Oracle® Financial Services IFRS 9 Solution Cloud Service User Guide





Oracle Financial Services IFRS 9 Solution Cloud Service User Guide.

F79430-03

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1

Get Help

Topics:

- · Get Help in the Applications
- Learn About Accessibility
- Get Support
- · Get Training
- Join Our Community
- Share Your Feedback
- · Before You Begin

1.1 Get Help in the Applications

Use Help icons to access help in the application.

Note that not all pages have Help icons. You can also access the Oracle Help Center to find guides and videos.

Additional Resources

- Community: Use Oracle Cloud Customer Connect to get information from experts at Oracle, the Partner Community, and other users.
- Training: Take courses on Oracle Cloud from Oracle University.

1.2 Learn About Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program. Videos included in this guide are provided as a media alternative for text-based topics also available in this guide.

1.3 Get Support

You can get support at My Oracle Support.

For accessible support, visit Oracle Accessibility Learning and Support.

1.4 Get Training

Increase your knowledge of Oracle Cloud by taking courses at Oracle University.

1.5 Join Our Community

Use Cloud Customer Connect to get information from industry experts at Oracle and in the Partner Community. You can join forums to connect with other customers, post questions, and watch events.

1.6 Share Your Feedback

We welcome your feedback about Oracle Applications User Assistance. If you need clarification, find an error, or just want to tell us what you found helpful, we did like to hear from you.

You can email your feedback to My Oracle Support.

Thanks for helping us improve our User Assistance!

1.7 Before You Begin

Refer to following Documents:

See What's New



2

Getting Started with IFRS9 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 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 fulfil the requirements of IFRS 9
- Slice and dice data with user-customizable analytical reports

2.1 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

2.2 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	View Object Storage
	 View OAuth Credentials
	 Perform Identity and Access Management Operations
IDCS Administrator	Create Users
	 Map Users to the Instance
IFRS 9 Analyst Group	 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	 View privileges for all application-specific modules:
	 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.

2.3 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





2.3.1 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.

2.3.2 Common Icons

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

Figure 2-3 Common Icons

Icon Name	Icon	Uses
Action	•••	Click to perform view various action options.
View/Edit	Cò	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	鼠	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.

2.4 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	Configure the Application
	preference and global preference	Preference, and Global Preference by using the Preferences screen.
2	Configure/load the mandatory dimensions	 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	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	Configure the forecast rates.
	assumptions	Configure the reprice patterns.
		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.



Table 2-2 (Cont.) Quick Tour

10	Configure the stage determination and account	a. Configure the rating mapping rules.
	classification assumptions	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	Load the instrument data	Load the instrument data from text files by using data file administration and operation and processes scheduler.
15	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.
16	Load the transaction data	Load the detailed transaction data from the text files by using the data file administration and operation and processes-scheduler.
17	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.
18	Override stage and account classification	Override Stage and Account Classification by using the Override Screen Maker and Override Screen Checker screen.
19	Execute the amortization process	Execute the amortization process.



Data Model Extension

Customization of Physical Data Model is restricted in the IFRS 9 Solution Cloud Service(IFRS 9 S CS) . However, it is understood that there may be a need to extend the Data Model to meet multiple business requirements. For this purpose, the IFRS 9 S 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.

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, perform the following steps:

1. From the LHS Menu, select Data Management Tools, and then select Data Model Extension to display the DataModel Extension Summary Screen.

| Date | Date | Date | Registered | Available | Registered | Available

Figure 3-1 DataModel Extension Summary Screen

The DataModel 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.

3.1 Registering Dimensions

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

Through the Dimension Registration UI, you register two types of Dimensions; Simple Dimension 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.

3.1.1 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 Data Model comes with 20 placeholder Simple Dimensions for configuration and use. The member details of simple dimensions are stored in two tables:

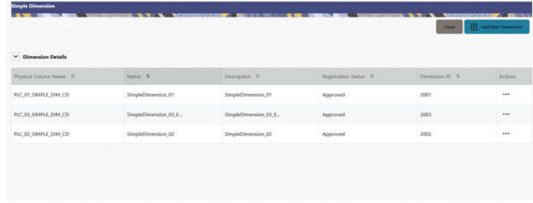
- A code table (For example, FSI SIMPLE DIM 01 CD)
- A Multi-Language Support table (for example, FSI_SIMPLE_DIM_01_MLS)

To register a Simple Dimension, perform the following steps:

 Navigate to the Data Model Summary Screen, and click the Simple Dimensions
 Tile to display the Simple Dimension Summary Screen.



Figure 3-2 Simple Dimension Summary Screen



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 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, 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.

3.1.1.1 View a Simple Dimension

To view a Simple Dimension, perform the following steps.

To view a Simple Dimension, perform the following steps:

- 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.

3.1.1.2 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.

3.1.1.3 Delete a Simple Dimension

To delete a Simple Dimension, perform the following steps:

 Click the Actions Icon against the selected Simple Dimension to expand the Actions Menu.



Click **Delete** to delete the Dimension.



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

3.1.2 Register a Key Processing Dimension

Key Processing Dimensions have the following features:

- Accessible as modeling dimensions for all of the OFSAA 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_PRODUCTS_B)
- A translation table (For example, DIM_PRODUCTS_TL)
- An attribute table (For example, DIM_PRODUCTS_ATTR)
- A hierarchy table (For example, DIM_PRODUCTS_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 Cloud Service seeds the following Key Processing Dimensions:

- Financial Element
- Organizational Unit
- General Ledger Account
- Common Chart of Accounts
- Product
- Legal Entity

In addition to the OOTB Key Processing Dimensions, the application's DM Extension Module enables you to create Custom Dimensions as required by the business. To register a Key Processing Dimension, perform the following steps:

 Navigate to the Data Model Summary Screen, and click the Key Processing Dimension Tile to display the Key Processing Dimension Summary Screen.



Figure 3-3 Key Processing Dimensions Summary Screen

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

 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.

Figure 3-4 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.
- 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 Simple Dimension.



- 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.

3.2 Registering Columns

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

The following domain types are available for the columns:

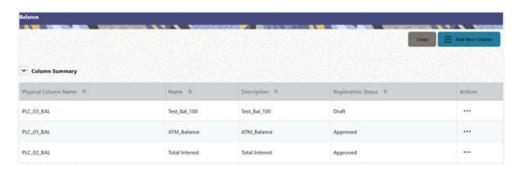
- Data
- Rate
- Volume
- CHAR
- Long Description
- Flag
- Balance

The procedures to register the listed Columns are similar. To register a Column, perform the following steps:

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



Figure 3-5 Column Summary Screen



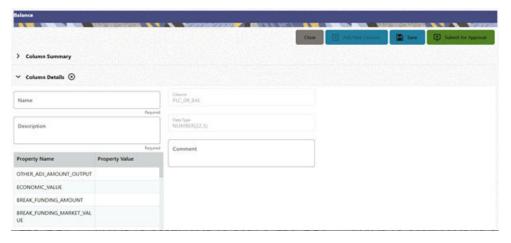
The Summary Screen displays the summary of existing Columns with the details Physical Column Names, Name, Description, Registration Status, and Actions Icon.

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

2. Click Add New Column to collapse the Column Details Summary and to display the Column Details.

When you click Add New Column, the UI displays the Save and Submit for Approval Buttons.

Figure 3-6 Column Screen



- **3.** 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 to save the details. 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.
- 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.



- 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.

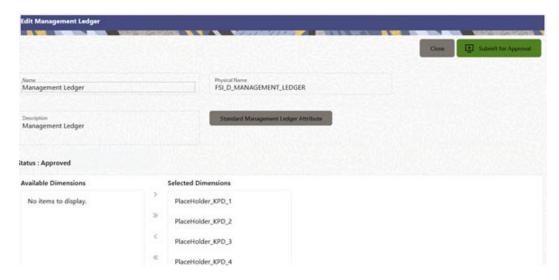
3.3 Registering a Management Ledger

The Cloud Service 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, perform the following steps:

 Navigate to the Data Model Summary Screen, and click the Management Ledger tile to display the Edit Management Ledger Screen.

Figure 3-7 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.

3.3.1 Adding a Management Ledger

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

 Navigate to the Data Model Summary Screen, and click the Add Management Ledger tile to display the Add Management Ledger Screen.

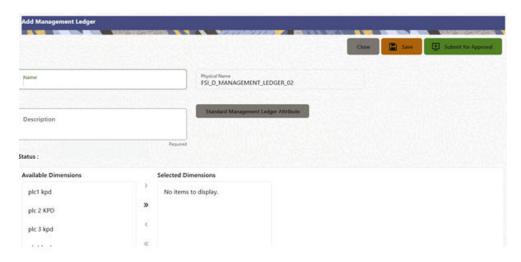


Figure 3-8 Add Management Ledger Screen

- 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.
- 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.

3.4 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 3-9 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

4.1 Components of Dimension Management

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

- Members
- Attributes
- Hierachy

4.2 Object Security

Object security helps to secure data and also to decide what each user can access. You can apply ObObject 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 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.

4.3 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.

4.3.1 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.

4.3.2 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.



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.
- 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**.

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

4.3.3 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.



4.3.3.1 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.

4.3.3.2 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.

4.3.3.3 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**.

4.3.3.4 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**.
- Click the **Delete** button.



The Member Definition is deleted after confirmation.

4.4 Attributes

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

4.4.1 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	 Yes – Attribute Value is mandatory for the Dimension Member.
	 No - The Attribute value is optional for the Dimension Member.
Seeded	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.

4.4.1.1 Navigating Attribute Summary Page

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

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



Field	Description
Default Value	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.
	 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 Defaul
	Value field. The Maximum characters allowed in Default Value field for String Data Type is 1000.
Required Attribute	 Yes - This Attribute is mandatory for the associated Dimension Members. No - This is an optional Attribute for the associated Dimension Members. This field is disabled in Add and Edit Modes if any members already exist for the Dimension or which this attribute is defined.
Seeded Value	 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.

3. Click Save.

4.4.3 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.
Сору	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.



4.4.3.1 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:

- 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.

4.4.3.2 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**.

4.4.3.3 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, he 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.



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

4.5 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.

4.5.1 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.
	Note: The name of a default hierarchy is always suffixed with the term System Hierarchy.
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.

4.5.1.1 Navigating Hierarchy Summary Page

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

4.5.2 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.
	You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
Description	A brief description about the Hierarchy Definition.
	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:

- 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:

- 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

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.

4.5.2.1 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.

4.5.3 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.
Сору	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.

4.5.3.1 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.

4.5.3.2 Editing Hierarchy Definition Details

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

To edit the existing Hierarchy Definition Details:

- 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.

4.5.3.3 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**.

4.5.3.4 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.



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

4.6 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.



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.

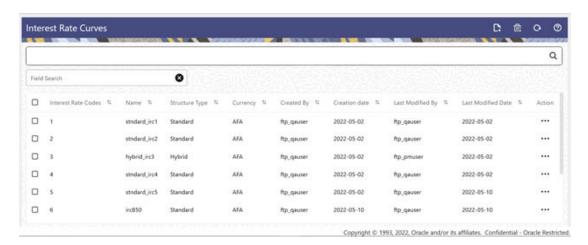


Figure 5-1 Interest Rate Curves Summary Page

5.1 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:

- 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 Interior
 - 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.

5.2 Creating an Interest Rate Curve

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

- 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.

5.2.1 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.

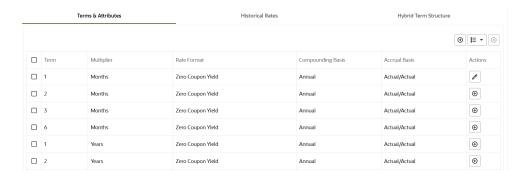
5.2.1.1 Terms & Attributes Tab

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 preselected 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





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.

5.2.1.2 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

5.2.1.2.1 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.

5.2.1.2.2 Deletion of Historical Rates

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

5.2.1.2.3 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:

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.



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

- 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.



5.2.1.3 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.

5.2.1.4 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

5.2.1.4.1 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.
- 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.
- 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.

5.2.1.4.2 Defining a Hybrid Curve with Hybrid Curve Type as Spread

To define a Hybrid Curve, perform the following steps:

- Select the Structure Type as Hybrid, and then select the Hybrid Curve Type as Spread.
- 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.
- 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.

5.2.1.4.3 Defining a Hybrid Curve with Hybrid Curve Type as Moving Average

To define a hybrid curve, perform the following steps:

- 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.
- 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.

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

To define a Hybrid Curve, perform the following steps:

 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.
- 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.

5.2.1.5 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:

- 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

6.1 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.

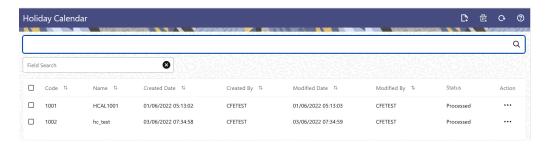
The Holiday Calendar Summary Page displays the following columns.

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



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.

6.2 Search Holiday Calendar

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

- View
- Edit
- Copy
- Delete



Prerequisites

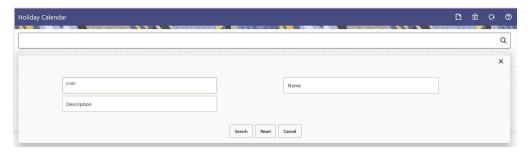
Predefined Holiday Calendar Rule

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



Only Holiday Calendars that match the search criteria are displayed.

6.3 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.

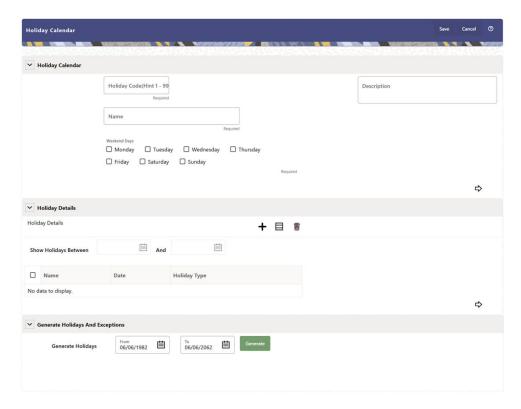
To create a new Holiday Calendar Rule, follow these steps:

- 1. Navigate to the Holiday Calendar Summary Page.
- 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.

6.4 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.

6.5 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.
- 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.

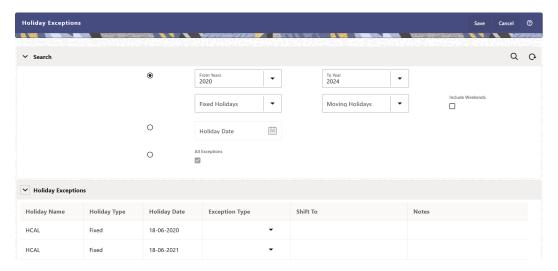
6.6 Holiday Exceptions

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.



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

Figure 6-5 Holiday Exceptions Page



- 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.
- 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** dropdown, 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

7.1 Economic Indicator Summary Page

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

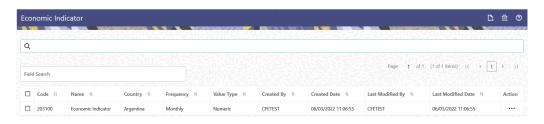
Table 7-1 Economic Indicator Summary – Fields and Descriptions

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.



7.2 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.
- 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.

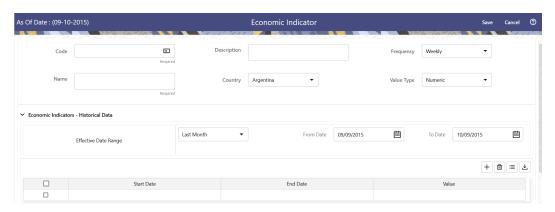
7.3 Add an Economic Indicator

To add an Economic Indicator, follow these steps:

- 1. Navigate to the **Economic Indicator Summary** Page.
- 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 dropdown 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

- 4. 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).
- 5. 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.

7.4 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.



7.5 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.
- Click on the Action icon against the Economic Indicator Name and select Save As to duplicate the rule.
- Enter a unique code.
- 5. Enter a unique name.
- Enter a brief description.
- 7. Click the Save button.

7.6 Delete Economic Indicator

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



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.

7.7 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:

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.



This is functionality will be released in future.



8

File Upload and Download

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

8.1 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

8.2 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.

8.2.1 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.

8.2.2 Uploading/Downloading a File Using Utility

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



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.

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.

8.2.3 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



- 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.
- 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.

8.3 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

8.3.1 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

8.3.2 Step 1: Generate Access Token

Generate the Access Token for your Cloud Service by:

 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:op
c:idm:__myscopes__ urn:opc:resource:expiry=9153600" | python3 -c
"import sys, json; print(json.load(sys.stdin)['access token'])"`
```

8.3.3 Step 2: Generate PAR URL

Generate the PAR URL for your Cloud Service by:

 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</pre>
```



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</pre>
```

8.3.4 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_109 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"
```

8.3.5 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:

 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***"
           echo "Scan failed"
           exit -2;
        fi
    else
        echo "Upload failed"
        exit -3;
    fi
```



8.4 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.

8.4.1 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

•

8.4.1.1 End Point Details

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

8.4.1.2 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"}}

8.4.1.2.1 Request JSON Parameters

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

Table 8-1 Request JSON Parameters

Name	Туре	Required	Description
fileName	STRING	Yes	The name of the file to be uploaded.
			The following are the conditions for to enter in this field:
			 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
fileSize	INTEGER	Yes	characters The size of the file (in
			Bytes) to be uploaded.
			The size of the file should be greater than 1 Byte and should be less than 10 TB.
			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.



Table 8-1 (Cont.) Request JSON Parameters

Name	Туре	Required	Description
mimeType	STRING	Yes	The mime type to be uploaded.
			The following mime types are allowed:
			Text/CSVText/plainDAT

Request JSON Sample

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

8.4.1.2.2 Response JSON Parameters

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

Table 8-2 POST JSON Response

Name	Туре	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_woZAgqNFYmUFQeexV3BDfT097mhBI/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"
}
```



8.4.1.3 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

8.4.2 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.

8.4.2.1 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"}}
```

8.4.2.2 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_JogVFa9G_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%3DIdcs_log3.txt"}}



9

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 9-1 Data File Specification Summary Screen



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

9.1 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:

Configure Data File Specifications

Upload Files to Object Store

Run Loader: Move Data from File to Stage Table(s) to Processing Table(s)

Create Data File(s) as per defined specifications

Figure 9-2 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.

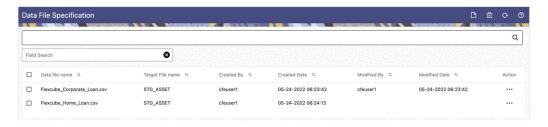
9.1.1 Data File Specification

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 9-3 Data File Specification Summary Screen





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

9.1.1.1 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.
- Data File Name and/or Target File Name and click Search to display the Data File Names that match the criteria.
- 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.
- 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.

9.1.1.2 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 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.

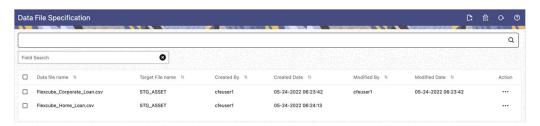
9.2 Data File Specification

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 9-4 Data File Specification Summary Screen





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

9.3 Creating a Data File Specification

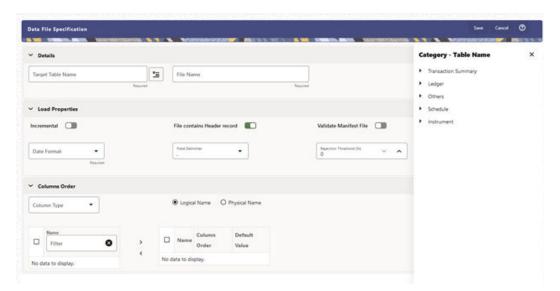
The Data File usually contains the Name of the Physical Table on which the specifications are being created and the columns included in the file.

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:

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

Figure 9-5 Data File Specification



- 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.



- 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_thresho
ld":"0"}



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 9-1 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 dropdown 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:

 Column Preview
 ★

 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

Figure 9-6 Column Preview

Accumulated Basis Risk Charge Credit

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



Figure 9-7 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
lfrs9 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.
- 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.

9.4 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 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.

9.5 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.

9.5.1 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 though 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.



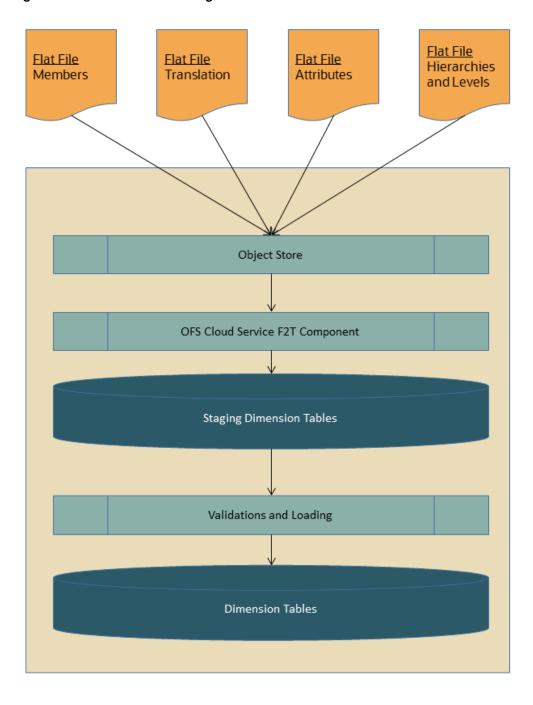


Figure 9-8 Dimension Loading Process

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.

9.5.2 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.

9.5.2.1 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 9-2 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.

3. Execute the Batch for the As-of-Date used in the Data File.



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.

9.5.2.2 Stage to Processing

To load the Instrument 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 9-3 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.

3. Execute the Batch for the As-of-Date used in the Data File.

9.5.3 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.



9.5.3.1 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 9-4 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.



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.

9.5.3.2 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 9-5 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.



9.5.4 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.

9.5.4.1 File to Stage

To load the Transaction Summary Data to Staging Tables, perform the following steps:

- Define a new Batch and save it.
- **2.** Add the following Tasks to the above Batch:

Table 9-6 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.



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.

9.5.4.2 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 9-7 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.

9.5.5 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:

- 1. 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.



Execute the Batch for the As-of-Date used in the Data File.

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

9.5.5.1 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 9-8 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.

9.5.5.2 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.
- 2. Add the following Tasks to the above Batch:

Table 9-9 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.

3. Execute the Batch for the As-of-Date used in the Data File.

9.6 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.

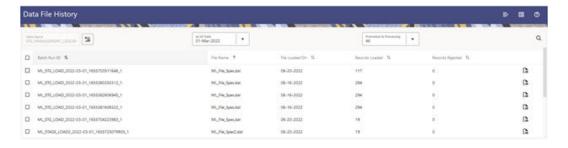
The Data File History UI allows you to do the following:

- 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 9-9 Data File History Summary Screen



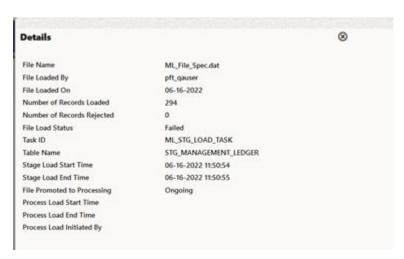


The Summary screen displays the following information of the Data Files:

- 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 9-10 File Details



- 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.

9.6.1 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:

- 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 of 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.

9.6.2 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.



While defining the Task, ensure that you select Delete Data Loader from the Component drop-down list.



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 10-1 View the IFRS 9 S CS Process Information

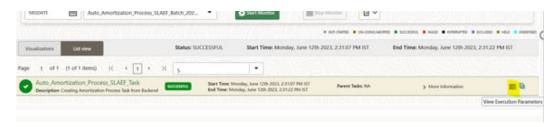


10.1 View the Execution Parameters

Perform the following steps to view the execution parameters:

- 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 10-2 View Execution Parameter



10.2 Generate the PDF

Perform the following steps to generate the PDF:

- 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 10-3 Generate the PDF



10.3 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.

10.4 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.

10.5 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.



11

Preferences

You can access the Preferences module by clicking IFRS9 Application then click **Maintenance**, and then click the **Preferences** link in the LHS menu of the **IFRS9 Cloud Service**. The **Preferences** Page appears.

11.1 Setup Preferences

This section discusses the procedure to define and maintain the CFE Application, User, and Global Preference Settings.

Topics:

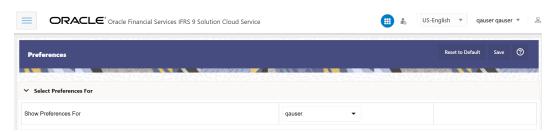
- Select Preference For
- Configure Global Preference
- Configure Application Preference
- Configure User Preference

11.1.1 Select Preferences For

To setup the Preferences, follow these steps:

Navigate to Maintenance and select Preferences.

Figure 11-1 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.

11.1.2 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 11-2 Global Preference Section



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.

11.1.3 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 11-3 User Preference Section



- 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.



11.1.4 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 11-4 Application Processing and Parameters



Figure 11-5 Processing - Cash Flow General section of Application Preference



3. Enter the following values in Application Tab as described in Table:



Fields	Description
Debugging Level	The debugging output level determines the amount of SQL that will be written to the processing log. There are eight levels available:
	 Trace: Designates finer-grained informational events than the DEBUG.
	b. All: All levels including custom levels.
	 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.
	 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.
	 Off: The highest possible rank and is intended to turn off logging.
	Note: A log request of level p in a logger with level q is enabled if p >= 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.
View Logs Level	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:
	 Information: Designates informational messages that highlight the progress of the application at coarse-grained level.
	 Debug: Designates fine-grained informational events that are most useful to debug an application.
	 Off: The highest possible rank and is intended to turn off logging.



Figure 11-6 Processing - Cash Flow Process section of Application Preference



Fields	Description
Cash Flow Process Batch Size	Number of Account or Instruments that must be processed in a single batch. This is used by Cash Flow Engine for performance tuning.
	Default Value of 1000 is seeded by the service, and you can modify it as needed
Cash Flow Process Parallel Requests	Number of Parallel batches executed by each executor. This is a performance tunning parameter for Cash Flow Engine Cloud Service.
	Default Value of 2 is seeded by the service, and you can modify it as needed
Cash Flow Process Parallel Threads	Number of threads created by the executor for each batch. This is a performance tunning 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.
	Default Value of 5 is seeded by the service, and you can modify it as needed
Cash Flow Process Flush Batch Size	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.
	Default Value of 500 is seeded by the service, and you can modify it as needed

Figure 11-7 Parameters - General





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	The default dimensions present in the application. The default dimensions are Country Geographic Location Industry Branch Market Segment Code The user can select other required dimesions from the drop-down list or select CTRL + F to search required dimesions.

- **4. Turn-on** the Is Editable status.
- 5. Click **Save** to confirm the changes.



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

12.1 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 12-1 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.

12.1.1 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

12.2 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 12-1 Add Filter Definition Page



Table 12-2 Field Description

Field	Field	
Name	The unique Filter Definition Name.	
	You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".	
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.	
	You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.	
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: Data Element Hierarchy Click the respective to filter for more information.	



2. Click **Save** ().

The new Filter Definition is created successfully.

12.2.1 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 12-2 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 12-3 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.

12.2.2 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 dropdown 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 12-4 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.
- 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 12-3 Field Description

Field	Description
Specific Values	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.
	To remove a row, select the Checkbox and click the Delete button.
	When comparing Specific Values for a character type column, you must provide Specific Values that are character strings.
	When comparing Specific Values for a date type column, you must provide Specific Values that are dates (the application displays a Calendar Control).
	When comparing Specific Values for a Numeric Column, you must provide Specific Values that are numbers.
	Select Include Values or Exclude Values to include or exclude the selected values.



Table 12-3 (Cont.) Field Description

Field	Description
Ranges	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.
	Range Type is available for datatypes Term Frequency, Leaf, Code, Identity, Date, Numeric and Varchar.
	You can add additional values by clicking the Add button.
	To remove a row, select the checkbox and click Delete .
	If the column datatype is VARCHAR, provice Specific Values (Alphanumeric) that are character strings.
	If the column datatype is DATE, provide Specific Values that are dates (the application displays a Calendar Control).
	If the column datatype is Numeric, provide Specific Values that are numbers.
	If the column datatype is LEAF, provide either numeric values or click to select the Numeric Member IDs.
	If the column datatype is CODE, provide either numeric values or click to select the numeric member IDs.
	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.
	Select Include Values or Exclude Values to include or exclude the selected values.
Another Element	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 (th Data Element drop-down list box will only contain columns that you have already selected).
	You may use any of the following operators when choosing the Another Data Element Filter Method:
	=, <> (meaning "not equal to"), <, >, <=, or >=.

- 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

12.2.3 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 12-5 Attribute Filter Type Selection



- 1. Select the required **Dimension** from the drop-down list.
- 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 (^Q). 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.
- 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** t ist the completed filter conditions in the Filter Conditions Grid.
- 10. Click **Save** () to validate the entries and save the filter details.

12.2.4 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 12-6 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.

12.3 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 (\bigcirc). The following Options are displayed.

Table 12-4 Action Details

Field	Description
View	View the Filter Details for a specific Filter Definition.
Edit	Edit the Filter Details for a specific Filter Definition.
Сору	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.

12.3.1 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 (\bigcirc).
- 2. Click the View button.

The Filter Definition page is displayed with the details Name, Description, Folder, Filter Type, Filter Conditions and Audit Info.



12.3.2 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 (\odot).
- 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**.

12.3.3 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 (\odot).
- 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.

12.3.4 Deleting Filter Details

To delete a Filter Definition:

- 1. Highlight the Filter Definition and click the Action button (\bigcirc).
- 2. Click the **Delete** button.

The Filter Definition is deleted after confirmation.



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

12.3.5 Checking Dependencies

To check the dependencies of a Filter Definition from the Filters Summary window:

- 1. Click the **Action** (\odot) button adjacent to the filter definition.
- 2. Click the **Check Dependency** (^L₃) button.

The Dependent Objects window is displayed with Object ID, Name, and ID Type of the dependent Objects.



12.3.6 View SQL

To view SQL of a Filter Definition, perform the following steps:

- 1. Highlight the Filter Definition and click the ${\bf Action}$ button (${\bigodot}$).
- 2. Click the View SQL button.

The SQL statement of Filter Definition is displayed.



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

13.1 Currency Summary Page

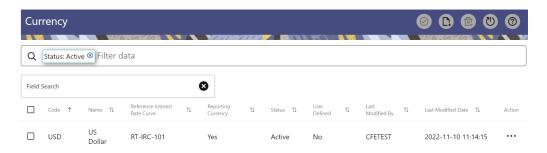
This page is the gateway to all Currencies and related functionality. You can navigate to other pages relating to Currency from this point. The Currency Summary Page displays the following columns.

Table 13-1 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 13-1 Currency Summary Page



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 13-2 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.

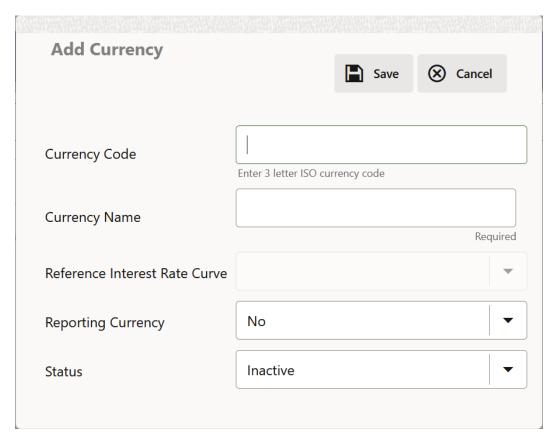
13.2 Add Currency

To add a Currency, follow these steps:

- Navigate to Reference Data and select Currency.
- 2. Click Add icon on Currency summary page. The Add Currency page is displayed.



Figure 13-2 Add Currency Page



3. Enter the following details:

Table 13-3 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 13-3 (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:
	 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.

- 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.

13.3 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.
- Click Search.

Only Currencies that match the search criteria are displayed.

13.4 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.
- Update the Currency details.
- 5. Click Save.

13.5 Delete a Currency

You can delete Currencies that are no longer required.



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:

- Navigate to Currency Summary Page.
- 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.



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.

14.1 Adding Exchange Rate Data

Based on the Rate Types, you can add the following Exchange Rate Data:

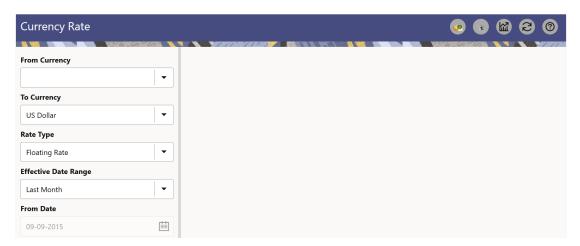
Floating Rates

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 14-1 Currency Rates



Adding Floating Rate Data

To add the Exchange Rate Data, follow these steps:

- 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 14-1 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 14-2 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 a 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.

- Click Save.
- 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.

14.2 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.

14.3 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.

14.4 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**.

14.5 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 14-3 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.



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.

14.6 Download

The Download functionality is used to download the Historical Exchange Rates.

14.7 Importing Currency Rates

To import the Currency Rate, follow these steps:

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.

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.



15

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

15.1 Repricing Pattern Summary Page

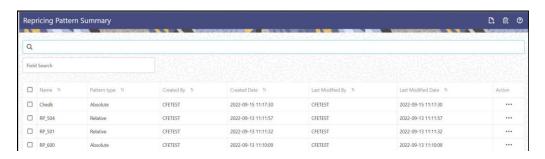
This page is the gateway to all Repricing Patterns and related functionality. You can navigate to other pages relating to Repricing Patterns from this point.

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 15-1 Repricing Summary Page



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 15-1 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.

15.2 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.

15.3 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:

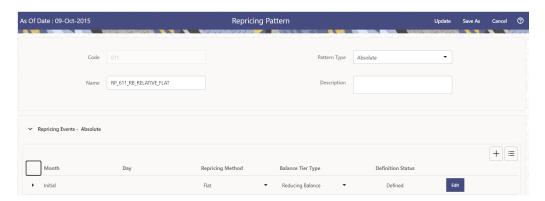
- 1. Navigate to Repricing Pattern Summary Page.
- Click Add icon.The Add Repricing Pattern Page is displayed.
- 3. Enter a Numeric Code Value for the new Repricing Pattern. You can also click Generate Code Option in Code field to generate the code automatically.
- 4. Enter the name of the pattern.
- 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.

15.3.1 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 15-2 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**.
- 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.
- 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 cange 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:

- 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.
- Enter the Gross Rate.
- 4. Enter the Transfer Rate.



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:

- 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.



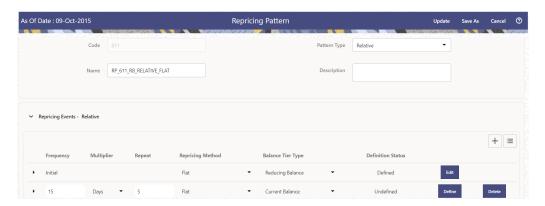
The Transfer Price Curve functionality will be released in the future.

- 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.
- Click Save.
 The Repricing Pattern is saved and the Repricing Pattern Summary Page is displayed.

15.3.2 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 15-3 Define Relative Repricing Pattern



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.

15.4 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.
- 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.

15.5 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.
- 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.
- Click Save.

15.6 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**.

15.7 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.





This is functionality will be released in future.



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

16.1 Search for Behavior Patterns

To open the Behavior Pattern Summary Window and search the Behavior Patterns, perform the following steps:

 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 16-1 Behavior Pattern Summary Page



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.
- 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.
- 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.

16.2 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 16-2 Behavior Patterns Details Page



- 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

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.

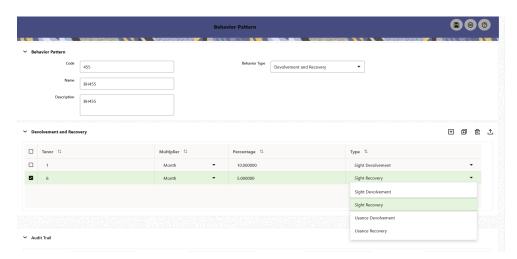
16.2.1 Defining Devolvement and Recovery Behavior Patterns

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 16-3 Behavior Pattern with Type as Devolvement and 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



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.

- 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.

16.2.2 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:

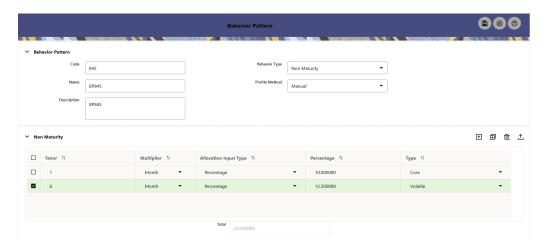
- 1. In the Behavior Pattern Details Page, select Non Maturity as the Behavior Pattern Type.
- 2. Select Non-Maturity Products Profile Method as Manual.
- 3. Enter or select the following details:
 - Tenor: Used to specify the maturity term for the particular row. For example, if "1 Day" is defined, 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:
 - Davs
 - 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.



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.

- 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.
- 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 16-4 Behavior Pattern Type as Non-Maturity



The Behavior Pattern is saved and the Behavior Pattern Summary Page is displayed.

16.2.3 Defining Non-Performing Behavior Patterns

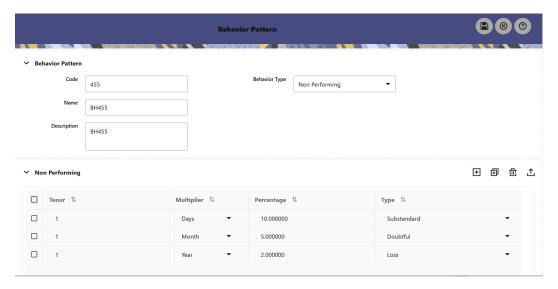
Non-Performing Behavior Patterns are commonly used for balances that are classified as non-earning assets. These balances are typically sourced from the Management Ledger as aggregate balances. Users can assign expected maturity profiles to these balances classifying them into appropriate categories of Sub Standard, Doubtful, or Loss.

To define the Non-Performing Behavior Patterns, perform the following steps:

- In the Behavior Pattern Details Page, select Non-Performing as the Behavior Pattern Type.
- Click the Add icon to open the Non-Performing Behavior Patterns Summary Page.



Figure 16-5 Behavior Pattern with Type as Non-Performing



- 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 Asof-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

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.

- Click the Add icon to add additional payment strips to the Pattern and define appropriate assumptions for each strip.
- 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.

16.3 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:

- Navigate to the Behavior Pattern Summary Screen.
- 2. Search for a Rule.

 For further information, see the Search for Behavior Pattern section.
- 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.

16.4 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.
- 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.
- Enter a unique Name for the new rule.(Optional) Enter a brief Description of the rule.
- Select the Access Type.
- Click the Save button.

16.5 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

17.1 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.

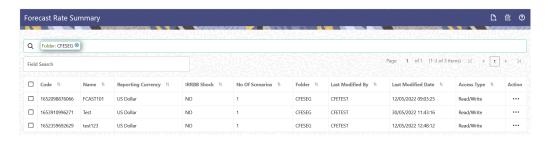
Table 17-1 Forecast Rate Rule Summary – Fields and Descriptions

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 17-1 (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 17-1 Forecast Rate Summary Page



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 17-2 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 17-2 (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.

17.2 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:

- 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.

17.3 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 17-3 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 17-3 (Cont.) Forecast Rate Rule – Fields and Descriptions

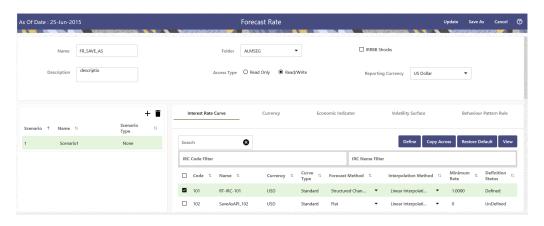
Field	Description
Folder	Select the Folder where the Forecast Rate Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.
IRRBB Shock	Select this checkbox if you want to define IRRBB Scenario. This option is available only in Asset Liability Management Cloud Service. If 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.

- 4. 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.
- 5. Scenario Type is 'None' by default. When IRRBB Shock is enabled then you can select one of the available values from second scenario onwards.
- 6. Click Save, if you want to save the Forecast Rate Rule and update it later.

17.3.1 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 17-2 Interest Rate Curve Forecast Rates



You can define Interest Rate Forecast for the following methods:



Table 17-4 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 17-5 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	A cubic spline is a series of third-degree polynomials that have the form:
	$y = a + bx + cx^2 + dx^3$
	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.
	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).
Quartic Spline	Quartic interpolation requires a minimum of 4 knot points. The quartic interpolation equation can be represented as:
	$Y = a + bX + cX^2 + dX^3 + eX^4$
	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) x 5*(n-1). The matrix is formed according to the following logic:
	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.

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

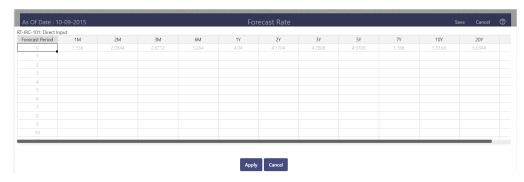
- Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Flat.
- 2. Select the Interpolation method.
- 3. Input Minimum Rate, if required.
- Click Define.
 The status of the Interest Rate Curve is changed to Defined.

Direct Input

- 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 17-3 Direct Input



- 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



- 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 17-4 Structured Change



- 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

- 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 17-5 Implied Forward



- 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.
- 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

- 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 17-6 Yield Curve Twist



- 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.
- 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 17-7 Change From Base



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 17-8 Change From Base



- 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 forecastes 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.
- 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.

- 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 scenariolevel 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.

- 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.



You must select a defined IRC to Copy Across. For more information, see the Define section of Interest Rate Curve.

Flat Method

- 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

 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

- 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

- Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Change From Base.
- 2. Click Copy Across.
- 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

- 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

- Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Direct Input.
- 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.
- Click Restore Default.
- 3. The status of the Interest Rate Curve is changed to Undefined.

Implied Forward

- 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



- Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Yield Curve Twist.
- 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

- Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Flat.
- Click View to see the output table.

Direct Input

- 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

- 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

- Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Change From Base.
- 2. Click View to see the Output Table.



17.3.2 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 17-9 Currency Forecast Methods

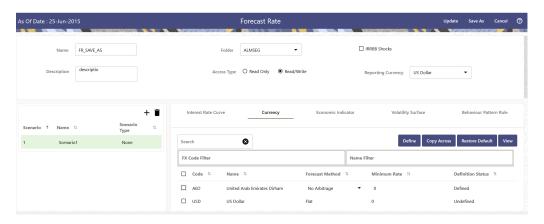


Table 17-6 Currency Forecast Methods

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

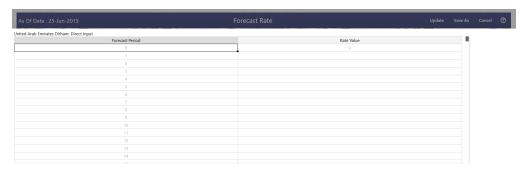
Flat Method

- 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

- 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 17-10 Direct Input window



- 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

- 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 17-11 Structured Change window





- 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

- Select Currency Code using corresponding checkbox and select Forecast Method as Parity.
- 2. Input Minimum Rate, if required.
- Click Define.
- 4. The status of the Currency Code is changed to **Defined**.

No Arbitrage

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- 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

- Select Currency Code using corresponding checkbox and select Forecast Method as Flat.
- 2. Click **View** to see the output table.

Direct Input

- 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

- Select Currency Code using corresponding checkbox and select Forecast Method as Parity.
- 2. Click View to see the Output Table.

No Arbitrage

- Select Currency Code using corresponding checkbox and select Forecast Method as No Arbitrage.
- 2. Click View to see the Output Table.

17.3.3 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 macroeconomic parameters.

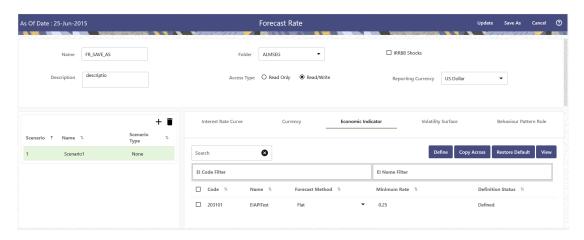
The following Economic Indicator Methods are available.

Table 17-7 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 17-12 Economic Indicator Forecast Rates



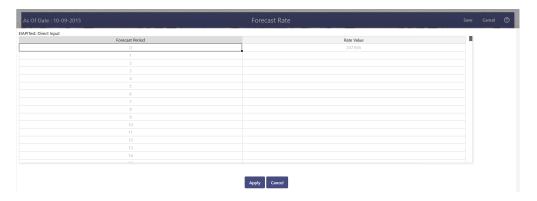
Following options are available for Economic Indicator Forecast Rule:

- Define
- Copy Across
- · Restore Default
- View

Define

- Flat Method
 - 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
 - Select Economic Indicator Code using corresponding checkbox, select Forecast Method as **Direct Input** and enter minimum rate.
 - Click Define. The Direct Input window is displayed:

Figure 17-13 Direct Input window





- 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 17-14 Structured Change window



- 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.



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



- 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

- 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

- 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

- 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

- Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Flat.
- 2. Click **View** to see the output table.

Direct Input

- Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Direct Input.
- Click View to see the output table.



Structured Change

- Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Structured Change.
- 2. Click **View** to see the output table.

17.3.4 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 17-15 Volatility Surface Forecast Methods

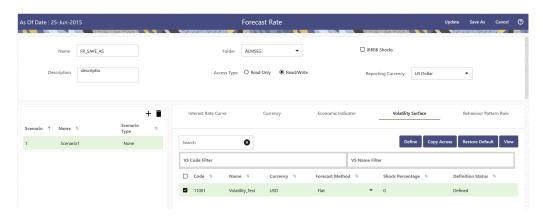


Table 17-8 Volatility Surface Forecast Methods

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
 - 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.

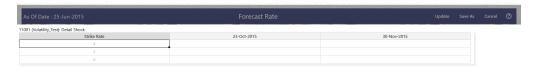
Global Shock

- 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

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
- 2. Click Define. The Detail Shock window is displayed:

Figure 17-16 Detail Shock window

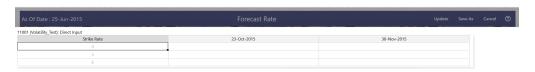


- 3. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click Apply.
- 4. The status of the Volatility Surface Code is changed to Defined.

Direct Input

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
- 2. Click Define. The Direct Input window is displayed:

Figure 17-17 Direct Input window



- 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 Aross. For more information, see the Define section of Volatility Surface.

Flat Method

- 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

- 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

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
- 2. Click Copy Across.
- 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.
- 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

- 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

 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

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
- Click Restore Default.
- 3. The status of the Volatility Surface Code is changed to Undefined.

Direct Input

- 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

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
- 2. Click View to see the output table.

Global Shock

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.
- 2. Click View to see the Output Table.

Detail Shock

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
- 2. Click View to see the Output Table.

Direct Input

- Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
- 2. Click View to see the Output Table.

17.4 Map Behavior Pattern Rule

The Behavior Pattern Rule section allows you to map a existing Behavior Pattern Rule to current forecast scenario.

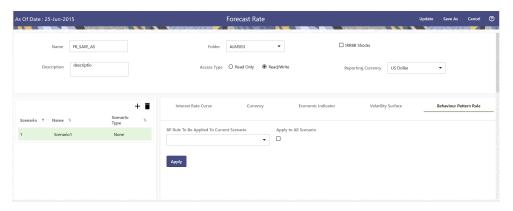
The BP Rule drop-down list shows the list of existing Behavior Pattern Rule. Select any behavior pattern rule to map with the current forecast scenario. To map a Behavior pattern to all the forecast scenarios, use the Apply to All Scenarios check box (applicable only to Asset Liability Management Cloud 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 17-18 Map Behavior Pattern Rule



4. Click Apply.

17.5 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.
- Click on the Action icon against the Forecast Rate Rule Name and select View/ Edit to open the rule you want to update.
- Update the rule details.
- 5. Click **Apply** or **Save**, depending on the rule type.

17.6 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**.
- 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 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.
- Enter a brief Description of the rule.
- 7. Click Save.

17.7 Delete Forecast Rate Rule

You can delete Forecast Rate Rules that are no longer required.



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.

17.8 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.
- Click on the Action icon against the Forecast Rate Rule Name and select Dependency Check to the rule that you want to check for.



18

Scheduler Service

This section provides inormation on the Scheduler Service feature.

18.1 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 webbrowser. 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.

18.1.1 User Roles

The User Roles and Privileges for Scheduler Service are available in the Users and User Privileges Guide.

18.1.2 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

18.1.3 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.

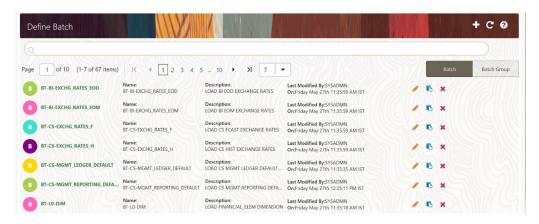
Batch Group is a process of grouping the batches that are required to be execute together for execution of the Date and time-based background tasks based on a defined period during which the resources were available for Batch Processing.

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 18-1 Define Batch Page



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 18-1 Field Description

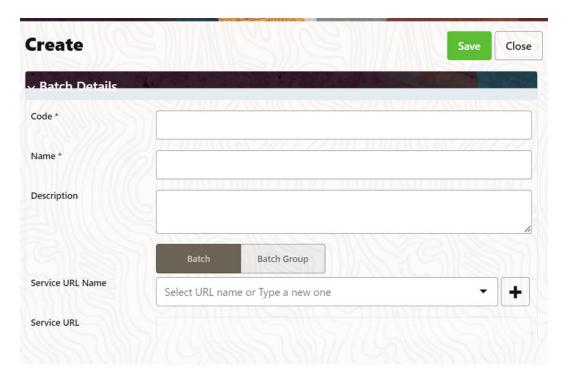
Field	Description
Batch ID	The Alphanumeric Code assigned to a specific Batch.
Name	The unique Batch Name.
Description	The brief description of the Batch.
Last Modified	The last modified By User, Date and Time details.

18.1.3.1 Creating a Batch

You can create a new batch in the Define Batch Page, and schedule and monitor the batch that you created.

1. To create a new Batch, click the Add (button in the Define Batch Page. The Create Batch Page is displayed.

Figure 18-2 Create Batch Page



Enter the **Batch Information** as described in the following table:

Table 18-2 Field Description

Field	Description
Batch Details	_



Table 18-2 (Cont.) Field Description

Field	Description
Code	The Unique Alphanumeric Code assigned to the Batch. NOTE:
	 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	The Batch Name is generated based on the values provided by you.
Batch Description	 NOTE: 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 "_". Enter a description for the Batch based on the Batch Name. NOTE: The Batch Description should be Alphanumeric. The allowed special characters are_:- and <black space="">, along with spaces and alphanumeric. It should not exceed 200 characters in length.</black>
Service URL Name/ Service URL	 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 18-3 Adding Batch Parameters Window



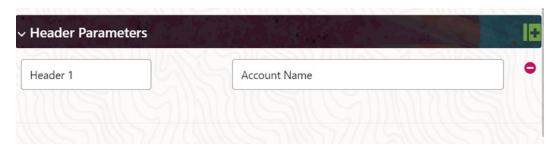


From the Batch Parameters pane, click () to add a new Batch Parameter. By default, \$FICMISDATE\$ and \$BATCHRUNID\$ are added as Batch Parameters.



- 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 18-4 Adding Header Parameters Window



4. Click **Save**. The new Batch is created and displayed in the Define Batch Page.

18.1.3.2 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.

- 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.

18.1.3.3 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.

Click Save.

The copied batch is saved and displayed in the Define Batch Page.

18.1.3.4 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:

- From the Define Batch Page, click () corresponding to the Batch you want to delete.
- 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.

18.1.3.5 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.

- Select Batch Group option.
- **3.** Specify the following fields:
 - Name
 - Description
 - Add Batches



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.

18.1.3.6 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**.

18.1.3.7 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.

18.1.3.8 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.

18.1.4 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.
- 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.

18.1.4.1 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

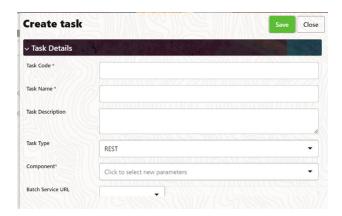
18.1.4.2 Adding a Task

Adding a new task option allows you to add new tasks to a selected Batch Definition.

To add new task, perform the following steps:

- Click Define Tasks from the Header panel.
 The Define Task Page is displayed.
- 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 18-5 Create Task Page



4. Enter the details as tabulated:



Table 18-3 Field Description

Field	Description
Task Code	
Task Name	Enter the task name.
	NOTE:
	 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	 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.

18.1.4.3 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.
- Click Edit () corresponding to the Task whose details you want to modify. The Edit Task Page is displayed.
- Modify the required Task Details.For more information, see Add a Task Section.
- 4. Click Save.



18.1.4.4 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:

 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.



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.

18.1.4.5 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:

- From the Define Task Page, select the Batch whose task details you want to delete from the Select drop-down list.
- Click Delete () corresponding to the Task you want to delete.
- 3. Click **OK** in the confirmation dialog to confirm deletion.



18.1.5 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

18.1.5.1 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.
- 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 18-6 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.

18.1.5.2 Schedule Once

To schedule a Batch /Batch Group to run once, perform the following steps:

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.

18.1.5.3 Daily Batch Scheduling

To schedule a Batch to run daily, perform the following steps:

- 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.

18.1.5.4 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.
- 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.
- 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.

18.1.5.5 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.
- 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.
- 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.
- 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.

18.1.5.6 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 (



- 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.

18.1.5.7 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 restarting 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.

18.1.5.8 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.
- 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.

18.1.5.9 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:

- 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.

18.1.5.10 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.

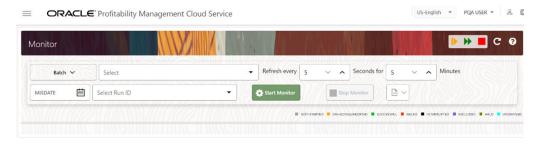
18.1.6 Monitor Batch

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:

 Click Monitor Batch from the Header panel. The Monitor Batch Page is displayed.

Figure 18-7 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**.
- 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.

18.1.7 Scheduler Service Dashboard

To access the Scheduler Service Dashboard, complete the following steps:

- 1. From the left menu, click Common Object Maintenance.
- Select Operations and select Dashboard.The Scheduler Dashboard containing the following details is displayed.



Scheduler Service Dashboard

Congoing Runs

Successful Runs

Falled Runs

Ongoing Runs

Interrupted Runs

Upcoming Runs

Vexecuted Runs

Sales Bash Congoing Runs

Sales Bash

Figure 18-8 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.

18.2 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
- •
- •
- •
- .

18.2.1 Rest API Status Codes

Refer to the following table for Rest API Status codes and their description.

Table 18-4 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

18.2.2 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



Related Topics

Batch Execution API

18.2.2.1 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

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_282.

```
{
    "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"
}
```

18.2.2.2 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

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_282.

```
{
    "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"
}
```

18.2.3 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

Related Topics

- Batch Execution Status API
- .

18.2.3.1 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 282.



```
"statusCode": "0"
},
{
    "taskCode": "t5",
    "taskStatus": "FAILED",
    "statusCode": "-1"
}
],
"batchStatusCode": "-1",
"batchList": [],
"batchStatus": "FAILED",
"status": "success",
"statusCode": "0"
}
```

18.2.3.2 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_282.



```
"batchStatus": "SUCCESSFUL",
"status": "success",
"statusCode": "0"
}
```

18.2.4 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

Related Topics

Batch Interrupt API

.

18.2.4.1 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_282.

```
{
    "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"
}
```

18.2.4.2 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 282.

```
"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"
}
```

18.2.5 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

Related Topics

Batch Restart API

18.2.5.1 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_282.

```
{
    "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"
}
```

18.2.5.2 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 282.

```
{
    "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"
}
```



18.2.6 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

Related Topics

- Batch Rerun API
- •

18.2.6.1 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 282.

```
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"
}
```

18.2.6.2 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 282.

```
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"
}
```



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.

19.1 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

The **Modelling Set Summary** page displays the following columns:

Table 19-1 Modelling Set Summary Page – Fields and Descriptions

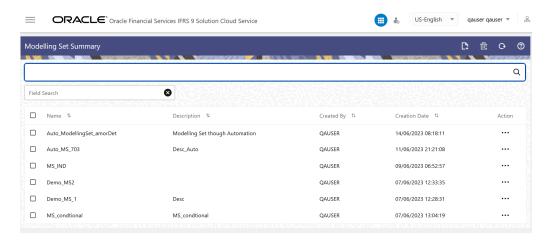
Column	Description
Name	Displays the Modelling Set's short name.
Add	Click the Add icon to create a new Modelling Set.
Delete	Click the Action icon adjacent to the Modelling Set Name and select Delete to delete an existing Modelling Set.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Modelling Set help.



Table 19-1 (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 19-1 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 19-2 Modelling Set – Icons and Descriptions

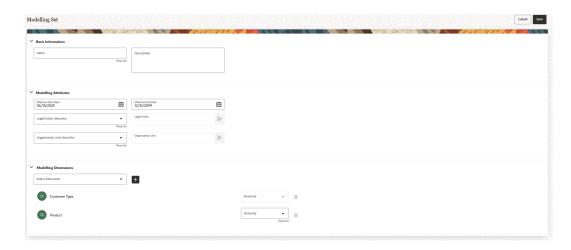
Column	Description
View	Click the Action icon adjacent to the Modelling Set Name and select View to view the contents of a Modelling Set in read/write format.
Edit	Click the Action icon adjacent to the Modelling Set Name and select Edit to edit the contents of a Modelling Set in read/write format.
Save 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.



19.1.1 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.



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.
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



Option	Description
	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.

19.1.2 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:

 In the Modelling Set window, select the checkbox(s) adjacent to the Modelling Set(s) that you want to delete.



Before deleting, ensure that the definition is not used by other features within the application.

- 2. Click **Delete**. A warning dialog is displayed.
- 3. Click Yes.
- 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.

19.1.3 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.



19.1.4 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:

- 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.
- Click Cancel to return to the Modelling Set Summary page.

19.1.5 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:

- 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.

19.1.6 Copy (Save as) Modelling Set

Perform the following steps to save a Modelling Set under a different name:

- 1. Select the desired Modelling Set.
- Click the Action icon.
- 3. Select Save As to open the Save As window.
- 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.

19.2 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:

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.

 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 POCI 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.

• 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.

20.1 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

The Amortization Rule Summary page displays the following columns:

Table 20-1 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.
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), and Delete. 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 20-1 The Amortization Rule Summary Page

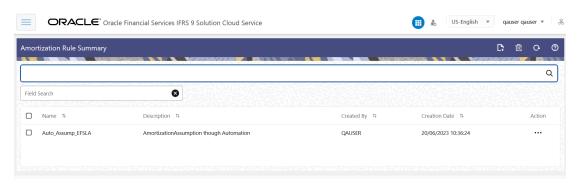




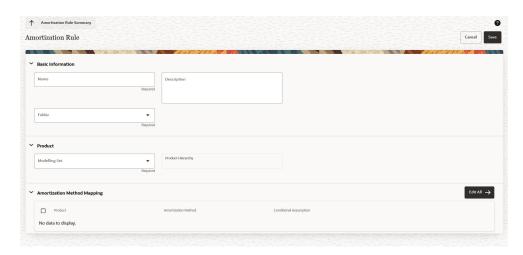
Table 20-2 Amortization Rule – Icons and Descriptions

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.
Delete	Click the Action icon adjacent to the Amortization Rule Name and select Delete to delete an existing Amortization Rule.

20.1.1 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.



2. Populate the **Amortization Rules** form as tabulated:

Description
Enter a name for the Amortization Rule definition. This is a mandatory field.
Enter a description for the Amortization Rule definition.
Select a folder from the drop-down list. This is a mandatory field.



Option Description

Modelling Set Select a Modelling Set from the dropdown list.

This is a mandatory field.

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:

Effective Rate

Straight Line

Initially, the Conditional Assumption will have the status as Undefined and once the Conditional Assumption has been configured, then the status will change to *Defined* Perform the following steps to configure a conditional assumption.

Click the **Product** icon to open the Conditional Assumption page. On this page:

- a. In the **Product** drop-down list, select a product.
- **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.
- c. In the Amortization Method dropdown list adjacent to the Customer Type, select either **Effective Rate** or Straight Line from the dropdown list.
- d. Click the Customer Type row to configure the Industry hierarchy and Amortization Method.
- e. Adjacent to the Industry field, click the Please select atleast one tree node icon.
- Use the **Hierarchy Browser** window to select an industry and then click **OK** in this window.

Conditional Assumption



Option

Description

- g. In the Amortization Method field, select either Effective Rate or Straight Line.
- h. Click the **update** icon if you want to update the values.
- Click Add to add the industries to the Industry pane at the bottom.
 Multiple entries can be added using the above steps.
- Additionally, you can click the Delete icon adjacent to an entry to delete it.
- k. Click Apply and then click OK.
- 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.
- The status of the product in the Conditional Assumption column changes to Defined.
- 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.

20.1.2 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.



Before deleting, ensure that the definition is not used by other features within the application.

- 2. Click **Delete**. A warning dialog is displayed.
- Click Yes.



- 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.
- Click Yes.

The selected definitions are removed from the **Amortization Rule Summary** page.

20.1.3 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.

20.1.4 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.



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.

20.1.5 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.
- 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.



20.1.6 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.
- 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.

20.2 Search an Amortization Rule

Search for an Amortization Rule to perform any of the following tasks:

- View
- Edit
- Copy (Save As)
- Delete

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
- 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.

21.1 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

The **Stage Curing Rule Summary** page displays the following columns:

Table 21-1 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. 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 21-1 The Stage Curing Rule Summary Page

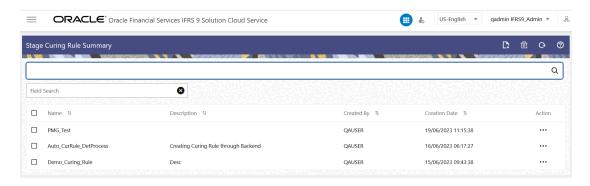


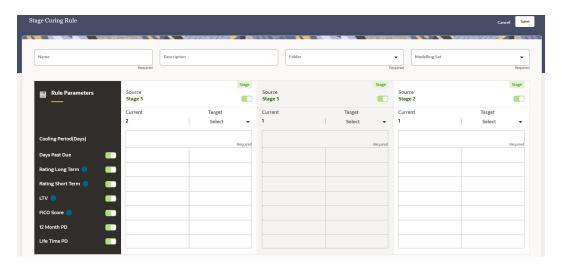
Table 21-2 Stage Curing Rule – Icons and Descriptions

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.

21.1.1 Create a Stage Curing Rule

Perform the following steps to create a Stage Curing Rule:

 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:

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:

- 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 -
 - 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 -



Description

- Left-Column
 (Comparison Symbols) Select a comparison
 symbol from the drop-down
 lists.
- * Right Column (Values) -Enter only a positive integer in these fields.

These are mandatory fields.

- Rating Long Term (Internal Rating Ranks are considered)
 - * 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.

These are mandatory fields.

- Rating Sort Term (Internal Rating Ranks are considered)
 - 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.

These are mandatory fields.

- LTV (Loan to Value Ratio)
 - * Left-Column (Comparison Symbols) -Select a comparison symbol from the drop-down
 - Right Column (Values) -Enter only a percentage value.

These are mandatory fields.



Description

- FICO Score (Credit Score)
 - * 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.

These are mandatory fields.

- 12 Month PD -
 - Left-Column (Comparison Symbols) -Select a comparison symbol from the drop-down lists.
 - * Right Column (Values) -Enter a numeric value in a percentage format.

These are mandatory fields.

- Life Time PD -
 - Left-Column (Comparison Symbols) -Select a comparison symbol from the drop-down lists.
 - * Right Column (Values) -Enter a numeric value in a percentage format.

These are mandatory fields.

3. Click Save.

The new Stage Curing Rule appears in the list of Stage Curing Rules on the **Stage Curing Rule Summary** Page.

21.1.2 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**.
- 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.



21.1.3 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:

- 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.

21.1.4 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.
- The Stage Curing Rule window opens, displaying the details of the selected Stage Curing Rule.
- 4. Click Cancel.

21.1.5 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.

21.1.6 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.
- Click the Action icon.
- Select Save As to open the Save As window.
- 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.



21.2 Search a Stage Curing Rule

Search for a Stage Curing Rule to perform any of the following tasks:

- View
- Edit
- Copy (Save As)
- Delete

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 22-1 Account Classification for Assets

Business Model	SPPI Test	Classification
Held to Collect	Y	AMRTCOST
Held to Collect and Sell	Υ	FVOCI
Held to Sell	Υ	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 22-2 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 22-3 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 pattern="" specific=""></any>	SPPI = N
If SPPI='Y', Benchmark Currency<>Instrument currency	SPPI = N

Users can configure the given Rules as per the requirement.

22.1 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

The **Account Classification Rule Summary** page displays the following columns:

Table 22-4 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 22-4 (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), and Delete. 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 22-1 The Account Classification Rule Summary Page

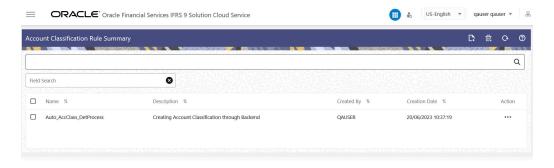


Table 22-5 Account Classification Rules – Icons and Descriptions

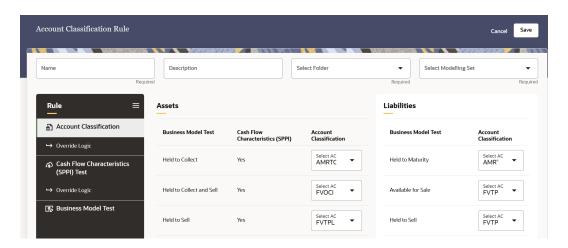
Column	Description
View	Click the Action icon adjacent to the Account Classification Rule Name and select View to view the contents of an Account Classification Rule in read/write format.
Edit	Click the Action icon adjacent to the Account Classification Rule Name and select Edit to edit the contents 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.



22.1.1 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 drop-down list for each Business Model Test. The available options in the Account Classification drop-down are:
	 Fair Value through other Comprehensive Income (FVOCI)
	 Fair Value Through Profit for Loss (FVTPL)
	Amortized Cost (AMRTCOST)



Description

Override Logic (Account Classification)

Enable the Override Logic slider to configure the Account Classification:

- Account Classification Select a value from the drop-down list. The available options are:
 - 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:
 - Fair Value through other
 Comprehensive Income (FVOCI)
 - Fair Value Through Profit for Loss (FVTPL)
 - Amortized Cost (AMRTCOST)

Cash Flow Characteristics (SPPI) Test

Expand the list to configure the Cash Flow Characteristics:

- **SPPI Flag**: Select either *Yes* or *No* from the drop-down list.
- Conditional Assumption- Click the Set Conditional Assumption icon to configure the Conditional Assumption:
 - Select a customer type from the Customer Type drop-down list.
 - **b.** Select either *Yes* or *No* from the **SPPI Flag** drop-down list.
 - c. Click Apply

For each configured Cash Flow Characteristic of a product, the status is updated to *Defined*.

Click the **Go To List View** or **Go To Tree View** icon to toggle between different views.

Override Logic (Cash Flow Characteristics (SPPI) Test)

Enable the **Override Logic** slider to configure the Rules:

 Rule Selection - Click the slider to mark or unmark the rule selection for a Product Attribute.



Description

- **Conditions** Configure the conditions for the following Product Attributes:
 - 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 Yes or No
 - Sub Prime Flag Select either Yes or No
 - Employee Account Flag Select either Yes or No
 - Benchmark Currency Select US
 Dollar from the drop-down list.
 - Amortization Type Select an Amortization Type from the dropdown 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

Perform the following configurations:

- Business Model Classification -Select a Business Model Classification from the drop-down-list:
 - Held to Collect
 - Held to Collect and Sell
 - Held to Sell
 - Held to Maturity
 - Available for Sale
- Conditional Assumption- Click the Set Conditional Assumption icon to configure the Conditional Assumption:



Description

- a. Select a customer type from the Customer Type drop-down list. Multiple customer types can be selected in this field.
- Select a business model classification from the Business Model Classification drop-down list.
- c. Expand the Customer Type list.
- Select the slider to enable or disable the Exposure For Sale Indicator
- e. Select a business model classification from the Business Model Classification drop-down list.
- f. Click Apply

For each configured Conditional Assumption of a product, the Conditional Assumption is updated to the selected Customer Type.

Click the **Go To List View** or **Go To Tree View** icon to toggle between different views.

- 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.

The new Account Classification Rule appears in the list of Account Classification Rules on the **Account Classification Rule Summary** Page.

22.1.2 Delete an Account Classification Rule

Perform the following steps to delete an Amortization Classification Rule.

 Select the Account Classification Rule that you want to delete and click the Action icon.



Before deleting, ensure that the definition is not used by other features within the application.

- 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.



22.1.3 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.

22.1.4 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.
- Select View.
- The Account Classification Rule window opens, displaying the details of the selected Account Classification Rule.
- 4. Click Cancel.

22.1.5 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:

- In the Account Classification Rule list, select the Action icon adjacent to the Account Classification Rule name that you want to edit.
- 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.

22.1.6 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.
- Click the Action icon.
- 3. Select Save As to open the Save As window.
- 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.



22.2 Search an Account Classification Rule

Search for an Account Classification Rule to perform any of the following tasks:

- View
- Edit
- Copy (Save As)
- Delete

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.



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.

23.1 Pre-Requisites

The following pre-requisites are necessary to be performed before accessing the **Rating Mapping** page:

- 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.
- 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.



23.2 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

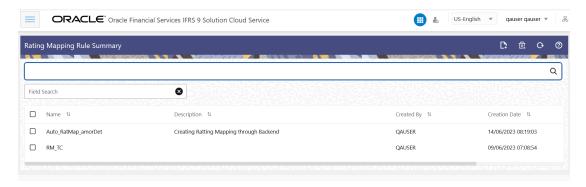
The Rating Mapping Rule Summary page displays the following columns:

Table 23-1 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), and Delete. 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 23-1 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.

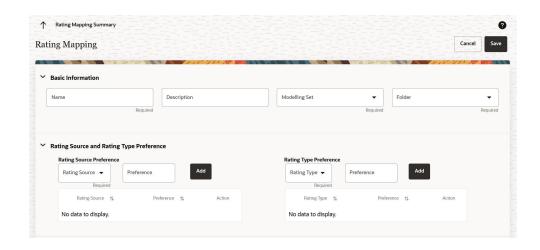
Table 23-2 Rating Mapping Rule – Icons and Descriptions

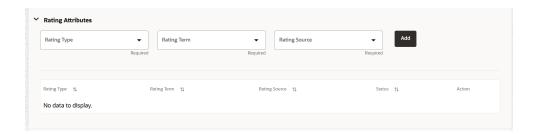
Column	Description
View	Click the Action icon adjacent to the Rating Mapping Rule Name and select View to view the contents of a Rating Mapping Rule in read/write format.
Edit	Click the Action icon adjacent to the Rating Mapping Rule Name and select Edit to edit the contents of a Rating Mapping Rule 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.

23.2.1 Create a Rating Mapping Rule

Perform the following steps to create a Rating Mapping Rule:

 On the Rating Mapping Rule Summary page, click the Add icon to open the Rating Mapping Rule Window.





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.</section>
Preference (Rating Source Preference)	Enter a numeric value that is greater than or equal to 1.

Option Description

Add Click this button to add the defined

Rating Attributes.

The Rating Source Preference is added

to the table below this icon.

Multiple Rating Source Preferences can be added as long as the values in the Rating Source and Preference fields

are unique.

Rating Type (Rating Type Preference) Select a Rating Type from the drop-

Select a Rating Type from the dropdown list. The available options are:

Account Rating

Party Rating

Sovereign Rating

Preference (Rating Type Preference) Enter a numeric value that is greater

than or equal to 1.

Add (Rating Type Preference) Click this button to add the defined

Rating Attributes.

The Rating Type table is populated with the Rating Type and Preference values.

Multiple Rating Type Preferences can be added as long as the values in the Rating Type and Preference fields are

unique.

Rating Type (Rating Attributes) 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.

Rating Term (Rating Attributes)Select a Rating Term from the drop-down list. The available options are:

Long Term Rating

Short Term Rating

Sovereign

Rating Source (Rating Attributes) 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.

Add Click this button to add the defined

Rating Attributes. The defined Rating Attributes appear in the tables in this

pane.



Option Description

Multiple Rating attributes can be added.

- In the Rating Mapping Rule table, click the Rating Mapping Rule icon in the Status column to open the Mapping Table window. Intially, 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*.
- Click Save.

The new Rating Mapping Rule definition appears in the list of Rating Mapping Rules on the **Rating Mapping Rule Summary** Page.

23.2.2 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.



Before deleting, ensure that the definition is not used by other features within the application.

- 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.

23.2.3 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.

23.2.4 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.
- The Rating Mapping Rule window opens, displaying the details of the selected Rating Mapping Rule.
- 4. Click Cancel.

23.2.5 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:

- 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.

23.2.6 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.
- Select Save As to open the Save As window.
- 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.

23.3 Search a Rating Mapping

Search for a Rating Mapping to perform any of the following tasks:

- View
- Edit
- Copy (Save As)
- Delete

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.

24.1 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



The **Stage Determination Rule Summary** page displays the following columns:

Table 24-1 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), and Delete. 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 24-1 The Stage Determination Rule Summary Page

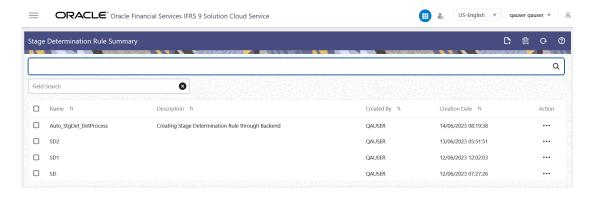


Table 24-2 Stage Determination – Icons and Descriptions

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.



Table 24-2 (Cont.) Stage Determination – Icons and Descriptions

Column	Description
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.

24.1.1 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.
- On the Stage Determination Rules window, you must first define the Rule Details, Bands Creation, and then the Stage Determination Rules.

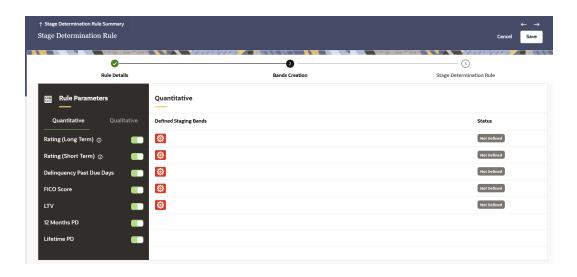


Populate the Stage Determination Rule - Rule Details form as tabulated:

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. 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:





Rating (Long Term) (Internal rating ranks will be used for band creation)

Description

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:

- a. Enter the lower and upper limit in the Lower Limit and Upper Limit fields respectively. Both these fields only support positive integers.
- Click the Add Button icon to add additional Bands.



Description

- 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.

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.
- 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.

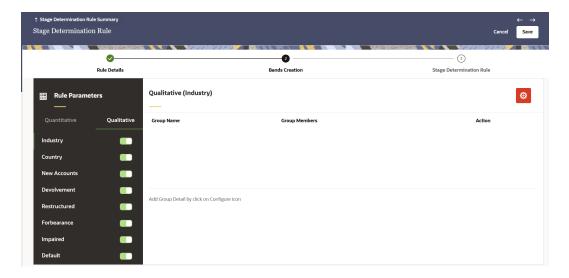
The status of the Defined Staging Bands is updated to *Defined*.

FICO Score



Option	Description
	To add and configure multiple Lower Limit and Upper Limits of this band, click the Configuration icon.
LTV	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 <i>Defined</i> .
	To add and configure multiple Lower Limit and Upper Limits of this band, click the Configuration icon.
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.

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.
- 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.

Multiple groups can be added by using the above steps. Make sure that the same country is not added in different stages.

Click the slider to enable or disable this band.

Click the slider to enable or disable this band.

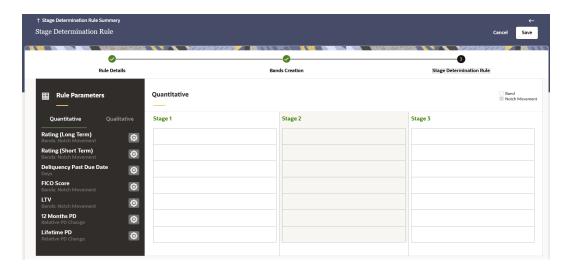
Country

New Accounts

Devolvement

Option	Description
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.
- 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



Description

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 **Quantitave** pane.

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.
- 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

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 **Quantitave** pane.

Click the **Configuration** icon to define this band.

Rating (Short Term)

Delinquency Past Due Days



Description

- a. In the **Band Filter** field, select the filters for the band. Multiple filters for a band can be selected.
- 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 deleta a selected band.
- g. Click Apply

Note that the same Bands cannot be shared between different stages.

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 **Quantitave** pane.

Click the **Configuration** icon to define this band.

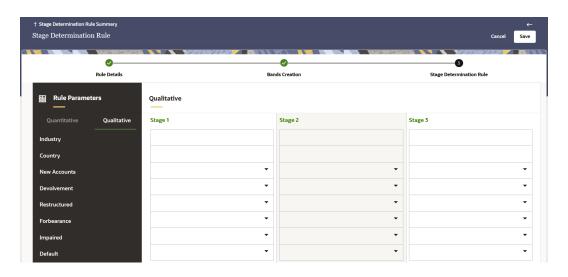
- a. In the **Band Filter** field, select the filters for the band. Multiple filters for a band can be selected.
- Define the lower limit in the Lower Limit field.
- c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit 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.

FICO Score



Option	Description
	f. If you want to delete a band, click the Delete Button icon to delete a selected band.
	g. Click Apply
	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 Quantitave pane.
LTV	Click the Configuration icon to define this band in percentage.
	a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected.
	 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.
	 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
	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 Quantitave pane.
12 Months PD	Click the slider to enable or disable this feature. The Lower Limit and Upper limit cannot overlap between different stages.
Lifetime PD	Click the slider to enable or disable this feature.

 Click the Qualitative tab to define the Stage Determination Rule - Stage Determination Rules - Rule Parameters (Qualitative) form as tabulated:



Option	Description
Industry	In this row for each stage, click the adjacent row and select a value. You can select multiple values in this field
Country	In this row for each stage, click the adjacent row and select a value. You can select multiple values in this field
New Accounts	In this row for each stage, click the adjacent row and select either Yes or No.
Devolvement	In this row for each stage, click the adjacent row and select either Yes or No.
Restructured	In this row for each stage, click the adjacent row and select either Yes or No.
Forbearance	In this row for each stage, click the adjacent row and select either Yes or No.
Impaired	In this row for each stage, click the adjacent row and select either Yes or No.
Default	In this row for each stage, click the adjacent row and select either Yes or No.

10. Click Save.

The new Stage Determination Rule appears in the list of Stage Determination Rules on the **Stage Determination Rule Summary** Page.

24.1.2 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:

Before deleting, ensure that the definition is not used by other features within the application.

- 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.

24.1.3 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:

- On the Stage Determination Rule Summary page, select the checkbox(s) adjacent to the Stage Determination Rule(s) that you want to refresh.
- Click Refresh.

The selected Stage Determination Rule(s) are refreshed with newly available data.

24.1.4 View a Stage Determination Rule

Perform the following steps to View a Stage Determination Rule.

- Select the Stage Determination Rule that you want to view and click the Action icon.
- Select View.
- **3.** The **Stage Determination Rules** window opens, displaying the details of the selected Stage Determination Rule.
- 4. Click Cancel.

24.1.5 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:

- 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.



24.1.6 Save a Stage Determination Rule

Perform the following steps to save a Stage Determination Rule under a different name and folder:

- Select the desired Stage Determination Rule.
- Click the Action icon.
- 3. Select Save As to open the Save As window.
- 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.

24.2 Search a Stage Determination Rules

Search for a Stage Determination Rules to perform any of the following tasks:

- View
- Edit
- · Copy (Save As)
- Delete

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.

25.1 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

The **Staging and Account Classification Process Summary** page displays the following columns:



Table 25-1 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), and Delete. 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.

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 25-1 The Staging and Account Classification Process Summary Page

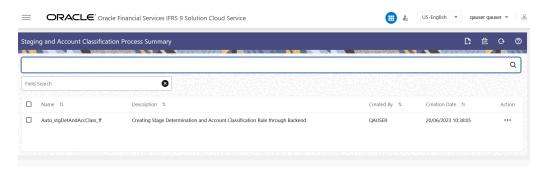




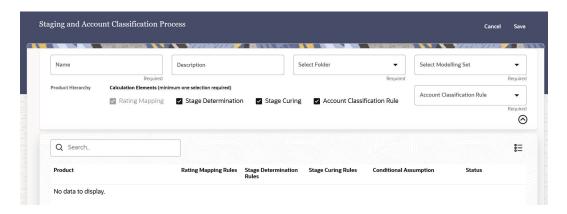
Table 25-2 Staging and Account Classification Process – Icons and Descriptions

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.

25.1.1 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.



Option	Description
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:
	 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 element is also enabled based on Stage Curing selection.
	 Account Classification Rule - If this checkbox is selected, then the Account Classification Rule field is enabled.
	It is mandatory to have at least one calculation element selection.
Account Classification Rule	Select an account classification rule from the drop-down list. This field is only enabled if the Account Classification Rule check box is selected. This is a mandatory field if the Account Classification Rule check box is selected.
Search	Use the search field to search for a product. Type a value in the Search field to find a desired product.
Product	Select the icon adjacent to the All Products field to expand or collapse the list of products.
Rating Mapping Rules	Select a Rating Mapping Rule from the drop-down list.
Stage Determination Rules	Select a Stage Determination Rule from the drop-down list.
Stage Curing Rules	This field is enabled if the Stage Curing Rules check box was selected.



Option

Go To List View/Go To Tree View

Conditional Assumption

Description

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.

Select the **Set Conditional Assumption** icon to open the **Conditional Assumption** window:

- 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 Determination Rule check box was selected.
- 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.
 - 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.
 - To define additional Conditional Assumption Based on dimensions for the customer type, select the Add Button icon.
 - 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 *Defined*.

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.

25.1.2 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:

 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.



Before deleting, ensure that the definition is not used by other features within the application.

- 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.

25.1.3 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:

- 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.

25.1.4 View a Staging and Account Classification Process

The View feature enables you to view the details of a existing Staging and Account Classification Process. Perform the following steps to view the definition details:



- 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.

25.1.5 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:

- 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.
- Click Edit to open the Staging and Account Classification Process Window. Only the name field is not editable.
- Update the required fields.
- 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.

25.1.6 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.
- Click the Action icon.
- Select Save As to open the Save As window.
- In the Save As window, enter a name and description in the Name and Description fields.
- Select a folder from the drop-down list
- 6. Click Save. The Staging and Account Classification Process is saved under a new name.

25.1.7 Run a Staging and Account Classification Process

Perform the following steps to Run an Account Classification Process.

- Select the Account Classification Process that you want to view and click the Action icon.
- 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.



25.2 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

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.



26

Override Screen

This section provides information on the Override Screen Maker and Override Screen Checker and the prerequisites to access the screen(s).

26.1 Prerequisites

This section provides information on the prerequisites steps to be performed before activating and accessing the Override Screen Maker and Override Screen Checker.



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:

- 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.
- 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**).
- 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**.



 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:

- 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.
- 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).
- 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**.
- 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 26-1 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 26-2 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 26-3 Role to Function Mapping

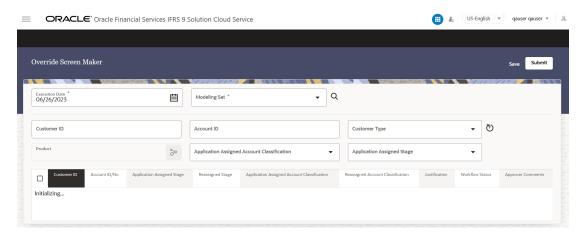
Role To Function Mapping	
Role	Function Code
ROVRDMKR	OVRDMKRVIEW
ROVRDCKR	OVRDCKRVIEW

26.2 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.

Figure 26-1 The Override Screen Maker Page



On this screen, populate the following fields:

Table 26-4 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.



Table 26-4 (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: 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: Stage 1 Stage 2 Stage 3

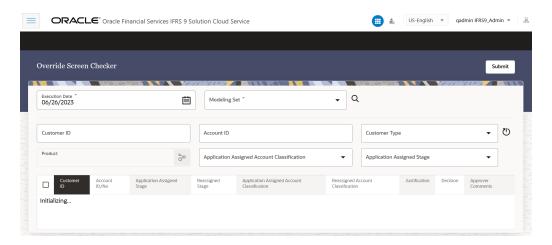
Click Submit and then click Save to submit the details to the Checker.

26.3 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.

Figure 26-2 The Override Screen Checker Page



On this screen, populate the following fields:

Table 26-5 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.
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: 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: Stage 1 Stage 2 Stage 3

Click **Submit** and then click **Save** to submit the details to the Checker.



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.

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
- 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

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 = First Transaction Amount + Deferred Balance (-Fees + Premium or Discount + Cost)
- Compounded Interest = 0
- Ending Deferred Balances = 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

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 Interest Amount = NBV * 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. 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.

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:

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

27.1 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

The **Amortization Process Summary** page displays the following columns:

Table 27-1 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.



Table 27-1 (Cont.) Amortization Process Summary Page – Fields and Descriptions

Column	Description
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), and Delete. 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.

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 27-1 The Amortization Process Summary Page

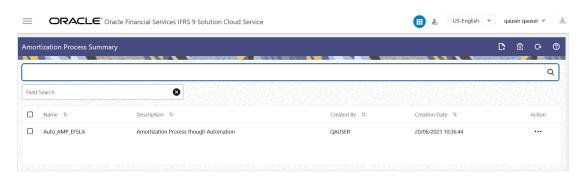


Table 27-2 Amortization Process – Icons and Descriptions

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.

27.1.1 Create an Amortization Process

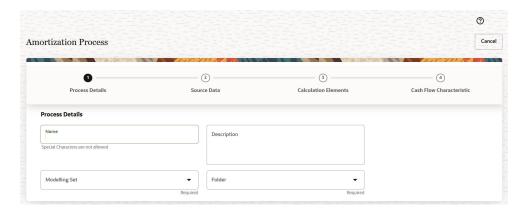
Perform the following steps to add an Amortization Process:

 On the Amortization Process Summary page, click the Add icon to open the Amortization Process window.



This window conatins four tabs that must be configured for a new Amortization Process:

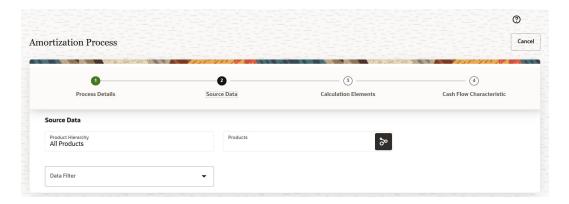
- Process Details
- Source Data
- Calculation Elements
- Cash Flow Characteristic
- 2. Populate the Process Details form as tabulated:



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.

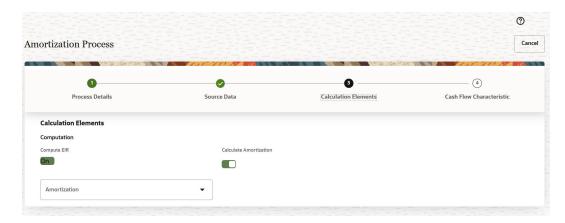
- Click Source Data.
- 4. Populate the **Source Data** form as tabulated:





Option	Description
Product Hierarchy	The product hierarchy is selected by defalut.
Products	Click the Products icon to open the Hierarchy Browser window. In this window select a member from the Avaliable 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:

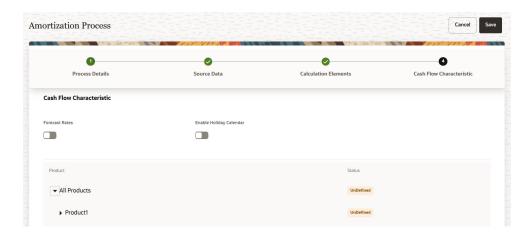


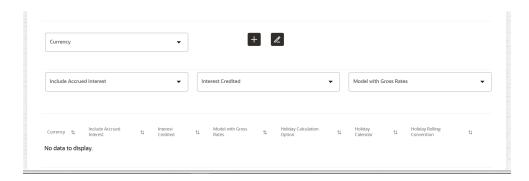
Option	Description
Compute EIR	Enable this feature if you want to compute the EIR for the Amortization Process.
Calculate Amortization	Enable this feature if you want to calculate the Amortization for the Amortization Process.



Option **Description** If this feature is disabled, then the EIR Computation Type section appears with the Origination Date and As of Date sliders. **Amortization** Select an Amortization from the drop-down **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.

- 7. Click Cash Flow Characteristic.
- 8. Populate the Cash Flow Characteristic form as tabulated:





Option

Forecast Rates

Description

Enable this feature if you want to enable the Forecast Rates.



Option Description Forecast Rates (Drop-down) Select a forecast rate from the dropdown list. 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-Select a Currency from the drop-down list. Click the **Add** icon after defining the down changes depending on the selected product from the Products **Include Accured Interest. Interest** Credited, and Model with Gross field.) Rates fields. **Include Accured Interest** Select either Yes or No 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 Yes or No 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 Yes or No. 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

Option

Description

amortization calculations. The net rate is used for income simulation and the calculation of retained earnings in the auto-balancing process.

Holiday Calendar Option

Select a value from the drop-down list. The available options are:

- Shift Dates Only
- Recalculate Payment

This option is only available if the **Enable Holiday Calendar** slider is enabled.

Holiday Calendar

Select a value from the drop-down list. This option is only available if the **Enable Holiday Calendar** slider is enabled.

Holiday Rolling Convention

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:

- 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.



Option	Description
	This option is only available if the Enable Holiday Calendar slider is enabled.
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.

27.1.2 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.
- Select Delete.
- 3. You can also delete an Amortization Process by selecting the Amortization Process that you want to delete and then click the **Delete** icon.

27.1.3 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.

27.1.4 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.
- The Amortization Process window opens, displaying the details of the selected Amortization Process.
- 4. Click Cancel.



27.1.5 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:

- In the Amortization Process list, select the Action icon adjacent to the Amortization Process name that you want to edit.
- Click Edit to open the Amortization Process window. Only the Name field is not editable.
- Update the required fields.
- 4. Click Save.

The saved Amortization Process is displayed in the Amortization Process list on the Amortization Process Page.

27.1.6 Save an Amortization Process

Perform the following steps to save an Amortization Process under a different name and folder:

- Select the desired Amortization Process.
- 2. Click the Action icon.
- 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.

27.1.7 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.
- 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.

27.1.8 View the Log File Information of an Amortization Process

Perform the following steps to view the log file information of a previousely 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.



27.2 Search an Amortization Process

Search for an Amortization Process to perform any of the following tasks:

- View
- Edit
- Copy (Save As)
- Delete

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.

