the Table B reporting.

1. In the Forecast Rates window, select the IRRBB Shocks. This allows you to define either Standardized or Enhanced Approach scenarios, or both for a single Forecast Rate rule. After a Forecast Rate rule is designated as IRRBB Shocks, this check box cannot be unselected unless there are no defined scenarios as either Standardized or Enhanced Approach Scenario Type.
2. To apply an Enhanced Approach scenario, click the Add Scenario. The following are the shock scenarios:
 - a. Enhanced Approach Shock - Parallel UP
 - b. Enhanced Approach Shock - Parallel DOWN
 - c. Enhanced Approach Shock - Short UP
 - d. Enhanced Approach Shock - Short DOWN
 - e. Enhanced Approach Shock - Flattener
 - f. Enhanced Approach Shock - Steppener
3. Only one Enhanced Approach shock can be applied to a single scenario, and no two EA shocks of the same type can be applied to the same Forecast Rates rule. All IRCs in this scenario remain fully editable for the Forecast method, Interpolation method, and Minimum Rate.
4. Click Apply to make the scenario as Enhanced Approach shock.

Copy Across

This allows you to copy Forecast Method and related details from one IRC to another.

For example, if you have 10 IRCs enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled IRCs, instead of having to input 10 full sets, thereby saving a significant amount of input time.



Note:

You must select a defined IRC to Copy Across. For more information, see the [Define](#) section of Interest Rate Curve.

- **Flat Method**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Structured Change**
 1. Select Interest Rate Curve using the corresponding checkbox and select **Forecast Method** as **Structured Change**.

2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Implied Forward.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.
 - **Change From Base**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Change From Base.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.

Restore Default

Use this action to reset previously entered details to Undefined status.

- **Flat Method**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to **Undefined**.
- **Direct Input**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Direct Input**.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to **Undefined**.
- **Structured Change**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Structured Change.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Implied Forward.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
- **Yield Curve Twist**

1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Yield Curve Twist.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
- **Change From Base**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Change From Base.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.

View

After defining Forecast Method and other parameters for an IRC you can view the forecasted interest rates by clicking this button.

- **Flat Method**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Click **View** to see the output table.
- **Direct Input**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Direct Input**.
 2. Click **View** to see the Output Table.
- **Structured Change**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **View** to see the Output Table.
- **Yield Curve Twist**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Yield Curve Twist**.
 2. Click **View** to see the Output Table.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Implied Forward**.
 2. Click **View** to see the Output Table.
- **Change From Base**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Change From Base**.
 2. Click **View** to see the Output Table.

Define Currency Forecast Methods

The following Currency Forecast methods are available when you select a currency (other than the reporting currency) from the **Currency Codes** list. Currency forecast methods is available in Asset Liability Management Cloud Service only.

Figure 20-9 Currency Forecast Methods

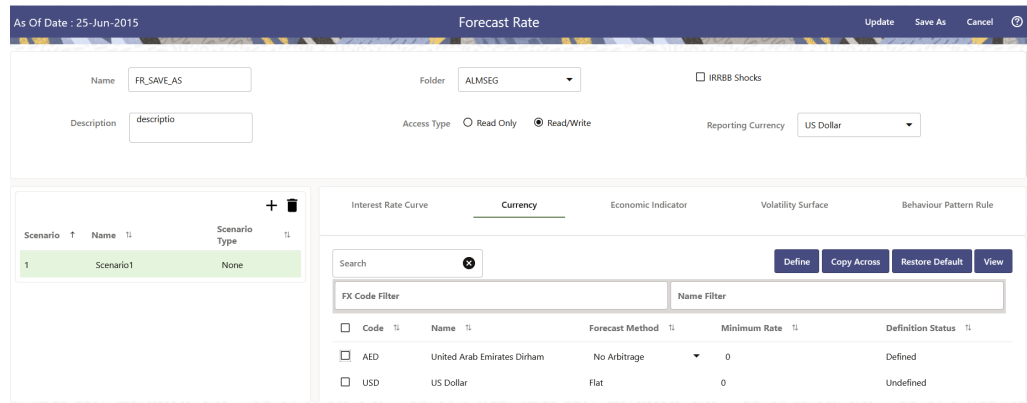


Table 20-6 Currency Forecast Methods

Method	Description
Flat	Forecast no change in the exchange rate for all dates beginning with the as-of date.
Structured Change	Forecast exchange rates as an incremental change from the previous period.
Direct Input	Type exchange rates to use in forecasting.
Parity	Forecast the exchange rate between two currencies based on forecasted interest rate associated with the currencies. The parity method can be used only if both the reporting currency and the selected currency have a Reference IRC. If reference IRC is not available for both or any one currency then flat method is used.
No Arbitrage	Forecast the exchange rate required to maintain a no-arbitrage condition between two currencies. The No Arbitrage method can be used only if both the reporting currency and the selected currency have a Reference IRC. If reference IRC is not available for both or any one currency then flat method is used.

Following options are available for Currency Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)

- [View](#)

Define

- **Flat Method**

1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
2. Input Minimum Rate, if required.
3. Click **Define**.
4. The status of the Currency Code is changed to **Defined**.

- **Direct Input**

1. Select Currency Code using corresponding checkbox and select Forecast Method as **Direct Input**.
2. Input Minimum Rate, if required.
3. Click **Define**. The **Direct Input** window is displayed:

Figure 20-10 Direct Input window

Forecast Period	Rate Value
0	0
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

4. Right click on data grid and select 'Export to excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click **Apply**.
5. The status of the Currency Code is changed to **Defined**.

- **Structured Change**

1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
2. Input Minimum Rate, if required.
3. Click **Define**. The **Structured Change** window is displayed:

Figure 20-11 Structured Change window

Start Period	End Period	From Date	To Date	1M	2M	3M	6M	1Y	2Y	3Y	5Y
0	0	0	0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768
1	1	10-10-2015	11-09-2015								

4. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
 5. Enter Start and End period from 1 to 360 months and corresponding shock amount to apply to the Currency. Right click on data grid to all more rows or delete rows. Use the **Excel Import or Export** feature to add the interest rate changes. Click **Apply**.
 6. The status of the Currency Code is changed to **Defined**.
- **Parity**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Input Minimum Rate, if required.
 3. Click **Define**.
 4. The status of the Currency Code is changed to **Defined**.
 - **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Input Minimum Rate, if required.
 3. Click **Define**.
 4. The status of the Currency Code is changed to **Defined**.

Copy Across

This allows you to copy Forecast Method and related details from one Currency to another.

For example, if you have 10 Currency codes enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled Currency codes, instead of having to input 10 full sets, thereby saving a significant amount of input time.

You must select a defined Currency to use Copy Across. For more information, see the [Define](#) section of Currency.

- **Flat Method**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Structured Change**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.

- **Parity**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.

Restore Default

Use this action to reset previously entered details to Undefined status.

- **Flat Method**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **Direct Input**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Direct Input**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **Structured Change**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **Parity**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.

View

After defining Forecast Method and other parameters for a Currency you can view the forecasted Currency by clicking this button.

- **Flat Method**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
 2. Click **View** to see the output table.
- **Direct Input**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Direct Input**.
 2. Click **View** to see the Output Table.
- **Structured Change**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **View** to see the Output Table.
- **Parity**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Click **View** to see the Output Table.
- **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Click **View** to see the Output Table.

Define Economic Indicator Forecast Rule

The Economic Indicators (EI) defined previously are listed under EI Section. The options under EI Forecast Method provide multiple ways to model the effects on Portfolio Cash Flows due to changes in inflation index and other micro or macro-economic parameters.

The following Economic Indicator Methods are available.

Table 20-7 Forecast Rate Rule – Economic Indicator Methods and Descriptions

Method	Description
Flat	Forecast no change in the EI rate for all dates beginning with the As-of Date.
Direct Input	Type-specific Economic Index Rates to use in forecasting.
Structured Change	Forecast the economic index as an incremental change from the previous period. This option is available only in Asset Liability Management Cloud Service.

Figure 20-12 Economic Indicator Forecast Rates

Code	Name	Forecast Method	Minimum Rate	Definition Status	
<input type="checkbox"/>	203101	EIAPITest	Flat	0.25	Defined

Following options are available for Economic Indicator Forecast Rule:

- Define
- Copy Across
- Restore Default
- View

Define

- **Flat Method**
 1. Select Economic Indicator Code using corresponding checkbox, select **Forecast Method** as **Flat** and enter minimum rate.
 2. Click **Define**. The status of Economic Indicator Code is changed to **Defined**.
- **Direct Input**
 1. Select Economic Indicator Code using corresponding checkbox, select Forecast Method as **Direct Input** and enter minimum rate.
 2. Click **Define**. The **Direct Input** window is displayed:

Figure 20-13 Direct Input window

Forecast Period	Rate Value
0	237.945
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

3. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click **Apply**.
 4. The status of Economic Indicator Code is changed to **Defined**.
- **Structured Change**
 - 1.
 2. Select Economic Indicator Code using corresponding checkbox, select Forecast Method as **Structured Change** and enter minimum rate.
 3. Click **Define**. The **Structured Change** window is displayed:

Figure 20-14 Structured Change window

The screenshot shows a window titled 'Forecast Rate' with a sub-header 'BAPTest Structured Change'. It features a table with the following data:

Start Period	End Period	From Date	To Date	Total Rate Change
1	1	10-10-2015	11-09-2015	2.173815

Below the table are 'Apply' and 'Cancel' buttons. The 'Shock Type' is set to 'Rate'.

4. Enter Start and End period from 1 to 360 months and corresponding shock amount to apply to the Currency. Right click on data grid to all more rows or delete rows. Use the **Excel Import or Export** feature to add the interest rate changes. Enter data and click Apply.
5. The status of Economic Indicator Code is changed to Defined.

Copy Across

This allows you to copy Forecast Method and related details from one Economic Indicator Code to another.

For example, if you have 10 Economic Indicator Codes enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled Economic Indicator Codes, instead of having to input 10 full sets, thereby saving a significant amount of input time.

Note:

You must select a defined Economic Indicator Code to use Copy Across. For more information, see the [Define](#) section of Economic Indicator.

- **Flat Method**
 1. Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Flat.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Direct Input**

1. Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Structured Change**
 1. Select Economic Indicator Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.

Restore Default

Use this action to reset previously entered details to Undefined status.

- **Flat Method**
 1. Select Economic Indicator Code using the corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Click **Restore Default**.
 3. The status of the Economic Indicator Code is changed to **Undefined**.
- **Direct Input**
 1. Select Economic Indicator Code using the corresponding checkbox and select **Forecast Method** as **Direct Input**.
 2. Click **Restore Default**.
 3. The status of the Economic Indicator Code is changed to **Undefined**.
- **Structured Change**
 1. Select Economic Indicator Code using the corresponding checkbox and select **Forecast Method** as **Structured Change**.
 2. Click **Restore Default**.
 3. The status of the Economic Indicator Code is changed to **Undefined**.

View

After defining forecast method and other parameters for an Economic Indicator Code you can view the forecasted interest rates by clicking this button.

- **Flat Method**
 1. Select Economic Indicator Code using corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Click **View** to see the output table.
- **Direct Input**
 1. Select Economic Indicator Code using corresponding checkbox and select **Forecast Method** as **Direct Input**.
 2. Click **View** to see the output table.

- **Structured Change**
 1. Select Economic Indicator Code using corresponding checkbox and select **Forecast Method** as **Structured Change**.
 2. Click **View** to see the output table.

Define Volatility Surface Forecast Methods

The following Volatility Surface Forecast methods are available when you select a Volatility Surface from the **Volatility Surface Codes** list. Volatility Surface forecast method is available in Asset Liability Management Cloud Service only.

Figure 20-15 Volatility Surface Forecast Methods

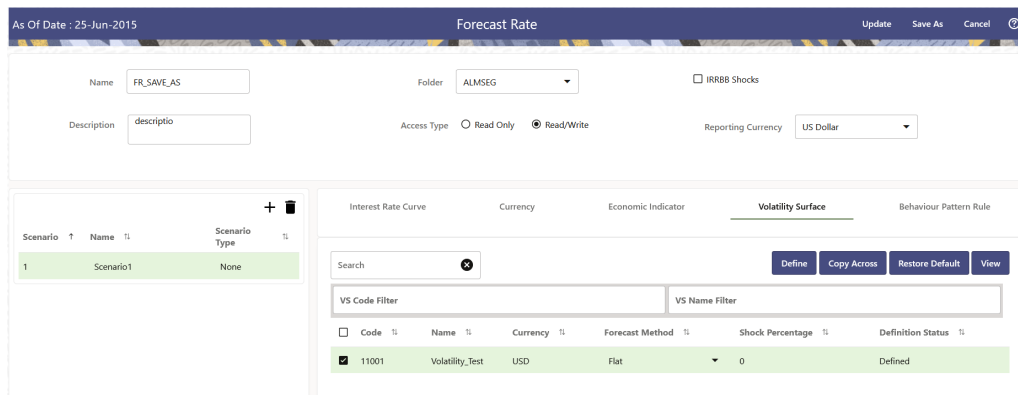


Table 20-8 Volatility Surface Forecast Methods

Method	Description
Flat	Forecast no change in the exchange rate for all dates beginning with the as-of date.
Global Shock	Single shock rate is defined and applied to base volatility matrix
Detail Shock	Shock rate is defined for every intersection of Strike & Expiry Date
Direct Input	Implied volatility is given as input for every intersection of Strike & Expiry Date

Following options are available for Volatility Surface Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)
- [View](#)

Define

- **Flat Method**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.

2. Click Define.
 3. The status of the Volatility Surface Code is changed to Defined.
- **Global Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.
 2. Input Shock Percentage, if required.
 3. Click Define.
 4. The status of the Volatility Surface Code is changed to Defined.
 - **Detail Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
 2. Click Define. The Detail Shock window is displayed:

Figure 20-16 Detail Shock window

Strike Rate	23-Oct-2015	30-Nov-2015
4		
5		
6		

3. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click Apply.
 4. The status of the Volatility Surface Code is changed to Defined.
- **Direct Input**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click Define. The Direct Input window is displayed:

Figure 20-17 Direct Input window

Strike Rate	23-Oct-2015	30-Nov-2015
4		
5		
6		

3. Enter a shock amount to apply to the Volatility Surface. Right click on data grid and select 'Export to Jexcel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid.
4. Click Apply.
5. The status of the Volatility Surface Code is changed to Defined.

Copy Across

This allows you to copy Forecast Method and related details from one Volatility Surface to another.

For example, if you have 10 Volatility Surface codes enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled Volatility Surface codes, instead of having to input 10 full sets, thereby saving a significant amount of input time.

You must select a defined Volatility Surface to use Copy Across. For more information, see the [Define](#) section of Volatility Surface.

- **Flat Method**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.
- **Global Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.
- **Detail Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.
- **Direct Input**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.

Restore Default

Use this action to reset previously entered details to Undefined status.

- **Flat Method**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
 2. Click Restore Default.
 3. The status of the Volatility Surface Code is changed to Undefined.
- **Global Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.

2. Click Restore Default.
 3. The status of the Volatility Surface Code is changed to Undefined.
- **Detail Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
 2. Click Restore Default.
 3. The status of the Volatility Surface Code is changed to Undefined.
 - **Direct Input**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click Restore Default.
 3. The status of the Volatility Surface Code is changed to Undefined.

View

After defining Forecast Method and other parameters for a Volatility Surface you can view the forecasted Volatility Surface by clicking this button.

- **Flat Method**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
 2. Click View to see the output table.
- **Global Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.
 2. Click View to see the Output Table.
- **Detail Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
 2. Click View to see the Output Table.
- **Direct Input**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click View to see the Output Table.

Map Behavior Pattern Rule

The Behavior Pattern Rule section allows you to map a existing Behavior Pattern Rule to current forecast scenario.

The BP Rule drop-down list shows the list of existing Behavior Pattern Rule. Select any behavior pattern rule to map with the current forecast scenario. To map a Behavior pattern to all the forecast scenarios, use the Apply to All Scenarios check box (applicable only to Asset Liability Management Cloud Service). For more information about the Behavior Pattern Rule, see the Behavior Pattern Rule section.

To map Behavior Pattern Rule with Forecast Scenario, follow these steps:

1. Navigate to **Forecast Rate Summary** Page.
2. Navigate to the Behavior Pattern Rule section.
3. Select Behavior Pattern Rule from **BP Rule To Be Applied To Current Scenario** drop-down list. Enable **Apply to All Scenarios** check box if you want to apply the selected Behavior Pattern Rule to all scenarios.

Figure 20-18 Map Behavior Pattern Rule

The screenshot shows the 'Forecast Rate' configuration page. At the top, there are fields for Name (FR_SAVE_AS), Folder (ALMSEG), and Reporting Currency (US Dollar). Below these are fields for Description (descriptio) and Access Type (Read/Write). A table lists scenarios, with 'Scenario1' selected. The 'Behaviour Pattern Rule' section includes a dropdown menu for 'BP Rule To Be Applied To Current Scenario' and a checkbox for 'Apply to All Scenario'. An 'Apply' button is located at the bottom of this section.

4. Click **Apply**.

View and Edit Forecast Rate Rule

You can view existing Forecast Rate Rule, and edit existing Forecast rules, provided you have Read/Write privileges.

To view and edit a Forecast Rate Rule, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Rate**.
2. Search for a Rule. For further information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **View/Edit** to open the rule you want to update.
4. Update the rule details.
5. Click **Apply** or **Save**, depending on the rule type.

Copy Forecast Rate Rule

You can copy Forecast Rate rules to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

To copy a Forecast Rate Rule, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Rate**.
2. Search for a Rule.
For more information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **Save As** to duplicate the rule.

4. Select a folder where you want to save the rule copy.
5. Enter a unique Name for the new rule.
6. Enter a brief Description of the rule.
7. Click **Save**.

Delete Forecast Rate Rule

You can delete Forecast Rate Rules that are no longer required.



Note:

A Forecast Rate Rule cannot be retrieved after deletion.

Restrictions on deleting Rules are:

- You cannot delete Forecast Rate Rules if you have only Read privileges. Only users with read/write privileges and Rule owners can delete Rules.
- You cannot delete a Forecast Rate that has a dependency.

To delete a Forecast Rate, follow these steps:

- Navigate to the **Assumption** and select **Forecast Rate**.
- Search for a Rule. For more information, see the [Searching for Rules](#) section.
- Click on the **Action** icon against the Forecast Rate Rule Name and select **Delete**.

Dependency Check

You can check dependencies for rules to know where a particular Forecast Rate Rule has been used. This also prevents accidental deletion of rules having dependencies.

To check the dependency of a rule, follow these steps:

1. Navigate to the Assumption and select Forecast Rate.
2. Search for a rule. For further information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **Dependency Check** to the rule that you want to check for.

21

Scheduler Service

This section provides information on the Scheduler Service feature.

Scheduler Service

The Scheduler Service is a service that automates behind-the-scenes work that is necessary to sustain various enterprise applications and functionalities. This automation helps the applications to control unattended background jobs program execution.

The Scheduler Service contains a graphical user interface and a single point of control for the definition and monitoring of background executions.

Following are the concepts or terminologies in the Scheduler Service:

- **Batch:** Date and time-based execution of the background tasks based on a defined period during which the resources were available for batch processing.
- **Task:** A batch job is a piece of a program meant to meet specific and business-critical functions. The program is a RESTful API used in a batch.
- **Task Dependency:** When the batch job is submitted, it is moved to the job queue until the system is ready to process. The system process the job based on chronological order or priority in case if more jobs are required to be executed in the job queue.
- **Schedule:** Batch jobs are used to automate the tasks that require to be performed on a regular basis but don't necessarily need to occur during the day or have an employee interacted with the system are batch schedule. Jobs that happen on a regular basis are incorporated into batch schedules.
- **Monitor:** The Scheduler Service enables you to monitor your executions by using a web-browser. It provides real-time feedback on the status of the current encoding job and lists the jobs pending in the batch. You can Cancel or Restart the service when required.

User Roles

The User Roles and Privileges for Scheduler Service are available in the Users and User Privileges Guide.

Features in Scheduler Service

The following are the features in the Scheduler Service:

- Use the **Define Batch** feature to create a new batch, modify the batch details, and delete the unwanted batches.
- Use the **Define Task** feature to create tasks for the batches.
- Use the **Schedule Batch** feature to execute a Batch instantaneously and schedule batches.
- Use the **Monitor Batch** feature to track the execution of the batches to view the real time status.

- Use **Scheduler Service Dashboard** to monitor the various activities.

Click the following links for more details:

- [Define Batch](#)
- [Define Task](#)
- [Schedule Batch](#)
- [Monitor Batch](#)
- [Scheduler Service Dashboard](#)

Define Batch

Batch is a process of execution of the Date and time-based background tasks based on a defined period during which the resources were available for Batch Processing.

Batch Group is a process of grouping the batches that are required to be execute together for execution of the Date and time-based background tasks based on a defined period during which the resources were available for Batch Processing.

To navigate to the Define Batch Page, complete the following procedure:

1. From the left menu, click **Common Object Maintenance**.
2. Select Operations and select **Define Batch**.

The **Define Batch Page** containing the following details is displayed.

Figure 21-1 Define Batch Page

Batch ID	Name	Description	Last Modified By	Last Modified Date
BT-BI-EXCHG_RATES_EOD	BT-BI-EXCHG_RATES_EOD	LOAD BI EOD EXCHANGE RATES	On-Friday May 27th 11:35:59 AM IST	
BT-BI-EXCHG_RATES_EOM	BT-BI-EXCHG_RATES_EOM	LOAD BI EOM EXCHANGE RATES	On-Friday May 27th 11:35:59 AM IST	
BT-CS-EXCHG_RATES_F	BT-CS-EXCHG_RATES_F	LOAD CS FCAST EXCHANGE RATES	On-Friday May 27th 11:35:59 AM IST	
BT-CS-EXCHG_RATES_H	BT-CS-EXCHG_RATES_H	LOAD CS HIST EXCHANGE RATES	On-Friday May 27th 11:35:59 AM IST	
BT-CS-MGMT_LEDGER_DEFAULT	BT-CS-MGMT_LEDGER_DEFAULT	LOAD CS MGMT LEDGER DEFAULT ...	On-Friday May 27th 11:35:35 AM IST	
BT-CS-MGMT_REPORTING_DEFA...	BT-CS-MGMT_REPORTING_DEFAULT	LOAD CS MGMT REPORTING DEFA...	On-Friday May 27th 12:35:11 PM IST	
BT-LO-DIM	BT-LO-DIM	LOAD FINANCIAL_ELEM DIMENSION	On-Friday May 27th 11:35:18 AM IST	

The Define Batch Page displays the details of all existing Batch like Batch ID, Batch Name, Batch Description, Last Modified By and Last Modified Date. You can also create a Batch Group and execute the Batch Group which has the list of batches that you have selected and grouped.

Table 21-1 Field Description

Field	Description
Batch ID	The Alphanumeric Code assigned to a specific Batch.
Name	The unique Batch Name.
Description	The brief description of the Batch.
Last Modified	The last modified By User, Date and Time details.

Creating a Batch

You can create a new batch in the Define Batch Page, and schedule and monitor the batch that you created.

- To create a new Batch, click the Add (+) button in the Define Batch Page. The **Create Batch Page** is displayed.

Figure 21-2 Create Batch Page

The screenshot shows the 'Create Batch Page' interface. At the top right, there are 'Save' and 'Close' buttons. The main section is titled 'Batch Details' and contains several input fields: 'Code *', 'Name *', and 'Description'. Below these fields are two radio buttons labeled 'Batch' and 'Batch Group'. Underneath is a dropdown menu for 'Service URL Name' with the placeholder text 'Select URL name or Type a new one' and a plus sign button. At the bottom, there is a 'Service URL' field.

Enter the **Batch Information** as described in the following table:

Table 21-2 Field Description

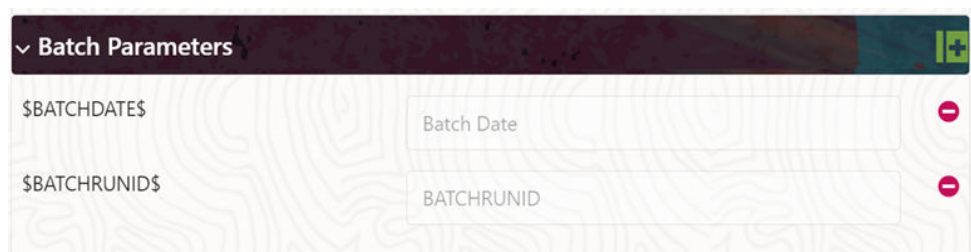
Field	Description
Batch Details	

Table 21-2 (Cont.) Field Description

Field	Description
Code	<p>The Unique Alphanumeric Code assigned to the Batch.</p> <p>NOTE:</p> <ul style="list-style-type: none"> The Batch Name should be unique across the Information Domain. The Batch Name must be alphanumeric and should not start with a number. The Batch Name should not exceed 60 characters in length. The Batch Name should not contain any special characters except “_”.
Batch Name	<p>The Batch Name is generated based on the values provided by you.</p> <p>NOTE:</p> <ul style="list-style-type: none"> The Batch Name should be unique across the Information Domain. The Batch Name should be Alphanumeric and should not start with a number. The Batch Name should not exceed 60 characters in length. The Batch Name should not contain any special characters except “_”.
Batch Description	<p>Enter a description for the Batch based on the Batch Name.</p> <p>NOTE:</p> <p>The Batch Description should be Alphanumeric. The allowed special characters are_:- and <blank space>, along with spaces and alphanumeric. It should not exceed 200 characters in length.</p>
Service URL Name/ Service URL	<ul style="list-style-type: none"> Select the Service URL Name from the drop-down list, if it is available. The Service URL is displayed in the Service URL field. To add a new service URL, enter a name to identify it in the Service URL Name field and enter the proper URL in the Service URL field. You can give partial URL here and the remaining URL in the Task Service URL.

2. Adding Batch Parameters

Figure 21-3 Adding Batch Parameters Window



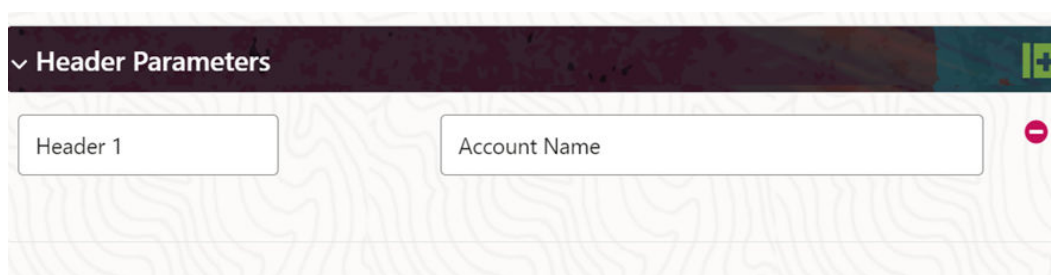
From the Batch Parameters pane, click (+) to add a new Batch Parameter. By default, \$FICMISDATE\$ and \$BATCHRUNID\$ are added as Batch Parameters.

 **Note:**

Enclose the Parameter Value for a Run time with \$ symbol. For example, \$paramName\$

- a. Enter the Parameter Name in the **Param Name** field.
 - b. Enter the Parameter Value in the Param **Value** field. You can delete a parameter by clicking **Delete** corresponding to the parameter.
3. Adding Header Parameters

Figure 21-4 Adding Header Parameters Window




4. Click **Save**. The new Batch is created and displayed in the Define Batch Page.

Editing a Batch

The **Edit Batch** option allows you to edit the Batch details such as Batch Description, Service URL Name and Service URL and also add a new Batch Parameter.

Seeded batches cannot be edited.

1. In the **Define Batch** Page, click () corresponding to the Batch you want to modify. The Edit Batch Page is displayed.
2. Modify the required **Batch** details. For more information, see [Create a Batch](#) section.
3. Click **Save**. The edited batch is saved and displayed in the Define Batch Page.

Copying a Batch

The Copy Batch option allows you to copy a Batch that you want to clone or create instances in the system from the Define Batch Window.

To copy a Batch, perform the following steps:

1. In the Define Batch Page, click (+) corresponding to the Batch that you want to copy. The Copy Batch Page is displayed.


2. Specify the Batch details as you want to clone and copy the existing batch.
For more information, see [Create a Batch](#) section.
3. Click **Save**.
The copied batch is saved and displayed in the Define Batch Page.

Deleting a Batch

The Delete Batch option allows you to delete a Batch that are no longer required in the system from the Define Batch Page.

Seeded batches cannot be deleted.

To delete a Batch, perform the following steps:

1. From the Define Batch Page, click () corresponding to the Batch you want to delete.
2. Click **OK** in the confirmation dialog box to confirm deletion. If the batch has any active schedules a warning is displayed. On confirmation, all schedules of the batch are also deleted.

Creating a Batch Group

You can create a new Batch Group in the Define Batch Page and schedule and monitor the Batch Group that you created.

To create a new Batch Group, perform the following steps:

1. In the **Define Batch** Page, click ().
The **Create a New Batch** Page is displayed.
2. Select **Batch Group** option.
3. Specify the following fields:
 - Name
 - Description
 - Add Batches

Note:


The Add Batches is a multi-select field, you can select the batches that you want to add to the group using this field.

4. Click **Save**.
The new Batch Group is created and displayed in the Define Batch Window.

Editing a Batch Group

The Edit Batch Group option allows you to edit the Batch Group details such as Batch Group Name, Added Batches, and Batch Group Description.


To modify a Batch Group, perform the following steps:

1. In the **Define Batch** Page, click **Batch Group** option to list the Batch Groups.
2. Click () corresponding to the Batch Group you want to modify. The **Edit Batch** Page is displayed.
3. Modify the required Batch Group details.
For more information, see [Create a Batch Group](#) section.
4. Click **Save**.
The edited Batch Group is saved and displayed in the **Define Batch Page**.

Copying a Batch Group

The Copy Batch option allows you to copy a Batch that you want to clone or create instances in the system from the Define Batch Page.

To copy a Batch Group, perform the following steps: To copy a Batch Group, perform the following steps:

1. In the **Define Batch** Page, click **Batch Group** option to list the Batch Groups.
2. Click () corresponding to the Batch Group that you want to copy.
The **Copy Batch** Page is displayed.
3. Specify the Batch Details as you want to clone and copy the existing batch.
For more information, see [Create a Batch Group](#) Section.
4. Click **Save**.
The copied Batch Group is saved and displayed in the Define Batch Window.


Deleting a Batch Group

The Delete Batch option allows you to delete a Batch that are no longer required in the system from the Define Batch Window.

To delete a Batch Group, perform the following steps:

1. From the **Define Batch** Page, click **Batch Group** option to list the Batch Groups.
2. Click () corresponding to the Batch Group you want to delete.
3. Click **OK** in the confirmation dialog to confirm deletion.

Define Tasks

The Define Tasks Page displays the list of tasks associated with a specific Batch Definition. You can create new tasks, edit the existing tasks or delete unwanted tasks. You can also specify task precedence for each task in Task Precedence Window and click the **Add or Remove Precedence** () icon to Schedule the batch.

To navigate to the Define Batch Page, complete the following procedure:

1. From the left menu, click **Common Object Maintenance**.
2. Select Operations and select **Define Task**.
The **Define Task Page** containing the following details is displayed.

You can select the Batch/Batch Group and select a particular Batch or Batch Group to view the list of tasks associated with that Batch or Batch Group.

Managing Tasks for a Batch or a Batch Group

Batch is a process of execution of the Date and time-based background tasks based on a defined period during which the resources were available for Batch Processing.

Batch Group is a process of grouping the batches that are required to be execute together for execution of the Date and time-based background tasks based on a defined period during which the resources were available for batch processing. You can perform the following operation for the batch based on the task.

You can perform the following operation for the Batch or a Batch Group based on the task.

- [Add a Task](#)
- [Modify a Task](#)
- [Define Task Precedence](#)
- [Delete a Task](#)

Adding a Task

Adding a new task option allows you to add new tasks to a selected Batch Definition.

To add new task, perform the following steps:


1. Click Define Tasks from the Header panel.
The Define Task Page is displayed.
2. Select the Batch for which you want to add new task from the Select drop-down list.
3. Click **Add** (). The **Create a New Task** Page is displayed.

Figure 21-5 Create Task Page

4. Enter the details as tabulated:

Table 21-3 Field Description

Field	Description
Task Code	
Task Name	Enter the task name. NOTE: <ul style="list-style-type: none"> The Task Name must be alphanumeric and should not start with a number. The Task Name should not exceed 60 characters in length. The Task Name should not contain any special characters except underscore (_).
Task Description	<ul style="list-style-type: none"> Enter the Task Description along with spaces and Alphanumeric. No special characters are allowed in Task Description. Words like Select From or Delete From should not be entered in the Description.
Task Type	Select the task type from the drop-down list.
Batch Service URL	Select the required Batch Service URL from the drop-down list. This can be blank and you can provide the full URL in the Task Service URL field.
Task Service URL	Enter task service URL if it is different from Batch Service URL.


5. From the Task Parameters Pane, by default, all Batch Level Parameters are added and enabled as task parameters.
 - a. Enter the Parameter name in the **Param Name** field.
 - b. Enter the Parameter value in the **Param Value** field.

You can delete a parameter by clicking corresponding to the parameter.
6. Click **Save**.

Modifying a Task

Modifying a Task option allows you to modify the details of existing tasks of a Batch Definition such as Task Description, Task Type, Batch Service URL and Task Service URL. You can also add a new task parameter and enable or disable already existing task parameters.

To modify a Task, perform the following steps:

1. From the **Define Task** Page, select the Batch whose task details you want to modify, from the Select drop-down list.
2. Click **Edit** () corresponding to the Task whose details you want to modify. The Edit Task Page is displayed.
3. Modify the required Task Details.
For more information, see [Add a Task](#) Section.
4. Click **Save**.


Define Task Precedence

Task Precedence indicates the execution-flow of a Batch. Task Precedence Value facilitates you to determine the order in which the specific Tasks of a Batch are executed.

For example, consider a Batch consisting of four tasks. The first three tasks does not have a precedence defined and hence will be executed simultaneously, during the Batch Execution. However, Task 4 has a precedence value as Task 1 which indicates that, Task 4 is executed only after Task 1 has been successfully executed.





You can set Task precedence between Tasks or define to run a Task after a set of other tasks. However, multiple tasks can be executed simultaneously, and cyclical execution of tasks is not permitted. If the precedence for a Task is not set, the Task is executed immediately on Batch Execution.

To define the task precedence in the Define Task Page, perform the following steps:

1. Click **Add or Remove Precedence** () button corresponding to the task for which you want to add precedence task. The Task Precedence Mapping Window is displayed.

Note:


The **Task Precedence** option is disabled if a batch has only one task associated.

- a. Select the batch that you want to execute before the current task, from the Available Tasks pane and click ().
 - b. To select all the listed batches, click ().
 - c. To remove a batch, select the task from the Selected Tasks Pane and click ().
 - d. To remove all the selected batches, click ().
2. Click **Save** to update Task Precedence in the batches.
 3. Click **Preview** to view the Precedence information.

Deleting a Task

You can remove a task from a Batch Definition which are no longer required in the system by deleting it from the Define Task Window.

To delete a Task, perform the following steps:

1. From the Define Task Page, select the Batch whose task details you want to delete from the Select drop-down list.
2. Click **Delete** () corresponding to the Task you want to delete.
3. Click **OK** in the confirmation dialog to confirm deletion.

Schedule Batch

The Schedule Batch Page facilitates you to run, schedule, re-start, and re-run the batches in the Scheduler Service. After you upload the data in the required format into the Object Storage, you must load the data into the system using the Scheduler Service. You can schedule them to run in a required pattern and view the Run Time Status of the scheduled services using the Monitor Batch Feature.

Batch is a process of execution of the Date and Time-based background tasks based on a defined period during which the resources were available for batch processing.

You can perform the following operation for the batch:

- Execute a Batch
- Schedule a Batch
- Re-start a Batch
- Re-run a Batch
- Edit Dynamic Parameters
- Task Definition of a Batch

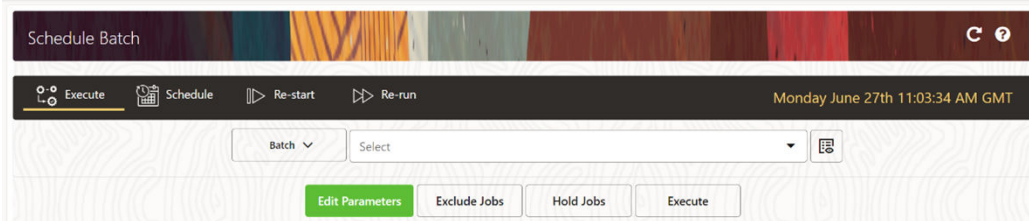
Execute a Batch and Batch Group

The Execute Batch option allows you to run a batch instantaneously. To execute a Batch/ Batch Group, perform the following steps:

1. Click **Schedule Batch** from the Header panel.
The Schedule Page is displayed.
2. Select Batch or Bath Group to execute, from the drop-down list.
3. Select the Batch /Batch Group Name from the Select Name drop down menu. For example, AMLDataLoad.
4. Click **Execute**.

The **Execution Schedule** Page is displayed.

Figure 21-6 Execution Schedule Page



5. If you want to exclude/include some tasks, click **Exclude Tasks**.
6. If you want to hold/release some tasks, click **Hold Tasks**.
7. If you want to edit the dynamic parameters of the batch, click **Edit Dynamic Parameters**.
8. Click **Execute**.


The Batch is executed, and the associated unique execution ID is displayed.

9. Schedule a Batch/Batch Group

You can schedule a Batch/Batch Group to run just for Once, Daily, Weekly, Monthly, or Cron Expression for scheduling the batches. You can also have a user defined schedule to schedule and run a batch.


Schedule Once

To schedule a Batch /Batch Group to run once, perform the following steps:

1. Click **Schedule Batch** from the Header panel.
The Schedule Batch Page is displayed.
2. In the **Schedule Batch** Page, click **Schedule Once** ()
3. Select Batch or Bath Group to execute, from the drop-down list.
4. Select the Batch /Batch Group Name.
5. Select the Batch or Batch Name you want to schedule for once from the Select drop down menu.
6. Enter a Schedule Name.
7. Select the Start Date on which you want to run the Batch.
8. Click Run Time and select the time at which you want to run the Batch.
9. Click **Schedule**.

Daily Batch Scheduling


To schedule a Batch to run daily, perform the following steps:

1. Click **Schedule Batch** from the Header panel. The Schedule Batch Page is displayed.
2. In the Schedule Batch Page, click **Daily** ()
3. Select the **Batch /Batch Group Name**.
4. Select the Batch or Batch Name you want to schedule daily from the Select drop down menu.
5. Enter a **Schedule Name**.
6. Select the **Start Date** from which you want to run the Batch.
7. Select the **End Date** till which you want to run the Batch.
8. Select the **Time** at which you want to run the Batch daily.
9. Click **Schedule**.

Weekly Batch Scheduling


To schedule a Batch to run weekly, perform the following steps:

1. Click **Schedule Batch** from the Header panel.
The Schedule Batch Page is displayed.

2. In the Schedule Batch Page, click **Weekly** ()
3. Select the Batch /Batch Group Name.
4. Select the Batch or Batch Name you want to schedule daily from the Select drop down menu.
5. Enter a Schedule Name.
6. Select the Start Date from which you want to run the Batch.
7. Select the End Date till which you want to run the Batch.
8. Select the Time at which you want to run the Batch every week.
9. Select the days on a week you want to run the Batch from the Select Days of the Week multi-select drop down menu.
10. Click **Schedule**.

Monthly Batch Scheduling


To schedule a Batch to run weekly, perform the following steps:

1. In the Schedule Batch Page, click **Monthly** ()
2. Select the Batch /Batch Group Name.
3. Select the Batch or Batch Name you want to schedule daily from the Select drop down menu
4. Enter a Schedule Name.
5. Select the Start Date from which you want to run the Batch.
6. Select the End Date till which you want to run the Batch.
7. Select the Time at which you want to run the Batch every Month.
8. Select the months in a year you want to run the Batch from the Select Months of the Year multi-select drop down menu.
9. Select the day of the month that you want to run the Batch from the Select Day of the Month drop down menu.
10. Click **Schedule**.

Schedule Cron Expression

To run a Batch in a user-defined schedule, you can have custom schedule with the help of Cron Expression. A Cron Expression is a string comprised of six or seven fields separated by white space. Fields can contain any of the allowed values, along with various combinations of the allowed special characters for that field. For more information, click the icon next to the Cron Expression field.

To schedule a Batch based on Cron Expression, perform the following steps:

1. In the Schedule Batch Page, click **Cron Expression** ()
2. Select the Batch /Batch Group Name.
3. Select the Batch or Batch Name you want to schedule from the Select drop down menu.

4. Enter a Schedule Name.
5. Enter the Cron Expression for your schedule.
For more information about the Cron Expression, click Information icon next to the Cron Expression field.
6. Click **Schedule**.

Re-start a Batch

You can re-start a Batch which has not been executed successfully or which has been explicitly interrupted, or cancelled, or put on hold during the execution process. By re-starting a Batch, you can continue Batch execution directly from the point of interruption or failure and complete executing the remaining tasks.

To re-start a batch, perform the following steps:

1. Click **Schedule Batch** from the Header panel.
The Schedule Page is displayed.
2. From the **Schedule** Page, select Re-start tab.
3. Select the Batch /Batch Group Name.
4. Select the Batch or Batch Name you want to schedule daily from the Select drop down menu.
5. Select the **Batch Run ID**.
6. Click **Re-start**.

Re-run a Batch

You can re-run a Batch which has previously been executed. Re-run Batch facilitates you to run the Batch irrespective of the previous execution state. A new Batch Run ID is generated during the Re-run process and the Batch is executed as similar to the new Batch Run.

To re-run a batch, perform the following steps:

1. Click **Schedule Batch** from the Header panel.
The **Schedule Batch** Page is displayed.
2. In the **Schedule Batch** Page, select **Re-run** tab.
3. Select the Batch /Batch Group Name.
4. Select the Batch or Batch Name you want to re-run from the Select Name drop down menu.
5. Select the **Batch Run ID**.
6. Click **Re-run**.

Edit Dynamic Parameters

Dynamic Parameters facilitate you to modify the dynamic parameters for the batch.

You can change the Param Value from the Edit Dynamic Params Page and save the changes to the Batch. The Edit Dynamic Parameters option is available in all the tab in the Schedule Batch Page.

To edit the dynamic parameters for a batch, perform the following steps:

1. In the **Schedule Batch Page**, click **Edit Dynamic Parameters**. The Edit Dynamic Params Page is displayed.
2. In the Edit Dynamic Params Page, modify the values as required.
3. Click **Save**. The modified parameters are applied to the Batch.

Task Definitions of a Batch

You can modify the Task Definition state in the Batch Execution Page to exclude or hold the defined task in a Batch from execution. The excluded tasks are therefore assumed to have completed execution and get excluded during the Batch Run.

While executing or scheduling a Batch from the Schedule Batch Page, you can:

- Exclude a task or include the excluded task.
- Hold a task or release the held task.

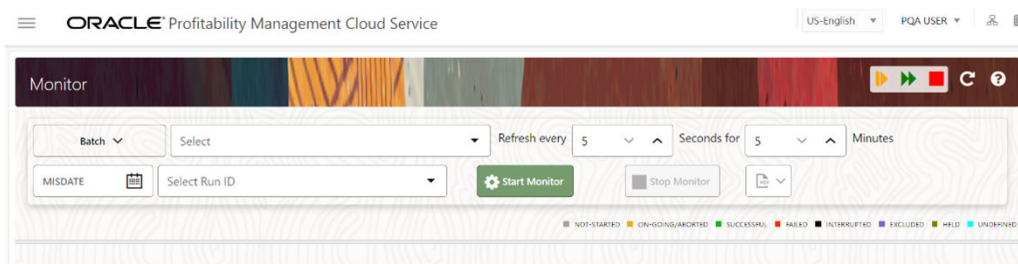
Monitor Batch

The Monitor Batch enables you to view the status of executed Batch along with the tasks details. You can track the issues if any, on regular intervals and ensure smoother Batch Execution. A visual representation as well as tabular view of the status of each Tasks in the Batch is available.

To monitor a batch, perform the following steps:

1. Click **Monitor Batch** from the Header panel. The **Monitor Batch Page** is displayed.

Figure 21-7 Execution Schedule Page



2. Select the Batch/Batch Group from the Select drop-down and then select the Batch Run ID from the Run ID drop-down.
3. Click **Start Monitor**. The results are displayed in **Visualization** and **List View** tabs. Details of these tabs are as follows:

The **Visualization** tab displays the details in the form of a chart represented with the following details:

- **Batch Status:** Displays the batch status, the different batch status are NOT-STARTED, ON-GOING, SUCCESSFUL, FAILED, INTERRUPTED, EXCLUDED, HELD, and UNDEFINED.

- **Batch Start Time:** Displays the Batch Start Time details.
- **Batch End Time:** Displays the Batch End Time details.
- **Task Details:** Mouse-over the task to display its status and details.

The List View tab displays the details in a tabular form with the following details:

- **Batch Status:** Displays the batch status, the different Batch Status are NOT-STARTED, ON-GOING, SUCCESSFUL, FAILED, INTERRUPTED, EXCLUDED, HELD, and UNDEFINED.
- **Batch Start Time:** Displays the Batch Start Time details.
- **Batch End Time:** Displays the Batch End Time details.
- **Task Details:** Mouse-over the task to display its status and details.
- **More Information:** The message returned by the Rest Service.

If you wish to stop the monitoring, select Stop Monitor. You can also specify the Start and Stop Monitor options along with refresh interval in the Refresh every second and minute fields.

 **Note:**

- You can select the refresh interval and the duration for the auto refresh.
The refresh interval is defaulted to 5 seconds and duration is defaulted to 5 minutes.
That is, the refresh happens every 5 seconds for next 5 minutes.
- Range of interval input must be between 5 to 60 seconds and range of duration.
- Input should be between 5 to 180 minutes.
- You can use the Stop Monitor Button to stop the auto refresh.

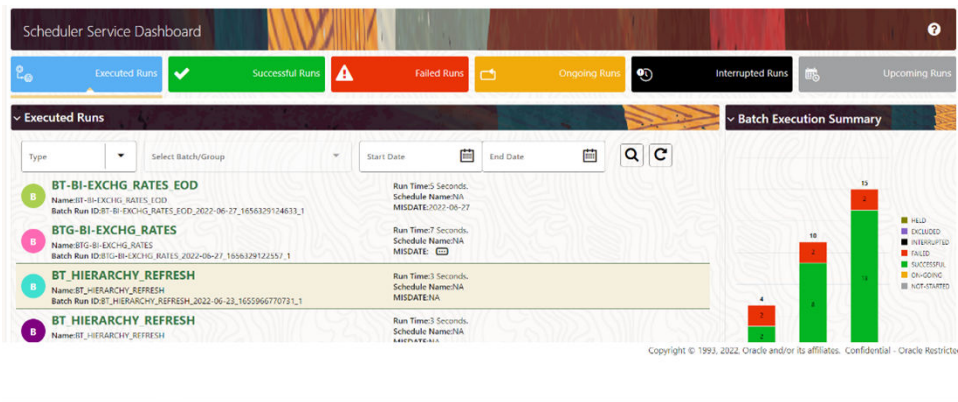
4. To restart the Batch /Batch Group, select **Restart**.
5. To rerun the Batch/Batch Group, select **Rerun**.
6. To interrupt the Batch /Batch Group, select **Stop**.
7. In the Log Viewer pop-up the log information is displayed. You can click the **Download** icon to download the log or click the **Close** icon to close the log information.

Scheduler Service Dashboard

To access the Scheduler Service Dashboard, complete the following steps:

1. From the left menu, click **Common Object Maintenance**.
2. Select Operations and select Dashboard.
The Scheduler Dashboard containing the following details is displayed.

Figure 21-8 Scheduler Service Dashboard



In the Scheduler Service Window, you can view the following details:

The Executed Runs, Successful Runs, Failed Runs, Ongoing Runs, Interrupted Runs, and Upcoming Runs tabs. You can click the tabs to view the details of the Batches based on their status. For example, click Ongoing Runs to view the details of the batches that are currently running.

The Batches that were executed within the last 7 or 30 days contain details such as Batch Name, Batch Run ID, and Run Time. Click 30 days to view the batches that were executed within the last 30 days. You can click the icon corresponding to a Batch to monitor it.

The Batch Execution Summary Pane displays the count of total batches executed that were executed within the last 7 days, 30 days, and 120 days. Additionally, you can see the separate count of successful batches, failed batches, interrupted batches, on-going batches, and the batches which are yet to start, by hovering your mouse the batches.

External Scheduler Interface

External scheduler interface help you to execute PBSM tasks using any Command line utility such as cURL commands. You won't require the application interface to execute the PBSM tasks.

You can also integrate the Batches with external schedulers, using the external Scheduler interface.

Related Topics

- [Execution API](#)
-
-
-
-
-

Rest API Status Codes

Refer to the following table for Rest API Status codes and their description.

Table 21-4 Status Codes

Status Code	Description
0	Success
-1	Failure
-2	Interrupted
1	Not Started
2	Ongoing
3	Aborted
4	Excluded
5	Held
-3	Object does not exist
-4	Invalid arguments passed in request/not enough params in Request body
-5	Invalid request headers/request headers missing
-6	No executable job is present.
-7	Job is already interrupted
-8	Job is not ongoing/aborted

Execution API

The Execution (POST) API triggers a batch or a batch group.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/trigger
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to "WS001" and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to Generate the Access Token.
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
    "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
    "Content-Type: application/json" -H "Authorization: Bearer
```

```
<BEARER_TOKEN>" -X POST
  <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Related Topics

- [Batch Execution API](#)
-

Batch Execution API

Use the Execution API to trigger a batch.

Attributes

- `batchName` - The unique batch code
- `batchType` - The object type. For Batch, the batch type should be set to `rest`.
- `dynamicParamList` - List of run time parameters which should be overridden over actual values for this trigger. This is an optional parameter.

Request Body

```
{
  "batchName": "<Batch_code>",
  "batchType": "rest",
  "dynamicParamList": {
    "batchParams": {
      "$FICMISDATE$": "<MISDate (yyyy-mm-dd)>"
    }
  }
}
```

Sample Response Body

The following Response body is a sample for `Success : 200 OK`. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "severity": "info",
  "summary": "Object triggered successfully with Run Id:
B2001_2022-05-20_1653041947296_1",
  "batchRunId": "B2001_2022-05-20_1653041947296_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Batch Group Execution API

Use the Execution API to trigger a batch group.

- **Attributes**
 - `batchName` - The unique batch code

- `batchType` - The object type. For Batchgroup, the batch type should be set to group.
- `dynamicParamList` - List of run time parameters which should be overridden over actual values for this trigger. This is an optional parameter.

Request Body

```
{
  "batchName": "<Batch_group_code>",
  "batchType": "group",
  "dynamicParamList": [
    {
      "batchName": "MIS_BATCH001",
      "batchParams": {
        "$FICMISDATE$": "2022-10-23"
      }
    },
    {
      "batchName": "MIS_BATCH002",
      "batchParams": {
        "$FICMISDATE$": "2022-10-28"
      }
    }
  ]
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "severity": "info",
  "summary": "Object triggered successfully with Run Id:
B2001_2022-05-20_1653041947296_1",
  "batchRunId": "B2001_2022-05-20_1653041947296_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Execution Status API

The Execution Status (POST) API provides the current run status of batch/batch group execution.

- **HTTP Method** - POST
- **URL** - `/SchedulerService/rest-api/v1/external/status`
- **Header Parameters**
 - `ofs_tenant_id` - Tenant ID of the Application
 - `ofs_service_id` - Service ID of the Application

- **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to “WS001” and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to Generate the Access Token.
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
      "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
      "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
      <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Related Topics

- [Batch Execution Status API](#)
-

Batch Execution Status API

Use the Execution Status API to view the current run status of a batch execution.

Attributes

- `batchRunId` - Execution Id generated while triggering the object and can be obtained in the response of Execution API.
- `tasks` - List of Task Codes. This is an optional parameter.

Request Body

```
{
  "batchRunId": "<Batchrun_ID>",
  "tasks": ["<task_code>", "<task_code>"]
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "severity": "info",
  "batchRunId": "BatchTEST1_2022-05-31_1653994545003_1",
  "taskStatusList": [
    {
      "taskCode": "t1",
      "taskStatus": "SUCCESSFUL",
    }
  ]
}
```

```

        "statusCode": "0"
      },
      {
        "taskCode": "t5",
        "taskStatus": "FAILED",
        "statusCode": "-1"
      }
    ],
    "batchStatusCode": "-1",
    "batchList": [],
    "batchStatus": "FAILED",
    "status": "success",
    "statusCode": "0"
  }
}

```

Batch Group Execution Status API

Use the Execution Status API to view the current run status of a batch group execution.

Attributes

- `batchRunId` - Execution Id generated while triggering the object and can be obtained in the response of Execution API.
- `tasks` - List of Task Codes. This is an optional parameter.

Request Body

```

{
  "batchRunId": "<Batchrun_ID>",
  "tasks": ["<task_code>", "<task_code>"]
}

```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```

{
  "severity": "info",
  "batchRunId": "AbTestBG001_2023-01-27_1674798339245_1",
  "batchStatusCode": "0",
  "batchList": [
    {
      "batchRunId": "AbTestBatch002_2023-01-27_1674798339462_1",
      "batchStatusCode": "0",
      "batchStatus": "SUCCESSFUL"
    },
    {
      "batchRunId": "AbTestBatch003_2023-01-27_1674798339556_1",
      "batchStatusCode": "0",
      "batchStatus": "SUCCESSFUL"
    }
  ]
}

```

```

    "batchStatus": "SUCCESSFUL",
    "status": "success",
    "statusCode": "0"
  }

```

Interrupt API

The Execution Status (POST) API Interrupts a batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/interrupt
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to “WS001” and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).
- **Sample cURL Command**

```

curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
    "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
    "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
    <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'

```

Related Topics

- [Batch Interrupt API](#)
-

Batch Interrupt API

Use the Interrupt API to interrupt a batch execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution Id generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batch_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "summary": "Execution interrupted successfully for Run Id:
B2001_2022-05-30_1653233511394_1",
  "severity": "info",
  "batchRunId": "B2001_2022-05-30_1653233511394_1",
  "details": "Execution interrupted successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Batch Group Interrupt API

Use the Interrupt API to interrupt a batch group execution.

Attributes

- `batchName` - The unique batch code
- `batchRunID` - Execution Id generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batchgroup_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "summary": "Execution interrupted successfully for Run Id:
B2001_2022-05-30_1653233511394_1",
  "severity": "info",
  "batchRunId": "B2001_2022-05-30_1653233511394_1",
  "details": "Execution interrupted successfully.",
  "statusCode": "0",
}
```

```

    "status": "success"
  }

```

Restart API

The Restart (POST) API restarts a batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/restart
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to "WS001" and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to Generate the Access Token.
- **Sample cURL Command**

```

curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
    "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
    "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
    <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'

```

Related Topics

- [Batch Restart API](#)
-

Batch Restart API

Use the Restart API to restart a batch execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution Id generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```

{
  "batchName": "<Batch_code>",

```

```
    "batchRunId": "<Batchrun_ID>"
  }
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "severity": "info",
  "summary": "Object triggered successfully for restart with Run Id:
B0001_2022-04-30_1651731208588_1",
  "batchRunId": "B0001_2022-04-30_1651731208588_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Batch Group Restart API

Use the Restart API to restart a batch group execution.

Attributes

- `batchName` - The unique batch code
- `batchRunID` - Execution Id generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batchgroup_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
{
  "severity": "info",
  "summary": "Object triggered successfully for restart with Run Id:
B0001_2022-04-30_1651731208588_1",
  "batchRunId": "B0001_2022-04-30_1651731208588_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Rerun API

The Rerun (POST) API helps to rerun a batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/rerun
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to “WS001” and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to Generate the Access Token.
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
    "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
    "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
    <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Related Topics

- [Batch Rerun API](#)
-

Batch Rerun API

Use the Rerun API to rerun an existing batch execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution Id generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batch_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
Success Scenario: 200 OK
{
  "severity": "info",
  "summary": "Object triggered successfully for rerun with Run Id:
B2001_2022-05-30_1653223084727_1",
  "batchRunId": "B2001_2022-05-30_1653223084727_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Batch Group Rerun API

Use the Rerun API to rerun an existing batch group execution.

Attributes

- `batchName` - The unique batch code
- `batchRunID` - Execution Id generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batchgroup_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [#unique_348](#).

```
Success Scenario: 200 OK
{
  "severity": "info",
  "summary": "Object triggered successfully for rerun with Run Id:
B2001_2022-05-30_1653223084727_1",
  "batchRunId": "B2001_2022-05-30_1653223084727_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```


Object Migration

Object Migration is the process of define, export and import objects across environments (prod and non-prod)/instances. This feature also facilitates to migrate within the same setup or different setups.

Objects refer to the various metadata definitions defined for various domains. You may want to migrate objects for several reasons such as manage global deployments on multiple environments or to create multiple environments so that you can separate the development, testing, and production processes.

For example, you can use the object migration feature to define PMF process object such as balance computation on your testing environment. After successful testing, you can use this feature to export the object to production/non-production environment.

You can migrate the following object types:

- **Schedule** - Schedule provides the instruction to schedule the execution of defined processes. When a schedule is migrated, the associated batch is also migrated.
- **Batch** - Batch is a group of jobs that are scheduled to automatically execute at a preset interval of time, without any user's intervention. When a batch is migrated, the batch and the associated pipeline information are also migrated.
- **Batch_Group** - A set of individual batches are consolidated to form a single Batch_Group. When we migrate a Batch_Group all the batches, tasks and pipeline information associated with that Batch_Group are also migrated.
- **Pipeline** - A pipeline is an embedded data processing engine that runs inside the application to filter, transform, and migrate data on-the-fly. Pipelines are a set of data processing elements called widgets connected in series, where the output of one widget is the input to the next element.
- **Threshold** - The threshold limit associated with set variables values for scenarios in FCCM Cloud Service. These threshold values are set when scenarios are created or installed and can be changed, if required.
- **Job** - Jobs provide set of instructions to execute Workflow Pipelines, based on the set threshold values.
- **Roles** - Roles are used to map functions to a defined set of groups to ensure user access system security.
- **Groups** - Groups are used to map Roles. Specific User Groups can perform only set of functions associated with that group.
- **CM_ADMIN** - The CM_ADMIN object type refers to all the case management related admin screens. Under this object type, you can export case management related admin metadata and settings for Business Domain, Case Actions/Statuses, Case Priority, Case Rules, Case System Parameters, Case Types, Jurisdictions and Security Mapping.

Migration Object Types

You can create object export and import definitions for the following object types using Object Export/Import feature.

The Migration object types are categorized as follows:

Asset Liability Management

- Standardized_IRRBB_Shock
- Static_Deterministic_Process
- Time Bucket

Business Assumptions

- Behaviour_Pattern_Rule
- Discount_Methods
- Forecast_Rates
- Prepayment Model
- Prepayment_Rule
- Transferring_Price_Rules

Cash Flow Edits

- Cash_Flow_Edits_Rules
- Cash_Flow_Edits

Cash Flow Engine

- Cashflow_Process

Common objects

- Batch
- Batch_Group
- Currency
- Datamodel_Extension_Dimension
- Data_File_Specification
- Dimensions

 **Note:**

Dimension definitions should be migrated before migrating the dependent object definitions. The source and the target dimension of the dependent objects should be the same.

- Expressions
- Filters
- Folder
- Hierarchy

 **Note:**

Dimension definitions should be migrated before migrating the Hierarchy associated with it. The Dimension should be the same in both source and target environments.

- Holiday_Calendar
- Job
- Pipeline
- Schedule
- Slowly Changing Dimensions

Funds Transfer Pricing

- Add-on Rate Rule
- Alternate_Rate_Output_Mapping
- Replicating Portfolio
- Standard_Process

Identity Management

- **Groups** - For more information, refer to [Groups Summary in Admin Console](#).
- **Roles** - For more information, refer to [Roles Summary in Admin Console](#)

Patterns

- Behaviour Pattern
- Payment Pattern
- Reprice Pattern

Profitability Management

- Allocation Model
- Lookup Table
- Allocation Specification
- Static_Table

Rate Management

- Interest_Rates
- Economic_Indicator
- Volatility_Surface

24

Accessing Object Export and Object Import Features

Using the Object Export and Import features, you can create export and import object definitions.

To access the Object Export and Import feature, from the left Navigation pane in the PBSM console, click **Operations and Processes > Object Administration**

- To access Object Export feature, click **Export Object**.
- To access Object Import feature, click **Import Object**.

Object Export Definitions

Object Export Definition is a collection of objects that can be exported across environments.

You can view the list of object export definitions that are already created in the **Object Export Summary**. You can also view the following details about each object definition.

- **Name** - The unique name assigned to the collection when the export definition was created.
- **Object Migration Status** - The export status of a specific object definition.
 - **Success** - Indicates that the export is completed successfully.
 - **Failed** - Indicates that the export was not successful. You can reintiate the migration of the specific object definition.
 - **Saved** - Indicates that the object definition is created successfully and is yet to be exported.
 - **In Progress** - Indicates that the export is in progress. Once the export is complete, the status will change to Success/Failed.
- **Last Modified By** - The ID of the Last Modified by user who has modified the definition. On mouseover, the Last modified time and date are displayed.

To filter the list and view specific object definition, use one of the following search options.

- To search for a specific export object definition, type the first few letters of the export definition that you want to search in the Search box and click **Search**. The search results display the names that consist of your search string in the list of available definitions.
- Enter the number of records to be viewed in a single page, in the **Records** box, at the bottom of the page. You can increase or decrease the number of entries that are displayed using the up and down arrows.
- You can navigate between pages in the **View** bar, use the navigation buttons present at the bottom of the page.

Creating Export Definitions

You can create export Meta data objects using the System Configuration tab in Admin Console.

For more information about the supported object types, refer to [#unique_375](#). Refer to the following steps, to create a migration export object.

1. Click **Add** in the **Object Export Summary** Page to view the **Migration Definition** page.
2. Enter the following details, in the **Migration Definition** page.
 - **Migration Name**: Enter the code of the export of objects to be migrated definition. This is a unique identifier.
 - **File Name**: The system auto-creates the file name of the objects that can be used to export the definition in the following format:

- **For Business Objects:** Migration Name_BO_Time Stamp (MMDDYYYY HHMMSS)
 - **For Identity Objects:** Migration Name_IDM_Time Stamp (MMDDYYYY HHMMYY)
3. Click **Apply** to save the details and view the **Object Selection** Page.
 4. Click **Add** to include Migration objects to the definition.
 5. select the required **Object Type** from the Object Types drop-down list.
 6. Select the objects to be added to the Migrate Definition and click **Save**, to create a new migration object.

A confirmation message is displayed, when the definition is saved successfully. The new migration definition is listed in the Object Export Summary Page and the status is set to **Saved**.

You can also click **Export**, to export the object.

Editing Export Object Definitions

You can edit the Export object definitions that are not exported and their status is **Saved** or **Failed**.

If the definitions is already exported and the status is set to **Success**, you cannot edit that definition.

To edit an Export object definition, follow these steps.

1. In the Object Export Summary Page, highlight the definition and click **Menu**, and select **Edit**.

The **Object Selection** page is displayed.

2. Modify the following details, if required, and click **Save** to changes.
 - Select the required **Object Type** from the Object Types drop-down list.
 - Select the objects to be added to/deleted from the definition.
3. After adding/deleting all the required objects, click **Save**.

The export definition is saved successfully and a confirmation message is displayed. The new definition is listed in the Object Export Summary Page and the status is set to **Saved**.

4. If you want to Save and Export the Definition, click **Export**.

Exporting Object Definition

After creating the object definitions, you can export them for migrating between environments, using Object Migration (Export) feature.

You can export object definitions in **Saved** or **Failed** state from the object Summary page. Refer to the following steps, to export definitions.

1. In the Object Summary Page, highlight the migration definition and click **Menu**.
2. Select **Export** from the menu.

After you export, the following Export status types are displayed:

- **Success** - Indicates that the definition is exported successfully.
- **Failed** - Indicates that the definition was not exported. Right-click and select **Export**, to reinitiate the export process.
- **In Progress** - Indicates that the export is in progress. Once the export is completed, the status will change to Success/Failed.

Viewing Export Object Details

Using the **View** option, you can view the list of objects and the dependancies added to an Object definition. You can also view the object details.

1. Highlight the Export definition and click **Menu**.
2. Select **View**. The object types, list of objects and the dependent objects added to the export definition are listed in the left pane.
3. Double-click an object to view the object attribute details.

View Object Definition Export Log Details

View log facilitates you to view the export log information of the object definition with the migration status.



Note:

The View Log page for an object definition with status **Saved** will be empty.

To view the log details of object with migration status **Success** or **Failed**, follow these steps.

1. In the Object Export Summary page, mouseover the object definition and click **Menu**.
2. Select **View Log** from the drop-down menu, to access the **View Log** page.

The migration status of the objects with following details is displayed.

- **Object Migration ID** - The migration ID associated with the definition.
- **Object Type** - The object type of the definition.
- **Object Code** - The object code associated with the definition.
- **Creation Date** - The date of creation of the definition.
- **Created By** - The User Id of the User who created the definition.
- **Status** - The migration status of the definition.
 - **Success** - Indicates that the export migration was completed successfully.
 - **Failed** - Indicates that the export migration did not complete.
 - **Export Status Message** - The complete export status message.



Note:

Export status message currently not supported for GL reconciliation.

3. Click **OK** to close the page, after viewing the log details.

Downloading Dump File

You can download the export dump file for exported definitions to a local directory, using Download Dump file option.

The downloaded export dump file can be used to upload objects to a different environment.



Note:

This option is enabled, only if the definition is exported successfully and the **Migration Status** is set to **Success**.

To download a export dump file, refer to the following procedure.

1. Mouseover a migrated object and select **Menu**.
2. Select **Download Dump File** from the drop-down menu, to download the associated dump file and store it to the local directory.

Deleting Export Object Definition

You can delete only definitions that are set to **Saved** or **Failed** status.

To delete a export object definition, follow these steps.

1. In the Object Export Summary page, mouseover the definition to be deleted and click **Delete** .
2. Click **Yes** to confirm and proceed with the deletion.

Object Import Definitions

Object import definitions are a collection of objects that can be imported across environments.

You can view the list of object import definitions that are already created in the **Object Import Summary**. You can also view the following details about each object definition.

- **Name** - The unique name assigned to the collection when the import definition was created.
- **Object Migration Status** - The import status of a specific object definition.
 - **Success** - Indicates that the import is completed successfully.
 - **Failed** - Indicates that the import was not successful. You can reinitiate the migration of the specific object definition.
 - **Saved** - Indicates that the object definition is created successfully and is yet to be imported.
 - **In Progress** - Indicates that the import is in progress. Once the import is complete, the status will change to Success/Failed.
- **Last Modified By** - The ID of the Last Modified by user who has modified the definition. On mouseover, the Last modified time and date are displayed.

To filter the list and view specific object definition, use one of the following search options.

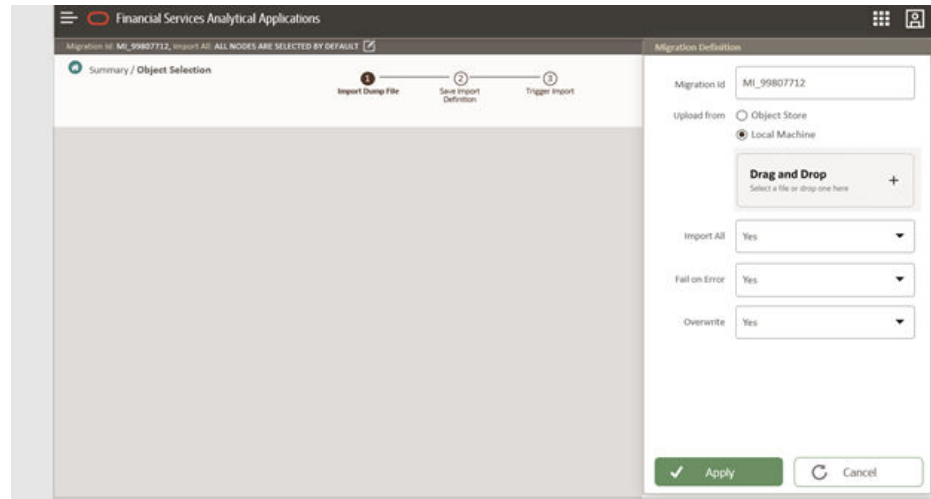
- To search for a specific import object definition, type the first few letters of the import definition that you want to search in the Search box and click **Search**. The search results display the names that consist of your search string in the list of available definitions.
- Enter the number of records to be viewed in a single page, in the **Records** box, at the bottom of the page. You can increase or decrease the number of entries that are displayed using the up and down arrows.
- You can navigate between pages in the **View** bar, use the navigation buttons present at the bottom of the page.

Creating Object Import Definitions

You can create Import definitions and add Import objects using the Object Migration (Import) feature.

1. Click **Add** in the **Object Import Summary** Page to view the **Migration Definition** page.
2. Enter the following details, in the **Migration Definition** page.
 - **ID** - The unique name for the new import object definition. The migration ID should not contain any space and exceed 30 characters. Underscore (_) and hyphen (-) are allowed.
 - **Dump File** - Select the .DMP file to be uploaded for creating the Import definition.

Figure 26-1 Importing Dump File



You can select the dump file using one of the following options:

- Select the option **Object Store**, to select the dump file (.DMP file) from the list of dump files available in the same environment.
- Select the option **Local Machine** and click **Drag and Drop**, to add a .DMP file, from the local directory. You can only add dump file that are downloaded using Download Dump file option.

 **Note:**

- Uploading a dmp file either created or edited locally will generate an error.
- You can rename the .DMP file, if required. Ensure to follow the naming convention. For more information, refer to [File Naming Conventions for Migrate Objects](#).

- **Import All** - Select an option to import the objects that are associated with the selected object type. You can edit this option if required, in the **Object Selection** page.
 - **Yes** - Imports all the objects that are included in the dump file.
 - **No** - Imports only those objects that you can select in the **Object Selection** page.
- **Fail on Error** - Select an option to proceed with the definition creation in case of an error. You can edit this option if required, in the **Object Selection** page.
 - **Yes** - Stops the creation process, if error is generated.
 - **No** - Creates the import definition even when error is generated. The object with the error is not included in the object creation.
- **Overwrite** - Select an option to overwrite the existing definition. You can edit this option if required, in the **Object Selection** page.

- **Yes** - Replaces the existing Import definition.
 - **No** - Creates a new Import definition.
3. Click **Apply** to save the details.

The Import definition is created and **Object Selection** Page is displayed. You can add objects to this import definition.
 4. Click **Add** to include objects to the definition.
 5. Select the required **Object Type** from the Object Types drop-down list.

Objects that are defined in the environment with respect to the selected object type are listed. For example, if Schedule is selected as the Object Type, all the Objects defined with respect to Schedule, in the environment are only listed.

You can also enter the first few letters of the object name in the Search Field, to narrow down the search.
 6. Click the check box adjacent to each object, to include the objects associated with a specific object type, to the import definition.
 7. Repeat steps 4, 5 and 6, to include objects associated with various object types.
 8. After adding all the required objects, click **Save**.

The import definition is saved successfully and a confirmation message is displayed. The new definition is listed in the Object Import Summary Page and the status is set to **Saved**.
 9. If you want to Save and Export the Definition, click **Import**.

Editing Import Definitions

You can edit the import definitions that are not imported and their status is **Saved** or **Failed**.

If the definitions is already imported and the status is set to **Success**, you cannot edit that definition.

To edit an import definition, follow these steps.

1. In the Object Import Summary Page, highlight the definition and click **Menu**, and select **Edit**.

The **Object Selection** page is displayed.
2. Edit the following details, if required, and click **Save** to changes.
 - Select the required **Object Type** from the Object Types drop-down list.
 - Select the objects to be added to/deleted from the definition.
3. After adding/deleting all the required objects, click **Save**.

The import definition is saved successfully and a confirmation message is displayed. The new definition is listed in the Object Import Summary Page and the status is set to **Saved**.
4. Click **Save** to update the changes.
5. If you want to Save and import the Definition, click **Import**.

Importing Object Definitions

After creating the object definitions, you can export them for migrating between environments, using Object Migration (Import) feature.

You can import object definitions in **Edited** state from the object Summary page. Refer to the following steps to import Object definitions.

 **Note:**

1. In the Object Summary Page, mouse-over the definition and click **Menu**.
2. Select **Import** from the drop-down menu.

After you import, the following Import status types are displayed:

- **Success** - Indicates that the definition is imported successfully.
- **Failed** - Indicates that the definition was not imported. Right-click and select **Import**, to restart the import process.
- **In Progress** - Indicates that the import is in progress. Once the import is completed, the status will change to Success/Failed.

In case the migration fails, refer to [Troubleshooting Object Migration](#).

 **Note:**

- If a Change Request import fails, then it is recommended not to use the action created for it in the target (if any), otherwise subsequent re-import requests might fail.
- Approve the Change Request and publish, after it is imported successfully.
- After the import of segment extension
 - Creates an Issue with same name as Export Name (Issue name – “Issue – Exportname”) captured with current start and target date with 30 days ahead.
 - Creates an Action with same name as Export Name (Action name- “Action – Exportname”) captured with current start and target date with 30 days ahead.
 - Select all Dimensions exported. And action will be in submitted status.
 - After Import, Issue and action owner has to be reassigned accordingly for Approval process.

Viewing Import Object Details

Using the **View** option, you can view the list of objects and the dependancies added to an Object definition. You can also view the object details.

1. Mouseover the migration definition and click **Menu**.
2. Select **View**. The object types, list of objects and the dependent objects added to the export definition are listed in the left pane.
3. Double-click an object to view the object attribute details.

Viewing Object Import Log Details

View log facilitates you to view the log information of the object definition with the migration status.

 **Note:**

The View Log page for a definition with migration status **Saved** will be empty.

To view the log details of definition with migration status **Success** or **Failed**, follow these steps.

1. In the Object Import Summary window, mouseover the migration definition and click **Menu**.
2. Select **View Log** from the drop-down menu, to access the **View Log** page.

The migration status with following details is displayed.

- **Object Migration ID** - The migration ID associated with the import object.
- **Object Type** - The object type of the import object.
- **Object Code** - The object code associated with the import object.
- **Creation Date** - The date of creation of the import object.
- **Created By** - The User Id of the User who created the import object.
- **Status** - The import status of the specific object.
 - **Success** - Indicates that the specific object was imported successfully.
 - **Failed** - Indicates that the specific object was not imported.
- **Import Status Message** - The complete import status message.

 **Note:**

Import status message currently not supported for GL reconciliation.

3. Click **OK** to close the page, after viewing the log details.

Deleting Import Definition

You can delete only definitions that are set to **Saved** or **Failed** status.

To delete an import definition, follow these steps.

1. In the Object Import Summary page, mouseover the definition to be deleted and click **Delete** .
2. Click **Yes** to confirm and proceed with the deletion.

Modelling Sets

The Modelling Set is a basic building block of IFRS 9 Solution Cloud Services. Modelling set features enable users to achieve the purpose of segmentation. The modelling set creates a segment of accounts that shows homogeneous characteristics. Multi-dimensions can be used to create these modelling sets. Legal Entity and Organization Unit are key dimensions for the modelling set. The modelling set is time bound in nature as the user needs to add an effective start date and effective end date. Product and Customer type are mandatory dimensions used in the creation of the modelling set. Users can add more dimensions like Industry, Region, Branch, Country, and so on. Any product Hierarchy can be selected.

The modelling set is used in other features i.e., Rating Mapping Rules, Stage Determination Rules, Stage Curing Rules, Account Classification Rules, Amortization Rules, Amortization Processes, Staging & Account Classification Processes, Override Screen- Maker and Override Screen- Checker. Different Modelling sets can be created for various regional jurisdictions. This helps in simplifying the process of treating or evaluating accounts by treating accounts belonging to one homogeneous group in the same manner.

Modelling Set Summary Page

This page is the gateway to the Modelling Set feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Modelling Sets**. You can navigate to other pages that are related to Modelling Set from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy\(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Modelling Set Summary** page displays the following columns:

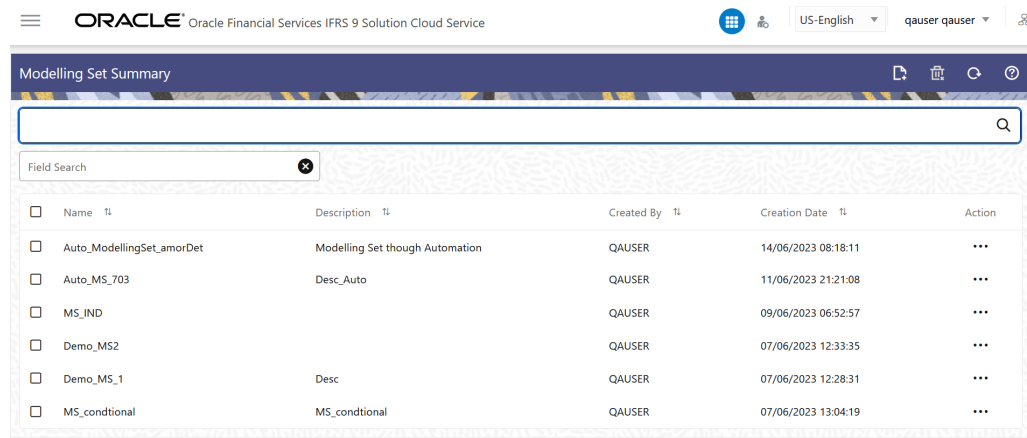
Table 27-1 Modelling Set Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Modelling Set's short name.
Add	Click the Add icon to create a new Modelling Set.
Delete	Click the Action icon adjacent to the Modelling Set Name and select Delete to delete an existing Modelling Set.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Modelling Set help.

Table 27-1 (Cont.) Modelling Set Summary Page – Fields and Descriptions

Column	Description
Search	Use this field to search for a Modelling set to View , Edit , Copy(Save As) , and Delete . For more information on using this feature, see the Search a Modelling Set section.
Field Search	Enter the name of the Modelling set to filter the list of Modelling Sets by values that match the search term. For more information on using this feature, see the Search a Modelling Set section.

Figure 27-1 The Modelling Set Summary Page



The **Modelling Set** pane on the **Modelling Set Summary** page displays the list of Modelling Sets and offers several actions that allow you to perform different tasks. The following tasks are available for the Modelling Set in the **Action** column.

Table 27-2 Modelling Set – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Modelling Set Name and select View to view the contents of a Modelling Set in read/write format.
Edit	Click the Action icon adjacent to the Modelling Set Name and select Edit to edit the contents of a Modelling Set in read/write format.
Save As	Click the Action icon adjacent to the Modelling Set Name and select Save As to create a copy of an existing Modelling Set.
Delete	Click the Action icon adjacent to the Modelling Set Name and select Delete to delete an existing Modelling Set.

Table 27-2 (Cont.) Modelling Set – Icons and Descriptions

Column	Description
Dependency Information	Click the Action icon adjacent to the Modelling Set Name and select Dependency Information to check the higher and lower order dependencies for an existing Modelling Set.

Create a Modelling Set

Perform the following steps to create a Modelling Set definition:

1. On the **Modelling Set Summary Page**, click the Add icon to open the **Modelling Set Window**.

The screenshot shows the 'Modelling Set' form with the following sections:

- Basic Information:** Includes a 'Name' field (required) and a 'Description' field.
- Modelling Attributes:** Includes 'Effective Start Date' (06/15/2025) and 'Effective End Date' (12/31/2099), both with 'Select Date' icons. It also has dropdowns for 'Legal Entity Hierarchy' (required), 'Organization Unit Hierarchy' (required), 'Legal Entity', and 'Organization Unit'.
- Modelling Dimensions:** Includes a 'select dimension' dropdown and a '+' icon. Below are two dimension cards: 'Customer Type' and 'Product'. To the right, there are two 'Hierarchy' dropdown menus, one of which is required.

2. Populate the Modelling Set form as tabulated:

Option	Description
Name	Enter a name for the Modelling Set definition. This is a mandatory field.
Description	Enter a description for the Modelling Set definition.
Effective Start Date	Click the Select Date icon to select the effective start date.
Effective End Date	Click the Select Date icon to select the effective end date. Effective End date must always be later than the Effective Start Date.
Legal Entity Hierarchy	Select a Legal Entity Hierarchy from the drop-down list. This is a mandatory field.

Option	Description
Legal Entity	Click the Select Hierarchy icon to select a Legal Entity. On clicking this icon, the Hierarchy Browser window appears. Use this window to select a Legal Entity.
Organization Unit Hierarchy	Select an Organization Unit Hierarchy from the drop-down list. This is a mandatory field.
Organization Unit	Click the Select Hierarchy icon to select a Legal Entity. On clicking this icon, the Hierarchy Browser window appears. Use this window to select a Legal Entity.
Select Dimension (Modelling Dimensions)	Select a dimension from the drop-down list and then click the Add icon. The selected Dimension is added to the list of Dimensions. For the hierarchy based dimension, select a hierarchy from the drop-down list. To delete a Dimension, hover over the desired Dimension and click the Delete icon.

3. Click **Save**.

The new Modelling Set appears in the list of Modelling Sets on the **Modelling Set Summary** Page.

Dependency Information

You can check dependencies to know where a particular Modelling Set has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Modelling Set:

1. Navigate to the **Modelling Set Summary** page.
2. Either [search](#) for a Modelling Set or navigate to the desired Modelling Set from the list of Modelling Set.
3. Click the **Action** icon that is adjacent to the Modelling Set and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Modelling Set

You can delete an existing Modelling Set from the **Modelling Set Summary** page. Perform the following steps in order to delete single or multiple existing Modelling Sets:

1. In the **Modelling Set** window, select the checkbox(s) adjacent to the Modelling Set(s) that you want to delete.

Note the following conditions for deleting a Modelling Set:

- If a Modelling Set does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Modelling Set.
 - If an Modelling Set contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Modelling Set.
 - If an Modelling Set contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Modelling Set.
2. Click **Delete**. A warning dialog is displayed.
 3. Click **Yes**.
 4. Additionally, select the checkbox(s) adjacent to the Modelling Set(s) and then click the **Delete** icon on the top of the **Modelling Set Summary** page. A warning dialog is displayed.
 5. Click **Yes**.

The selected definitions are removed from the **Modelling Set Summary** page.

Refresh a Modelling Set

You can refresh an existing Modelling Set from the **Modelling Set Summary** Page to refresh the Modelling Set with newly available data. Perform the following steps to refresh one or more existing Modelling Sets:

1. In the **Modelling Set** Window, select the checkbox(s) adjacent to the Modelling Set(s) that you want to refresh.
2. Click **Refresh**.

The selected Modelling Set(s) are refreshed with newly available data.

View a Modelling Set

The View feature enables you to view the details of an existing Modelling Set. Perform the following steps to view the definition details:

1. In the Modelling Set list, select the **Action** icon adjacent to the Modelling Set name that you want to view.
2. Click **View** to open the **Modelling Set** window.
3. Click **Cancel** to return to the **Modelling Set Summary** page.

Edit a Modelling Set

The edit feature enables you to update the details of an existing Modelling Set. Perform the following steps to edit an existing Modelling Set:

1. In the Modelling Set list, select the **Action** icon adjacent to the Modelling Set name that you want to edit.
2. Click **Edit** to open the **Modelling Set** Window.
3. Only the **Effective End Date**, and **Description** fields are editable.
4. Click **Save**.

The saved Modelling Set is displayed in the Modelling Set list on the **Modelling Set Summary** Page.

Copy (Save as) Modelling Set

Perform the following steps to save a Modelling Set under a different name:

1. Select the desired Modelling Set.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Click **Save**. The Modelling Set is saved under a new name.

Search a Modelling Set

Search for a Modelling Set to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy\(Save As\)](#)
- [Delete](#)

Procedure

To search for a Modelling Set, perform the following steps:

- Navigate to the **Modelling Set Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Modelling Set and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Description can be used for an Advanced search.
- Additionally, in the **Field Search** field, enter the name of the Modelling set to filter the list of Modelling Sets by values that match the search term.

Only Modelling Sets that match the search criteria are displayed.

Amortization Rules

This module discusses the procedure to create rules for Amortization. Two Amortization Methods are supported which are as follows:

- **Effective Yield Amortization:** As per IFRS 9 guidelines, financial institutions are required to recognize interest income using the Effective Interest Rate computed for the given instrument, instead of the Contractual Rate. Due to this change in the interest recognition process, in addition to the current practice of recognizing the interest using a contractual rate, financial institutions are required to pass an additional adjustment entry - Interest Adjustment Entry to be compliant with the IFRS 9 guidelines. The application computes the Interest adjustment entry based on the Effective Interest Rate, Instrument Details, and all transactions against the given instrument. The application computes the Interest adjustment entry based on the Effective Interest Rate, Instrument Details, and all transactions against the given instrument.

- Effective Interest Rate (EIR):

EIR is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial asset or financial liability to the gross carrying amount of a financial asset or the amortized cost of a financial liability.

When calculating the Effective Interest Rate, an entity must estimate the expected cash flows by considering all the contractual terms of the financial instrument (for example; prepayment, extension, Call, and similar options) but must not consider the Expected Credit Losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts.

IFRS 9 mandates the use of an Effective Interest Rate (EIR) to discount to take into account the Time value of money. The guidelines also mandate the use of the Origination date EIR for Fixed-rate accounts and the Current date (As of Date) EIR for Variable rate accounts. Additionally, the guidelines require the banks to use Credit Adjusted Effective Interest Rate (CAEIR) if any Purchase or Originated Credit Impaired (POCI) accounts.

The IFRS9SCS calculates the EIR as applicable. EIR is computed based on the contractual cash flow generated within this service. Cash flow is triggered through the Amortization Process UI.

The Data Prerequisites for EIR Computation:

Key Parameters	Fixed-Rate	Floating Rate
Outstanding	Original Outstanding	Current Outstanding
Cash Flows	As of Origination Date	As of the given date
Fees	Original Fees (as of origination)	Deferred Fees (As of current date)
Premium or Discount	Original Premium or Discount (as of origination)	Deferred Premium or Discount (As of current date)
Cost	Original Cost (as of origination)	Deferred Cost (As of current date)

Other parameters (for example, Payment Frequency, Current Rate, and so on) Constant across both

– Calculation of EIR:

The service first adjusts the outstanding amount with fees, specific to EIR, any premium or discount, and any cost. After this, the internal rate of return is computed using the adjusted outstanding amount and the Cash Flows.

To compute the origination EIR at the origination of the account it is expected the current deferred balances like Cost, Fees, and Premium or Discount need to be populated as same as the Origination balances like Cost, Fees, and Premium or Discount.

To compute the As of Date EIR, you need the ending deferred balances which are computed in the effective yield amortization process.

EIR engine is enhanced to capture the effect of additional fees or new fees received. Additionally, the calculation logic is modified for Floating Rate Instruments, by considering the Repricing Date.

EIR is calculated for the following Account Type Codes:

- * **Assets:** 100, 110, 120
- * **Liabilities:** 300, 310, 320

EIR is computed by equating the Present Value (PV) of future cash flows with the Adjusted Outstanding Balance. The adjusted Outstanding Balance is calculated as follows:

- * **Assets:** *Adjusted Outstanding Balance=Orig outstanding + Accrued Interest - Fees EIR - Additional Fees EIR + Premium/Discount + Cost + Additional Cost EIR*
- * **Assets:** *Adjusted Outstanding Balance=Orig outstanding + Accrued Interest - Fees EIR - Additional Fees EIR + Premium/Discount + Cost + Additional Cost EIR*

– Effective Interest Rate Computation for Purchased or Originated Credit Impaired (IFRS 9) Instruments:

Under IFRS 9 guidelines, a Purchased or Originated Credit Impaired instrument requires the computation of the EIR using a different approach. In the case of IFRS 9, this rate is called Credit Adjusted EIR. Credit Adjusted Effective Interest Rate is computed using Expected (Recovery) Cash Flows and Purchase Price adjusted for deferred balances. This EIR is used to discount the Cash Flows for the computation of ECL and interest recognition.

– Calculation of Credit Adjusted EIR:

The system first adjusts the outstanding amount with fees, specific to EIR, and any cost. After this, the internal rate of return is computed using the adjusted outstanding amount and the Cash Flows.

EIR for POI instruments has the following data requirements:

- * Expected or Recovery Cash Flows
- * Purchase Price
- * Deferred Balances except for Discount (Fees and Cost)
- * Instrument details such as Outstanding, Current Net Rate, and so on

The first step involved in the computation of EIR for POCI instruments is to determine the Adjusted Purchase price which is computed as the difference between the actual Purchase Price and the given Deferred Balance.

Subsequently, the recovery cash flows are discounted at a rate such that its net present value is equal to the adjusted purchase price. This rate is considered as the EIR for the given POCI Instrument.

The adjusted Outstanding Balance is calculated as follows for the POCI account:

Adjusted Outstanding Balance = Original Book Value – Fees EIR + Cost - ECL DOIR - Additional Fees EIR + Additional Cost EIR

- **Straight-line Method Amortization:** Straight-line method amortization is the simplest method for calculating amortization over time. Under this method, the same amount of fees, premiums, discounts, and costs amortized over the life of the instrument. Users can apply the above Amortization Methods on a different combination of dimensions based on the selected modelling set.



Note:

For EIR Calculations, the deferred current balances are expected for the first date.

Amortization Rule Summary Page

This page is the gateway to the Amortization Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Amortization Rules**. You can navigate to other pages that are related to Amortization Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Amortization Rule Summary** page displays the following columns:

Table 28-1 Amortization Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Amortization Rule short name.
Add	Click the Add icon to create a new Amortization Rule.
Delete	Click the Action icon adjacent to the Amortization Rule Name and select Delete to delete an existing Amortization Rule.
Refresh	Click the Refresh icon to refresh the Summary page.

Table 28-1 (Cont.) Amortization Rule Summary Page – Fields and Descriptions

Column	Description
Help	Click the Help icon to view the Amortization Rule help.
Search	Use this field to search for an Amortization Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search an Amortization Rule section.
Field Search	Enter the name of the Amortization Rule to filter the list of Amortization Rules by values that match the search term. For more information on using this feature, see the Amortization Rule section.

The **Amortization Rule** pane on the **Amortization Rule Summary** page displays the list of Amortization Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Amortization Rule in the **Action** column.

Figure 28-1 The Amortization Rule Summary Page

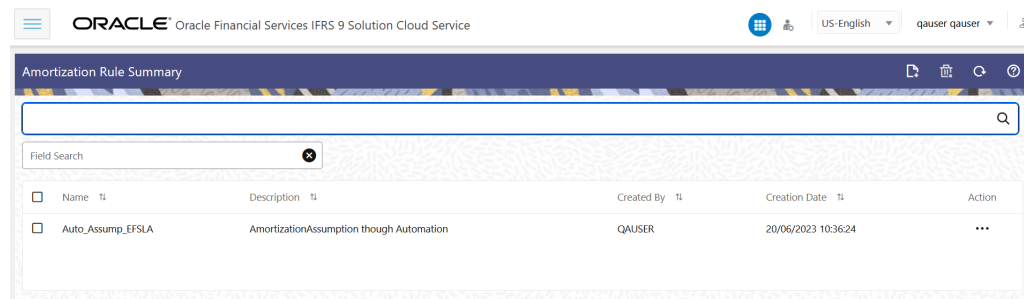


Table 28-2 Amortization Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Amortization Rule Name and select View to view the contents of an Amortization Rule in read/write format.
Edit	Click the Action icon adjacent to the Amortization Rule Name and select Edit to edit the contents of an Amortization Rule in read/write format.
Save As	Click the Action icon adjacent to the Amortization Rule Name and select Save As to create a copy of an existing Amortization Rule.

Table 28-2 (Cont.) Amortization Rule – Icons and Descriptions

Column	Description
Delete	Click the Action icon adjacent to the Amortization Rule Name and select Delete to delete an existing Amortization Rule.
Dependency Information	Click the Action icon adjacent to the Amortization Rule Name and select Dependency Information to check the higher and lower order dependencies for an existing Amortization Rule.

Create an Amortization Rule

Perform the following steps to create an Amortization Rule:

1. On the **Amortization Rule Summary** page, click the **Add** icon to open the **Amortization Rules** Window.

The screenshot shows the 'Amortization Rule' form with the following sections:

- Basic Information:** Includes a 'Name' field (Required), a 'Description' field, and a 'Folder' dropdown menu (Required).
- Product:** Includes a 'Modelling Set' dropdown menu (Required) and a 'Product Hierarchy' field.
- Amortization Method Mapping:** Includes a table with columns for 'Product', 'Amortization Method', and 'Conditional Assumption'. The table currently shows 'No data to display.' and has an 'Edit All' button.

2. Populate the **Amortization Rules** form as tabulated:

Option	Description
Name	Enter a name for the Amortization Rule definition. This is a mandatory field.
Description	Enter a description for the Amortization Rule definition.
Folder	Select a folder from the drop-down list. This is a mandatory field.
Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.

Option	Description
Product Hierarchy	Based on the Modelling Set definition, the Product Hierarchy gets automatically selected.
Amortization Method Mapping	Expand the list to define the Amortization Method Mapping. From the Amortization Method column select an amortization method from the drop down list: <ul style="list-style-type: none"><li>• Effective Rate<li>• Straight Line
Conditional Assumption	Initially, the Conditional Assumption will have the status as <i>Undefined</i> and once the Conditional Assumption has been configured, then the status will change to <i>Defined</i> Perform the following steps to configure a conditional assumption. Click the Product icon to open the Conditional Assumption page. On this page: <ol style="list-style-type: none"><li>a. In the Product drop-down list, select a product.<li>b. In the Customer Type drop-down list, select a Customer Type and then click the Add icon. The Customer Type is added to the Customer Type Pane. Multiple customer types can be selected.<li>c. In the Amortization Method drop-down list adjacent to the Customer Type, select either Effective Rate or Straight Line from the drop-down list.<li>d. Click the Customer Type row to configure the Industry hierarchy and Amortization Method.<li>e. Adjacent to the Industry field, click the Please select at least one tree node icon.<li>f. Use the Hierarchy Browser window to select an industry and then click OK in this window.<li>g. In the Amortization Method field, select either Effective Rate or Straight Line.<li>h. Click the update icon if you want to update the values.<li>i. Click Add to add the industries to the Industry pane at the bottom. Multiple

Option	Description
	entries can be added using the above steps.
	j. Additionally, you can click the Delete icon adjacent to an entry to delete it.
	k. Click Apply and then click OK .
	l. Additionally, you can click the Delete icon to delete unwanted customer types.
	m. Click the Amortization Rule at the top of the page to navigate back to the Amortization Rule Summary page.
	n. The status of the product in the Conditional Assumption column changes to <i>Defined</i> .
3. If you want to configure the Amortization Method Mapping for multiple products, on the Amortization Rule page, select the desired products and then click the Edit all button to modify the Conditional Assumptions as mentioned in the above table.	
4. Click Save .	

The new Amortization Rule appears in the list of Amortization Rules on the **Amortization Rule Summary** Page.

Dependency Information

You can check dependencies to know where a particular Stage Curing Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Stage Curing Rule:

1. Navigate to the **Stage Curing Rule Summary** page.
2. Either [search](#) for a Stage Curing Rule or navigate to the desired Stage Curing Rule from the list of Stage Curing Rule.
3. Click the **Action** icon that is adjacent to the Stage Curing Rule and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete an Amortization Rule

You can delete an existing Amortization Rule from the **Amortization Rule Summary** Page. Perform the following steps to delete single or multiple existing Amortization Rules:

1. In the **Amortization Rule** window, select the checkbox(s) adjacent to the Amortization Rule(s) that you want to delete.

Note the following conditions for deleting an Amortization Rule:

- If a Amortization Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Amortization Rule.
 - If an Amortization Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Amortization Rule.
 - If an Amortization Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Amortization Rule.
2. Click **Delete**. A warning dialog is displayed.
 3. Click **Yes**.
 4. Additionally, select the checkbox(s) adjacent to the Amortization Assumption(s) and then click the **Delete** icon on the top of the **Amortization Rule** page. A warning dialog is displayed.
 5. Click **Yes**.

The selected definitions are removed from the **Amortization Rule Summary** page.

Refresh an Amortization Rule

You can refresh an existing Amortization Rule from the **Amortization Rule Summary** page to refresh the Amortization Rule with newly available data. Perform the following steps to refresh one or more existing Amortization Rules:

1. On the **Amortization Rule Summary** page, select the checkbox(s) adjacent to the Amortization Rule(s) that you want to refresh.
2. Click **Refresh**.

The selected Amortization Rule(s) are refreshed with newly available data.

View an Amortization Rule

The View feature enables you to view the details of an existing Amortization Rules. Perform the following steps to view the definition details:

1. In the Amortization Rules list, select the Action icon adjacent to the Amortization Rule name that you want to view.

Note:

Before deleting, ensure that the definition is not used by other features within the application.

2. Click View to open the **Amortization Rule** Window.
3. Click **Cancel** to return to the **Amortization Rule Summary** Page.

Edit an Amortization Rule

The edit feature enables you to update the details of an existing Amortization Rule. Perform the following steps to edit an existing Amortization Rule:

1. In the Amortization Rules list, select the **Action** icon adjacent to the Amortization Rule name that you want to edit.
2. Click **Edit** to open the Amortization Rule window. The **Name** and **Hierarchy** fields are not editable.
3. Update the required fields.
4. Click **Save**.

The saved Amortization Rule is displayed in the Amortization Rules list on the **Amortization Rule Summary** Page.

Save an Amortization Rule

Perform the following steps to save an Amortization Rule under a different name and folder:

1. Select the desired Amortization Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Amortization Rule is saved under a new name and folder.

Search an Amortization Rule

Search for an Amortization Rule to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for an Amortization Rule, perform the following steps:

- Navigate to the **Amortization Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Amortization Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search.
- Additionally, in the **Field Search** field, enter the name of the Amortization Rule to filter the list of Amortization Rules by values that match the search term. Only the Name and Description can be used for an Advanced search.

Only the Amortization Rule that matches the search criteria are displayed.

Stage Curing Rules

The Stage Curing Rule feature is introduced in this service to restrict any direct movement of accounts between the higher risk stage to the lower risk stage. The Out Of Box application supports rules between the following stages:

1. Stage 3 to Stage 2
2. Stage 2 to Stage 1
3. Stage 3 to Stage 1

The basic principle behind this curing rule is that financial institutions assess the account characteristic for some period before moving any account from higher risk stages to lower risk stages.

While defining the Stage Curing Rule, the user has to select the modelling set.

By default, all stages are enabled for the curing logic, but the user can disable curing logic for some of those stages as per the requirements.

The below rule parameters are available for customization. By default, all rule parameters are enabled but the user can disable some of those rule parameters based on requirement. The cooling period is a mandatory rule parameter, and the user can select other parameters based on requirements. All selected rules should be passed then only curing logic will apply.

- **Cooling Period:** The cooling period is in days. Users need to customize this for all stages.
- **Days Past Due:** Users can customize days past due for all stages by selecting the combination of arithmetic signs and days.
- **Rating Long Term:** Users can customize rating long term for all stages by selecting the combination of arithmetic sign and internal rating rank.
- **Rating Short Term:** Users can customize rating short term for all stages by selecting the combination of arithmetic sign and internal rating rank.
- **LTV:** Users can customize LTV for all stages by selecting the combination of arithmetic signs and LTV. LTV is in percentage.
- **FICO Score:** Users can customize FICO Score for all stages by selecting the combination of arithmetic sign and FICO score.
- **12 Month PD:** Users can customize 12 Month PD for all stages by selecting the combination of arithmetic sign and 12 Month PD. 12 Month PD is in percentage.
- **Lifetime PD:** Users can customize Lifetime PD for all stages by selecting the combination of arithmetic sign and Lifetime PD. Lifetime PD is in percentage.

The cooling period will start once any account is moved from stage 3 to stage 2 or stage 3 to stage 1 or stage 2 to 1 by comparing the last reporting stage and the current stage (which is the outcome of stage determination). The below conditions have primarily been used in the curing logic:

- If curing of stage 3 to stage 2 or Stage 2 to stage 1 or stage 3 to stage 1 movement got interrupted because of the different stages get assigned in stage determination, then particular cooling period resets.
- At any time, a single cooling period rule will be active. Example: If the stage 3 to stage 1 cooling period rule is active but because of some rules in the stage determination if the account gets tagged to stage 2 then the stage 3 to stage 2 cooling period rule gets active and the stage 3 to stage 1 cooling period gets reset.
- If multiple rule parameters have been selected, the cooling period condition gets passed but if any other condition failed then the cooling period resets.

Stage Curing Rule Summary Page

This page is the gateway to the Stage Curing Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Stage Curing Rules**. You can navigate to other pages that are related to a Stage Curing Rule from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Stage Curing Rule Summary** page displays the following columns:

Table 29-1 Stage Curing Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Stage Curing Rule's short name.
Add	Click the Add icon to create a new Stage Curing Rule.
Delete	Click the Action icon adjacent to the Stage Curing Rule Name and select Delete to delete an existing Stage Curing Rule.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Stage Curing Rule help.
Search	Use this field to search for a Stage Curing Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Stage Curing Rule section.
Field Search	Enter the name of the Stage Curing Rule to filter the list of Stage Curing Rules by values that match the search term. For more information on using this feature, see the Stage Curing Rule section.

The **Stage Curing Rule** pane on the **Stage Curing Rule** page displays the list of Stage Curing Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Stage Curing Rule in the **Action** column.

Figure 29-1 The Stage Curing Rule Summary Page

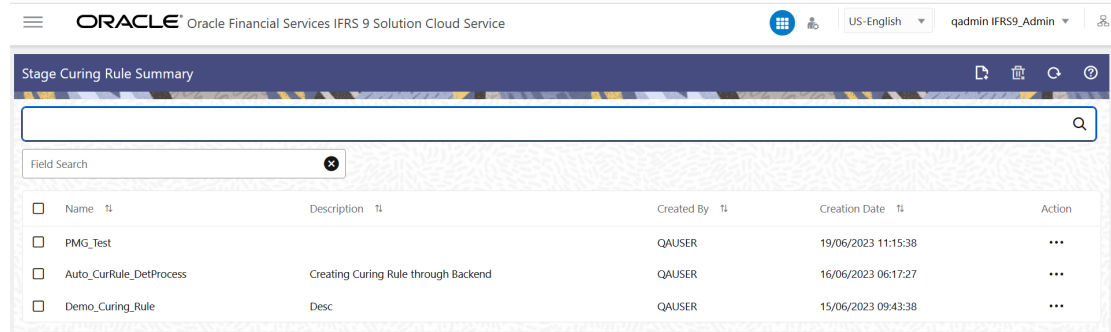


Table 29-2 Stage Curing Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Stage Curing Rule Name and select View to view the contents of a Stage Curing Rule in read/write format.
Edit	Click the Action icon adjacent to the Stage Curing Rule Name and select Edit to edit the contents of a Stage Curing Rule in read/write format.
Save As	Click the Action icon adjacent to the Stage Curing Rule Name and select Save As to create a copy of an existing Stage Curing Rule.
Delete	Click the Action icon adjacent to the Stage Curing Rule Name and select Delete to delete an existing Stage Curing Rule.
Dependency Information	Click the Action icon adjacent to the Stage Curing Rule Name and select Dependency Information to check the higher and lower order dependencies for an existing Stage Curing Rule.

Create a Stage Curing Rule

Perform the following steps to create a Stage Curing Rule:

1. On the **Stage Curing Rule Summary** page, click the **Add** icon to open the **Stage Curing Rule** window.

2. Populate the **Stage Curing Rule** form as tabulated:

Option	Description
Name	Enter a name for the Stage Curing Rule definition. This is a mandatory field.
Description	Enter a description for the Stage Curing Rule definition.
Folder	Select a folder from the drop-down list. This is a mandatory field.
Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.
Rule Parameters	Enable or disable the required Rule Parameters in this pane. The available Rule Parameters are: <ul style="list-style-type: none"> • Cooling Period(Days) • Days Past Due • Rating Long Term (Internal Rating Ranks are considered) • Rating Sort Terms (Internal Rating Ranks are considered) • LTV (Loan to Value Ratio) • FICO Score (Credit Score) • 12 Month PD • Life Time PD
Curing Rules (This refers to the previous reporting stage of the account.)	In this pane, the following actions must be performed:

Option	Description
	<ul style="list-style-type: none"> • Stage <> - Click the slider to enable or disable this stage curing rule. • Current - This refers to the stage that the account is in. • Target - Target - Select a target stage from the drop-down list. • Source Table - <ul style="list-style-type: none"> – Cooling Period(Days) - Enter a positive integer in the Cooling Period(Days) row of these source tables. This is a mandatory field. – Days Past Due - <ul style="list-style-type: none"> * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter only a positive integer in these fields. <p>These are mandatory fields.</p> – Rating Long Term (Internal Rating Ranks are considered) <ul style="list-style-type: none"> * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter only a positive integer in these fields. This is a mandatory field. <p>These are mandatory fields.</p> – Rating Sort Term (Internal Rating Ranks are considered) <ul style="list-style-type: none"> * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists.

Option	Description
	<ul style="list-style-type: none">* Right Column (Values) - Enter only a positive integer in these fields. This is a mandatory field. <p>These are mandatory fields.</p> <ul style="list-style-type: none">- LTV (Loan to Value Ratio)<ul style="list-style-type: none">* Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists.* Right Column (Values) - Enter only a percentage value.<p>These are mandatory fields.</p>- FICO Score (Credit Score)<ul style="list-style-type: none">* Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists.* Right Column (Values) - Enter a value in these fields. This is a mandatory field.<p>These are mandatory fields.</p>- 12 Month PD -<ul style="list-style-type: none">* Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists.* Right Column (Values) - Enter a numeric value in a percentage format.<p>These are mandatory fields.</p>- Life Time PD -<ul style="list-style-type: none">* Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists.

Option	Description
3. Click Save .	<p>* Right Column (Values) - Enter a numeric value in a percentage format.</p> <p>These are mandatory fields.</p>

The new Stage Curing Rule appears in the list of Stage Curing Rules on the **Stage Curing Rule Summary** Page.

Dependency Information

You can check dependencies to know where a particular Stage Curing Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Stage Curing Rule:

1. Navigate to the **Stage Curing Rule Summary** page.
2. Either [search](#) for an Stage Curing Rule or navigate to the desired Stage Curing Rule from the list of Stage Curing Rule.
3. Click the **Action** icon that is adjacent to the Stage Curing Rule and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Stage Curing Rule

Perform the following steps to delete a Stage Curing Rule.

1. Select the Stage Curing Rule that you want to delete and click the **Action** icon.
2. Select **Delete**.

Note the following conditions for deleting an Stage Curing Rule:

- If a Stage Curing Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Stage Curing Rule.
 - If an Stage Curing Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Stage Curing Rule.
 - If an Stage Curing Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Stage Curing Rule.
3. You can also delete a Stage Curing Rule by selecting the Stage Curing Rule that you want to delete and click the **Delete** icon.

Refresh a Stage Curing Rule

You can refresh an existing Stage Curing Rule from the **Stage Curing Rules Summary** page to refresh the Stage Curing Rules with the newly available data. Perform the following steps to refresh one or more existing Stage Curing Rules:

1. In the **Stage Curing Rules Summary** page, select the checkbox(s) adjacent to the Stage Curing Rules that you want to refresh.
2. Click **Refresh**.

The selected Stage Curing Rules are refreshed with newly available data.

View a Stage Curing Rule

Perform the following steps to View a Stage Curing Rule.

1. Select the Stage Curing Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Stage Curing Rule** window opens, displaying the details of the selected Stage Curing Rule.
4. Click **Cancel**.

Edit a Stage Curing Rule

The edit feature enables you to update the details of an existing Stage Curing Rule. Perform the following steps to edit an existing Stage Curing Rule from the **Stage Curing Rule Summary** page:

1. In the Stage Curing Rule list, select the **Action** icon adjacent to the Stage Curing Rule that you want to edit.
2. Click **Edit** to open the **Stage Curing Rule** Window.
3. Update the required fields. Only the **Name** field is not editable.
4. Click **Save**.

The saved Stage Curing Rule is displayed in the Stage Curing Rule list on the **Stage Curing Rule Summary** Page.

Save a Stage Curing Rule

Perform the following steps to save a Stage Curing Rule under a different name and folder:

1. Select the desired Stage Curing Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Stage Curing Rule is saved under a new name and folder.

Search a Stage Curing Rule

Search for a Stage Curing Rule to perform any of the following tasks:

- [View](#)

- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Stage Curing Rule, perform the following steps:

- Navigate to the **Stage Curing Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, or pf the Stage Curing Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Stage Curing Rule to filter the list of Stage Curing Rules by values that match the search term.

Only Stage Curing Rules that match the search criteria are displayed.

Account Classification Rules

Financial instruments are required to be classified into three categories and thereby accounted for as suggested in the Phase 1 section of the IFRS 9 guidelines. The three categories are the following:

- Amortized Cost (AMRTCOST)
- Fair Value through Other Comprehensive Income (FVOCI)
- Fair Value through Profit and Loss (FVTPL)

Financial assets must undergo the Business Model test (BM) and Cash Flow Characteristics test (SPPI) and Financial Liabilities must undergo the Business Model Test for classification in the aforementioned categories. While defining the Account classification rules, the user needs to first select the folder and then the modelling set.

Account Classification based on Business Model and SPPI:

Once the Business Model test or Cash Flow Characteristics test is performed, the classification method needs to be assigned, depending on the outcome of the test. As the first step, accounts that have been assigned the classification through staging or based on election, retain that classification.

Table 30-1 Account Classification for Assets

Business Model	SPPI Test	Classification
Held to Collect	Y	AMRTCOST
Held to Collect and Sell	Y	FVOCI
Held to Sell	Y	FVTPL
Held to Collect	N	FVTPL
Held to Collect and Sell	N	FVTPL
Held to Sell	N	FVTPL

Account Classification for Liabilities:

Business Model	Classification
Held to Maturity	AMRTCOST
Available for Sale	FVTPL
Held to Sell	FVTPL

The final process is to optionally select the accounts to be classified under FVTPL or FVOCI. This is done based on the following Rules:

1. Fair Value option: If the fair value flag is Y, then Classification = FVTPL
2. Equity Instruments: For Instrument Type = Equities and Business Model = Held to Collect, then Classification = FVOCI.

Business Model Test

The Business Model Test is conducted at an aggregated level. This test allows the banks to classify instruments into any of the subcategories of the business model such as Held to Collect (Assets), Held to Collect and Sell (Assets), Held to Sell (Assets and Liabilities), Held to Maturity (Liabilities), and Available for Sale (Liabilities).

The service is seeded with certain Rules which can be modified.

The Rules around Business Model Test enable banks to design a hierarchy-based Holding Type assessment, that is the Rules help banks to classify their accounts into any one of the holding types, such as Held to Collect, Held to Sell, or Held to Collect and Sell.

Banks can configure Rules based on available Hierarchies. For example, Customer Type, Product.

The standard product consists of the following rules:

Table 30-2 The Source Dimension and Target Dimension Rules

Source Dimensions	Target Dimension
Product, Customer Type	Holding Type
Product, Capital Exposure Flag	Holding Type
Product, Exposure for Sale Indicator	Holding Type

Cash Flow Characteristics (SPPI) Test

IFRS 9 requires all financial instruments to be tested for their cash flow characteristics before being classified into any of the three accounting classifications. This test is conducted at the instrument level. To pass the cash flow characteristics or the Solely Payments of Principal and Interest (SPPI) test, an entity needs to prove that the contractual cash flows received from an instrument are Solely Payments of Principal and Interest on the principal amount outstanding.

To conduct the Cash Flow Characteristics Test, various dimensions are considered. However, more importantly, the contract level characteristics are taken into consideration with the help of certain flags, parameters, values, and so on. This defines the instrument in detail.

The Service picks the dimension-based Rules to assign the SPPI flag as YES. Primarily, the SPPI flag is assigned based on the broad knowledge of the Portfolio, Product, or Product type. After the SPPI flags are assigned based on a given set of dimensions, further evaluation is conducted for those accounts with the SPPI flag as YES.

The Rules related to the SPPI test enable the bank to evaluate every instrument or account to check if the contractual cash flows received from an instrument are Solely Payments of Principal and Interest on the principal amount outstanding or SPPI. The initial set of Rules allows you or the bank to define if a product or portfolio may potentially pass the SPPI test, at an aggregated level, that is, the hierarchy at which the Rule is defined. All the subsequent Rules verify the characteristics of an instrument to check if it caters to the SPPI requirements.

The standard product consists of the following Rules.

Table 30-3 The Source Dimension and Target Dimension Rules

Source Dimensions	Target Dimension
Behavior Type = 'Development and Recovery'	SPPI = N
If SPPI='Y', Fixed, Interest Rate<=0%	SPPI = N
If SPPI='Y', Floating Rate, Float Spread<=0%	SPPI = N
If SPPI='Y', Embedded Options Flag = 'Y'	SPPI = N
If SPPI='Y', Securitized Flag='Y'	SPPI = N
If SPPI='Y', Employee Account = 'Y'	SPPI = N
If SPPI='Y', Sub Prime Flag='Y'	SPPI = N
If SPPI='Y', Payment Pattern <any specific pattern>	SPPI = N
If SPPI='Y', Benchmark Currency<>Instrument currency	SPPI = N

Users can configure the given Rules as per the requirement.

Account Classification Rule Summary Page

This page is the gateway to the Account Classification Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Account Classification Rules**. You can navigate to other pages that are related to Account Classification Rule from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Account Classification Rule Summary** page displays the following columns:

Table 30-4 Account Classification Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Account Classification Rule's short name.
Add	Click the Add icon to create a new Account Classification Rule.
Delete	Click the Action icon adjacent to the Account Classification Rule Name and select Delete to delete an existing Account Classification Rule.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Account Classification Rule help.

Table 30-4 (Cont.) Account Classification Rule Summary Page – Fields and Descriptions

Column	Description
Search	Use this field to search for an Account Classification Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search an Account Classification Rule section.
Field Search	Enter the name of the Account Classification Rule to filter the list of Account Classification Rules by values that match the search term. For more information on using this feature, see the Search an Account Classification Rule section.

The **Account Classification Rule** pane on the **Account Classification Rule Summary** page displays the list of Account Classification Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Account Classification Rules in the **Action** column.

Figure 30-1 The Account Classification Rule Summary Page

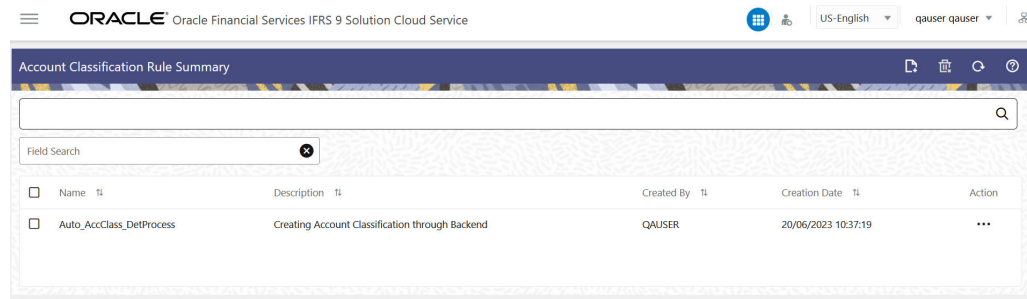


Table 30-5 Account Classification Rules – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Account Classification Rule Name and select View to view the contents of an Account Classification Rule in read/write format.
Edit	Click the Action icon adjacent to the Account Classification Rule Name and select Edit to edit the contents of an Account Classification Rule in read/write format.
Save As	Click the Action icon adjacent to the Account Classification Rule Name and select Save As to create a copy of an existing Account Classification Rule.
Delete	Click the Action icon adjacent to the Account Classification Rule Name and select Delete to delete an existing Account Classification Rule.

Table 30-5 (Cont.) Account Classification Rules – Icons and Descriptions

Column	Description
Dependency Information	Click the Action icon adjacent to the Account Classification Rule Name and select Dependency Information to check the higher and lower order dependencies for an existing Account Classification Rule.

Create an Account Classification Rule

Perform the following steps to create an Account Classification Rule:

1. On the **Account Classification Rule Summary** page, click the **Add** icon to open the **Account Classification Rule Window**.

2. Populate the **Account Classification Rule** form as tabulated:

Option	Description
Name	Enter a name for the Account Classification Rule definition. This is a mandatory field.
Description	Enter a description for the Account Classification Rule definition.
Folder	Select a folder from the drop-down list. This is a mandatory field.
Select Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.
Toggle	Click the Toggle icon on the Left-Hand-Side menu to expand or collapse the Rule pane.
Account Classification	In the Assets and Liabilities sections, select the Account Classification from the

Option	Description
	<p>drop-down list for each Business Model Test. The available options in the Account Classification drop-down are:</p> <ul style="list-style-type: none"> • Fair Value through other Comprehensive Income (FVOCI) • Fair Value Through Profit for Loss (FVTPL) • Amortized Cost (AMRTCOST)
<p>Override Logic (Account Classification)</p>	<p>Enable the Override Logic slider to configure the Account Classification:</p> <ul style="list-style-type: none"> • Account Classification - Select a value from the drop-down list. The available options are: <ul style="list-style-type: none"> – Fair Value through other Comprehensive Income (FVOCI) – Fair Value Through Profit for Loss (FVTPL) – Amortized Cost (AMRTCOST) • Instrument Type - Select a value from the drop-down list. The available options are: <ul style="list-style-type: none"> – Fair Value through other Comprehensive Income (FVOCI) – Fair Value Through Profit for Loss (FVTPL) – Amortized Cost (AMRTCOST)
<p>Cash Flow Characteristics (SPPI) Test</p>	<p>Expand the list to configure the Cash Flow Characteristics:</p> <ul style="list-style-type: none"> • SPPI Flag: Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Conditional Assumption- Click the Set Conditional Assumption icon to configure the Conditional Assumption: <ol style="list-style-type: none"> a. Select a customer type from the Customer Type drop-down list. b. Select either <i>Yes</i> or <i>No</i> from the SPPI Flag drop-down list. c. Click Apply <p>For each configured Cash Flow Characteristic of a product, the status is updated to <i>Defined</i>.</p>

Option	Description
	<p>Click the Go To List View or Go To Tree View icon to toggle between different views.</p>
Override Logic (Cash Flow Characteristics (SPPI) Test)	<p>Enable the Override Logic slider to configure the Rules:</p> <ul style="list-style-type: none">• Rule Selection - Click the slider to mark or unmark the rule selection for a Product Attribute.• Conditions - Configure the conditions for the following Product Attributes:<ul style="list-style-type: none">– Fixed Interest Rate: Interest Rate - Select a comparison symbol from the Select drop down list and enter a numeric value in the Value field.– Floating Interest Rate: Float Spread - Select a comparison symbol from the Select drop down list and enter a numeric value in the Value field.– Embedded Option Flag - Select either <i>Yes</i> or <i>No</i>– Sub Prime Flag - Select either <i>Yes</i> or <i>No</i>– Employee Account Flag - Select either <i>Yes</i> or <i>No</i>– Benchmark Currency - Select <i>US Dollar</i> from the drop-down list.– Amortization Type - Select an Amortization Type from the drop-down list. Multiple Amortization Types can be selected from this drop-down list– Behaviour Pattern Type - This field is disabled and is populated by default.
Business Model Test	<p>Perform the following configurations:</p> <ul style="list-style-type: none">• Business Model Classification - Select a Business Model Classification from the drop-down-list:<ul style="list-style-type: none">– Held to Collect– Held to Collect and Sell

Option	Description
	<ul style="list-style-type: none">– Held to Sell– Held to Maturity– Available for Sale• Conditional Assumption- Click the Set Conditional Assumption icon to configure the Conditional Assumption:<ul style="list-style-type: none">a. Select a customer type from the Customer Type drop-down list. Multiple customer types can be selected in this field.b. Select a business model classification from the Business Model Classification drop-down list.c. Expand the Customer Type list.d. Select the slider to enable or disable the Exposure For Sale Indicatore. Select a business model classification from the Business Model Classification drop-down list.f. Click Apply
	<p>For each configured Conditional Assumption of a product, the Conditional Assumption is updated to the selected Customer Type.</p> <p>Click the Go To List View or Go To Tree View icon to toggle between different views.</p>
	<ol style="list-style-type: none">3. To discard all your changes and reset the values, click the Reset icon. This icon is available on the Cash Flow Characteristics (SPPI) Test and Business Model Test tabs on the LHS menu.4. Click Save.
	<p>The new Account Classification Rule appears in the list of Account Classification Rules on the Account Classification Rule Summary Page.</p>

Dependency Information

You can check dependencies to know where a particular Account Classification Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Account Classification Rule:

1. Navigate to the **Account Classification Rule Summary** page.

2. Either [search](#) for an Account Classification Rule or navigate to the desired Account Classification Rule from the list of Account Classification Rule.
3. Click the **Action** icon that is adjacent to the Account Classification Rule and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete an Account Classification Rule

Perform the following steps to delete an Amortization Classification Rule.

1. Select the Account Classification Rule that you want to delete and click the **Action** icon.

Note the following conditions for deleting an Account Classification Rule:

- If an Account Classification Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Account Classification Rule.
 - If an Account Classification Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Account Classification Rule.
 - If an Account Classification Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Account Classification Rule.
2. Select **Delete**.
 3. You can also delete an Account Classification Rule by selecting the Account Classification Rule that you want to delete and then click the **Delete** icon.

Refresh an Account Classification Rule

You can refresh an existing Account Classification Rule from the **Account Classification Rule** page to refresh the Account Classification Rule with newly available data. Perform the following steps to refresh one or more existing Account Classification Rules:

1. On the **Account Classification Rule Summary** page, select the checkbox(s) adjacent to the Account Classification Rule(s) that you want to refresh.
2. Click **Refresh**.

The selected Account Classification Rule(s) are refreshed with newly available data.

View an Account Classification Rule

Perform the following steps to View an Account Classification Rule.

1. Select the Account Classification Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Account Classification Rule** window opens, displaying the details of the selected Account Classification Rule.
4. Click **Cancel**.

Edit an Account Classification Rule

The edit feature enables you to update the details of an existing Account Classification Rule. Perform the following steps to edit an existing Account Classification Rule:

1. In the Account Classification Rule list, select the **Action** icon adjacent to the Account Classification Rule name that you want to edit.
2. Click **Edit** to open the Account Classification Rule window. Only the **Name** field is non-editable.
3. Update the required fields.
4. Click **Save**.

The saved Account Classification Rule is displayed in the Account Classification Rules list on the **Account Classification Rule** page.

Save an Account Classification Rule

Perform the following steps to save an Account Classification Rule under a different name and folder:

1. Select the desired Account Classification Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Account Classification Rule is saved under a new name and folder.

Search an Account Classification Rule

Search for an Account Classification Rule to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for an Account Classification Rule, perform the following steps:

- Navigate to the **Account Classification Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Account Classification Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Description can be used for an Advanced search.

- Additionally, in the **Field Search** field, enter the name of the Account Classification Rule to filter the list of Account Classification Rules by values that match the search term.

Only Account Classification Rules that match the search criteria are displayed.

31

Rating Mapping Rules

Rating is a key dimension that is required for IFRS 9 Solution Cloud Service to compute various processes like Stage determination, Stage Curing and it will be used further in PD, LGD, CCF assignments and ECL calculations. All the processing within IFRS 9 SCS is performed at Account Level granularity and hence it is required for each account to be mapped to a specific Rating.

The service look-up for the following Rating type for every account from various external and internal rating providers:

- Account Rating
- Party Rating
- Sovereign Rating

For Stage Determination and Stage Curing, which determines the significance of the increase in credit risk, the ratings as of the Account Start Date, inception, or origination, are also determined. However, the same is determined for every date for a given account.

Once the ratings are sourced, the number of notches that a given Account Party, or Sovereign has been upgraded or downgraded is determined, based on the provider-specific rating rank list.

Users can create a rating mapping rule by using the modelling set. Based on the selection of the modelling set, a legal entity-based rating source will be available for further selection. Users can provide rating source preference and rating type preference. Users can map external ratings with internal ratings by providing the details of rating Type, Term and Rating Source. Rank will be populated against each internal standardized rating. In stage Determination and Stage curing these ranks will be available for defining the rating-based rules.

Pre-Requisites

The following pre-requisites are necessary to be performed before accessing the **Rating Mapping** page:

1. Stage Data must be loaded for the Account Rating, Party Rating, and Sovereign Rating. For information on how to load the data, perform the steps mentioned in [Loading External Data Instrument](#).
2. To load the data into the processing layer, execute the data loader batch from the Scheduler Service with the component **MULTIPLE RATING DATA LOADER**. For more information, refer to the [Scheduler Service](#) chapters.
3. Finally the data needs to be defined for the dimensions; Rating Source (ensure that this matches with the stage data), Credit Rating (ensure that this matches with the stage data as well), and Internal Credit Rating. For more information, refer to the [Dimension Management](#) chapters.

Rating Mapping Rule Summary Page

This page is the gateway to the Rating Mapping Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Rating Mapping Rules**. You can navigate to other pages that are related to Rating Mapping Rule from this point.

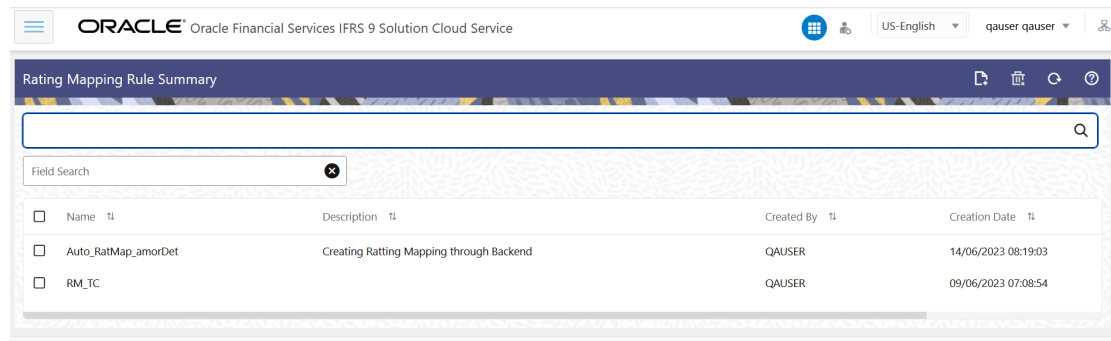
- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Rating Mapping Rule Summary** page displays the following columns:

Table 31-1 Rating Mapping Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Rating Mapping Rule's short name.
Add	Click the Add icon to create a new Rating Mapping Rule.
Delete	Click the Action icon adjacent to the Rating Mapping Rule Name and select Delete to delete an existing Rating MappingRule.
Refresh	Click the Refresh icon to refresh the Summary page.
Help	Click the Help icon to view the Rating Mapping Rule help documents.
Search	Use this field to search for a Rating Mapping Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Rating Mapping section.
Field Search	Enter the name of the Rating Mapping Rule set to filter the list of Rating Mapping Rules by values that match the search term. For more information on using this feature, see the Search a Rating Mapping Rule section.

Figure 31-1 The Rating Mapping Rule Summary Page



The **Rating Mapping Rule** pane on the **Rating Mapping Rule Summary** page displays the list of Rating Mapping Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Rating Mapping Rules in the **Action** column.

Table 31-2 Rating Mapping Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Rating Mapping Rule Name and select View to view the contents of a Rating Mapping Rule in read/write format.
Edit	Click the Action icon adjacent to the Rating Mapping Rule Name and select Edit to edit the contents of a Rating Mapping Rule in read/write format.
Save As	Click the Action icon adjacent to the Rating Mapping Rule Name and select Save As to create a copy of an existing Rating Mapping Rule.
Delete	Click the Action icon adjacent to the Rating Mapping Rule Name and select Delete to delete an existing Rating Mapping Rule.
Dependency Information	Click the Action icon adjacent to the Amortization Process Name and select Dependency Information to check the higher and lower order dependencies for an existing Amortization Process.

Create a Rating Mapping Rule

Perform the following steps to create a Rating Mapping Rule:

1. On the **Rating Mapping Rule Summary** page, click the **Add** icon to open the **Rating Mapping Rule** Window.

The screenshot shows the 'Rating Mapping Summary' page with the following sections:

- Basic Information:** Contains four required fields: Name, Description, Modelling Set (dropdown), and Folder (dropdown).
- Rating Source and Rating Type Preference:** Contains two sub-sections:
 - Rating Source Preference:** Includes a 'Rating Source' dropdown, a 'Preference' text input, and an 'Add' button. Below is a table with columns 'Rating Source', 'Preference', and 'Action', currently showing 'No data to display'.
 - Rating Type Preference:** Includes a 'Rating Type' dropdown, a 'Preference' text input, and an 'Add' button. Below is a table with columns 'Rating Type', 'Preference', and 'Action', currently showing 'No data to display'.
- Rating Attributes:** Includes three required dropdowns: 'Rating Type', 'Rating Term', and 'Rating Source', followed by an 'Add' button. Below is a table with columns 'Rating Type', 'Rating Term', 'Rating Source', 'Status', and 'Action', currently showing 'No data to display'.

2. Populate the **Rating Mapping Rule**form as tabulated:

Option	Description
Name	Enter a name for the Rating Mapping Rule definition. This is a mandatory field
Description	Enter a description for the Rating Mapping Rule definition.
Folder	Select a folder from the drop-down list. This is a mandatory field
Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field
Rating Source (Rating Source Preference)	Select a Rating Source from the drop-down list. The available options in this drop-down depend on the out of box settings that were configured on the Dimension Management screens, see the <section link> for more information: Each Rating Source can only contain one preference. This is a required field.
Preference (Rating Source Preference)	Enter a numeric value that is greater than or equal to 1.

Option	Description
Add	<p>Click this button to add the defined Rating Attributes. The Rating Source Preference is added to the table below this icon.</p> <p>Multiple Rating Source Preferences can be added as long as the values in the Rating Source and Preference fields are unique.</p>
Rating Type (Rating Type Preference)	<p>Select a Rating Type from the drop-down list. The available options are:</p> <ul style="list-style-type: none"> • Account Rating • Party Rating • Sovereign Rating
Preference (Rating Type Preference)	<p>Enter a numeric value that is greater than or equal to 1.</p>
Add (Rating Type Preference)	<p>Click this button to add the defined Rating Attributes. The Rating Type table is populated with the Rating Type and Preference values.</p> <p>Multiple Rating Type Preferences can be added as long as the values in the Rating Type and Preference fields are unique.</p>
Rating Type (Rating Attributes)	<p>Select a Rating Type from the drop-down list. The Rating Type that appears in this list is the Rating Type that you defined in the Rating Type (Rating Type Preference) field. This is a required field.</p>
Rating Term (Rating Attributes)	<p>Select a Rating Term from the drop-down list. The available options are:</p> <ul style="list-style-type: none"> • Long Term Rating • Short Term Rating
Rating Source (Rating Attributes)	<p>Select a Rating Source from the drop-down list. The Rating Source that appears in this list is the Rating Type that you defined in the Rating Source (Rating Source Preference) field. This is a required field.</p>
Add	<p>Click this button to add the defined Rating Attributes. The defined Rating Attributes appear in the tables in this pane. Multiple Rating attributes can be added.</p>

3. In the Rating Mapping Rule table, click the **Rating Mapping Rule** icon in the **Status** column to open the **Mapping Table** window. In this window, in the **Standardized Rating** column, click the drop-down arrow and select a standardised rating from the drop-down list. When a Standardized Rating is selected, the Rating Rank column is automatically populated with a rating rank. Click **Apply**. Initially, the status will be *Undefined*. Once the **Mapping Table** is updated, then the status changes to *Defined*.
4. In this Mapping Table, map the Source Rating to the Standardized Rating. Click the drop-down to select and map the required Standardized Rating to a Source Rating.
5. To delete an entry from the Rating Mapping Rule table, click the **Delete** icon that is adjacent to the Rating Attribute.
6. Click **Apply**. The status is updated to *Defined*.
7. Click **Save**.

The new Rating Mapping Rule definition appears in the list of Rating Mapping Rules on the **Rating Mapping Rule Summary Page**.

Dependency Information

You can check dependencies to know where a particular Rating Mapping Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Rating Mapping Rule:

1. Navigate to the **Rating Mapping Rule Summary** page.
2. Either [search](#) for a Rating Mapping Rule or navigate to the desired Rating Mapping Rule from the list of Rating Mapping Rule.
3. Click the **Action** icon that is adjacent to the Rating Mapping Rule and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Rating Mapping Rule

Perform the following steps to delete a Rating Mapping Rule.

1. Select the Rating Mapping Rule that you want to delete and click the **Action** icon.

Note the following conditions for deleting a Rating Mapping Rule:

- If a Rating Mapping Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Rating Mapping Rule.
- If an Rating Mapping Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Rating Mapping Rule.
- If a Rating Mapping Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Rating Mapping Rule.

2. Select **Delete**.
3. You can also delete a Rating Mapping Rule by selecting the Rating Mapping Rule that you want to delete and then click the **Delete** icon.

Refresh a Rating Mapping Rule

You can refresh an existing Rating Mapping Rule from the **Rating Mapping Rule Summary** page to refresh the Rating Mapping Rule with newly available data. Perform the following steps to refresh one or more existing Rating Mapping Rules:

1. On the **Rating Mapping Rule Summary** page, select the checkbox(s) adjacent to the Rating Mapping Rule(s) that you want to refresh.
2. Click **Refresh**.

The selected Rating Mapping Rule(s) are refreshed with newly available data.

View a Rating Mapping Rule

Perform the following steps to view a Rating Mapping Rule.

1. Select the Rating Mapping Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Rating Mapping Rule** window opens, displaying the details of the selected Rating Mapping Rule.
4. Click **Cancel**.

Edit a Rating Mapping Rule

The edit feature enables you to update the details of an existing Rating Mapping Rule. Perform the following steps to edit an existing Rating Mapping Rule:

1. In the Rating Mapping Rule list, select the **Action** icon adjacent to the Rating Mapping Rule name that you want to edit.
2. Click **Edit** to open the Rating Mapping Rule window.
3. Update the required fields. Only the **Name** field is not editable.
4. Click **Save**.

The saved Rating Mapping Rule is displayed in the Rating Mapping Rule list on the **Rating Mapping Rule Summary** page.

Save a Rating Mapping Rule

Perform the following steps to save a Rating Mapping Rule under a different name and folder:

1. Select the desired Rating Mapping Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list

6. Click **Save**. The Rating Mapping Rule is saved under a new name and folder.

Search a Rating Mapping

Search for a Rating Mapping to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Rating Mapping, perform the following steps:

- Navigate to the **Rating Mapping Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, or pf the Rating Mapping and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Rating Mapping to filter the list of Rating Mapping by values that match the search term.

Only Rating Mapping that matches the search criteria is displayed.

Stage Determination Rules

The IFRS 9 guidelines require each account to be classified into three different stages on every reporting date, based on the significance of an increase in Credit Risk from the initial recognition. The guidelines mandate the calculation of a 12 Month or Lifetime Expected Credit Loss for an account, depending upon the stage in which an account, or instrument, has been classified into.

While defining the Stage Determination rule, the user needs to first select the modelling set. The service supports the Stage Determination requirements of the IFRS 9 guidelines by considering the following factors to determine the Significance of an Increase in Credit Risk, thereby deciding the stage into which a particular account is classified. These factors are divided into quantitative and qualitative parameters. Financial institutions can customize this based on regulatory and business requirements. The stage determination rule works conservatively, the worst stage gets assigned to the account if multiple parameters provide different stages to the account. i.e. if the account gets stamped to Stage 1 based on the 1st rule parameter and Stage 3 based second rule parameter then on the conservative principle the application will stamp Stage 3 to that account. :

Quantitative Parameters:

- **Rating (Long term):** Depending upon the Long-term Rating on the Date of Initial Recognition and the Rating on the Current reporting date, the accounts are classified into one of the three stages. Rating as of Initial Recognition and current reporting date is obtained as a download and is reclassified to the Internal Rating. Users can create bands based on the rating which shows common behaviour and configure the range of notch for the individual band which is considered a significant increase in Credit Risk.
- **Rating (Short Term):** Depending upon the Short-term Rating on the Date of Initial Recognition and the Rating on the Current reporting date, the accounts are classified into one of the three stages. Rating as of Initial Recognition and current reporting date is obtained as a download and is reclassified to the Internal Rating. Users can create bands based on the rating which shows common behaviour and configure the range of notch for the individual band which is considered a significant increase in Credit Risk.
- **Days Past Dues:** The user can create bands based on days past dues and directly tag them to individual stages.
- **FICO Score:** FICO Score is the same as credit score. Depending on the FICO score on the Date of Initial Recognition and the FICO Score on the Current reporting date, the accounts are classified into one of the three stages. FICO Score as of Initial Recognition and current reporting date is obtained as a download. Users can create the bands based on the FICO score which shows common behaviour and configure the range of notch for the individual band which is considered as a significant increase in Credit Risk.
- **LTV:** LTV is the Loan to Value. Depending on the LTV on the Date of Initial Recognition and the LTV on the Current reporting date, the accounts are classified into one of the three stages. LTV as of Initial Recognition and current reporting date is obtained as a download. Users can create the bands based on the LTV that shows the common behaviour and configure the range of notch for the individual band that is considered as a significant increase in Credit Risk.

- **12 Month PD:** Band creation is not required for 12 Months PD. This will work on an absolute change basis. User can customize absolute change for each stage and based on that stage determination take place.
- **Lifetime PD:** Band creation is not required for Lifetime PD. This will work on an absolute change basis. User can customize absolute change for each stage and based on that stage determination take place.

Formulas

- Notch Movement applies to quantitative parameters: Rating Long Term, Rating Short Term, FICO Score, LTV
 - *Notch Movement = Current – Original*
- The absolute change applies to quantitative parameters: 12 Month PD, Lifetime PD
 - *Absolute Change = (Current/Original -1) *100*

Qualitative parameters:

- **New Account:** New accounts can be tagged as Stage 1. Other qualitative or quantitative parameters are immaterial because financial institutes already factor in the business risk while initiating banking relationships with new customers.
- **Devolvement:** Devolvement is defined as a situation when a security or debt issue is undersubscribed. Devolved accounts can be tagged as Stage 2.
- **Impaired:** Impaired is defined as an account with a very low credit score. Impaired accounts can be tagged as Stage 2.
- **Default:** Defaulted accounts can be tagged as Stage 3
- **Forbearance:** Forbearance is defined as when a lender allows you to temporarily pay a lower loan payment or pause a loan payment. Forbearance accounts can be tagged as Stage 2.
- **Restructured:** Renegotiated or modified accounts can be tagged as Stage 2.
- **Country:** Users can create groups of countries that show similar economic behaviour. Based on economic guidance, users can tag these country groups under Stage 1, Stage 2 and Stage 3.
- **Industry:** Users can create groups of industries that show similar economic behaviour. Based on economic guidance, users can tag these industry groups under Stage 1, Stage 2 and Stage 3.

Stage Determination Rule Summary Page

This page is the gateway to the Stage Determination Rules feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Stage Determination Rules**. You can navigate to other pages that are related to Stage Determination Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)

- [Dependency Information](#)

The **Stage Determination Rule Summary** page displays the following columns:

Table 32-1 Stage Determination Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Stage Determination Rules's name.
Add	Click the Add icon to create a new Stage Determination Rule.
Delete	Click the Action icon adjacent to the Stage Determination Rule Name and select Delete to delete an existing Stage Determination Rules.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Stage Determination Rule help.
Search	Use this field to search for a Stage Determination Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Stage Determination Rule section.
Field Search	Enter the name of the Stage Determination Rule to filter the list of Stage Determination Rule by values that match the search term. For more information on using this feature, see the Search a Stage Determination Rule section.

The **Stage Determination Rules** pane on the **Stage Determination Rule Summary** page displays the list of Stage Determination Rule and offers several actions that allow you to perform different tasks. The following tasks are available for the Stage Determination Rule in the **Action** column.

Figure 32-1 The Stage Determination Rule Summary Page

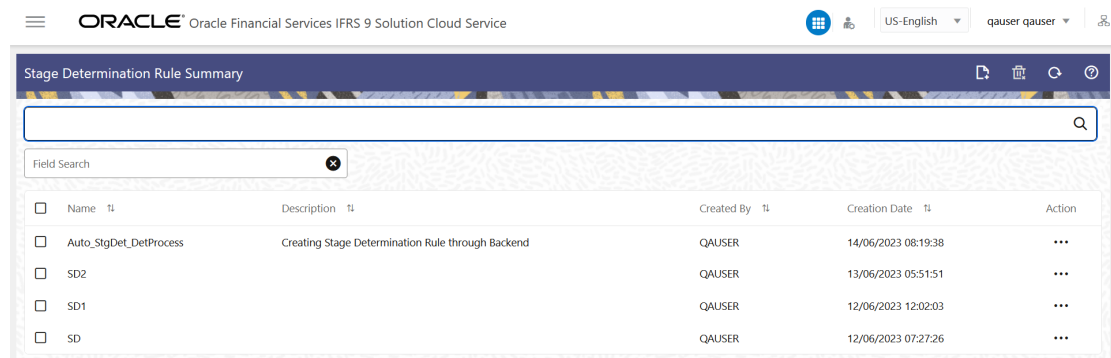


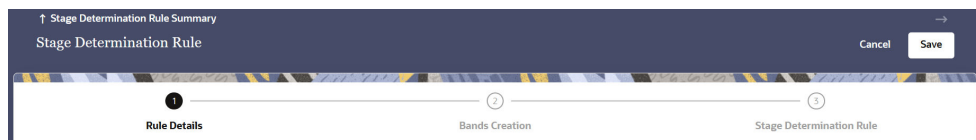
Table 32-2 Stage Determination – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Stage Determination Rule Name and select View to view the contents of a Stage Determination Rule in read/write format.
Edit	Click the Action icon adjacent to the Stage Determination Rule Name and select Edit to edit the contents of a Stage Determination Rule in read/write format.
Save As	Click the Action icon adjacent to the Stage Determination Rule Name and select Save As to create a copy of an existing Stage Determination Rule.
Delete	Click the Action icon adjacent to the Stage Determination Rule Name and select Delete to delete an existing Stage Determination Rule.
Dependency Information	Click the Action icon adjacent to the Stage Determination Rule and select Dependency Information to check the higher and lower order dependencies for an existing Stage Determination Rule.

Create a Stage Determination Rule

Perform the following steps to create a Stage Determination Rule:

1. On the **Stage Determination Rules Summary** page, click the **Add** icon to open the **Stage Determination Rule** Window.
2. On the Stage Determination Rules window, you must first define the **Rule Details**, **Bands Creation**, and then the **Stage Determination Rules**.



3. Populate the **Stage Determination Rule - Rule Details** form as tabulated:

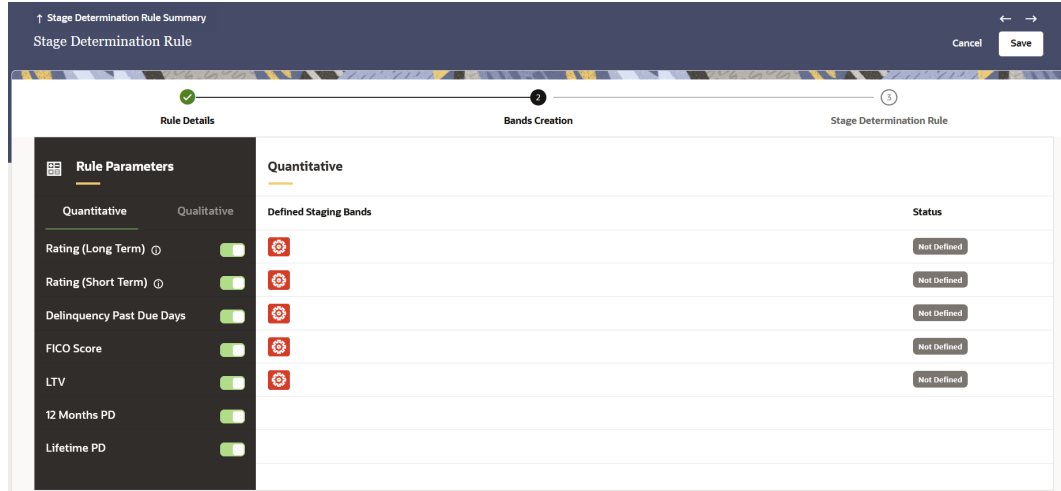
Option	Description
Name	Enter a name for the Stage Determination Rule definition. This is a mandatory field.
Description	Enter a description for the Stage Determination Rule definition.
Select Folder	Select a folder from the drop-down list. This is a mandatory field.
Select Modelling Set	Select a Modelling Set from the drop-down list.

Option

Description

This is a mandatory field.

4. After the mandatory fields are populated, populate the **Stage Determination Rule - Bands Creation - Rule Parameters (Quantitative)** form as tabulated:



Option

Description

Rating (Long Term) (Internal rating ranks will be used for band creation)

Click the slider to enable or disable this band.

Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

- a. In the selected Band's configuration window, click the **Add Button** icon to add a Band to define it.
- b. Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.
- c. Click **Apply**
- d. If you want to delete a band, select a Band and click the **Delete Button** icon to delete it.

The status of the Defined Staging Bands is updated to *Defined*.

To add and configure multiple Lower Limit and Upper Limits of this band, click the **Configuration** icon.

Rating (Short Term) (Internal rating ranks will be used for band creation)

Click the slider to enable this band.

Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

Option

Description

- a. Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.
- b. Click the **Add Button** icon to add additional Bands.
- c. Click **Apply**
- d. If you want to delete a band, select a Band and click the **Delete Button** icon to delete it.

The status of the Defined Staging Bands is updated to *Defined*.

To add and configure multiple Lower Limit and Upper Limits of this band, click the **Configuration** icon.

Delinquency Past Due Days

Click the slider to enable this band.
Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

- a. Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.
- b. Click the **Add Button** icon to add additional Bands.
- c. Click **Apply**
- d. If you want to delete a band, select a Band and click the **Delete Button** icon to delete it.

The status of the Defined Staging Bands is updated to *Defined*.

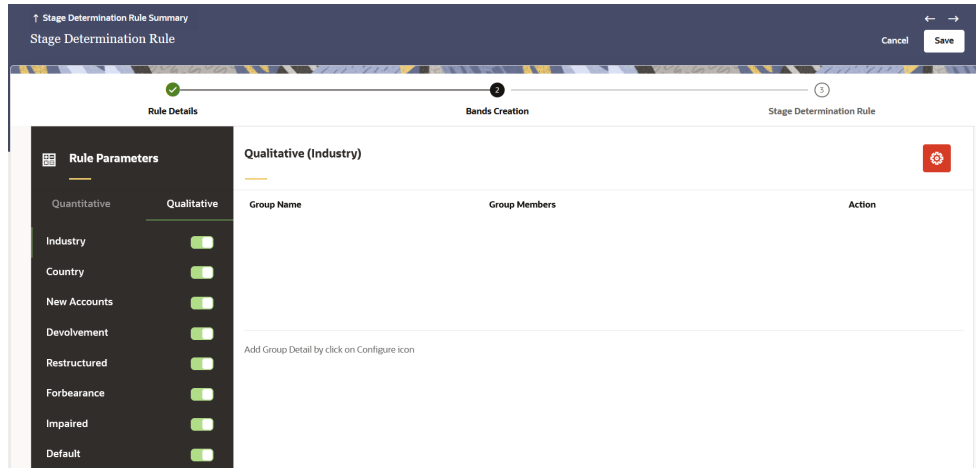
To add and configure multiple Lower Limit and Upper Limits of this band, click the **Configuration** icon.

FICO Score

Click the slider to enable this band.
Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

- a. Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.
- b. Click the **Add Button** icon to add additional Bands.
- c. Click **Apply**

Option	Description
LTV	<p>d. If you want to delete a band, select a Band and click the Delete Button icon to delete it.</p> <p>The status of the Defined Staging Bands is updated to <i>Defined</i>.</p> <p>To add and configure multiple Lower Limit and Upper Limits of this band, click the Configuration icon.</p> <p>Click the slider to enable this band. Click the Configuration icon to define the Lower Limit and Upper Limit of this Band:</p> <p>a. Enter the lower and upper limit in the Lower Limit and Upper Limit fields respectively. Both these fields only support positive integers.</p> <p>b. Click the Add Button icon to add additional Bands.</p> <p>c. Click Apply</p> <p>d. If you want to delete a band, select a Band and click the Delete Button icon to delete it.</p> <p>The status of the Defined Staging Bands is updated to <i>Defined</i>.</p> <p>To add and configure multiple Lower Limit and Upper Limits of this band, click the Configuration icon.</p>
12 Months PD	Click the slider to enable or disable this band.
Lifetime PD	Click the slider to enable or disable this band.
5. Click the Qualitative tab to define the Stage Determination Rule - Bands Creation - Rule Parameters (Qualitative) form as tabulated:	



Option
Industry

Description

Click the slider to enable this band:

- a. Click the **Industry Configuration** icon.
- b. In the **Group Name** field, enter a name for the group.
- c. The **Group Member** field is populated by default.
- d. In the left selection pane, select the required parameters and then click **Selected industries move to selected** to move the selection to the **Selected** pane on the right.
- e. To remove a selection from the **Selected** pane, select the required parameters and then click **Move Selected to Industries**.
- f. Click **Add Group**.

Multiple groups can be added by using the above steps. Ensure that the same industry is not added in different stages.

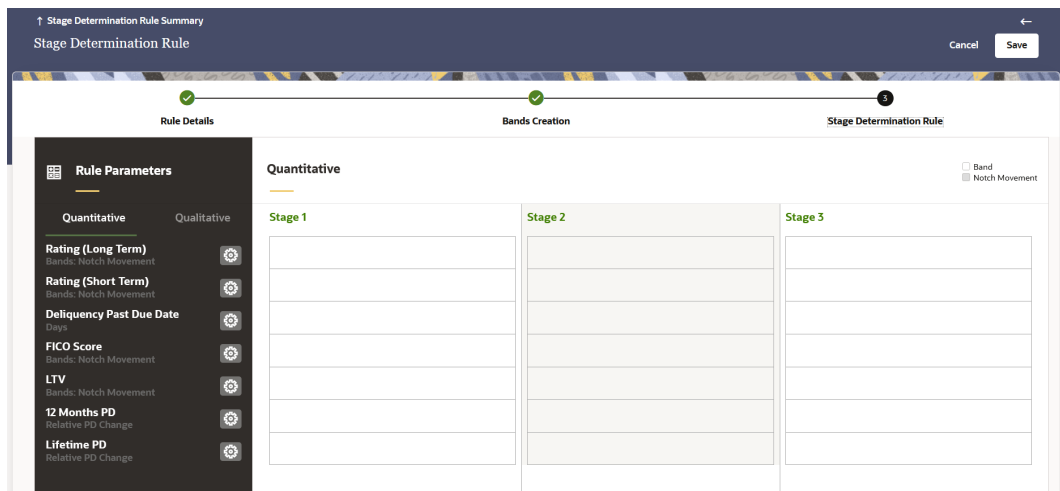
Country

Click the slider to enable this band:

- a. Click the **Country Configuration** icon.
- b. In the **Group Name** field, enter a name for the group.
- c. In the **Country** field, select a country from the drop-down list. Multiple countries can be selected in this field.

Option	Description
	<ul style="list-style-type: none"> d. Click the Add Button to add multiple groups with the defined countries. e. To delete a group, click the Delete Button. f. click Apply. <p>Multiple groups can be added by using the above steps. Make sure that the same country is not added in different stages.</p>
New Accounts	Click the slider to enable or disable this band.
Devolvement	Click the slider to enable or disable this band.
Restructured	Click the slider to enable or disable this band.
Forbearance	Click the slider to enable or disable this band.
Impaired	Click the slider to enable or disable this band.
Default	Click the slider to enable or disable this band.

6. The rules that are enabled in the **Bands Creation** tab will be available in the **Stage Determination Rules** tab.
7. Click the **Next** icon to open the **Stage Determination Rules** pane.
8. Populate the **Stage Determination Rule - Stage Determination Rules - Rule Parameters (Quantitative)** form as tabulated:



Option

Rating (Long Term)

Description

Click the **Configuration** icon to define this band.

- a. In the **Band Filter** field, select the filters for the band. Multiple filters for a band can be selected.
- b. In the configuration window, select a band from the Band drop-down list.
- c. Define the lower limit in the **Lower Limit** field.
- d. Define the upper limit in the **Upper Limit** field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.
- e. Select a stage value from the **Stage** drop-down list.
- f. You can click the **Add button** icon to define multiple bands.
- g. If you want to delete a band, click the **Delete Button** icon to delete a selected band.
- h. Click **Apply**

The *Band* values in the Stage table appear without a highlight, while the *Notch Movement* values appear with a grey highlight and are denoted in the upper right corner of the **Quantitative** pane.

Rating (Short Term)

Click the **Configuration** icon to define this band.

- a. In the **Band Filter** field, select the filters for the band. Multiple filters for a band can be selected.
- b. Define the lower limit in the **Lower Limit** field.
- c. Define the upper limit in the **Upper Limit** field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.
- d. Select a stage value from the **Stage** drop-down list.

Option	Description
	<ul style="list-style-type: none">e. You can click the Add button icon to define multiple bands.f. If you want to delete a band, click the Delete Button icon to delete a selected band.g. Click Apply <p>The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.</p>
Delinquency Past Due Days	<p>Click the Configuration icon to define this band.</p> <ul style="list-style-type: none">a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected.b. Define the lower limit in the Lower Limit field.c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.d. Select a stage value from the Stage drop-down list.e. You can click the Add button icon to define multiple bands.f. If you want to delete a band, click the Delete Button icon to delete a selected band.g. Click Apply <p>Note that the same Bands cannot be shared between different stages.</p> <p>The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.</p>
FICO Score	<p>Click the Configuration icon to define this band.</p>

Option	Description
	<ul style="list-style-type: none">a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected.b. Define the lower limit in the Lower Limit field.c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.d. Select a stage value from the Stage drop-down list.e. You can click the Add button icon to define multiple bands.f. If you want to delete a band, click the Delete Button icon to delete a selected band.g. Click Apply <p>The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.</p>
LTV	<p>Click the Configuration icon to define this band in percentage.</p> <ul style="list-style-type: none">a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected.b. Define the lower limit in the Lower Limit field.c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.d. Select a stage value from the Stage drop-down list.e. You can click the Add button icon to define multiple bands.f. If you want to delete a band, click the Delete Button icon to delete a selected band.

Option	Description
	<p>g. Click Apply</p> <p>The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.</p>
12 Months PD	<p>Click the slider to enable or disable this feature.</p> <p>The Lower Limit and Upper limit cannot overlap between different stages.</p>
Lifetime PD	<p>Click the slider to enable or disable this feature.</p>

9. Click the **Qualitative** tab to define the **Stage Determination Rule - Stage Determination Rules - Rule Parameters (Qualitative)** form as tabulated:

Option	Description
Industry	<p>In this row for each stage, click the adjacent row and select a value.</p> <p>You can select multiple values in this field</p>
Country	<p>In this row for each stage, click the adjacent row and select a value.</p> <p>You can select multiple values in this field</p>
New Accounts	<p>In this row for each stage, click the adjacent row and select either Yes or No.</p>
Devolvement	<p>In this row for each stage, click the adjacent row and select either Yes or No.</p>
Restructured	<p>In this row for each stage, click the adjacent row and select either Yes or No.</p>

Option	Description
Forbearance	In this row for each stage, click the adjacent row and select either <i>Yes</i> or <i>No</i> .
Impaired	In this row for each stage, click the adjacent row and select either <i>Yes</i> or <i>No</i> .
Default	In this row for each stage, click the adjacent row and select either <i>Yes</i> or <i>No</i> .

10. Click **Save**.

The new Stage Determination Rule appears in the list of Stage Determination Rules on the **Stage Determination Rule Summary Page**.

Dependency Information

You can check dependencies to know where a particular Stage Determination Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Stage Determination Rule:

1. Navigate to the **Stage Determination Rule Summary** page.
2. Either [search](#) for an Stage Determination Rule or navigate to the desired Stage Determination Rule from the list of Stage Determination Rule.
3. Click the **Action** icon that is adjacent to the Stage Determination Rule and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Stage Determination Rule

Perform the following steps to delete a Stage Determination Rule.

1. Select the Stage Determination Rule that you want to delete and click the **Action** icon.

Note the following conditions for deleting a Stage Determination Rule:

- If a Stage Determination Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Stage Determination Rule.
 - If a Stage Determination Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Stage Determination Rule.
 - If a Stage Determination Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Stage Determination Rule.
2. Select **Delete**.
 3. You can also delete a Stage Determination Rule by selecting the Stage Determination Rules that you want to delete and then click the **Delete** icon.

Refresh a Stage Determination Rule

You can refresh an existing Stage Determination Rule from the **Stage Determination Rule Summary** page to refresh the Stage Determination Rules with newly available data. Perform the following steps to refresh one or more existing Stage Determination Rules:

1. On the **Stage Determination Rule Summary** page, select the checkbox(s) adjacent to the Stage Determination Rule(s) that you want to refresh.
2. Click **Refresh**.

The selected Stage Determination Rule(s) are refreshed with newly available data.

View a Stage Determination Rule

Perform the following steps to View a Stage Determination Rule.

1. Select the Stage Determination Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Stage Determination Rules** window opens, displaying the details of the selected Stage Determination Rule.
4. Click **Cancel**.

Edit a Stage Determination Rule

The edit feature enables you to update the details of an existing Stage Determination Rule. Perform the following steps to edit an existing Stage Determination Rule:

1. In the Stage Determination Rule list, select the **Action** icon adjacent to the Stage Determination Rule name that you want to edit.
2. Click **Edit** to open the Stage Determination Rule window.
3. Update the required fields. Only the **Name** field is not editable.
4. Click **Save**.

The saved Stage Determination Rule is displayed in the Stage Determination Rules list on the **Stage Determination Rule Summary** page.

Save a Stage Determination Rule

Perform the following steps to save a Stage Determination Rule under a different name and folder:

1. Select the desired Stage Determination Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Stage Determination Rule is saved under a new name and folder.

Search a Stage Determination Rules

Search for a Stage Determination Rules to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Stage Determination Rules, perform the following steps:

- Navigate to the **Stage Determination Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Stage Determination Rules and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Stage Determination Rules to filter the list of Stage Determination Rules by values that match the search term.

Only Stage Determination Rules that match the search criteria are displayed.

Staging and Account Classification Process

This module discusses the procedure for creating and executing the Staging and Account Classification Process. While creating this process, the user needs to select the modelling set. Based on the modelling set selection Rating Mapping Rule, Stage Determination Rule, Stage Curing Rule and Account Classification Rule will be available for the selection. Users can define Account Classification Rule at the process level. The user can define Rating Mapping Rule, Stage Determination Rule, and Stage Curing Rule at the product, and customer type level and the User can do further customization based on the dimensions which are inherited from the modelling set. Below are the key points for this process:

- POCI accounts are filtered out from the Stage Determination and Stage Curing. Once the account is identified as POCI then it is always POCI for the life of the account.
- POCI accounts don't have any IFRS 9 Stages.
- At the stage table level, if any account is tagged with the POCI flag and IFRS 9 stage then the system will continue with only POCI Flag, the IFRS9 stage won't get carried forward.
- At the stage table level, if any account is tagged with particular IFRS 9 stages, then the system won't recalculate the stage determination and stage Curing. For such accounts, the final stage will be assigned as per the stage table-level data. This IFRS 9 stage can be changed with the [Override](#) screen feature.
- At the stage table level if account classification is null then those accounts get considered for account classification.

Filtering of Fair Value Through Profit or Loss (FVTPL) Asset Accounts from the Staging Process

FVTPL Asset Accounts Filtered out from the Staging Process: Asset accounts that are tagged under *FVTPL* are filtered from the (IFRS 9) staging process as the primary purpose of staging is to calculate the Expected Credit Loss (ECL). The ECL is not calculated for FVTPL assets. Any changes in the asset's value are directly routed through the profit and loss of the bank (mark to market) and are part of the fair valuation.

FVTPL asset accounts are filtered from the staging process and the stage is applied to assets, Off Balance Sheet instruments with account classification as *AMRTCOST* or *FVOCI*.

1. The Account Classification is tagged to an account in two ways; either through the staging tables or through the Account Classification Process run.
2. The Account Classification process must be run before the Stage Determination.
3. If the a stage has been provided through the staging table, then that stage is marked as *null* if an account is marked with *FVTPL*
4. In the end, the stage is marked only to assets with the Account Classification as *AMRTCOST* or *FVOCI*.
5. This in turn improves the performance.

Staging and Account Classification Process Summary Page

This page is the gateway to the Staging and Account Classification Process feature and related functionality. To access this page from the LHS menu, click **Operations and Processes**, then click **Staging and Account Classification Processes**. You can navigate to other pages that are related to Staging and Account Classification Process from this point.

- [Add](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Staging and Account Classification Process Summary** page displays the following columns:

Table 33-1 Staging and Account Classification Process Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Staging and Account Classification Process short name.
Add	Click the Add icon to create a new Staging and Account Classification Process.
Delete	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Delete to delete an existing Stage Classification Process.
Refresh	Click the Refresh icon to refresh the Summary page.
Help	Click the Help icon to view the Staging and Account Classification Process help.
Search	Use this field to search for a Staging and Account Classification Process to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Staging and Account Classification Process section.
Field Search	Enter the name of the Staging and Account Classification Process to filter the list of Staging and Account Classification Process by values that match the search term. For more information on using this feature, see the Search a Staging and Account Classification Process section.
Status	This column displays the status of the process. The available status are <i>Ongoing</i> , <i>Successful</i> , and <i>Fail</i> .

The **Staging and Account Classification Process** pane on the **Staging and Account Classification Process** page displays the list of Staging and Account Classification Process and offers several actions that allow you to perform different tasks. The following tasks are available for the Staging and Account Classification Process in the **Action** column.

Figure 33-1 The Staging and Account Classification Process Summary Screen

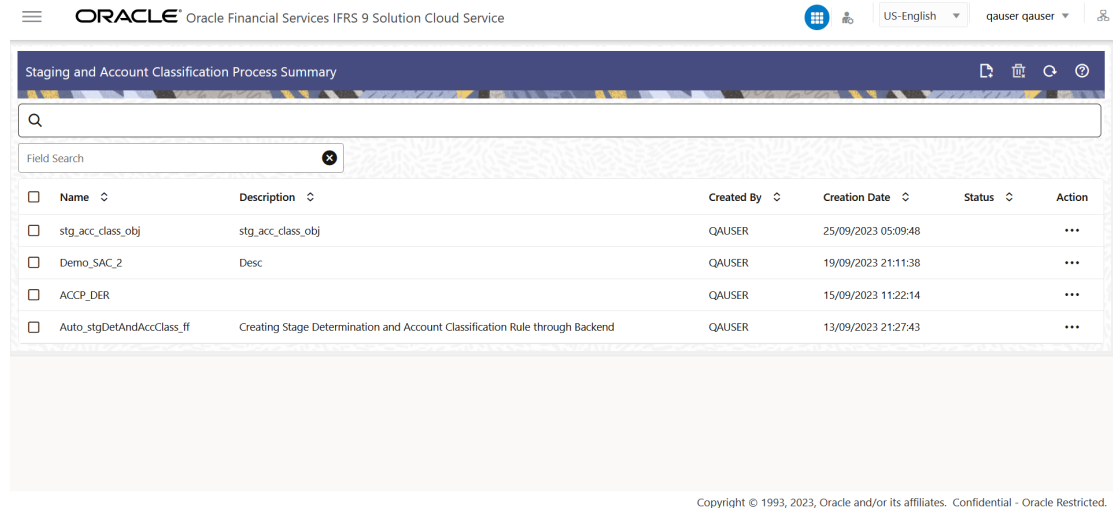


Table 33-2 Staging and Account Classification Process – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Staging and Account Classification Process Name and select View to view the contents of a Staging and Account Classification Process in read/write format.
Edit	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Edit to edit the contents of a Staging and Account Classification Process in read/write format.
Save As	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Save As to create a copy of an existing Staging and Account Classification Process.
Delete	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Delete to delete an existing Staging and Account Classification Process.
Dependency Information	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Dependency Information to check the higher and lower order dependencies for an existing Staging and Account Classification Process.

Create a Staging and Account Classification Process

Perform the following steps to create a Staging and Account Classification Process definition:

1. On the **Staging and Account Classification Process Summary** page, click the **Add** icon to open the **Staging and Account Classification Process** window.

2. Populate the Staging and Account Classification Process Form as tabulated:

Option	Description
Name	Enter a name for the Staging and Account Classification Process definition. This is a mandatory field.
Description	Enter a description for the Staging and Account Classification Process definition.
Select Folder	Select a folder from a drop-down list. This is a mandatory field.
Select Modelling Set	Select a folder from a drop-down list. This is a mandatory field.
Product Hierarchy	When a folder is selected from the Modelling Set field, this field is automatically populated.
Calculation Elements	This section contains the different Calculation Elements. The available options are: <ul style="list-style-type: none"> • Rating Mapping - This check box is uneditable. If the Stage Determination is selected, then by default the Rating Mapping will be selected. • Stage Determination - If this Calculation Element is selected, then the Stage Determination Rules field is enabled in the below list . • Stage Curing - If this Calculation Element is selected, then the Stage Curing Rules field is enabled and Stage Determination calculation

Option	Description
	<p>element is also enabled based on Stage Curing selection.</p> <ul style="list-style-type: none"> • Account Classification Rule - If this checkbox is selected, then the Account Classification Rule field is enabled. <p>It is mandatory to have at least one calculation element selection.</p>
Account Classification Rule	<p>Select an account classification rule from the drop-down list. This field is only enabled if the Account Classification Rule check box is selected.</p> <p>This is a mandatory field if the Account Classification Rule check box is selected.</p>
Search	<p>Use the search field to search for a product. Type a value in the Search field to find a desired product.</p>
Product	<p>Select the icon adjacent to the All Products field to expand or collapse the list of products.</p>
Rating Mapping Rules	<p>Select a Rating Mapping Rule from the drop-down list.</p>
Stage Determination Rules	<p>Select a Stage Determination Rule from the drop-down list.</p>
Stage Curing Rules	<p>This field is enabled if the Stage Curing Rules check box was selected.</p>
Go To List View/Go To Tree View	<p>This link is adjacent to the Search field. You can use this icon to toggle the view of the Staging and Account Classification Process table.</p>
Conditional Assumption	<p>Select the Set Conditional Assumption icon to open the Conditional Assumption window:</p> <ul style="list-style-type: none"> • Customer Type - Select a Customer Type from the drop-down list. Multiple customer types can be selected in this field. • Select a Rating Mapping Rule from the drop-down list. • Select a Stage Determination Rule from the drop-down list. This field is enabled if the Stage

Option	Description
	<p>Determination Rule check box was selected.</p> <ul style="list-style-type: none"> • Select a Stage Curing rule from the drop-down list. This field is enabled if the Stage Curing Rules check box was selected. • To define the Conditional Assumption Based on dimension, select the Customer Type. <ul style="list-style-type: none"> a. Select the values from the Industry, Rating Mapping, Stage Determination, and Rules Stage Curing Rules. The Stage Determination and Rules Stage Curing Rules columns are enabled only if the Stage Determination and Rules Stage Curing Rules checkboxes were selected. b. To define additional Conditional Assumption Based on dimensions for the customer type, select the Add Button icon. c. To delete a Conditional Assumption Based on dimension(s), select the desired Conditional Assumption Based on dimension(s), and then click the Delete Button icon. • Click Apply. The status of this product changes to <i>Defined</i>.

3. Click **Save**.

The new Staging and Account Classification Process appears in the list of Staging and Account Classification Process on the **Staging and Account Classification Process Summary** page.

Dependency Information

You can check dependencies to know where a particular Staging and Account Classification Process has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Staging and Account Classification Process:

1. Navigate to the **Staging and Account Classification Summary** page.

2. Either [search](#) for an Staging and Account Classification Process or navigate to the desired Staging and Account Classification Process from the list of Staging and Account Classification Processes.
3. Click the **Action** icon that is adjacent to the Staging and Account Classification Process and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Staging and Account Classification Process

You can delete an existing Staging and Account Classification Process from the **Staging and Account Classification Process Summary** page. Perform the following steps to delete one or more existing Staging and Account Classification Process:

1. In the **Staging and Account Classification Process** window, select the checkbox(s) adjacent to the Staging and Account Classification Process(s) that you want to delete.

Note the following conditions for deleting a Staging and Account Classification Process:

- If a Staging and Account Classification Process does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Staging and Account Classification Process.
 - If an Staging and Account Classification Process contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Staging and Account Classification Process.
 - If an Staging and Account Classification Process contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Staging and Account Classification Process.
2. Click **Delete**. A warning dialog is displayed.
 3. Click **Yes**.
 4. Additionally, select the checkbox(s) adjacent to the Staging and Account Classification Process(s) and then click the Delete icon on the top of the **Staging and Account Classification Process Summary** page. A warning dialog is displayed.
 5. Click **Yes**.

The selected definitions are removed from the **Staging and Account Classification Process Summary** Page.

Refresh a Staging and Account Classification Process

You can refresh an existing Staging and Account Classification Process from the **Staging and Account Classification Process Summary** Page to refresh the Staging and Account Classification Process with newly available data. Perform the following steps to refresh one or more existing Staging and Account Classification Process:

1. In the **Staging and Account Classification Process** window, select the checkbox(s) adjacent to the Staging and Account Classification Process(s) that you want to refresh.
2. Click **Refresh**.

The selected Staging and Account Classification Process(s) are refreshed with newly available data.

View a Staging and Account Classification Process

The View feature enables you to view the details of an existing Staging and Account Classification Process. Perform the following steps to view the definition details:

1. In the Staging and Account Classification Process list, select the **Action** icon adjacent to the Staging and Account Classification Process name that you want to view.
2. Click **View** to open the **Staging and Account Classification Process** window.
3. Click **Cancel** to return to the **Staging and Account Classification Process** page.

Edit a Staging and Account Classification Process

The edit feature enables you to update the details of an existing Staging and Account Classification Process. Perform the following steps to edit an existing Staging and Account Classification Process:

1. In the Staging and Account Classification Process list, select the **Action** icon adjacent to the Staging and Account Classification Process name that you want to edit.
2. Click **Edit** to open the **Staging and Account Classification Process** Window. Only the name field is not editable.
3. Update the required fields.
4. Click **Save**.

The saved Staging and Account Classification Process is displayed in the Stage Classification Process list on the **Staging and Account Classification Process Summary** page.

Copy (Save as) Staging and Account Classification Process

Perform the following steps to save a Staging and Account Classification Process under a different name:

1. Select the desired Staging and Account Classification Process.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the drop-down list
6. Click **Save**. The Staging and Account Classification Process is saved under a new name.

Run a Staging and Account Classification Process

Perform the following steps to Run an Account Classification Process.

1. Select the Account Classification Process that you want to view and click the **Action** icon.

2. Select **Run** to open the **Run Execution Parameters** window.
3. In this window, select the date by clicking the **Select Date.** icon from the **As of Date** field to run this parameter.
4. Click **OK**.

Search a Staging and Account Classification Process

Search for a Staging and Account Classification Process to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Staging and Account Classification Process, perform the following steps:

- Navigate to the **Staging and Account Classification Process Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Staging and Account Classification Process and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Description can be used for an Advanced search.
- Additionally, in the **Field Search** field, enter the name of the Staging and Account Classification Process to filter the list of Staging and Account Classification Process by values that match the search term.

Only Staging and Account Classification Process that match the search criteria are displayed.

Override Screen

This section provides information on the Override Screen Maker and Override Screen Checker and the prerequisites to access the screen(s).

Prerequisites

This section provides information on the prerequisites steps to be performed before activating and accessing the Override Screen Maker and Override Screen Checker.

Note:

If you want to provide access to both Maker and Checker, then both the roles needs to be mapped to the group. i.e. **ROVRDMKR** and **ROVRDCKR**.

If you want to provide access to only the Maker or only to the Checker, then the required the maker or checker role needs to be mapped to the group. i.e. **ROVRDMKR** or **ROVRDCKR** respectively.

For out of box (OOB) roles, the OOB function codes i.e. **OVRDMKRVIEW** and **OVRDCKRVIEW** need to be mapped to the corresponding newly created roles.

Accessing the Override Screen Maker

Perform the following steps to access the Override Screen Maker in the LHS menu:

1. From the **Oracle Financial Services Accounting Standard Cloud Service** landing page, click the **Admin Console** icon to access the Admin Console page. For more information on the Admin Console page, see [Introduction to Admin Console](#).
2. Click the **Identity Management** tab and then click **Groups** to open the **Groups** window.
3. In the Search field, search for the **IFRS9** Group (Admin or Analyst) that you want to map to the Role (Maker).
4. Click the desired group to open the **Group <Group Name>** window.
5. Click the **Mapped Roles** tab and then click **New Mapping** to open the **Available Roles** window.
6. In this window, use the **Search** field to search for the desired Maker (**Maker Stage and Classification Reassignment**).
7. Select the Maker role (**Maker Stage and Classification Reassignment**) and then click **Map**.
The Selected Maker is mapped to the group.
8. To authorize the new mapping, enable the **Authorization View** toggle.
9. Select the new mapping and then click **Authorize**.

10. Navigate to the Oracle Financial Services IFRS 9 Solution Cloud Service landing page, in the LHS menu, click **Operations and Processes**. The **Override Screen Maker** appears.

Accessing the Override Screen Checker

Perform the following steps to access the Override Screen Checker in the LHS menu:

1. From the **Oracle Financial Services Accounting Standard Cloud Service** landing page, click the **Admin Console** icon to access the Admin Console page. For more information on the Admin Console page, see [Introduction to Admin Console](#).
2. Click the **Identity Management** tab and then click **Groups** to open the **Groups** window.
3. In the Search field, search for the **IFRS9** Group (Admin or Analyst) that you want to map to the Role (Checker).
4. Click the desired group to open the **Group <Group Name>** window.
5. Click the **Mapped Roles** tab and then click **New Mapping** to open the **Available Roles** window.
6. In this window, use the **Search** field to search for the desired Checker (**Checker Stage and Classification Reassignment**).
7. Select the desired Role (**Checker Stage and Classification Reassignment**) and then click Map.
The selected role is mapped to the group.
8. To authorize the new mapping, enable the **Authorization View** toggle.
9. Select the new mapping and then click **Authorize**.
10. Navigate to the Oracle Financial Services IFRS 9 Solution Cloud Service landing page, in the LHS menu, click **Operations and Processes**. The **Override Screen Checker** appears.

The following table shows the Role Code and description:

Table 34-1 Role Code

Role Code	Description
ROVRDMKR	Maker Stage and Classification Reassignment
ROVRDCKR	Checker Stage and Classification Reassignment

The following table shows the Function Code and description:

Table 34-2 Function Code

Function Code	Description
OVRDMKRVIEW	Maker Stage and Classification Reassignment
OVRDCKRVIEW	Checker Stage and Classification Reassignment

The following table shows the Role to Function mapping:

Table 34-3 Role to Function Mapping

Role To Function Mapping	
Role	Function Code
ROVRDMKR	OVRDMKRVIEW
ROVRDCKR	OVRDCKRVIEW

Override Screen Maker

The Override Screen Maker enables users to manually update any stage and account classification that was assigned to every account by the service by using the Staging and Account Classification Process. The Modelling set and Execution Date selection are mandatory. A few more basic filters are added so that users can effectively complete override activity.

Users with maker privileges have access to this LHS menu. The maker will do the Stage Reassignment, and Account Classification Reassignment, and submit it to the checker with proper justification.

On this screen, populate the following fields:

Table 34-4 The Fields on the Override Screen Maker

Field	Description
Execution Date	Select the Select Date icon to set the execution date. This is a mandatory field.
Modeling Set	Select a Modeling Set from the drop-down menu This is a mandatory field.
Customer ID	Enter a value in this field.
Account ID	Enter a value in this field.
Customer Type	Enter a value in this field.
Product	Click the Product icon to select a product from the Hierarchy Browser.
Application Assigned Account Classification	Select an account classification from the drop-down list. The available options are: <ul style="list-style-type: none"> Fair Value through Other Comprehensive Income Fair Value through Profit and Loss Amortized Cost
Application Assigned Stage	Select a stage from the drop-down list. The available options are: <ul style="list-style-type: none"> Total Default Member Stage 1 Stage 2 Stage 3
Reset	Click this button to reset all the fields to their default state.

Table 34-4 (Cont.) The Fields on the Override Screen Maker

Field	Description
Advanced Search	<p>Select this button to open the Advanced Search window:</p> <ul style="list-style-type: none"> • Organization Unit - Click the Organization Unit icon to select an Organization Unit from the Hierarchy Browser. • Previous Reported Stage - Select a value from the drop-down list. The available options are: <ul style="list-style-type: none"> – Stage 1 – Stage 2 – Stage 3 • Country - Select a country from the drop-down list. • Impaired - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Defaulted - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Industry - Click the Industry icon to select an Industry from the Hierarchy Browser. • Restructured - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • POCI - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Geography - Select a value from the drop-down list • Devolvement - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Workflow Status - Select a workflow status from the drop-down list. The available options are: <ul style="list-style-type: none"> – Approve – Pending for Approval – Reject – Saved • Show Non Overridden Accounts - Select this option if you want non overridden accounts to be a part of the search results. <p>Click Search to search or click Reset to reset all the fields to their default state.</p> <p>Additionally, click Cancel to navigate back to the main screen.</p>

Group Reassignment

Group Reassignment can be done in three ways:

1. **From the Accounts pane:**
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a reassigned stage from the **Reassigned Stage** drop-down list field.
 - c. Select a reassigned account classification from the **Reassigned Account Classification** drop-down list field.

- d. In the **Justification** field add a justification for the Group Reassignment.
2. **From the Group Reassignment (Apply to all accounts) pane:**
To apply the **Reassigned Stage** and **Reassigned Account Classification** to all the accounts:
 - a. In the **Group Reassignment** pane, select a reassigned stage and the reassigned account classification from the **Reassigned Stage** and **Reassigned Account Classification** fields.
 - b. In the **Justification** field, enter a justification for applying the group reassignment.
 - c. Select the **Apply to all accounts** check box.
 - d. In the **Justification** field add a justification for the Group Reassignment.
3. **From the Group Reassignment (Apply to selected accounts) pane:**
To apply the **Reassigned Stage** and **Reassigned Account Classification** to selected accounts:
 - a. In the Accounts pane, select the check box or boxes adjacent to the desired Customer ID(s).
 - b. In the **Group Reassignment** pane, select a reassigned stage and the reassigned account classification from the **Reassigned Stage** and **Reassigned Account Classification** fields.
 - c. In the **Justification** field, enter a justification for applying the group reassignment.
 - d. Select **Save** and then **Submit**.
 - e. Select the **Apply to selected accounts** check box.
 - f. In the **Justification** field add a justification for the Group Reassignment.

Click **Save** and then click **Submit** to submit the details to the Checker.

Override Screen Checker

The Override Screen Checker enables the user to approve or reject the request initiated by the checker for stage reassignment, and account classification reassignment. The Modelling Set and Execution Date Selection are mandatory. A few more basic filters are added so that users can effectively complete override activity.

Users with Checker privileges can have access to this LHS menu. The Checker will approve or reject the request by providing comments. Once the Checker approves the request then only the IFRS 9 stage and Account Classification is updated for the respective accounts.

On this screen, populate the following fields:

Table 34-5 The Fields on the Override Screen Maker

Field	Description
Execution Date	Select the Select Date icon to set the execution date. This is a mandatory field.
Modeling Set	Select a Modeling Set from the drop-down menu. This is a mandatory field.
Customer ID	Enter a value in this field.
Account ID	Enter a value in this field.

Table 34-5 (Cont.) The Fields on the Override Screen Maker

Field	Description
Customer Type	Enter a value in this field.
Product	Click the Product icon to select a product from the Hierarchy Browser.
Application Assigned Account Classification	Select an account classification from the drop-down list. The available options are: <ul style="list-style-type: none">• Fair Value Through Other Income• Fair Value through Profit or Loss• Amortized Cost
Application Assigned Stage	Select a stage from the drop-down list. The available options are: <ul style="list-style-type: none">• Stage 1• Stage 2• Stage 3
Reset	Click this button to reset all the fields to their default state.

Table 34-5 (Cont.) The Fields on the Override Screen Maker

Field	Description
Advanced Search	<p>Select this button to open the Advanced Search window:</p> <ul style="list-style-type: none"> • Organization Unit - Click the Organization Unit icon to select an Organization Unit from the Hierarchy Browser. • Previous Reported Stage - Select a value from the drop-down list. The available options are: <ul style="list-style-type: none"> – Stage 1 – Stage 2 – Stage 3 • Country - Select a country from the drop-down list. • Impaired - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Defaulted - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Industry - Click the Industry icon to select an Industry from the Hierarchy Browser. • Restructured - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • POCI - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Geography - Select a value from the drop-down list • Devovement - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Workflow Status - Select a workflow status from the drop-down list. The available options are: <ul style="list-style-type: none"> – Approve – Pending for Approval – Reject – Saved • Show Non Overridden Accounts - Select this option if you want non overridden accounts to be a part of the search results. <p>Click Search to search or click Reset to reset all the fields to their default state.</p> <p>Additionally, click Cancel to navigate back to the main screen.</p>

Group Reassignment

The decision, *Approve* or *Reject*, for the Group Reassignment of the accounts can be done in three ways:

1. **From the Accounts pane:**
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a decision, either *Approve* or *Reject* from the **Decision** drop-down list field.
 - c. Include a comment regarding the decision in the **Approver Comments** field.

2. **From the Group Reassignment (Apply to all accounts) pane:**
To apply the **Decision** and **Approver Comments** to all the accounts:
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a decision, either Approve or Reject from the **Decision** drop-down list field.
 - c. Include a comment regarding the decision in the **Approver Comments** field.
3. **From the Group Reassignment (Apply to selected accounts) pane:**
To apply the **Decision** and **Approver Comments** to selected accounts:
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a decision, either Approve or Reject from the **Decision** drop-down list field.
 - c. Include a comment regarding the decision in the **Approver Comments** field.

Click **Submit** and then click **Save** to submit the details to the Checker.



Note:

The Checker can reject an already approved request by adding an appropriate comment. Hence, if the checker rejects an already approved request, then the maker can resubmit this rejected request with the necessary changes.

Amortization Processes

This module discusses the procedure for creating and executing the Amortization Process. In the case of Effective Yield amortization, it executes the cash flow process also. When all the required assumptions are defined, Cash Flow Engine Processing performs the calculation and generates a result set with an Effective Interest Rate. The Amortization Process allows you to perform the following tasks:

- Determine the data that you want to process.
- Submit to the Cash flow engine the modeling horizon for which you want to calculate cash flows.
- Submit the Amortization rule based on which amortization takes place.
- Specify the prepayment, forecast rate, and other assumptions to be used in the process.
- Execute the Amortization process and generate results.

This allows the financial institutions to amortize the fees, premiums or discounts, and costs associated with the given instrument over the expected life.

Overview of Amortization:

The amortization process is executed post the computation of the Expected Credit Losses (ECL). In IFRS9SCS, ECL is expected to download through stage tables. Only those accounts that are classified as Amortized Costs. In this release, Amortization is covered only for Assets. Only those accounts that are classified as an Amortized Cost will undergo Amortization. Amortization is covered for both Assets and Liabilities. ECL is required only for Assets.



Note:

- It is mandatory to map each of the leaf node product members to the *Account Type* attribute. Based on the account type mapping, the *Stage Determination*, *Account Classification*, and *Amortization Process* determines the Asset and Liability indicator of an account.
- Map each product member to the *Account Type* attribute by using the **Dimension Management** feature or load the dimension data by using the **Dimension Loader Process**.

Assumptions:

- Amortization is performed by including the account origination date.
- In the first execution, for accounts that are already opened, it is expected that the current deferred balances must be available as a download as no amortization will be done for these accounts.

Effective Yield Amortization

Movement of Data for Processing:

There are two processing areas, one for processing account-level information and the other for processing transaction-level information. Upon triggering the process, the given set of accounts along with the corresponding instrument information is moved into the account-level processing area.

The Key instrument parameters are as follows:

- Account Number
- Account Classification
- IFRS 9 Stage (Only required for Assets)
- Carrying Amount (As of Previous MIS Date)
- Deferred Fees (As of Previous MIS Date)
- Deferred Premium or Discount (As of Previous MIS Date)
- Deferred Cost ((As of Previous MIS Date)
- Prepayment Indicator, Restructured Indicator,
- Accrual Basis Code
- Compounding Frequency
- Actual Interest Accrued till Date (Core Banking Interest)
- PV of Future Cash Flow Discounted at EIR
- Account Start Date
- EIR (%),
- Expected Credit Loss
- ECL DOIR
- Expected Credit Loss (Only required for Assets)
- POCI Flag (Only required for Assets)
- Original Book Balance (Only required for Assets- This is Specific to POCI accounts)
- ECL DOIR (Only required for Assets- This is Specific to POCI accounts)

Identify and Obtain Information from the Last Accrual Date:

For the given Run, the Previous Execution Date is considered the Last Accrual Date. Based on the Last accrual date, the following account-level information is obtained:

- Ending Net Book Value or the Modified Net Book Value, based on the Modified Flag as of the Last Accrual Date.
- Compounded Interest
- Ending Deferred Balances
- Cumulative EIR Interest recognized till date (till Last Accrual Date)
- Cumulative Interest Adjustment recognized till date (Last Accrual Date)

If the account is new (originated between the Last Accrual Date and the Current MIS Date), then these values are computed as follows:

- **Ending Net Book Value Book Value =**

- **Assets:** First Transaction Amount + Deferred Balance (-Fees + Premium or Discount + Cost)
- **Liabilities:** First Transaction Amount + Deferred Balance (-Fees - Premium or Discount -Cost)
- Compounded Interest = 0
- **Ending Deferred Balances =**
 - **Assets:** Deferred Balance (-Fees + Premium or Discount + Cost)
 - **Liabilities:** Deferred Balance (-Fees - Premium or Discount - Cost)
- Cumulative EIR Interest recognized till date (till Last Accrual Date) = 0
- Cumulative Interest Adjustment recognized till date (Last Accrual Date) = 0
- **Transactions with Debit/Credit indicator**
 - **Assets:** Transactions with a Credit indicator are considered Negative while transactions with a Debit indicator are considered Positive.
 - **Liabilities:** Transactions with a Debit indicator are considered Negative while transactions with a Credit indicator are considered Positive.

Transaction Level Data Population

For the given accounts, the Transaction data is populated from the following Stage - Transaction tables to the Transaction Level Processing table. The following conditions are applied to filter and move the transactions:

- The transaction value date must fall between the Last Accrual Date and the MIS Date.
- All transactions with Canceling Indicator = Y and with Reversal Date not null are ignored.
- Transactions with Debit Credit indicator = C are made Negative while transactions with D are made positive.

Transaction Level Processing:

For each account in Account Level, based on the compounding frequency, the Compounding Dates between the Last Accrual Date and Current MIS Dates are identified. For these compounding dates, additional transactions are included in the table with TXN Amount equal to ZERO. Compounding dates arrive from the Financial Year Start date. For example, if an instrument is compounding Monthly and the Financial Year start is 15-MMM-YYYY, the process will create a transaction on the 15th of every month. If the account has originated post the Last accrual date, then the compounding dates are considered between the Account Start date and the current MIS Date.

Note:

- All financial transactions outflow or inflow are required; those that affect the outstanding and computation of interest.
- Outflow > Loan Disbursement, Withdrawal, and so on.
- Inflow > EMI, Prepayment, and so on.
- If transactions are marked as reversed or canceled, the application.
- The first transaction of a new account is assumed to be a Disbursement.

These Compounding Dates are marked with Compounding Flag = Y.

Once the transactions for the compounding dates are inserted, for every account, a transaction is included for a given MIS Date, the TXN amount is ZERO.

Note:

If a transaction already exists for a Compounding date, that is, Source TXN Date = Compounding Date, the same transaction is used with only the compounding flag made Y. If the transaction already exists for an MIS Date, that is, Source TXN Date = MIS Date, then no new transaction is included. If there are multiple transactions for a given date, then the values are added up to form a single transaction.

The transactions are then sorted in ascending order of Transaction Dates.

The transactions are now ready for Interest computation. Subsequently, the process parses through each of the transactions, one by one, to compute the Interest amounts for every transaction. To enable this, the process requires the following data:

- Accrual Basis Code
- Number of days

For the first transaction; Txn Date - Last Accrual date

For all subsequent transactions: Current Txn date - Previous Txn Date

- Starting Net Book value (for the first transaction):

If the Modification flag (on Last accrual date) = N; Ending Net Book Value (on Last Accrual date)

If the Modification flag (on Last accrual date) = Y; Modified Net Book Value (on Last Accrual Date)

After these steps, the Effective Interest Amount, Compounded Effective Interest Amount, and Ending Net Book values are computed for each transaction, by taking EIR, Number of Days for Interest accrual, Accrual basis code (for the Number of days in a year), Compounding Flag, Starting Book value, and Transaction amount into consideration.

Once the Ending Book value is computed for a given transaction, the same is used as the Beginning Net Book Value for the next transaction.

The Effective Interest Amount is calculated as follows:

$EIR \text{ Interest Amount} = NBV * \text{Days} * (EIR \%)$

The Compounded Effective Interest Amount is computed by compounding the interest computed for each transaction to the previous compounded amount. If the transaction is marked as a compounding one, that is, the Compounding Flag = Y, then the Compounded interest is made as ZERO. The total compounded interest to date will be added back to the Net Book Value.

The Ending Net Book value for each transaction is computed as:

If Compounding Flag = N, Ending Net Book Value = Starting Net Book Value + Transaction Amount

If Compounding Flag = Y, Ending Net Book Value = Starting Net Book Value + Transaction Amount + Effective Interest amount + Compounded Effective Interest Amount to date.

Note:

The transaction amount must be adjusted for signage depending upon Db Cr Indicator.

Aggregation Account Level and Adjustment Computation

Once the transaction level computations are over, the final computed values are aggregated back to the account level for the final computations. IFRS 9 Stages are relevant for Assets. For liabilities, IFRS 9 stages are not applicable. For the below values, the liabilities calculation is the same as per Stage 1 calculation. The following values are considered:

- Ending Net Book Value:
 - Stage 1, Stage 2: Value from the last transaction
 - Stage 3, POCI: Value from the last transaction - Expected Credit Loss
- Effective Interest Amount: Sum of all Effective Interest Amounts across all transactions
- Compounded Effective Interest Amount: Value from the last transaction

Once the values are aggregated, the final computations to arrive at the Interest Adjustment are done.

- **Step 1:** The Cumulative Effective Interest Amount is calculated as the sum of the Current Effective Interest Amount and the Cumulative Effective Interest Amount of the previous MIS Date.
- **Step 2:** The Cumulative Interest Adjustment is calculated by subtracting the Actual Interest Accrued to date, Core Banking Interest, from the Cumulative Effective interest accrued to date.
- **Step 3:** The Current Interest Adjustment is calculated by subtracting the Cumulative Interest Adjustment of the Previous MIS Date from the Cumulative Interest Adjustment of the Current MIS Date.

This value, Current Interest Adjustment, is the adjustment entry that needs to be passed to the accounting systems and reflects the amount of deferred balance that needs to be amortized for the given period.

Modification Gain or Loss:

In addition to the preceding steps, if an account undergoes a Prepayment or restructuring, the application computes the Modification Gain Loss, as specified by the IFRS 9 guidelines. The Modification Gain Loss is calculated as the difference between the Modified Net Book Value and the Ending Net Book Value. Modified Net Book Value is equal to the Net Present Value of all future Cash Flows discounted at the given Effective Interest Rate.

Prepayments and Restructuring are identified based on the Prepayment Date or Restructured Date. Application checks if these dates fall between the Last Accrual Date and the Current Date, FIC MIS DATE. Modification Gain/Loss will be calculated on the respective date.

Modification Gain/Loss= Modified Net Book value – Ending NBV

1. Ending NBV is the outstanding amount when the account gets flagged as "Restructured" or there is a prepayment".
2. For the computation of Modified Net Book Value (Net Present Value of all Future Cash Flows), As of Date (AOD), Future Cash Flow is required. Future Cash Flow is discounted with the latest EIR. The following are functional use cases to get this EIR.

- When Restructured/Prepayment Event and Repriced Event are different: For a Fixed Rate or Floating Rate Instrument, if the latest repriced EIR is available then the application uses it else it uses origination EIR to discount the Future Cash Flow.
- Note: The latest repriced event should be earlier than Restructured/Prepayment Event.
- When Restructured/Prepayment Event and Repriced Event are the same: For a Fixed Rate or Floating Rate Instrument, the latest EIR is available just before the (Restructured/Prepayment/Repriced) Events get used to discount the Future Cash Flow.
- **Sign convention for Modification Gain/Loss:**
 - **Assets:** A positive number indicates gain, and a Negative number indicates loss.
 - **Liabilities:** A positive number indicates loss and a Negative number indicates gain.

Amortization of Individual Components of Deferred Balance - Fee, Premium or Discount, and Cost

As a continuation of Aggregation Account Level and Adjustment Computation and Ending Deferred Balance, the Interest Adjustment and the Ending Deferred balances are split up to compute the ending balances of the individual components. These components are, considered for the computation of Effective Interest Rate as well:

- Fee
- Premium or Discount
- Cost

The application first computes the ratio of Fee, Premium or Discount, and Cost based on their values as of the date of initial recognition of the given account. Using this ratio, the application then splits the Interest Adjustment into individual components. The result of this split is the individual adjustment values:

- Fee Adjustment
- Premium or Discount Adjustment
- Cost Adjustment

Post the computation of the individual adjustment values, the individual componentized ending deferred balances are computed by subtracting the individual beginning balances from their corresponding adjustment amounts.

Ending Deferred Balance

The Ending Deferred Balance for the current MIS Date: Cost Balance Ending + Premium/ Discount Balance Ending - Fees Balance Ending.

Note:

Whenever the ending deferred balance becomes zero, the computation of interest adjustments is stopped forthwith.

Amortization Cost:

Amortization cost is calculated for all accounts and below is the formula:

- Stage 1, Stage 2: NBV End- Expected Credit Loss
- Stage 3, POCI: NBV End

Interest Unwinding:

Interest Unwinding is only calculated for Assets.

To calculate the interest unwinding which is specifically to track any stage 3 accounts moved to stage 1 or stage 2, the below measures have been calculated.

- **Transaction Level Processing:** NBV Start Unwinding, EIR Interest Unwinding, Current EIR Interest Unwinding Delta, NBV End Unwinding, Beginning Compounded EIR Interest Unwinding, Ending Compounded EIR Interest Unwinding.
- **Account Level Processing:** NBV End of Period Unwinding, Current EIR Interest Unwinding, Current EIR Interest Unwinding Delta, Compounded EIR Interest Unwinding

Straight Line Method Amortization:

The following section details the Straight-Line Method Amortization:

Similar to Effective Yield Amortization, Straight Line Amortization also has two processing areas; one for processing account-level information and the other for processing transaction-level information. On triggering the process, the given set of accounts along with the corresponding instrument information is moved into the account-level processing area.

In this amortization method, most of the components are the same as Effective Yield Amortization. The Straight-Line method is generally used for noncash flow-based instruments, so all amortization calculations are not based on the Effective Interest Rate.

Interest Recognition

- Interest Recognition is a new component that is calculated for Straight line method amortization only.
- **Assets:**
 - If the instrument is at a discount: $\text{Accrued Interest Current} + \text{Fees Adjustment} - \text{Cost Adjustments} + \text{Premium_Discount Adjustments}$
 - If the instrument is at a premium: $\text{Accrued Interest Current} + \text{Fees Adjustment} - \text{Cost Adjustments} - \text{Premium_Discount Adjustments}$
- **Liabilities:**
 - If the instrument is at a discount: $\text{Accrued Interest Current} + \text{Fees Adjustment} - \text{Cost Adjustments} - \text{Premium_Discount Adjustments}$
 - If the instrument is at a premium: $\text{Accrued Interest Current} + \text{Fees Adjustment} - \text{Cost Adjustments} + \text{Premium_Discount Adjustments}$

Modification Event:

- Like Effective yield amortization, in this method also modification event is flagged as yes if a pre-payment or restructured event is triggered.
- Modification Gain/Loss is not calculated in this method.
- Amortization is adjusted based on revised contractual agreements.
- Amortization is adjusted based on revised contractual agreements.

Amortization Process Summary Page

This page is the gateway to the Amortization Process feature and related functionality. To access this page from the LHS menu, click **Operations and Processes**, then click **Amortization Processes**. You can navigate to other pages that are related to Amortization Process from this point.

- [Add](#)
- [View](#)
- [Edit](#)
- [Copy\(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Amortization Process Summary** page displays the following columns:

Table 35-1 Amortization Process Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Amortization Process's short name.
Add	Click the Add icon to create a new Amortization Process.
Delete	Click the Action icon adjacent to the Amortization Process Name and select Delete to delete an existing Amortization Process.
Refresh	Click the Referee icon to refresh the Summary Page.
Help	Click the Help icon to view the Amortization Process help documents.
Search	Use this field to search for a Amortization Process to View , Edit , Copy(Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search an Amortization Process section.
Field Search	Enter the name of the Amortization Process to filter the list of Amortization Process by values that match the search term. For more information on using this feature, see the Search an Amortization Process section.
Status	This column displays the status of the process. The available status are <i>Ongoing</i> , <i>Successful</i> , and <i>Fail</i> .

The **Amortization Process** pane on the **Amortization Process Summary** page displays the list of Amortization Process and offers several actions that allow you to perform different tasks. The following tasks are available for the Amortization Process in the **Action** column .

Figure 35-1 The Amortization Process Summary Screen

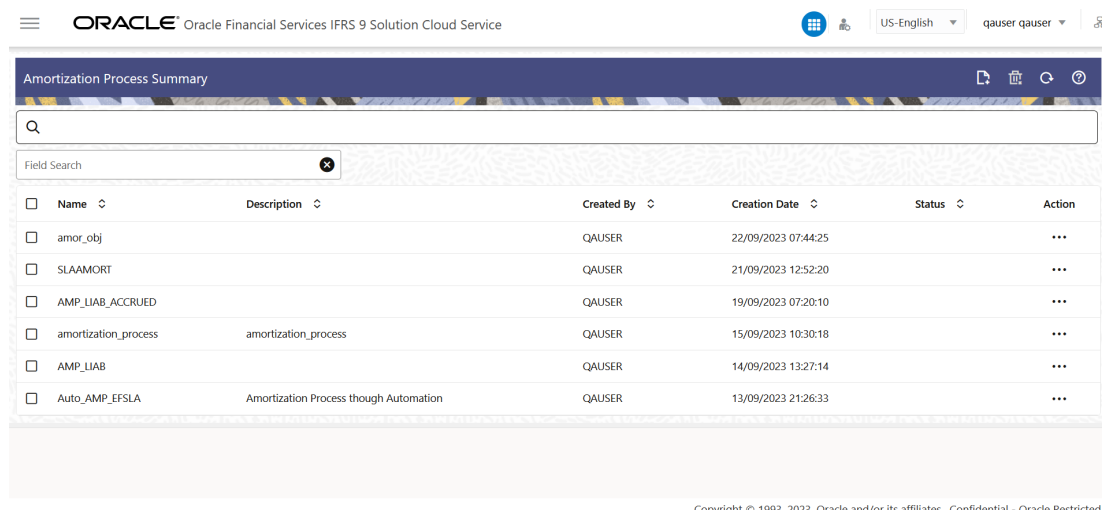


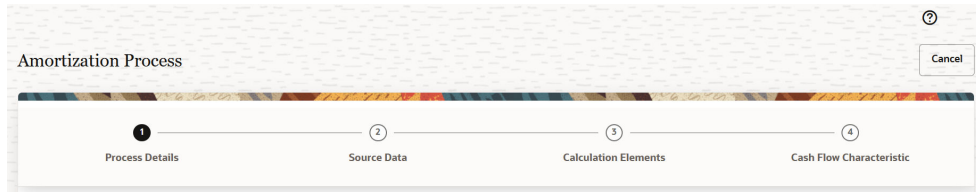
Table 35-2 Amortization Process – Action Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Amortization Process Name and select View to view the contents of a Amortization Process in read/write format.
Edit	Click the Action icon adjacent to the Amortization Process Name and select Edit to edit the contents of a Amortization Process in read/write format.
Save As	Click the Action icon adjacent to the Amortization Process Name and select Save As to create a copy of an existing Amortization Process.
Delete	Click the Action icon adjacent to the Amortization Process Name and select Delete to delete an existing Amortization Process.
Dependency Information	Click the Action icon adjacent to the Amortization Process Name and select Dependency Information to check the higher and lower order dependencies for an existing Amortization Process.

Create an Amortization Process

Perform the following steps to add an Amortization Process:

1. On the **Amortization Process Summary** page, click the **Add** icon to open the **Amortization Process** window.



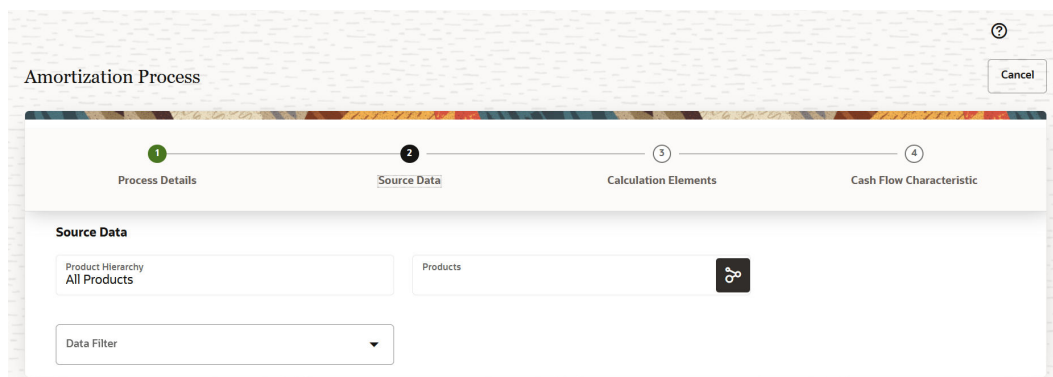
This window contains four tabs that must be configured for a new Amortization Process:

- **Process Details**
- **Source Data**
- **Calculation Elements**
- **Cash Flow Characteristic**

2. Populate the **Process Details** form as tabulated:

Option	Description
Name	Enter a name for the Amortization Process definition. This is a mandatory field.
Description	Enter a description for the Amortization Process definition.
Folder	Select a folder from the drop-down list. This is a mandatory field.
Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.

3. Click **Source Data**.
4. Populate the **Source Data** form as tabulated:



Option

Product Hierarchy

Description

The product hierarchy is selected by default.

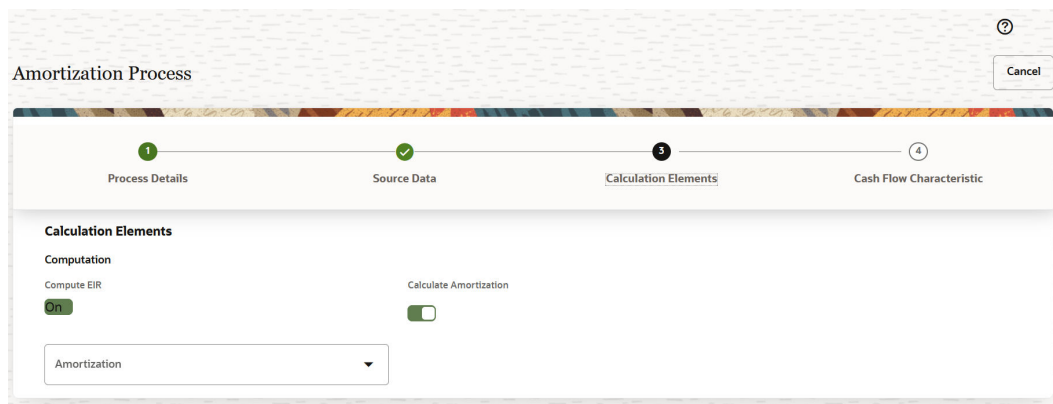
Products

Click the Products icon to open the **Hierarchy Browser** window. In this window select a member from the Available Members section and then click **OK**.

Data Filter

This field allows you to select a subset of data for processing by selecting a filter that was previously created. Select a data filter from the drop-down list.

5. Click **Calculation Elements**.
6. Populate the **Calculation Elements** form as tabulated:



Option

Compute EIR

Description

Enable this feature if you want to compute the EIR for the Amortization Process.

Calculate Amortization

Enable this feature if you want to calculate the Amortization for the Amortization Process.

If this feature is disabled, then the **EIR Computation Type** section appears with

Option	Description
	the Origination Date and As of Date sliders.
Amortization	Select an Amortization from the drop-down list.
Origination Date	Click the slider to disable or enable this field. This field is enabled by default. This field appears only if the Calculate Amortization field is disabled.
As of Date	Click the slider to disable or enable this field. This field is enabled by default. This field appears only if the Calculate Amortization field is disabled.

- Click **Cash Flow Characteristic**.
- Populate the **Cash Flow Characteristic** form as tabulated:

Option	Description
Forecast Rates	Enable this feature if you want to enable the Forecast Rates.
Forecast Rates (Drop-down)	Select a forecast rate from the drop-down list.

Option	Description
	See the Forecast Rate Scenarios to set up the rate scenarios. This is an optional step.
Enable Holiday Calendar	Enable this feature if you want to enable the Holiday Calendar. By default, this field is disabled. If this field is enabled, then the cash flow dates falling on a holiday get adjusted as per defined conventions. You can also select the holiday calculation option, calendar, and business day convention at the product-currency level. See Holiday Calendar to set up a Holiday calendar scenario. This is an optional step.
Products	In this pane, click the Expand icon to view the list of all the products. Click the Expand icon adjacent to each product to define it in the Currency Field.
Currency (The label of this drop-down changes depending on the selected product from the Products field.)	Select a Currency from the drop-down list. Click the Add icon after defining the Include Accrued Interest, Interest Credited, and Model with Gross Rates fields.
Include Accrued Interest	Select either <i>Yes</i> or <i>No</i> as the status of Include Accrued Interest. It is the basis on which the interest accrual on an account is calculated.
Interest Credited	Select either <i>Yes</i> or <i>No</i> as the status of Interest Credited. This option shows the interest payments to be capitalized as principal on simple or non-amortizing instruments.
Model with Gross Rates	Select either <i>Yes</i> or <i>No</i> . If the institution has outsourced loan serving rights for some of the assets (most typically mortgages), the rates paid by customers on those assets (gross rates) are greater than the rates received by the bank (net rates). For these instruments, both a net and gross rate is calculated within the cash flow engine and both gross and net rate financial elements are the output. The gross rate is used for prepayment and amortization calculations. The net rate is used for income simulation and the

Option	Description
Holiday Calendar Option	<p>calculation of retained earnings in the auto-balancing process.</p> <p>Select a value from the drop-down list. The available options are:</p> <ul style="list-style-type: none">• Shift Dates Only• Recalculate Payment <p>This option is only available if the Enable Holiday Calendar slider is enabled.</p>
Holiday Calendar	<p>Select a value from the drop-down list. This option is only available if the Enable Holiday Calendar slider is enabled.</p>
Holiday Rolling Convention	<p>Select a value from the drop-down list. The default value is Unadjusted and is enabled, only when Holiday Calendar is selected. This field can have the following values:</p> <ul style="list-style-type: none">• Unadjusted: Payment on an actual day, even if it is a non-business day.• Following business day: The payment date is rolled to the next business day.• Modified following business day: The payment date is rolled to the next business day unless doing so would cause the payment to be in the next calendar month, in which case the payment date is rolled to the previous business day.• Previous business day: The payment date is rolled to the previous business day.• Modified previous business day: The payment date is rolled to the previous business day unless doing so would cause the payment to be in the previous calendar month, in which case the payment date is rolled to the next business day. Many institutions have month-end accounting procedures to use this. <p>This option is only available if the Enable Holiday Calendar slider is enabled.</p>

Option	Description
Add	Click this button to add the defined currency for a product to the table below.
Update	Additionally, click the Update icon to see the updates in the table based on changes.
delete	Click this icon to delete a currency entry.

The defined products appear in the list.

9. Click **Save**.

The new Amortization Process appears in the list of Amortization Processes on the **Amortization Process Summary** page.

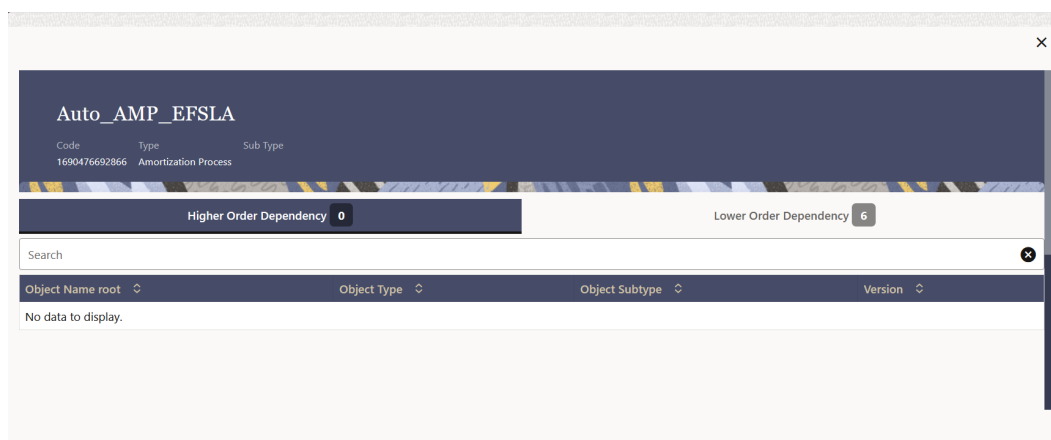
Dependency Information

You can check dependencies to know where a particular Amortization Process has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Amortization Process:

1. Navigate to the **Amortization Process Summary** page.
2. Either [search](#) for an Amortization Process or navigate to the desired Amortization Process from the list of Amortization Processes.
3. Click the **Action** icon that is adjacent to the Amortization Process and select **Dependency Information** to open the dependency information page.

Figure 35-2 Dependency Information Window



On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.

4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete an Amortization Process

Perform the following steps to delete an Amortization Process.

1. Select the Amortization Process that you want to delete and click the **Action** icon.
2. Select **Delete**.

Note the following conditions for deleting an Amortization Process

- If an Amortization Process does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Amortization Process.
 - If an Amortization Process contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Amortization Process.
 - If an Amortization Process contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Amortization Process.
3. You can also delete an Amortization Process by selecting the Amortization Process that you want to delete and then click the **Delete** icon.

Refresh an Amortization Process

You can refresh an existing Amortization Process from the Amortization Process Summary Page to refresh the Amortization Process with newly available data.

Perform the following steps to refresh one or more existing Amortization Process:

1. On the Amortization Process Summary page, select the checkbox(s) adjacent to the Amortization Process(s) that you want to refresh.
2. Click **Refresh**.

The selected Amortization Process(s) are refreshed with newly available data.

View an Amortization Process

Perform the following steps to View an Amortization Process.

1. Select the Amortization Process that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Amortization Process** window opens, displaying the details of the selected Amortization Process.
4. Click **Cancel**.

Edit an Amortization Process

The edit feature enables you to update the details of an existing Amortization Process. Perform the following steps to edit an existing Amortization Process:

1. In the Amortization Process list, select the **Action** icon adjacent to the Amortization Process name that you want to edit.
2. Click **Edit** to open the **Amortization Process** window. Only the **Name** field is not editable.

3. Update the required fields.
4. Click **Save**.

The saved Amortization Process is displayed in the Amortization Process list on the Amortization Process Page.

Save an Amortization Process

Perform the following steps to save an Amortization Process under a different name and folder:

1. Select the desired Amortization Process.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Amortization Process is saved under a new name and folder.

Run an Amortization Process

Perform the following steps to Run an Amortization Process.

1. Select the Amortization Process that you want to run and click the **Action** icon.
2. Select **Run** to open the **Run Execution Parameters** window.
3. In this window, select the date by clicking the **Select Date.** icon from the **As of Date** field to run this parameter.
4. Click **OK**.

View the Log File Information of an Amortization Process

Perform the following steps to view the log file information of a previously run Amortization Process

1. Select the Amortization Process that you want to view and click the **Action** icon.
2. Select **View Logs** to open the **Log Viewer** page.
- 3.

Search an Amortization Process

Search for an Amortization Process to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for an Amortization Process, perform the following steps:

- Navigate to the **Amortization Process Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Amortization Process and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search.
- Additionally, in the **Field Search** field, enter the name of the Amortization Process to filter the list of Amortization Process by values that match the search term. Only the Name and Description can be used for an Advanced search.

Only Amortization Process that match the search criteria are displayed.

Technical Documents

This chapter covers the following topics:

1. **Download Specification** - A download specification provides an efficient way to manage the sourcing of data into the Staging Area. This is done by mapping the Staging Model at a column level to use cases. This mapping information is embedded in ERwin at a column level using metadata called User Defined Properties (UDPs). The Download specifications can be extracted using pre-built templates, in a manner similar to the Data Dictionary.
2. **CFE Reference Guide**: The Reference Guide emphasizes business analysis and provides definitions, analytical concepts, processes, and calculations used in the Oracle Financial Services Cash Flow Engine (CFE). The information provided includes data requirements, payment and repricing event logic, calculation formulas, and various methodologies used to produce cash flows.
3. **Data Dictionary Guide**: The Data Dictionary Guide contains detailed information necessary for correct data population, including field definitions, and recommended default values for the cash flow processing fields.